

1 15A NCAC .0101 is readopted as published in 32:16 NCR 1598 as follows:

2
3 **15A NCAC 02S .0101 SCOPE AND PURPOSE**

4 The purpose of this Subchapter is to establish the criteria for determining eligibility for certification into the North
5 Carolina Dry-Cleaning Solvent Cleanup Fund program, minimum management practices, a risk-based approach for
6 assessment and remediation of certified facilities, and the criteria for the disbursement of funds from the North
7 Carolina Dry-Cleaning Solvent Cleanup Fund.

8
9 *History Note: Authority G.S. 143-215.104D(b); 143-215.104F; 143-215.104N; ~~150B-21.2~~;*

10 *Eff. August 1, 2000;*

11 *Amended Eff. September 1, 2007; ~~2007~~.*

12 *Readopted Eff. September 1, 2018.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Environmental Management Commission

RULE CITATION: 15A NCAC 02S .0102

DEADLINE FOR RECEIPT: Friday, August 10, 2018

PLEASE NOTE: This request may extend to several pages. Please be sure you have reached the end of the document.

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may call our office to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following technical changes be made:

In Item (13), please delete "potential" in "potential point of exposure" and "potential receptor" since "potential" is not included in the pertinent defined terms.

In Item (19), are there any parameters associated with an "independent testing laboratory" or can it be any chosen testing laboratory? Is there some outside standard that could be incorporated by reference?

In Item (20), please add a comma after "chemical"

In Item (27), what is meant by "adversely affected"? Are you using this language because of 143-215.104B(16)?

In Item (32), line 6, I think that "are established" (rather than "shall be established") was appropriate. Did you intend on changing the "are as follows" to "shall be as follows" instead?

In (32)(a), what are "known or suspected carcinogens"? Where can this information be found? Is there a cross-reference or an incorporation by reference available?

In (32)(b), what are "systemic toxicants"? Where can this information be found? Is there a cross-reference or an incorporation by reference available?

In (32)(c), what is meant by "chemicals of concern in groundwater"? Where can this information be found? Is there a cross-reference or an incorporation by reference available?

What are the "rules adopted pursuant to Article 9 of Chapter 130A of the General Statutes? Where can those be found in the Administrative Code? Is there a specific Rule? Are you intending to incorporate these Rules by reference?

In Item (34), "source" appears to be defined in 3 different ways. Will it depend upon the context?

Amber May
Commission Counsel
Date submitted to agency: July 27, 2018

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Amber May
Commission Counsel
Date submitted to agency: July 27, 2018

1 15A NCAC .0102 is readopted as published in 32:16 NCR 1598-1600 as follows:

2
3 **15A NCAC 02S .0102 DEFINITIONS**

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

- 6 (1) "Act" means the Dry-Cleaning Solvent Cleanup Act of ~~1997~~ 1997 ~~and any amendments thereto.~~
- 7 (2) "Apparel and household fabrics" means apparel and fabrics that have been purchased at retail or
8 have been purchased at wholesale for rental at retail.
- 9 (3) "Business" means "business" as defined in G.S. 59-102.
- 10 (4) "Chemicals of concern" means the specific compounds and their breakdown products that are
11 identified for evaluation in the risk-based corrective action process. Identification ~~may~~ can be
12 based on their historical and current use at the site, detected concentrations in environmental
13 ~~media~~ media and their mobility, toxicity, and persistence in the environment.
- 14 (5) "Closed container solvent transfer system" means a device or system ~~specifically~~ designed to fill a
15 dry-cleaning machine with dry-cleaning solvent through a mechanical valve or sealed coupling in
16 order to prevent spills or other loss of solvent liquids or vapors to the environment.
- 17 (6) "Complete exposure pathway" means an exposure pathway where a chemical of concern has
18 reached a receptor.
- 19 (7) "Contaminated site" or "site" means the area defined by the ~~likely~~ current and future location of
20 the chemicals of concern from a facility or abandoned site. A contaminated site ~~may~~ could be an
21 entire property or facility, a defined area or portion of a facility or ~~property~~ property or multiple
22 facilities or properties.
- 23 (8) "Discovery Site" means the physical site or area where dry-cleaning solvent contamination has
24 been discovered. A discovery site may or may not be the same property as the facility site.
- 25 (9) "Division" means the Division of Waste Management of the Department of ~~Environment and~~
26 ~~Natural Resources~~ Environmental Quality.
- 27 (10) "Dry-Cleaning Business" means a business having engaged in dry-cleaning operations or the
28 operation of a wholesale distribution facility at a facility site.
- 29 (11) "Environmental media" means soil, sediment, surface water, groundwater, ~~air~~ air or other physical
30 substance.
- 31 (12) "Engineering controls" means physical modifications to a site to reduce or eliminate the potential
32 for exposure to chemicals of concern.
- 33 (13) "Exposure pathway" means the course that a chemical of concern takes or may take from a source
34 area to a receptor. Each exposure pathway includes a source or release from a source of a chemical
35 of concern, a potential point of exposure, an exposure ~~route~~ route and the potential receptor.
- 36 (14) "Facility site" means the physical location of a dry-cleaning facility, a wholesale distribution
37 ~~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 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 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 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.~~

