State of North Carolina
Department of Environmental Quality
Division of Waste Management

July 12, 2018

Environmental Management Commission

Report of Proceedings of Public Hearing on Proposed Re-Adoption and Amendments to:

Subchapter 02S – Rules and Criteria for the Administration of the Dry-Cleaning Solvent Cleanup Fund

15A NCAC 02S .0101 – Scope and Purpose
15A NCAC 02S .0102 – Definitions
15A NCAC 02S .0201 – Applicability
15A NCAC 02S .0202 – Required Minimum Management Practices
15A NCAC 02S .0301 – Filing
15A NCAC 02S .0501 – Purpose and Applicability
15A NCAC 02S .0502 – Abatement of Imminent Hazard
15A NCAC 02S .0503 – Prioritization of Certified Facilities and Sites
15A NCAC 02S .0506 – Tiered Risk Assessment
15A NCAC 02S .0507 – Remedial Action Plan
15A NCAC 02S .0508 – Land-Use Restrictions
15A NCAC 02S .0509 – No Further Action Criteria

Contents

SUMMARIES AND RECOMMENDATION

Background and Summary

A public hearing was held in Raleigh on March 6, 2018 to take public comments on readoption and amendments to rules governing the administration of the Dry-Cleaning Solvent Cleanup Fund. David Anderson, commissioner on the Environmental Management Commission, served as the hearing officer for this hearing.

The N.C. Department of Environmental Quality's Dry-Cleaning Solvent Cleanup Act (DSCA) Program administers statutes (G.S. 143-215.104) and rules (15A NCAC 02S) to clean up dry-cleaning solvent contamination at dry-cleaners and wholesale solvent distribution sites, and protect human health and the environment by preventing future dry-cleaning solvent contamination.

15A NCAC 02S – Rules and Criteria for the Administration of the Dry-Cleaning Solvent Cleanup Fund are being readopted as part of the periodic review of existing rules pursuant to G.S. 150B-21.3A. In addition, proposed amendments to the rules include technical corrections, clarifications of form requirements and No Further Action Criteria, and an amendment to the definition of site specific target level to be consistent with risk-based standards in G.S. 130A-310.68. The proposed rules are presented in Exhibit A.

Public Comments and Responses Thereto

No comments were received during the March 6 public hearing. However, during the public comment period, emails regarding the proposed rules changes were received from Tom Little, representing N.S. Farrington (a dry-cleaning solvent supplier), and Genna Olson, representing Hart & Hickman, an environmental engineering firm under contract with the DSCA Program. The full email threads are included in Exhibit B; the comments and the Division of Waste Management's emailed responses are summarized below:

Comment 1: Are you comfortable with the changes that are being made? We want to make sure it is good for the State and our dry cleaners. (Tom Little, N.S. Farrington&Co, Concord, NC)

RESPONSE: We are comfortable with these proposed changes. At the same time, we welcome any suggestions for improvement.

Comment 2: Is it helpful for us to submit comments that we support and concur with the proposed rules? (Genna Olson, Hart & Hickman, Raleigh, NC)

RESPONSE: Positive feedback on the proposed rules is certainly welcome.

No additional comments were received.

Hearing Officer's Recommendation

The Hearing Officer recommends that the proposed rules as presented in this hearing report be readopted by the Environmental Management Commission.

REPORT OF PROCEEDINGS

Introduction

The Department of Environmental Quality, Division of Waste Management, held a public hearing on March 6, 2018, at 6 p.m. in Training Room #1210, Green Square Office Building, 217 West Jones Street, Raleigh, NC 27603.

The hearing considered the readoption of and proposed amendments to I5A NCAC 02S. The proposed effective date for these rules is projected to be September 1, 2018.

A public notice announcing this hearing was posted to the Division's website. The public notice was also published in the North Carolina Register at least 15 days before the public hearing.

Designation of Hearing Officer: Attached

Public Notice (North Carolina Register, Volume 32, Issue 16, Feb. 15, 2018): Attached

Transcript: Attached

Exhibit A: Proposed Rules: Attached

Exhibit B: Comments Received: Attached

January 23, 2018

MEMORANDUM

To: Commissioner David Anderson

From: John D. Solomon
Chairman of Environmental Management Commission

Subject: Hearing Officer Appointment

A public hearing has been scheduled for March 6, 2018 at 6:00 p.m. in Training Room 1210 in the Department of Environmental Quality's Green Square Building at 217 West Jones Street in Raleigh, North Carolina for the purpose of receiving public comments on the readoption of proposed 15A NCAC 02S rules.

I am hereby appointing you to serve as hearing officer for this hearing. Please receive all relevant public comment and report your findings and recommendations to the Environmental Management Commission. The Division of Waste Management will provide staff support for you.

If you have any questions, please feel free to contact Peter Doorn at (919) 707-8369.

JDS/lct

Attachment

cc: Lois Thomas

Hearing Record

NORTH CAROLINA REGISTER

VOLUME 32 • ISSUE 16 • Pages 1573 – 1667

February 15, 2018

PUBLISHED BY
The Office of Administrative Hearings
Rules Division
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone (919) 431-3000
Fax (919) 431-3104

Julian Mann III, Director
Molly Masich, Codifier of Rules
Dana McGhee, Publications Coordinator
Lindsay Woy, Editorial Assistant

Note from the Codifier: *The notices published in this Section of the NC Register include the text of proposed rules. The agency must accept comments on the proposed rule(s) for at least 60 days from the publication date, or until the public hearing, or a later date if specified in the notice by the agency. If the agency adopts a rule that differs substantially from a prior published notice, the agency must publish the text of the proposed different rule and accept comment on the proposed different rule for 60 days. Statutory reference: G.S. 150B-21.2.*

TITLE 15A – DEPARTMENT OF ENVIRONMENTAL QUALITY

Notice *is hereby given in accordance with G.S. 150B-21.2 and G.S. 150B-21.3A(c)(2)g. that the Environmental Management Commission intends to readopt with substantive changes the rules cited as 15A NCAC 02S .0102, .0202, .0301, .0503, .0506, .0508, .0509 and readopt without substantive changes the rules cited as 15A NCAC 02S .0101, .0201, .0501, .0502, and .0507.*

Pursuant to G.S. 150B-21.2(c)(1), the text of the rule(s) proposed for readoption without substantive changes are not required to be published. The text of the rules are available on the OAH website: http://reports.oah.state.nc.us/ncac.asp.

