



ENVIRONMENTAL PROTECTION DIVISION

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MEMORANDUM

To: Richard E. Dunn, Director
Environmental Protection Division

From: Jeff Cown, Chief
Land Protection Branch

Subject: Responses to Comments Received During the Public Comment Period
Regarding Proposed Amendments to the Rules for Hazardous Site Response

On May 24, 2018, the Georgia Environmental Protection Division (EPD) issued a public notice requesting comments on the proposed revisions to the Georgia Rules for Hazardous Site Response, Chapter 391-3-19. The proposed changes include the following rules:

391-3-19-.02, "Conventions"

391-3-19-.04 "Release Notification"

391-3-19-.06 "Corrective Action"

391-3-19-.07 "Risk Reduction Standards"

391-3-19-.08 "Property Notices"

391-3-19-.09 "Funding to State and Local Governments from the Hazardous Waste Trust Fund"

Appendices III and IV

A public hearing was held at 1:00 pm on June 21, 2018 in the EPD Training Center located at 4244 International Parkway, Suite 116, Atlanta, Georgia 30354. No comments were received during the public hearing. Written comments were received from six commenters representing regulated entities, environmental consulting firms, local governments and environmental organizations between May 24, 2018 and July 6, 2018. The public comment period ended July 6, 2018. The public comments received are summarized below, followed by EPD's responses. No changes to the proposed rules are recommended based on comments received. However, a scrivener's error was corrected in the proposed Equation 2 of Appendix IV; a subtraction symbol has been replaced with a multiplication symbol.

**Responses to Comments Received on the Proposed Amendments to the
Rules for Hazardous Site Response, Chapter 391-3-19**

May 24 through July 6, 2018

On May 24, 2018, the Georgia Environmental Protection Division (EPD) issued a public notice requesting comments on Georgia's proposed amendments to the Rules for Hazardous Site Response, Chapter 391-3-19. No comments were received during the public hearing held on June 21, 2018. Written comments were received from or on behalf of regulated entities, environmental consulting firms, local governments, and environmental organizations. The comments are summarized and followed by EPD's responses.

A. Comment (4 commenters): General comments in support of changes to Rules 391-3-19. We agree that EPD's risk assessment approach should be updated to be in step with advancements in scientific understanding that have occurred since the Rules were enacted in 1994. The changes bring the program up to date, replace dated, arbitrary and obsolete methods, and bring consistency between State and Federal regulations.

EPD Response: EPD agrees.

B. Comment: EPD should continue protecting groundwater as a natural resource. Therefore we support replacing the arbitrary use of 100 times the groundwater standard as a default "protection of groundwater" value with the use of the partitioning equation using a default Dilution Attenuation Factor of 20. A DAF of 100 should not be applied unless justified on a site-specific basis.

EPD Response: EPD agrees.

C. Comment: The changes will simplify Risk Reduction Standard (RRS) calculations because individuals will be able to utilize USEPA's Regional Screening Level (RSL) calculator to generate site-specific RRS. The use of the RSL calculator will decrease the time spent generating RRS values and supporting tables by 50%.

EPD Response: EPD agrees.

D. Comment (2 commenters): We support the additional flexibility EPD has incorporated into the calculation of site-specific RRS. We believe there are additional changes that can be made to the Rules and/or incorporated into EPD guidance, and that the stakeholder process should begin earlier in the process. We appreciate EPD's commitment to revisit these Rules on a regular basis and to continue a broader stakeholder discussion, including potential ways to add flexibility and encourage cleanup while remaining protective of human health and the environment.

EPD Response: EPD agrees.

E. Comment (2 commenters): Rule 391-3-19-.07(4)(d) fails to address chronic toxicity or observed bioaccumulation in apex organisms. A less than acute toxicity can reduce the bio-diversity within the natural environment. Apex organisms serve as sentinel species and should be considered in setting levels of a regulated substance at a site regulated under the Hazardous Site Response Act

(HSRA). Regulations must look at the release of single compounds and the overall cumulative effects of many released compounds across the receiving waters. The proposed rule falls short in that a method to evaluate multiple contaminants is missing. Empirical evidence should have weight when setting limits on regulated substances, and be specifically identified in the rule as a reason for the Director to set limits below the regulatory levels.