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

1 15A NCAC 02S .0201 is readopted as published in 32:16 NCR 1600 as follows:

2
3 **15A NCAC 02S .0201 APPLICABILITY**

4 The provisions contained in this Section set forth the minimum management practices for the storage and handling
5 of dry-cleaning solvents required to be implemented at all dry-cleaning facilities, dry-cleaning solvent wholesale
6 distribution facilities, and abandoned sites. The provisions contained in this Section are applicable only to owners
7 and operators of dry-cleaning facilities, dry-cleaning solvent wholesale distribution facilities, and abandoned sites.

8
9 *History Note: Authority G.S. 143-215.104D(b); ~~150B-21.2;~~*

10 *Eff. August 1, 2000;*

11 *Amended Eff. August 1, ~~2002;2002.~~*

12 *Readopted Eff. September 1, 2018.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Environmental Management Commission

RULE CITATION: 15A NCAC 02S .0202

DEADLINE FOR RECEIPT: Friday, August 10, 2018

PLEASE NOTE: This request may extend to several pages. Please be sure you have reached the end of the document.

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may call our office to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following technical changes be made:

In (a), line 4, is it necessary to say "as defined by G.S. 143-215.104B(b)(1)" given the language in .0102 which incorporates the definitions used in that Statute?

In (a), lines 4-5, is it necessary to say "shall at all times after August 1, 2000"? The way that I read this Rule, it is saying that as of now, ALL abandoned sites shall comply with the Required Minimum Management Practices, making the August 1, 2000 date irrelevant. Was the intent that any sites abandoned after August 1, 2000 must comply with the Practices? If so, please say that.

In (a), lines 5-6, what is meant by "Practice, Subparagraph (b)(5) of this Rule"? Do you mean "Practice, as set forth in Subparagraph (b)(5) of this Rule"? If you do mean as set forth in (b)(5), is that cross-reference correct? Do you mean Subparagraphs (b)(1) through (b)(5) of this Rule? If so, is it necessary to make abandoned sites its own Paragraph?

In (b)(2), what is the purpose of providing the date of "January 1, 2002"? Is this necessary? Again, the way that I read this Rule, you are saying that facilities must have spill containment installed now (making the date unnecessary.) Is the intention to carve out an exception for those facilities that were not in operation prior to January 1, 2002? I have this same question for (b)(4) and (b)(5) (I note that (b)(3) appears to only be applicable to machines installed after August 1, 2000, so I think that the date is important there (assuming that's what you intended).)

In (b)(2), what is meant by "applicable liquid" in "applicable liquid dry-cleaning" Can you delete "applicable liquid" (or at the very least "applicable")

In (b)(2), what are "emergency absorbent spill clean-up materials"? Can you provide some examples? Is your regulated public familiar?

In (b)(2), what are "federal, State, and local requirements"? Is your regulated public familiar?

Amber May
Commission Counsel
Date submitted to agency: July 27, 2018

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road,
Raleigh, North Carolina 27609.