Link to agency website pursuant to G.S. 150B-19.1(c): *http://deq.nc.gov/permits-regulations/rules-regulations/proposed-main*

Proposed Effective Date: *September 1, 2018*

Public Hearing:
Date: *March 6, 2018*
Time: *6:00 p.m.*
Location: *NC Department of Environmental Quality, 217 West Jones Street, Raleigh, NC 27603, Room 1210*

Reason for Proposed Action: *The rules 15A NCAC 02S .0101, .0102, .0201, .0202, .0301, .0501, .0502, .0503, .0506, .0507, .0508, .0509 are proposed for readoption to comply with the Rule Review requirements pursuant to G.S. 150B-21.3A. Proposed amendments to the rules include technical corrections, clarifications of form requirements and No Further Action Criteria, and an amendment to the definition of site specific target level to be consistent with risk-based standards in G.S. 130A-310.68.*

Comments may be submitted to: *Peter Doorn, 1646 Mail Service Center, Raleigh, NC 27699-1646; phone (919) 707-8369, fax (919) 707-8369; email peter.doorn@ncdenr.gov*

Comment period ends: *April 16, 2018*

Procedure for Subjecting a Proposed Rule to Legislative Review: If an objection is not resolved prior to the adoption of the rule, a person may also submit written objections to the Rules Review Commission after the adoption of the Rule. If the Rules Review Commission receives written and signed objections after the adoption of the Rule in accordance with G.S. 150B-21.3(b2) from 10 or more persons clearly requesting review by the legislature and the Rules Review Commission approves the rule, the rule will become effective as provided in G.S. 150B-21.3(b1). The Commission will receive written objections until 5:00 p.m. on the day following the day the Commission approves the rule. The Commission will receive those objections by mail, delivery service, hand delivery, or facsimile transmission. If you have any further questions concerning the submission of objections to the Commission, please call a Commission staff attorney at 919-431-3000.

Fiscal impact (check all that apply).
- ☒ **State funds affected**
- ☐ **Environmental permitting of DOT affected**
  Analysis submitted to Board of Transportation
- ☐ **Local funds affected**
- ☐ **Substantial economic impact (≥$1,000,000)**
- ☒ **Approved by OSBM**
- ☐ **No fiscal note required by G.S. 150B-21.4**
- ☐ **No fiscal note required by G.S. 150B-21.3A(d)(2)**

CHAPTER 02 - ENVIRONMENTAL MANAGEMENT

SUBCHAPTER 02S – RULES AND CRITERIA FOR THE ADMINISTRATION OF THE DRY-CLEANING SOLVENT CLEANUP FUND

SECTION .0100 – GENERAL CONSIDERATIONS

15A NCAC 02S .0101 SCOPE AND PURPOSE (READOPTION WITHOUT SUBSTANTIVE CHANGES)

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 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.~~

Authority G.S. 143-215.104B; 143-215.104D(b); ~~150B-21.2.~~

SECTION .0200 – MINIMUM MANAGEMENT PRACTICES

15A NCAC 02S .0201 APPLICABILITY (READOPTION WITHOUT SUBSTANTIVE CHANGES)

15A NCAC 02S .0202 REQUIRED MINIMUM MANAGEMENT PRACTICES

(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 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 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 dry-cleaning facility shall use underground storage tanks for solvents or waste.

Authority G.S. 143-215.104D(b); ~~150B-21.2.~~

SECTION .0300 - PETITIONS FOR CERTIFICATION

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 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, and 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.~~

Authority G.S. 143-215.104D(b); 143-215.104F; 143-215.104G; ~~150B-21.2.~~

SECTION .0500 – RISK-BASED CORRECTIVE ACTION

15A NCAC 02S .0501 PURPOSE AND APPLICABILITY (READOPTION WITHOUT SUBSTANTIVE CHANGES)

15A NCAC 02S .0502 ABATEMENT OF IMMINENT HAZARD (READOPTION WITHOUT SUBSTANTIVE CHANGES)

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.

Authority G.S. 143-215.104C; 143-215.104D; ~~150B-21.2.~~

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 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 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.*~~

Authority G.S. 143-215.104D; ~~150B-21.2.~~

15A NCAC 02S .0507 REMEDIAL ACTION PLAN (READOPTION WITHOUT SUBSTANTIVE CHANGES)

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.~~

Authority G.S. 143-215.104D; 143-215.104M; ~~150B-21.2.~~

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.

Authority G.S. 143-215.104D; 143-215.104M; ~~150B-21.2.~~

TITLE 21 – OCCUPATIONAL LICENSING BOARDS AND COMMISSIONS

CHAPTER 16 – BOARD OF DENTAL EXAMINERS

***Notice** is hereby given in accordance with G.S. 150B-21.2 that the Board of Dental Examiners intends to amend the rules cited as 21 NCAC 16Q .0202, .0204, .0206, .0207, .0301, .0302, .0304-.0306, .0404-.0408, .0501, .0503 and repeal the rule cited as 21 NCAC 16Q .0502.*

Pursuant to G.S. 150B-21.17, the Codifier has determined it impractical to publish the text of rules proposed for repeal unless the agency requests otherwise. The text of the rule(s) are available on the OAH website at http://reports.oah.state.nc.us/ncac.asp.

Link to agency website pursuant to G.S. 150B-19.1(c): *www.ncdentalboard.org*

Proposed Effective Date: *June 1, 2018*

Public Hearing:
Date: *March 8, 2018*
Time: *6:30 p.m.*
Location: *2000 Perimeter Park Drive, Suite 160, Morrisville, NC 27560*

Reason for Proposed Action: *The North Carolina State Board of Dental Examiners proposes to establish permits for itinerant (mobile) moderate conscious sedation and itinerant (mobile) moderate pediatric conscious sedation and set forth the requirements for each of these permits. Additional amendments would adjust the fees for inspections and renewals related to the permits covered by Subchapter 16Q. The Board is also proposing amendments to ensure consistency across Subchapter 16Q, including the repeal of 21 NCAC 16Q .0502.*

Comments may be submitted to: *Bobby D. White, Esq., 2000 Perimeter Park Drive, Suite 160, Morrisville, NC 27560*

Transcript

Public Hearing - 15 NCAC 02S
Department of Environmental Quality, Raleigh, NC
March 6, 2018

David Anderson, Hearing Officer:
Good evening ladies and gentlemen. It is now 6:10pm on March 6, 2018. My name is David Anderson. I am a Commissioner with the Environmental Management Commission. I have been appointed by the Commission to be the hearing officer for today's hearing. My role as hearing officer is to receive comments by the public on today's proceedings and report my findings and recommendation to the full Commission. Please note for the record that this hearing is being recorded.

Other staff members from the Division of Waste Management are here to assist. I ask Mr. Peter Doorn with the Division of Waste Management to please introduce the staff present.

Peter Doorn, DWM DSCA Program:
My name is Pete Doorn with the dry-cleaning program, and there are no other staff members here this evening.

David Anderson, Hearing Officer:
As there are no speakers present at this time, 6:10 pm on March 6, 2018, we will adjourn this hearing. Thank you.

Had speakers been present, the hearing officer would have also communicated the following additional information:

"This evening we are conducting a public hearing to take comments on readoption of the Dry-cleaning Solvent Cleanup Fund Rules of 15A NCAC 02S with proposed amendments. This hearing will be held according to the North Carolina Administrative Procedures Act. The public notice for this hearing has been advertised in the North Carolina Register and posted to the Division's website. A fiscal note estimating the economic impacts of the rule change has been prepared by DWM and approved by the Office of State Budget and Management. I will enter the public notice, proposed amendments, and fiscal note into the hearing record without reading them at this time.

I will now open the hearing and, following a brief description of the proposed amendments, take relevant comments on these rules. Any person desiring to comment is requested to submit a written statement for inclusion in the hearing record. Once called to speak, please come to the podium and state your name clearly, identifying the rule or rules you are commenting on, and whom you represent.