EPD Response: This concern is addressed in section 391-3-19-.07(4)(c) which notes that corrective action must address “adverse effects on vegetation or wildlife”. When deemed necessary by the Division, cumulative adverse effects to flora and fauna from exposure to multiple regulated substances will be addressed as part of a baseline ecological risk assessment. Note that EPD will be working with a stakeholder group to develop guidance for ecological risk assessment requirements in Georgia.

F. Comment (2 commenters): The HSRA rules already allow for composite samples which can be a dilution of the sample via several means. Subsection 391-3-19-.07(6)(b)1.(ii) can be strengthened by specifying only discrete samples can be used for calculating a dilution attenuation factor (DAF).

EPD Response: The proposed rule does not use soil concentrations to calculate the DAF, whether collected using discrete or composite sampling methods. This section of the rules deals with determining contaminant concentrations in soil that are protective of the soil-to-groundwater migration pathway (also known as leaching) for a default exposure scenario. The proposed equation and parameters are based on established EPA guidance, are commonly used by other states, and have been commonly used in Georgia for years to evaluate leaching for site-specific Risk Reduction Standards.

G. Comment (2 commenters): Draft Rule 391-3-19-.07(7)(d) and (9)(e) propose to allow soil area averaging to demonstrate compliance with site specific standards. Soil averaging is ripe for abuse, and reasons for not allowing soil averaging include the following: Children and workers do not use an entire area equally. To the contrary, children will habitually return to a play area. Workers set up work stations that they return to. Land is routinely divided into areas for specific use and is not homogeneous. And a very contaminated and dangerous area can be “averaged away” rather than being cleaned up or otherwise remediated. Furthermore, composite samples are a soil averaging technique in and of themselves. Only discrete samples should be used to do an initial delineation of contaminated areas where any further soil averaging is anticipated. All composite samples must be treated as if only one of the samples comprising the composite contained all the contamination. To further “soil average” can lead to areas with excessive risk.

EPD Response: To ensure that averaging is conducted properly, EPD will work with a stakeholder group to develop appropriate guidance. This guidance will reflect the site specific nature of this cleanup approach and the inherent complexities of applying area averaging. A critical component of the averaging approach is the establishment of site specific exposure domains (ED), as defined by current or anticipated receptor activity. When appropriate, controls will be implemented to ensure that future property use does not result in routine exposure to a smaller area than the ED. The guidance will also address “hot spots” to ensure that heavily contaminated areas are not “averaged away”.

H. Comment (2 commenters): Rule 391-3-19-.07(8)(d)2., 391-3-19-.07(8)(d)3., and 391-3-19-.07(9)(d)2. EPD should not change the depth of ‘surface soil’ from two feet to one foot. This is because contaminated soil can and will be brought back to the surface through routine activities and

compliance with local Codes, rules, and regulations. Soil disturbance will routinely exceed one foot to meet the Local Building Code required 18 inch minimum depth for an underground electric service. Furthermore, water and sewer routinely place pipes at greater depths than one foot to avoid inadvertent breakage by landscaping activity.

EPD Response: The depth of “surface soil” is being changed from two feet to one foot to be consistent with EPA standards and Georgia’s Voluntary Remediation Program. While soil disturbance may exceed the one foot threshold during routine activities, the proposed Risk Reduction Standard methodology includes evaluation based on the potential exposure to excavation workers in that scenario. This excavation worker consideration has been added to the proposed rules, which will ensure that soils at non-residential sites are protective of human health for the anticipated level of exposure.

I. Comment (2 commenters): Section 391-3-19-.07(9)(c)1. concerning Institutional Controls fails to be specific about protecting the rights of adjoining property owners. The rule should specifically specify that the Institutional Control must be within the HSRA Site and the rule does not infer any right to place an Institutional Control on property not owned by the responsible party. Furthermore, this section should clarify that Institutional Controls do not impart a right to a property owner to contaminate the water under their property as long as it is thought the contaminated water will not migrate outside of the Institutional Control limits.

EPD Response: In accordance with the existing Rules, the “Site” includes “any other owner's property affected by a release.” However, the decision to use an institutional control on an affected property is up to that individual property owner. The Rules do not require or infer that an owner must accept a control in lieu of remediation. Other State and Federal regulations prohibit intentional dumping or releasing of regulated substances into the environment, therefore this Rule does not create or infer a right to contaminate your own property.