Amber May
Commission Counsel
Date submitted to agency: July 27, 2018

1 15A NCAC 02S .0202 is readopted as published in 32:16 NCR 1600-1601 as follows:

2
3 **15A NCAC 02S .0202 REQUIRED MINIMUM MANAGEMENT PRACTICES**

4 (a) All abandoned sites, as defined by G.S. 143-215.104B(b)(1), ~~G.S. 143-215.104(B)(b)(1)~~, shall at all times after
5 August 1, 2000, this Rule becomes effective, comply with Required Minimum Management Practice, Subparagraph
6 (b)(5) of this Rule.

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

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

18 (2) Spill containment shall be installed and maintained under and around dry-cleaning machines,
19 filters, dry-cleaning solvent pumps, stills, vapor adsorbers, solvent storage areas, and waste
20 solvent storage areas by January 1, 2002. Spill containment shall have a volumetric capacity of
21 110 percent of the largest vessel, tank, or container within the spill containment area and shall be
22 capable of preventing the release of the applicable liquid dry-cleaning solvent beyond the spill
23 containment area for a period of at least 72 hours. All floor drains within or beneath the spill
24 containment area shall be removed or ~~permanently~~ sealed with materials impervious to dry-
25 cleaning solvents. Emergency adsorbent spill clean-up materials shall be on the premises.
26 Facilities shall ~~must~~ maintain an emergency response plan that is in compliance with federal, State
27 ~~state~~ and local requirements.

28 (3) All perchloroethylene dry-cleaning machines installed at a dry-cleaning facility after August 1,
29 2000, the effective date of this Rule shall meet air emissions that equal or exceed the standards
30 that apply to a comparable dry-to-dry perchloroethylene dry-cleaning machine with an integrated
31 refrigerated condenser. All perchloroethylene dry-cleaning facilities shall ~~must~~ be in compliance
32 with the EPA Perchloroethylene Dry Cleaner NESHAP: 40CFR, Part 63, Subpart M to be eligible
33 for certification.

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

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

1

2 *History Note: Authority G.S. 143-215.104D(b); ~~150B-21.2;~~*

3 *Eff. August 1, 2000;*

4 *Temporary Amendment Eff. June 1, 2001;*

5 *Amended Eff. August 1, 2002; ~~2002.~~*

6 *Readopted Eff. September 1, 2018.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Environmental Management Commission

RULE CITATION: 15A NCAC 02S .0301

DEADLINE FOR RECEIPT: Friday, August 10, 2018

PLEASE NOTE: *This request may extend to several pages. Please be sure you have reached the end of the document.*

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may call our office to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following technical changes be made:

On line 7, by “pursuant to G.S. 143-215.104F and .104G, the DSCA Petition... shall include”, do you mean “In addition to the requirements of G.S. 143-215.104F(b), the DSCA Petition shall include”? Please review and clarify.

On line 7, I don't see that G.S. 143-104G gives any requirements for the Petition itself? Is this reference necessary here? It appears to me that having it in the History Note is sufficient.

On line 12, please consider moving “and facility size pursuant to...” to it's own SubParagraph so that it reads:

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

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Amber May
Commission Counsel
Date submitted to agency: July 27, 2018

1 15A NCAC 02S .0301 is readopted as published in 32:16 NCR 1601 as follows:

2
3 **15A NCAC 02S .0301 FILING**

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

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

10 (2) property owner contact information;

11 (3) location of the facility site; and

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

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

18
19 *History Note: Authority G.S. 143-215.104D(b); 143-215.104F; 143-215.104G; ~~150B-21.2;~~*

20 *Temporary Adoption Eff. June 1, 2001;*

21 *Eff. August 1, 2002; ~~2002.~~*

22 *Readopted Eff. September 1, 2018.*

1 15A NCAC 02S .0501 is readopted as published in 32:16 NCR 1601 as follows:

2
3 **15A NCAC 02S .0501 PURPOSE AND APPLICABILITY**

4 The purpose of this Section is to establish a risk-based corrective action approach for assessment and remediation of
5 contamination at certified dry-cleaning facilities or abandoned sites. This Rule applies to risk-based corrective action
6 undertaken pursuant to the terms of assessment and remediation agreements between petitioners and the Division.