The rules being considered today are found in 15A NCAC 02S, and they are the Rules and Criteria for the Administration of the Dry-Cleaning Solvent Cleanup Fund. The rules 15A NCAC 02S .0101, .0102, .0201, .0202, .0301, .0501, .0502, .0503, .0506, .0507, .0508, .0509 are proposed for readoption to comply with the Rule Review requirements pursuant to G.S. 150B-21.3A. Proposed amendments to the rules include:

- technical corrections;
- clarifications of form requirements and No Further Action Criteria; and
- an amendment to the definition of site specific target level to be consistent with risk-based standards in G.S. 130A-310.68

I will now call speakers to present their comments."

15A NCAC .0101 is proposed for readoption without substantive changes as follows:

SUBCHAPTER 02S – RULES AND CRITERIA FOR THE ADMINISTRATION OF THE DRY-CLEANING SOLVENT CLEANUP FUND

SECTION .0100 – GENERAL CONSIDERATIONS

15A NCAC 02S .0101 SCOPE AND PURPOSE

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

History Note: Authority G.S. 143-215.104D(b); 143-215.104F; 143-215.104N; ~~150B-21.2;~~
Eff. August 1, 2000;
Amended Eff. September 1, 2007.

15A NCAC 02S .0102 is proposed for readoption with substantive changes 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 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.~~

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.

15A NCAC 02S .0201 is proposed for readoption without substantive changes as follows:

SECTION .0200 – MINIMUM MANAGEMENT PRACTICES

15A NCAC 02S .0201 APPLICABILITY

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

History Note: Authority G.S. 143-215.104D(b); ~~150B-21.2;~~
Eff. August 1, 2000;
Amended Eff. August 1, 2002.

15A NCAC 02S .0202 is proposed for readoption with substantive changes as follows:

15A NCAC 02S .0202 REQUIRED MINIMUM MANAGEMENT PRACTICES

(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 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 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 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.

15A NCAC 02S .0301 is proposed for readoption with substantive changes as follows:

SECTION .0300 - PETITIONS FOR CERTIFICATION

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 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, and 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.

15A NCAC 02S .0501 is proposed for readoption without substantive changes as follows:

SECTION .0500 – RISK-BASED CORRECTIVE ACTION

15A NCAC 02S .0501 PURPOSE AND APPLICABILITY

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

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

15A NCAC 02S .0502 is proposed for readoption without substantive changes 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~~, 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.

15A NCAC 02S .0503 is proposed for readoption with substantive changes 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.

15A NCAC 02S .0506 is proposed for readoption with substantive changes 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 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 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.

15A NCAC 02S .0507 is proposed for readoption without substantive changes 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 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.

15A NCAC 02S .0508 is proposed for readoption with substantive changes 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.

15A NCAC 02S .0509 is proposed for readoption with substantive changes 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.

From: Doorn, Peter
To: "Tom Little"
Subject: RE: [External] RE: 15A NCAC 02S Public Comment and Hearing Announcement
Date: Wednesday, February 14, 2018 11:23:00 AM
Attachments: image001.png

Tom – we are comfortable with these proposed changes. At the same time we welcome any suggestions for improvement.

You'll note that the compliance rules have only minor amendments. We still plan to renew the effort to update the compliance rules to address such things as decommissioning, waste water treatment units, maybe spotting agents, etc. However, because we have a firm readoption deadline of July 2018, we decided it will be best to address the more substantive changes to the compliance rules when we have time to engage with all the stakeholders.

Thanks

-Pete

Peter L. Doorn
Special Remediation Branch Head
Division of Waste Management, NC DEQ

(919) 707-8369 office/fax
peter.doorn@ncdenr.gov

217 W. Jones Street
1646 Mail Service Center
Raleigh, NC 27699

From: Tom Little [mailto:tlittle@nsfarrington.com]
Sent: Wednesday, February 14, 2018 10:34 AM
To: Doorn, Peter <peter.doorn@ncdenr.gov>
Subject: [External] RE: 15A NCAC 02S Public Comment and Hearing Announcement

Peter, are you comfortable with the changes that are being made. We want to make sure it is good for the State and our dry cleaners.

Tom Little

From: Doorn, Peter [mailto:peter.doorn@ncdenr.gov]
Sent: Wednesday, February 14, 2018 10:22 AM
To: Chapman, Al <al.chapman@ncdenr.gov>; Kim, Aram <aram.kim@ncdenr.gov>; Ashley Winkelman <ashley.winkelman@atcassociates.com>; Meyer, Billy <billy.meyer@ncdenr.gov>; Bob Wyrick <Bob.Wyrick@aecom.com>; Brian Bellis <BBellis@withersravenel.com>; Brian Ray <Brian.Ray@aecom.com>; Bruce Hickman <bhickman@harthickman.com>; Bryan Brice <bryan@attybryanbrice.com>; Carlin Slusher <carlin.slusher@aecom.com>; Carol Van Buren <cvanburen@vanburenlaw.com>; Cathy Cralle Jones <cathy@attybryanbrice.com>; Chan Bryant <CBryant@withersravenel.com>; Chris Edwards <chrisedw@aol.com>; czawtocki@harthickman.com; Christine Schaefer <christine.schaefer@atcassociates.com>; Daphne Jones <djones@daa.com>; David Duncklee <dave@dunckleedunham.com>; David Treadway <dtreadway@bbandt.com>; Alexander, Delonda <delonda.alexander@ncdenr.gov>; Don Malone <Don@dunckleedunham.com>; Swope, Eric <eric.swope@ncdenr.gov>; Faye Graul <fgraul@hsia.org>; Gary Sawyer <GSawyer@enviroassessments.com>; Genna Olson <golson@harthickman.com>; Greg Icenhour <gicenhour@maaonline.com>; Bateson, James <james.bateson@ncdenr.gov>; James Joyner <jjoyner@daa.com>; Jamie Cole <jamie@ncconservationnetwork.org>; King, Jay W <Jay.King@ncdenr.gov>; Jeffrey Tyburski <tyburski@mcadamsco.com>; Jillian Totman <jtotman@mwcllc.com>; Jimmy Carter

<jimmy.carter@myncma.org>; Joe Steele <steelerealty@bellsouth.net>; John Rybak <jrybak@bbandt.com>; John Stewart <jstewart@ECSLimited.com>; Kevin Sommers <sommers45@atc-enviro.com>; Laura Drey <lauradrey@ncrrbiz.com>; Leo Moretz <lmoretz@harthickman.com>; Lori Denton <lcdenton@terracon.com>; Louis Zeller <BREDL@skybest.com>; Mack Davis <mdavis@medlindavis.com>; Manfred Wentz <mcwentz@gmail.com>; Martin Young <mayoung@vnet.net>; Meghan Greiner <meghan.greiner@atcassociates.com>; Michael Dail <michael.dail@terracon.com>; Michael Jordan <michael.jordan@terracon.com>; Cunningham, Mike <mike.cunningham@ncdenr.gov>; Mike Ranck <mike.ranck@aecom.com>; Cobbs, NeShonda C <neshonda.cobbs@ncdenr.gov>; Moore, Pamela <pamela.moore@ncdenr.gov>; Watters, Patrick <patrick.watters@ncdenr.gov>; Paul Goodson <pgoodson@ncalc.org>; Peter Dollander <pdollander@bbandt.com>; Phoebe Landon <plandon@mwcllc.com>; Gagliardi, Rebecca <rebecca.gagliardi@ncdenr.gov>; Rick Kane <TRKane@poynerspruill.com>; Rick Kolb <rkolb@dunckleedunham.com>; Rita Foley <rfoley@regencycleaner.com>; Rob MacWilliams <rob.macwilliams@aecom.com>; Roland Norris <rnorris@elmsitesolutions.com>; Sam Watts <swatts@smeinc.com>; Sarah Wolfe <swolfe@mwcllc.com>; Stupak, Scott <scott.stupak@ncdenr.gov>; Sheri Knox <sheri.knox@amec.com>; Susan Johnson <susan.johnson@amec.com>; Timothy Klotz <tklotz@harthickman.com>; Tom Little <tlittle@nsfarrington.com>; Tom Raymond <traymond@smeinc.com>; Pendola, Tony <tony.pendola@ncdenr.gov>; Vicki Garlington <garlington@mcadamsco.com>; Will Service <wservice@maaonline.com>
Cc: Osborne, Jay L <jay.osborne@ncdenr.gov>; Scott, Michael <michael.scott@ncdenr.gov>; Lorscheider, Ellen <ellen.lorscheider@ncdenr.gov>; Montie, Jessica <jessica.montie@ncdenr.gov>; Everett, Jennifer <jennifer.everett@ncdenr.gov>; Bateson, James <james.bateson@ncdenr.gov>; Caulk, Kim <kim.caulk@ncdenr.gov>; David Anderson <anderson.david@deq.state.or.us>; Leonard, Laura <laura.leonard@ncdenr.gov>
Subject: 15A NCAC 02S Public Comment and Hearing Announcement

Notice is hereby given in accordance with G.S. 150B-21.2 and G.S. 150B-21.3A(c)(2)g. that the Environmental Management Commission intends to readopt with substantive changes the rules cited as 15A NCAC 02S .0102, .0202, .0301, .0503, .0506, .0508, .0509 and readopt without substantive changes the rules cited as 15A NCAC 02S .0101, .0201, .0501, .0502, and .0507.

15A NCAC 02S – Rules and Criteria for the Administration of the Dry-Cleaning Solvent Cleanup Fund are being readopted as part of the periodic review of existing rules pursuant to G.S. 150B-21.3A. Proposed amendments to the rules include technical corrections, clarifications of form requirements and No Further Action Criteria, and an amendment to the definition of site specific target level to be consistent with risk-based standards in G.S. 130A-310.68.

This Rulemaking Notice and Information, the Proposed Rule Text with Amendments, and the Regulatory Impact Analysis can reviewed at https://deq.nc.gov/documents/15ancac02s.

Public Comment Period & Hearing Information

Public Comment Period: **February 15, 2018 to April 16, 2018**

Public Hearing: **March 6, 2018 at 6:00 pm**
NC DEQ Green Square Building
1st Floor Training Room (Rm 1210)
217. Jones Street, Raleigh, NC 27603

All persons interested in this matter are invited to attend the public hearing. Any person desiring to comment is requested to submit a written statement for inclusion in the record of proceedings at the public hearing. The hearing officer may limit oral presentation lengths if many people want to speak. The hearing record will remain open from February 15, 2018 to April 16, 2018 to receive additional written statements. To be included, the statement must be received or postmarked by April 16, 2018.

Directions/parking information: https://ncdenr.s3.amazonaws.com/s3fs-public/Waste%20Management/DWM/HW/driving%20directions%20to%20green%20square%20%26%20parking%20map.pdf. The front entrance for the Green Square Building is on West Jones Street. Sign in at the front desk and you will then be directed to Room 1210 for the Public Hearing.

Submit Comments by e-mail to: peter.doorn@ncdenr.gov

Submit Comments by mail to: Peter Doorn, DSCA Program
NC DEQ Division of Waste Management
1646 Mail Service Center
Raleigh, NC 27699-1646

Proposed Effective Date: September 1, 2018

Please share this announcement with others who may be interested.

If you have questions or need additional information, please call or email me.

Peter L. Doorn
Special Remediation Branch Head
Division of Waste Management
North Carolina Department of Environmental Quality

(919) 707-8369 office/fax
peter.doorn@ncdenr.gov

217 W. Jones Street
1646 Mail Service Center
Raleigh, NC 27699

From: Doorn, Peter
To: "Genna Olson"
Subject: RE: [External] FW: 15A NCAC 02S Public Comment and Hearing Announcement
Date: Thursday, February 15, 2018 9:17:00 AM
Attachments: image001.png

Genna – positive feedback on the proposed rules is certainly welcome. In my experience, supporting comments are acknowledged but don't really have much impact unless there are negative comments received also.

Thx

-Pete

Peter L. Doorn
Special Remediation Branch Head
Division of Waste Management, NC DEQ

(919) 707-8369 office/fax
peter.doorn@ncdenr.gov

217 W. Jones Street
1646 Mail Service Center
Raleigh, NC 27699

From: Genna Olson [mailto:golson@harthickman.com]
Sent: Thursday, February 15, 2018 9:07 AM
To: Doorn, Peter <peter.doorn@ncdenr.gov>
Subject: [External] FW: 15A NCAC 02S Public Comment and Hearing Announcement

Hi Pete – Is it helpful for us to submit comments that we support and concur with the proposed rules? I wasn't sure if that actually makes much difference or not.

From: Doorn, Peter [mailto:peter.doorn@ncdenr.gov]
Sent: Wednesday, February 14, 2018 10:22 AM
To: Chapman, Al <al.chapman@ncdenr.gov>; Kim, Aram <aram.kim@ncdenr.gov>; Ashley Winkelman <ashley.winkelman@atcassociates.com>; Meyer, Billy <billy.meyer@ncdenr.gov>; Bob Wyrick <Bob.Wyrick@aecom.com>; Brian Bellis <BBellis@withersravenel.com>; Brian Ray <Brian.Ray@aecom.com>; Bruce Hickman <BHickman@harthickman.com>; Bryan Brice <bryan@attybryanbrice.com>; Carlin Slusher <carlin.slusher@aecom.com>; Carol Van Buren <cvanburen@vanburenlaw.com>; Cathy Cralle Jones <cathy@attybryanbrice.com>; Chan Bryant <CBryant@withersravenel.com>; Chris Edwards <chrisedw@aol.com>; Christie Zawtocki <CZawtocki@harthickman.com>; Christine Schaefer <christine.schaefer@atcassociates.com>; Daphne Jones <djones@daa.com>; David Duncklee <dave@dunckleedunham.com>; David Treadway <dtreadway@bbandt.com>; Alexander, Delonda <delonda.alexander@ncdenr.gov>; Don Malone <Don@dunckleedunham.com>; Swope, Eric <eric.swope@ncdenr.gov>; Faye Graul <fgraul@hsia.org>; Gary Sawyer <GSawyer@enviroassessments.com>; Genna Olson <golson@harthickman.com>; Greg Icenhour <gicenhour@maaonline.com>; Bateson, James <james.bateson@ncdenr.gov>; James Joyner <jjoyner@daa.com>; Jamie Cole <jamie@ncconservationnetwork.org>; King, Jay W <Jay.King@ncdenr.gov>; Jeffrey Tyburski <tyburski@mcadamsco.com>; Jillian Totman <jtotman@mwcllc.com>; Jimmy Carter <jimmy.carter@myncma.org>; Joe Steele <steelerealty@bellsouth.net>; John Rybak <jrybak@bbandt.com>; John Stewart <jstewart@ECSLimited.com>; Kevin Sommers <sommers45@atc-enviro.com>; Laura Drey <lauradrey@ncrrbiz.com>; Leo Moretz <lmoretz@harthickman.com>; Lori Denton <lcdenton@terracon.com>; Louis Zeller <BREDL@skybest.com>; Mack Davis <mdavis@medlindavis.com>; Manfred Wentz <mcwentz@gmail.com>; Martin Young <mayoung@vnet.net>; Meghan Greiner <meghan.greiner@atcassociates.com>; Michael Dail <michael.dail@terracon.com>; Michael Jordan <michael.jordan@terracon.com>; Cunningham, Mike <mike.cunningham@ncdenr.gov>; Mike Ranck