7
8 *History Note: Authority G.S. 143-215.104D; ~~143-215.104H; 143-215.104I; 150B-21.2;~~*

9 *Eff. September 1, ~~2007; 2007.~~*

10 *Readopted Eff. September 1, 2018.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Environmental Management Commission

RULE CITATION: 15A NCAC 02S .0502

DEADLINE FOR RECEIPT: Friday, August 10, 2018

PLEASE NOTE: This request may extend to several pages. Please be sure you have reached the end of the document.

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may call our office to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following technical changes be made:

On line 7, please strike through the entire word of "include," rather than just the comma so that it reads "include include," (see 26 NCAC 02C .0108(7))

Also on line 7, consider deleting "provision of"

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Amber May
Commission Counsel
Date submitted to agency: July 27, 2018

1 15A NCAC 02S .0502 is readopted as published in 32:16 NCR 1601 as follows:

2
3 **15A NCAC 02S .0502 ABATEMENT OF IMMINENT HAZARD**

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

9
10 *History Note: Authority G.S. 143-215.104C; 143-215.104D; 143-215.104N; ~~150B-21.2;~~*

11 *Eff. September 1, 2007; ~~2007.~~*

12 *Readopted Eff. September 1, 2018.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Environmental Management Commission

RULE CITATION: 15A NCAC 02S .0503

DEADLINE FOR RECEIPT: Friday, August 10, 2018

PLEASE NOTE: This request may extend to several pages. Please be sure you have reached the end of the document.

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may call our office to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following technical changes be made:

Just to make sure that I understand, the priority is related to 143-215.104(c) and the prioritization referenced in this Rule is occurring for purposes for the Dry-Cleaning Solvent Cleanup Fund, such that the priority of a facility or site will ultimately determine whether it gets allocated any money from the fund? If so, please consider making this more clear within the body of the Rule. Perhaps you could add some additional language in (a) regarding the Fund?

What is meant by (c)? Is it necessary? If it necessary, is the ranking available somewhere? How can a member of the public get this information?

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Amber May
Commission Counsel
Date submitted to agency: July 27, 2018

1 15A NCAC 02S .0503 is readopted as published in 32:16 NCR 1601 as follows:

2
3 **15A NCAC 02S .0503 PRIORITIZATION OF CERTIFIED FACILITIES AND SITES**

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

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

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

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

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

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

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

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

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

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

18
19 *History Note: Authority G.S. 143-215.104C; 143-215.104D; ~~150B-21.2;~~*

20 *Eff. September 1, ~~2007;~~2007.*

21 *Readopted Eff. September 1, 2018.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Environmental Management Commission

RULE CITATION: 15A NCAC 02S .0506

DEADLINE FOR RECEIPT: Friday, August 10, 2018

PLEASE NOTE: This request may extend to several pages. Please be sure you have reached the end of the document.

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may call our office to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following technical changes be made:

In (a), by whom and when will the risk assessment occur? Is this in accordance with 143-215.104H or is this something different?

In (b), by whom and when will a site conceptual model be done? By the Department upon completion of the tiered risk assessment?

In (c), line 15, should the "may require remediation of the site..." be "shall"? If not, would the same factors in (c)(1) through (3) be applicable in determining whether remediation is appropriate such that it should read "Factors considered by the Division when determining whether remediation or a Tier 2 assessment is warranted shall include:..." If not, please provide some information as to how it will be determined whether a remediation will be required. Same question for (d), line 31.

In (c), line 15, if the Division requires remediation, would it occur through a remediation agreement in accordance with 143-215.104I?

Would it be helpful to add 143-215.104H and 143-215.104I?

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Amber May
Commission Counsel
Date submitted to agency: July 27, 2018

1 15A NCAC 02S .0506 is readopted as published in 32:16 NCR 1601-1603 as follows:

3 **15A NCAC 02S .0506 TIERED RISK ASSESSMENT**

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

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

- 7 (1) ~~the~~ The type and distribution of chemicals of concern;
8 (2) ~~the~~ The geology and hydrogeology;
9 (3) ~~an~~ An exposure model that identifies the receptors, including sensitive subgroups, and the
10 exposure pathways; and
11 (4) ~~land~~ Land-use classification as either residential or non-residential.