<mike.ranck@aecom.com>; Cobbs, NeShonda C <neshonda.cobbs@ncdenr.gov>; Moore, Pamela <pamela.moore@ncdenr.gov>; Watters, Patrick <patrick.watters@ncdenr.gov>; Paul Goodson <pgoodson@ncalc.org>; Peter Dollander <pdollander@bbandt.com>; Phoebe Landon <plandon@mwcllc.com>; Gagliardi, Rebecca <rebecca.gagliardi@ncdenr.gov>; Rick Kane <TRKane@poynerspruill.com>; Rick Kolb <rkolb@dunckleedunham.com>; Rita Foley <rfoley@regencycleaner.com>; Rob MacWilliams <rob.macwilliams@aecom.com>; Roland Norris <rnorris@elmsitesolutions.com>; Sam Watts <swatts@smeinc.com>; Sarah Wolfe <swolfe@mwcllc.com>; Stupak, Scott <scott.stupak@ncdenr.gov>; Sheri Knox <sheri.knox@amec.com>; Susan Johnson <susan.johnson@amec.com>; Timothy Klotz <tklotz@harthickman.com>; Tom Little <tom.little@nsfarrington.com>; Tom Raymond <traymond@smeinc.com>; Pendola, Tony <tony.pendola@ncdenr.gov>; Vicki Garlington <garlington@mcadamsco.com>; Will Service <wservice@maaonline.com>
Cc: Osborne, Jay L <jay.osborne@ncdenr.gov>; Scott, Michael <michael.scott@ncdenr.gov>; Lorscheider, Ellen <ellen.lorscheider@ncdenr.gov>; Montie, Jessica <jessica.montie@ncdenr.gov>; Everett, Jennifer <jennifer.everett@ncdenr.gov>; Bateson, James <james.bateson@ncdenr.gov>; Caulk, Kim <kim.caulk@ncdenr.gov>; David Anderson <anderson.david@deq.state.or.us>; Leonard, Laura <laura.leonard@ncdenr.gov>
Subject: 15A NCAC 02S Public Comment and Hearing Announcement

Notice is hereby given in accordance with G.S. 150B-21.2 and G.S. 150B-21.3A(c)(2)g. that the Environmental Management Commission intends to readopt with substantive changes the rules cited as 15A NCAC 02S .0102, .0202, .0301, .0503, .0506, .0508, .0509 and readopt without substantive changes the rules cited as 15A NCAC 02S .0101, .0201, .0501, .0502, and .0507.

15A NCAC 02S – Rules and Criteria for the Administration of the Dry-Cleaning Solvent Cleanup Fund are being readopted as part of the periodic review of existing rules pursuant to G.S. 150B-21.3A. Proposed amendments to the rules include technical corrections, clarifications of form requirements and No Further Action Criteria, and an amendment to the definition of site specific target level to be consistent with risk-based standards in G.S. 130A-310.68.

This Rulemaking Notice and Information, the Proposed Rule Text with Amendments, and the Regulatory Impact Analysis can reviewed at https://deq.nc.gov/documents/15ancac02s.

Public Comment Period & Hearing Information

Public Comment Period: **February 15, 2018 to April 16, 2018**

Public Hearing: **March 6, 2018 at 6:00 pm**
NC DEQ Green Square Building
1st Floor Training Room (Rm 1210)
217. Jones Street, Raleigh, NC 27603

All persons interested in this matter are invited to attend the public hearing. Any person desiring to comment is requested to submit a written statement for inclusion in the record of proceedings at the public hearing. The hearing officer may limit oral presentation lengths if many people want to speak. The hearing record will remain open from February 15, 2018 to April 16, 2018 to receive additional written statements. To be included, the statement must be received or postmarked by April 16, 2018.

Directions/parking information: https://ncdenr.s3.amazonaws.com/s3fs-public/Waste%20Management/DWM/HW/driving%20directions%20to%20green%20square%20%26%20parking%20map.pdf. The front entrance for the Green Square Building is on West Jones Street. Sign in at the front desk and you will then be directed to Room 1210 for the Public Hearing.

Submit Comments by e-mail to: peter.doorn@ncdenr.gov

Submit Comments by mail to: Peter Doorn, DSCA Program
NC DEQ Division of Waste Management
1646 Mail Service Center
Raleigh, NC 27699-1646

Proposed Effective Date: September 1, 2018

Please share this announcement with others who may be interested.

If you have questions or need additional information, please call or email me.

Peter L. Doorn
Special Remediation Branch Head
Division of Waste Management
North Carolina Department of Environmental Quality

(919) 707-8369 office/fax
peter.doorn@ncdenr.gov

217 W. Jones Street
1646 Mail Service Center
Raleigh, NC 27699

Regulatory Impact Analysis of Proposed Rules 15A NCAC 02S .0101, .0102, .0201, .0202, .0301, .0501, .0502, .0503, .0506, .0507, .0508, .0509 for readoption

Name of Commission: Environmental Management Commission

Agency Contact: Pete Doorn, Special Remediation Branch Head
DEQ Division of Waste Management
1646 Mail Service Center
Raleigh, NC 27699-1646
(919) 707-8369
peter.doorn@ncdenr.gov

Impact Summary:

State Government:	Yes
Local Government:	No
Substantial Impact:	No
Private Sector:	Yes

Authority: G.S. 143-215.104

Necessity: These rules changes are considered necessary to incorporate technical changes, and to make the rules consistent with other Department of Environmental Quality (DEQ) risk-based remediation programs; and readoption of the 15A NCAC 02S rules is required as part of the mandatory Periodic Rule Review procedures of G.S. 150B-21.3A.