12 (c) Tier 1. A Tier 1 risk assessment is based on chemical-specific risk-based screening levels. The representative
13 concentrations of chemicals of concern that exist at a site shall be compared to these risk-based screening levels for
14 all complete and potentially complete exposure pathways. If the concentrations exceed the risk-based screening
15 levels, the Division may require remediation of the site to risk-based screening levels or the performance of a Tier 2
16 risk assessment to establish site-specific target levels. Factors considered by the Division when determining if a Tier
17 2 assessment is warranted shall include:

- 18 (1) ~~whether~~ Whether the assumptions on which the risk-based screening levels are based are
19 representative of the site-specific conditions;
20 (2) ~~whether~~ Whether the site-specific target levels developed under Tier 2 either are likely to be
21 ~~significantly~~ different than the risk-based screening levels or will ~~significantly~~ modify remediation
22 activities; or
23 (3) ~~whether~~ Whether the cost of remediation to achieve risk-based screening levels will likely be
24 greater than the cost of further tier evaluation and subsequent remediation.

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

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

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

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

6 (e) Tier 3. A Tier 3 risk assessment shall allow consideration of additional site-specific and toxicological data in
7 order to calculate alternative site-specific target levels. This data may include alternative, technically defensible
8 toxicity factors, physical and chemical properties, site-specific exposure factors, and alternative fate and transport
9 models. The representative concentrations of chemicals of concern that exist at a site shall be compared to these Tier
10 3 site-specific target levels for all complete and potentially complete exposure pathways. If the concentrations
11 exceed the Tier 3 site-specific target levels, the Division shall consider the results of the Tier 2 and Tier 3
12 assessments to determine the site-specific target levels.

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

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

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

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

24 (A) Integrated Risk Information System (IRIS);

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

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

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

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

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

35 (C) ~~hypothetical~~ ~~Hypothetical~~ point of exposure located at a distance of 500 feet from the
36 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.

REQUEST FOR TECHNICAL CHANGE

AGENCY: Environmental Management Commission

RULE CITATION: 15A NCAC 02S .0507

DEADLINE FOR RECEIPT: Friday, August 10, 2018

PLEASE NOTE: *This request may extend to several pages. Please be sure you have reached the end of the document.*

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may call our office to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following technical changes be made:

In (c), line 6, should "may be approved provided:" be "shall be approved provided:"? Alternatively, are (c)(1) through (9) factors that will be used in making the determined whether the chemicals of concern will be approved?

In (c)(8), what are "necessary access agreements"? Is there a cross-reference available? How will it be determined whether they can be obtained?

In (d), line 36, by "the Division may approve", do you mean "the Division shall approve"?

In (d)(1), what is considered "full-scale"? Please delete or define.

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Amber May
Commission Counsel
Date submitted to agency: July 27, 2018

1 15A NCAC 02S .0507 is readopted as published in 32:16 NCR 1603 as follows:

3 **15A NCAC 02S .0507 REMEDIAL ACTION PLAN**

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

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

- 8 (1) ~~a~~ A summary of the results of all assessment and interim remedial activities conducted at the site;
- 9 (2) ~~justification~~ Justification for the remediation method selected based on an analysis of each of the
10 following factors:
 - 11 (A) ~~results~~ Results from any pilot studies or bench tests;
 - 12 (B) ~~the~~ The remediation methods considered and why other alternatives were rejected;
 - 13 (C) ~~practical~~ Practical considerations in implementing the remediation, including ease of
14 construction, site access, and required permits;
 - 15 (D) ~~operation~~ Operation and maintenance requirements;
 - 16 (E) ~~the~~ The risks and effectiveness of the proposed remediation including an evaluation of
17 the type, degree, frequency, and duration of any post-remediation activity that may be
18 required, including operation and maintenance, monitoring, inspection, reporting, and
19 other activities necessary to protect public health or health, safety, and welfare ~~and the~~
20 environment;
 - 21 (F) ~~long-term~~ Long term reliability and feasibility of engineering and institutional controls;
 - 22 (G) ~~technical~~ Technical feasibility of the proposed method to reduce the concentrations of
23 chemicals of concern at the site;
 - 24 (H) ~~estimated~~ Estimated time required to achieve risk-based screening levels or site-specific
25 target levels;
 - 26 (I) ~~cost-effectiveness~~ Cost effectiveness of installation, operation and maintenance, when
27 compared to other remediation alternatives; and
 - 28 (J) ~~community acceptance~~ Community acceptance.
- 29 (3) ~~an~~ An evaluation of the expected breakdown chemicals or by-products resulting from natural
30 processes;
- 31 (4) ~~a~~ A discussion of the proposed treatment or disposition of contaminated media that may be
32 produced by the remediation system;
- 33 (5) ~~an~~ An operation and maintenance plan and schedule for the remediation system;
- 34 (6) ~~design~~ Design drawings of the proposed remediation system;
- 35 (7) ~~a~~ A groundwater monitoring plan to monitor plume stability and effectiveness of the remediation;
- 36 (8) ~~a~~ A plan to evaluate the effectiveness of the remedial efforts and the achievement of risk-based
37 screening levels or site-specific target levels;

- 1 (9) ~~a~~ A plan that addresses the health and safety of nearby residential and business communities;
- 2 (10) ~~a~~ A discussion of how the remedial action plan will protect ecological receptors;
- 3 (11) ~~all~~ All required land-use restrictions and notices prepared in accordance with G.S. 143-215.104M
- 4 and 15A NCAC 02S. 0508; and
- 5 (12) ~~measures~~ Measures necessary to protect plant and animal receptors and habitats.
- 6 (c) Monitored natural attenuation of chemicals of concern may be approved as an acceptable remediation method,
- 7 provided:
- 8 (1) ~~all~~ All free product has been removed or controlled to the maximum extent practicable;
- 9 (2) ~~contaminated~~ Contaminated soil is not present in the unsaturated zone above risk-based screening
- 10 levels or site-specific target levels for the soil-to-groundwater pathway for the site unless it is
- 11 demonstrated that the soil does not constitute a continuing source of contamination to groundwater
- 12 at concentrations that pose a threat to human health, safety or the environment, and it is
- 13 demonstrated that the rate of natural attenuation of chemicals of concern in groundwater exceeds
- 14 the rate at which the chemicals of concern are leaching from the soil;
- 15 (3) ~~the~~ The physical, chemical and biological characteristics of each chemical of concern and its by-
- 16 products are conducive to degradation or attenuation under the site-specific conditions;
- 17 (4) ~~the~~ The travel time and direction of migration of chemicals of concern can be predicted with
- 18 reasonable certainty;
- 19 (5) ~~available~~ Available data shows an apparent or potential decrease in concentrations of chemicals of
- 20 concern;
- 21 (6) ~~the~~ The chemicals of concern will not migrate onto adjacent properties that are not served by an
- 22 existing public water supply system, unless the owners have consented to the migration of
- 23 chemicals of concern onto their property;
- 24 (7) ~~if~~ If any of the chemicals of concern are expected to intercept surface waters, the groundwater
- 25 discharge will not exceed the standards for surface water contained in 15A NCAC 02B .0200;
- 26 (8) ~~all~~ All necessary access agreements needed to monitor groundwater quality have been or can be
- 27 obtained; and
- 28 (9) ~~a~~ A monitoring program, sufficient to track the degradation and attenuation of chemicals of
- 29 concern and by-products within and down-gradient of the plume and detect chemicals of concern
- 30 and by-products at least one year's travel time prior to their reaching any existing or foreseeable
- 31 receptor, is developed and implemented. Analytical data collected during monitored natural
- 32 attenuation shall be evaluated on an annual basis to determine if the annual rate of expected
- 33 progress is being achieved.
- 34 (d) If the Division determines that it is technically impracticable to achieve a risk-based screening level or site-
- 35 specific target level for a specific chemical of concern due to geological conditions, remediation technology
- 36 limitations, site conditions, physical ~~limitations~~ limitations or other factors, the Division may approve or modify the
- 37 remedial action plan to provide for the use of institutional controls, engineering controls, and long-term monitoring