I. Summary

The purpose of this document is to provide a regulatory impact analysis addressing the fiscal impacts associated with readoption and amendments to rules in 15A NCAC 02S Sections .0100, General Considerations, .0200, Minimum Management Practices, .0300, Petitions for Certification, .0400, Assessment Agreements, and .0500, Risk-Based Corrective Action.

A fiscal and regulatory impact analysis is required for readoption if all the following criteria apply:

- The rule is readopted with substantive change;
- The change results in state, local or substantial impact; and
- A rule in the package proposed to be adopted together creates a net cost on any part of the regulated community.

G.S. 150B-21.3A(d)(2) states that “If a rule is readopted without substantive change or the rule is amended to impose a less stringent burden on regulated persons, the agency is not required to prepare a fiscal note as provided by G.S. 150B-21.4.”

G.S. 150B-21.4(d) states that "If an agency proposes the repeal of an existing rule, the agency is not required to prepare a fiscal note on the proposed rule change as provided by this section."

Rule changes are necessary to reflect the Department of Environment and Natural Resources' name change to the Department of Environmental Quality (DEQ), and to remove an outdated address for the Division of Waste Management. An agency-requested pre-review by Rule Review Commission staff attorneys resulted in several additional recommended technical changes that are included in the proposed rules. More substantive proposed rule changes include (i) clarifying stability monitoring language in the No Further Action Criteria; and (ii) updating the rules to follow risk-based standards used by other DEQ risk-based cleanup programs, which will have the effect of amending the upper end of the allowable cumulative cancer risk range from 1 in 100,000 to 1 in 10,000. This amendment to the allowable cumulative cancer risk range is the only rule change projected to have a cost impact.

It is acknowledged that amending the cancer risk range to be consistent with DEQ's risk-based programs may result in an increased excess cancer risk for a population exposed to remaining contamination. Based on the conservative nature of risk evaluation assumptions, the very limited potential for exposure as described below, and the disproportionately large percentage of background cancer incidents, the impact of the increased risk is so small that the Program has concluded that it is not quantifiable.

Amending the risk range to align with other DEQ risk-based cleanup programs will allow the DSCA Program to save an estimated **$14,000 to $38,000/year** in monitoring and remediation costs. For DSCA sites where these savings can be realized, petitioners would save **$200 to $580** in annual co-payments. However, the estimated reduction in petitioner co-payments means a loss of that revenue for the Program, and consequently those impacts will offset one another. The total impact of the proposed changes to 15A NCAC 02S is estimated at a present value savings over the next 20 years of **$256,000 to $419,000**.

Based on this analysis, the amendments proposed for the readoption do not rise to the level of substantial impact.

II. Introduction and Purpose of Rule Change(s)

The Dry-cleaning Solvent Cleanup Act (DSCA) of 1997 and its amendments created a fund for assessment and cleanup of dry-cleaning solvent environmental contamination at dry-cleaning and wholesale distribution facilities and authorized the program to develop and enforce rules relating to the prevention of dry-cleaning solvent releases at operating facilities. The DSCA Program is tasked with using a risk-based approach to clean up dry-cleaning solvent contamination at dry-cleaners and wholesale solvent distribution sites, and protecting human health and the environment by preventing future dry-cleaning solvent contamination. The program hires and oversees state-lead environmental firms to assess and remediate DSCA sites. Receipts from taxes on regulated dry-cleaning solvents and from the dry-cleaning sales and use tax provide approximately $8,000,000 to the DSCA Fund annually. Assessment and remediation

expenditures account for approximately $6,500,000 per year, and administrative costs account for approximately $1,500,000 each year.

Rule changes are necessary to reflect the Department of Environment and Natural Resources' name change to the Department of Environmental Quality (DEQ), and to remove an outdated address for the Division of Waste Management. An agency-requested pre-review by Rule Review Commission staff attorneys resulted in several additional recommended technical changes that are included in the proposed rules. More substantive proposed rule changes include (i) clarifying plume stability criteria in the No Further Action Criteria; and (ii) updating the rules to follow risk-based standards used by other DEQ risk-based cleanup programs, which will have the effect of amending the upper end of the allowable cumulative cancer risk range from 1 in 100,000 to 1 in 10,000.

The rule change projected to have a cost impact is amending the upper end of the allowable cumulative cancer risk range from 1 in 100,000 to 1 in 10,000. The following analysis describes the estimated benefits and costs of amending the cancer risk range to be consistent with the NC DEQ's risk-based remediation programs.

III. Benefits

Department name and address changes, clarifying language, and amending the individual excess lifetime cancer risk (IELCR) threshold specified in the existing rules will incur no additional costs for local governments, state entities, the regulated community, or the public.

However, amending the individual excess lifetime cancer risk (IELCR) threshold specified in the existing rules to be consistent with the IELCR threshold used in other DEQ risk-based cleanup programs is anticipated to realize a potential minor annual savings for the DSCA Fund, and a potential nominal savings for petitioners with sites in the DSCA cleanup program.

Background

Risk-based remediation decisions are based on evaluating risks associated with exposure to chemicals in the environment via pathways that may include dermal contact, inhalation, and ingestion of contaminated soil, water, and/or air. Chemicals may induce non-carcinogenic health effects or carcinogenic health effects, or both. The suggested rule change effectively amends only the carcinogenic risk threshold, and does not alter the non-carcinogenic thresholds established in the existing rules. This distinction is necessary because the risks posed by dry-cleaning solvent contamination are related to the type(s) of dry-cleaning solvents that were used. Dry-cleaning contamination eligible for cleanup under DSCA must be associated with a release of petroleum solvents, chlorinated hydrocarbon solvents, or both. Risk assessments at more than a hundred DSCA sites have shown that cleanup decisions at chlorinated hydrocarbon solvent sites are driven by non-carcinogenic risks, and at petroleum solvent sites by carcinogenic risks. Consequently, this analysis uses the universe of DSCA

petroleum solvent sites to estimate cost impacts resulting from amending the cancer risk threshold.

Cancer risk is typically defined as an "increase over background in an individual's probability of getting cancer over a lifetime due to exposure to a chemical." For carcinogenic chemicals, cleanup levels are established at concentrations that correspond to an individual excess lifetime cancer risk (or IELCR) ranging from 1 in 1,000,000 (or $1x10^{-6}$), which is considered the most conservative, up to an IELCR of 1 in 10,000 (or $1x10^{-4}$), which is considered the acceptable upper range by EPA and NC DEQ's risk-based remediation programs. Under existing rules, the upper IELCR value acceptable for DSCA sites is established at 1 in 100,000 (or $1x10^{-5}$) making it inconsistent with the other programs.

The proposed adjustment of the acceptable IELCR value from 1 in 100,000 to 1 in 10,000 will result in a potential minor cost savings to the DSCA Fund and to petitioners for certain sites that will be affected by the proposed change as explained below.

Explanation of Estimated Benefits – DSCA Savings

Amending the IELCR threshold as proposed will correspond to a slight lessening of the cleanup standards, and thus a reduction in the costs spent by DSCA.

To estimate cost savings, the program evaluated the strategies used to manage the existing DSCA petroleum solvent sites that exceed the IELCR of 1 in 100,000 threshold, and estimated the number on new sites that will enter the program.

Existing Petroleum Solvent Sites

At the time of this analysis, 406 contaminated dry-cleaning solvent sites have been certified in DSCA, and of these, only five are potentially affected by amending the acceptable IECLR threshold from 1 in 100,000 to 1 in 10,000.

For sites where the IELCR is between 1 in 100,000 and 1 in 10,000, one or both of the following strategies are used to manage these sites. These same strategies are projected to be used on new sites entering the program in the future should the current IECLR remain at 1 in 100,000

1. Continue groundwater monitoring on a biennial frequency until petroleum solvent contaminants in soil naturally degrade to concentrations that meet the IELCR of 1 in 100,000.

Estimated monitoring costs:	$10,000 per event
Frequency:	Biennial – every other year
Estimated annual costs per site:	$5,000
Assumed number of sites affected:	5
Estimated total annual costs:	**$25,000**
Duration:	5 – 20 years

Present value of lifetime costs: **$103,000 – $265,000**

Assumptions:

- Monitoring costs include sampling 10 groundwater monitoring wells for volatile organic compounds, mobilizing staff, managing investigation derived waste, and generating a report. An analysis of monitoring costs at twenty DSCA sites across the state resulted in an average cost of $10,000 to perform one monitoring event of 10 groundwater monitoring wells.
- As a "worst-case" cost scenario, each of the five sites are presumed to be undergoing biennial groundwater monitoring until soil contaminants degrade to concentrations that meet an IELCR of 1 in 100,000.
- There is significant uncertainty in the amount of time necessary for such degradation to occur due to the heterogenic nature of soil matrices, including organic content, geochemistry, microbial content, porosity and permeability. A range based on professional judgement is between 5 and 20 years for such degradation to occur.
- Assumes monitoring costs will grow at the rate of general inflation.

2. Remediate soils to concentrations that meet the IELCR of 1 in 100,000.

Estimated remediation costs:	$63,000 per remedy
Frequency:	One site every 5 years
Estimated total annual costs:	**$13,000**
Present value of costs over 20 yrs:	**$148,000**

Assumptions:

- Remediation costs include pre-characterization sampling, mobilization, excavation of a projected 60 tons of soils exceeding IELCR of 1 in 100,000 (but less than 1 in 10,000), disposal of non-hazardous soil, backfill with clean fill, and report generation.
- An evaluation of excavation costs at five DSCA sites with similar excavated volumes of soil resulted in an average present value cost of $63,000 for a 60-ton soil excavation. This cost estimate is considered high because the available data is associated with excavation of PCE impacted soil which requires (i) more detailed pre-characterization sampling additional sampling, and (ii) managing soil as hazardous waste, neither of which are necessary for petroleum solvent contamination.
- As a "worst-case" cost scenario, one site is presumed to undergo remediation once every 5 years. Such remedies are occasionally undertaken when an opportunity arises (e.g., a building is demolished, or a tenant space is vacated) allowing the program to save funds by remediating soils that may not otherwise be accessible. For this cost analysis, such remedies are presumed to be limited to soil that exceeds an IELCR of 1 in 100,000 but meets the IELCR of 1 in 10,000.

- Assumes an inflation-adjusted remediation cost growth rate of approximately 1.7% per year, based on analysis of IHS Markit's construction sector wage projections for North Carolina.

Future petroleum solvent sites

There are currently five existing petroleum solvent sites in the DSCA program where cancer risks are the primary factor in cleanup decisions. The program has been in existence 20 years. It is projected that the rate of new petroleum solvent sites (where cancer risks are the driver) entering the program will remain stable at one every 4 years or 0.25 sites per year.

The current trend in the dry-cleaning industry is to move away from the use of chlorinated dry-cleaning solvents and toward petroleum based solvents. While the trend toward increased petroleum solvent use may suggest that the number of petroleum solvent sites in DSCA will rise, we believe the following factors will off-set this development toward a more stable trend:

1. To the best of our knowledge, all sites in the DSCA Program are legacy sites, meaning those that were contaminated as a result of dry-cleaning practices or catastrophic incidents that occurred prior to the DSCA, RCRA, and NESHAP regulations that govern how dry-cleaning solvents and solvent wastes are to be safely managed. We believe that sites coming into DSCA in the future will also be legacy sites and the ratio of petroleum vs chlorinated solvent sites will be consistent/stable in the future.
2. While more dry-cleaners are switching to petroleum, the total number of dry-cleaners is decreasing. In NC, the number of full-service active cleaners has decreased from about 850 in 2008 to about 515 in 2017.
3. Existing regulations and DSCA's education assistance efforts have increased compliance among the dry-cleaning community from about 7% in 2007 to about 85% in 2017. The likelihood of a current release has been dramatically reduced in the last 10 years by the presence of a DSCA compliance program and its outreach efforts.
4. Due to its characteristics (e.g., density, degradability, etc.), petroleum solvent is more readily contained and removed than chlorinated solvent in the event of accidental spillage. Additionally, if such a release occurs, petroleum solvent is less likely pose a significant threat to groundwater and indoor air.

Total estimated annual costs for DSCA to continue to manage the sites that will otherwise benefit from this proposed change to the IELCR ranges from **$14,000 to $38,000/year**. The present value[1] of the expected savings to the DSCA Program over the next 20 years is **$252,000 to $412,000**.

[1] Calculated as of November 2017 using a 7% discount rate.

Explanation of Estimated Benefits – DSCA Petitioner Savings

Each site in the DSCA cleanup program has a "petitioner" who is responsible for a co-payment obligation. That co-payment obligation averages 1.5% of the costs incurred by the DSCA Program. The co-payment obligation is satisfied when the DSCA Program has incurred $1,000,000 in expenses at the site.

Co-payments that may be required under the scenarios described above are anticipated to range from $200 - $580 annually. With the proposed change to the IELCR, petitioner payments for the affected sites are estimated to be reduced by up to $565 annually.

Assumptions:

- Petitioners payment estimates are based on the DSCA Program performing bi-annual monitoring at the affected sites and conducting soil remediation at an affected site once every 5 years.

IV. Costs

Impacts evaluated in this analysis also include costs to the State in reduced revenue and costs to the public from potential additional cancer care.

Explanation of Estimated Costs – DSCA Petitioner Payments

As noted in the discussion of benefits above, co-payments that may be required to be paid to the DSCA program by petitioners under the scenarios described above are anticipated to range from $190 - $565 annually. It is estimated that under the proposed rule, petitioners would not incur these costs and therefore the revenue from these payments would not be received by the DSCA Program.

Explanation of Estimated Costs – Cancer Care

Amending the upper end of the allowable cumulative cancer risk range raises contaminant concentrations that will be allowed to remain in soil and indoor air at dry-cleaning sites in the DSCA Program. Consequently, there will be an incrementally small increase in cancer risk if people are exposed to the remaining contaminants. Groundwater and surface water are not affected by this proposed rule change because the applicable standards are established in 15A NCAC 02L and 15A NCAC 02B, respectively.

The small increase in cancer risk is not considered to be quantifiable because of the conservative nature of risk evaluation assumptions, the very limited population that could potentially be exposed to remaining contaminants, the brief duration of exposure that would reasonably be expected if an exposure occurs, and the disproportionately large number of background cancer incidents. The following discussion outlines these assumptions in further detail.