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

- 3 (1) a ~~A~~-full-scale field demonstration consisting of an operating remediation system;
- 4 (2) a ~~A~~-pilot study applying a remediation technology on a small portion of the contaminated site;
- 5 (3) predictive ~~Predictive~~-analyses or modeling that shows the potential for the migration and
6 remediation of chemicals of concern to occur at the site;
- 7 (4) comparison ~~Comparison~~-of specific conditions at the subject site to those of similar sites in case
8 studies or peer-reviewed and published research papers;
- 9 (5) a ~~A~~-combination of the above methods; or
- 10 (6) other ~~Other~~-equivalent methods that demonstrate that remediation is technically impracticable.

11
12 *History Note: Authority G.S. 143-215.104D; ~~150B-21.2;~~*

13 *Eff. September 1, ~~2007;2007.~~*

14 *Readopted Eff. September 1, 2018.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Environmental Management Commission

RULE CITATION: 15A NCAC 02S .0508

DEADLINE FOR RECEIPT: Friday, August 10, 2018

PLEASE NOTE: *This request may extend to several pages. Please be sure you have reached the end of the document.*

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may call our office to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following technical changes be made:

Given 143-215.104M(b)(5), is this Rule necessary?

If so, how will it be determined whether land use restrictions are imposed? I assume that it will be based upon whether the Division determines that they are needed "to assure adequate protection of public health and environment"? I read .0506 to set forth the process of the risk assessment, but no necessarily providing factors to determine when a land use restriction will be put in place. Would these be in the remediation agreement?

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Amber May
Commission Counsel
Date submitted to agency: July 27, 2018

1 15A NCAC 02S .0508 is readopted as published in 32:16 NCR 1603 as follows:

2
3 **15A NCAC 02S .0508 LAND-USE RESTRICTIONS**

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

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

7
8 *History Note: Authority G.S. 143-215.104D; 143-215.104M; ~~150B-21.2;~~*

9 *Eff. September 1, ~~2007;~~2007.*

10 *Readopted Eff. September 1, 2018.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Environmental Management Commission

RULE CITATION: 15A NCAC 02S .0509

DEADLINE FOR RECEIPT: Friday, August 10, 2018

PLEASE NOTE: This request may extend to several pages. Please be sure you have reached the end of the document.

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may call our office to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following technical changes be made:

In (a) and (d), what is meant by "unacceptable risks"?

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Amber May
Commission Counsel
Date submitted to agency: July 27, 2018

1 15A NCAC 02S .0509 is readopted as published in 32:16 NCR 1603 as follows:

2
3 **15A NCAC 02S .0509 NO FURTHER ACTION CRITERIA**

4 (a) A "No Further Action" notice documents the Division's decision that the site has been assessed and remediated,
5 and that the site conditions pose no unacceptable risks as long as the recorded land-use restrictions are maintained.

6 The Division shall issue a "No Further Action" notice ~~letter~~ if each of the following criteria is met:

- 7 (1) risk-based ~~Risk-based~~ screening levels or site-specific target levels for each chemical of concern
8 have been achieved, and, if applicable, plant and animal receptors and their habitats have been
9 ~~protected;~~ ~~protected.~~
- 10 (2) ~~The stability monitoring of the groundwater plume for has been verified by a monitoring period of~~
11 at least one year following a complete site characterization as described in 15A NCAC 02S .0504
12 shows that the plume is not expanding, and concentrations of chemicals of concern in groundwater
13 exhibit a stable or decreasing trend based on all available data representative of the entirety of the
14 groundwater plume; after achievement of the goals set forth in the remedial action plan; and
- 15 (3) all ~~All~~ required land-use restrictions and notices pursuant to G.S. 143-215.104M have been filed in
16 the office of the register of deeds of the county or counties in which the property described is
17 located. ~~recorded.~~

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

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

25
26 *History Note: Authority G.S. 143-215.104D; 143-215.104M; ~~150B-21.2;~~*

27 *Eff. September 1, 2007; ~~2007.~~*

28 *Readopted Eff. September 1, 2018.*