A risk level of 1 in a million implies a likelihood that up to one person, out of one million people equally exposed to the contamination would contract cancer if exposed continuously (24 hours per day) to the specific concentration over 70 years (an assumed lifetime). This would be in addition to those cancer cases that would normally occur in an unexposed population of one million people (*EPA, https://archive.epa.gov/airtoxics/nata/web/html/gloss.html#oneinamillion*). In other words, a contaminant concentration that poses a 1 in 1,000,000 individual excess lifetime cancer risk would be expected to result in one incident of cancer above background from the one million people exposed to that concentration continuously (24/7) over a 70-year lifespan. Similarly, a concentration posing a 1 in 10,000 individual excess lifetime cancer risk would be expected to result in one incident of cancer above background from the ten thousand people exposed over a 70-year lifespan. "The expression of the estimated cancer risk is not a prediction that cancer will occur, it represents the upper bound estimate of the probability of additional cancers, and merely suggests that there is a possibility. The actual risk might be much lower, or even no risk". (*Health Consultation for the Ward Transformer Site, NC Department of Health and Human Services, 3/31/2017*)

To properly evaluate risk from exposure to contamination it is necessary to consider the risk in context with background cancer incidents. In North Carolina, approximately 30% of women and 50% of men (about 40% combined), will be diagnosed with cancer in their lifetime from a variety of causes. This is referred to as the "background cancer risk" (*Health Consultation for the Ward Transformer Site, NC Department of Health and Human Services, 3/31/2017*). In numerical terms, this means that out of 1 million North Carolinians, the background number of cancer incidents is 40% or 400,000. If these 1 million people are also exposed to a cancer-causing contaminant their entire life, then the expected number of cancer incidents will be 400,001 instead of 400,000. Applying this background analysis to a contaminant concentration representing an excess lifetime cancer risk of 1 in 10,000, it would potentially result in 4,001 cancer incidents instead of 4,000 from a population 10,000.

Given our understanding of the sites for which the proposed rule change will apply, it is the DSCA Program's professional judgement that the population that may potentially be exposed to a lifetime's exposure is nominal to none, and the exposure duration for the population that may encounter the contamination is an extremely small fraction of a lifetime's exposure. The considerations that lead us to this determination are:

1. The number of sites where an exposure could occur is very limited. Currently, there are five DSCA sites (out of 406 sites in the program), or 1.2%, that are expected to be affected by the proposed rule change. Additionally, the predicted rate of petroleum solvent sites entering DSCA for which the proposed rule change will be applicable is estimated at one new site every four years.
2. Most dry-cleaning sites occur in commercial or retail settings, so there is practically no opportunity for persons to experience a lifetime exposure to contaminants. While there may be a greater number of individuals that occupy commercial or retail space, the length of time that most individuals (consumers) would potentially be exposed is limited to 1-2 hours. There is also a potential for employees to be exposed, but the exposure

would be expected to be limited to 40-hours/week for an average of 4.2 years (*Employee Tenure in 2016, Bureau of Labor Statistics, September 2016*). Compared to a continuous 70-year lifetime exposure, the employee or consumer exposure is very limited.

3. Given that petroleum solvents degrade more readily than chlorinated solvents, petroleum solvent releases in the environment are significantly less likely (than chlorinated solvents) to cause vapor intrusion problems (*Petroleum Hydrocarbons and Chlorinated Solvents Differ in Their Potential for Vapor Intrusion, EPA, March 2012*). Specifically, when considering the scenario of an employee's potential exposure referenced above; (i) employees generally won't be exposed to soil contamination; and (ii) due to the degradation of petroleum solvents, it is very unlikely that an employee will be exposed to petroleum solvent contaminants via the vapor intrusion pathway.
4. When residential areas are affected by dry-cleaning solvent contamination being addressed by the DSCA Program, it has always been related to the migration of chlorinated solvents rather than petroleum solvents. Petroleum solvent contaminants tend stay close to the area where the release occurred, and degrade more readily as noted above.

It is acknowledged that amending the cancer risk range to be consistent with DEQ's risk-based programs may result in an increased excess cancer risk for a population exposed to remaining contamination. However, based on the conservative nature of risk evaluation assumptions, the very limited potential for exposure as described above, and the disproportionately large percentage of background cancer incidents, the impact of the increased risk is so small that the Program has concluded that it is not quantifiable.

V. Summary of Impacts

Amending the risk range to align with other DEQ risk-based cleanup programs will allow the DSCA Program to save an estimated **$14,000 to $38,000/year** in monitoring and remediation costs. For DSCA sites where these savings can be realized, petitioners would save **$200 to $580** in annual co-payments. However, the estimated reduction in petitioner co-payments means a loss of that revenue for the Program, and consequently those impacts will offset one another. The total impact of the proposed changes to 15A NCAC 02S is estimated at a present value savings over the next 20 years of **$256,000 to $419,000**.

It is acknowledged that amending the cancer risk range to be consistent with DEQ's risk-based programs may result in an increased excess cancer risk for a population exposed to remaining contamination. Based on the conservative nature of risk evaluation assumptions, the very limited potential for exposure as described above, and the disproportionately large percentage of background cancer incidents, the impact of the increased risk is so small that the Program has concluded that it is not quantifiable.

Appendix: Rules for Readoption including Proposed Amendments

The attached 15A NCAC 02S rules for readoption are considered necessary with substantive public interest and include proposed amendments.

From:	Hollis, Carrie
To:	Doorn, Peter; Everett, Jennifer
Cc:	Masich, Molly; McGhee, Dana; Grozav, Anca
Subject:	Approval - 15A NCAC 02S .0101, .0102, .0201, .0202, .0301, .0501, .0502, .0503, .0506, .0507, .0508, .0509, Dry-cleaning Solvent Cleanup Act Program
Date:	Tuesday, December 12, 2017 11:41:17 AM
Attachments:	DEQ_2017-12-12.pdf DEQ_2017-12-12_Appendix.pdf image001.png

OSBM has reviewed DEQ Division of Waste Management's proposed changes to 12 rules in 15A NCAC 02S in accordance with G.S. 150B-21.4 and with E.O. 70 from 10/21/2010 as amended by E.O. 48 from 4/9/2014. The fiscal note is approved for publication. Please ensure that the state government impact is included in the Notice of Text.

The .pdf file of rule impact analysis (attached) will be posted on our website at the following URL:
https://files.nc.gov/ncosbm/documents/files/DEQ_2017-12-12.pdf
https://files.nc.gov/ncosbm/documents/files/DEQ_2017-12-12_Appendix.pdf

Please post this link on your agency's website to ensure compliance with G.S. 150B-19.1(c)(5).

Please let me know if you have any questions.
Regards,
Carrie

Carrie Hollis
Economic Analyst
Demographic and Economic Analysis Section
NC Office of State Budget and Management

919 807 4757 office
carrie.hollis@osbm.nc.gov

116 West Jones Street
20320 Mail Service Center
Raleigh, NC 27699-0320

Email correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties by an authorized state official.