J. Comment (2 commenters): The proposed amendments will likely result in additional cost and delay to many remediation sites throughout Georgia, including sites subject to HSRA, the Georgia Brownfield Act, the Voluntary Remediation Program (VRP) Act, and emergency response. The full costs and effects of the proposed amendments have not been fully examined and understood, and EPD must evaluate whether the proposed changes provide any increase in the protection of human health and/or the environment that justifies the excessive cost of complying. EPD is encouraged to study the matter further before finalizing the rulemaking.

EPD Response: EPD reviewed cost considerations during this rulemaking process. The risk assessment methodology proposed under these Rule revisions is the same or substantially similar to what has been adopted and used in almost every other state and EPA region that allows for risk-based cleanups, including all of those in Region 4. By updating the Rules, EPD, responsible parties, Brownfield purchasers, and future users of contaminated sites will have the assurance that risks at the property were evaluated using the most up-to-date scientific methods. By aligning with EPA standards, the proposed changes will make it easier and more cost effective for the owners of contaminated property to develop default cleanup values since they will now be able to use EPA’s free, online calculators and tables. Additionally, the proposed amendments provide the regulated community with more flexibility by providing options such as the use of area averaging to determine whether soils are in compliance with site-specific risk reduction standards, and use of groundwater controls to attain non-residential standards. Because the default cleanup standards for certain constituents will be more

restrictive and others will be less restrictive, the cleanup cost for the regulated community may go up on some sites, go down on other sites and for some will remain unchanged. Additionally, the opportunity to use free tools to derive default cleanup standards and the added site-specific flexibility proposed in these amendments may result in an overall cost savings for site owners.

K. Comment (2 commenters): The proposed Rule amendments should not be applied retroactively, as this would impose significant and unwarranted uncertainty, risk and hardship upon the regulated community. EPD should not reopen or revisit any previous delisting of sites from the Hazardous Site Inventory or approvals of corrective action plans at sites subject to HSRA or other State-only remediation programs including Brownfield and VRP. Language is proposed for incorporation into Section 391-3-19-.07(2).

EPD Response: EPD does not intend to apply these amendments retroactively for delisted sites or for sites that have an approved corrective action plan. The Program has not previously reopened or revisited delistings or approved corrective action plans when inputs such as toxicity factors have changed, and will take that approach when implementing these amendments. Formalization of this approach in the Rules is not necessary and the language proposed by the commenters would prevent the Director from correcting cleanup standards that were erroneously approved, in contravention of the Director's statutory authority.

L. Comment (2 commenters): Subsection 10 of Rule 391-3-19-.07 requires that Types 1 through 4 RRS be determined as inappropriate before the Type 5 RRS can be used. This restriction is outdated, unnecessarily burdensome, and no longer reflective of accepted regulatory practice in Georgia. As Type 5 RRS have the same safe risk profile and are equally protective under one State program (VRP) as another (HSRA, Brownfield), revisions are proposed to remove that subordination.

EPD Response: This comment entails a fundamental change to the intent of the Rules and would require significant additional policy considerations, evaluation, review of legislative intent, and input from a diverse group of stakeholders. Although a Type 5 cleanup is protective, it does not provide for future use options that are equivalent to the Type 1 through 4 RRS, therefore EPD is not revising the RRS to remove the requirement that Types 1 through 4 be determined as inappropriate before use of a Type 5. EPD is considering further efforts to improve the State's Rules for Hazardous Site Response and is committed to further dialogue in future stakeholder group meetings on this topic.

M. Comment: We believe a risk level of 10^{-4} is sufficiently protective within the comprehensive scope of the HSRA cleanup program. Therefore, we believe that the Georgia Administrative Procedures Act requires EPD to choose it as a less costly alternative that is equally protective.

EPD Response: This change would represent a less protective standard by permitting the allowable cancer risk from a single contaminant to rise from 1 in 100,000 to 1 in 10,000 people. When the cumulative and interactive effects of multiple contaminants across multiple media (soil, groundwater, vapor) are factored in, this proposed change would result in an even greater increased cancer risk than the proposed 1 in 10,000. Notably, when examining the process used to evaluate site-specific cumulative risk throughout states in Region 4, it was determined that for those states that utilized deterministic risk assessments, the three states that applied a 10^{-4} target cancer risk did so on a cumulative basis across all relevant constituents and all media of concern, creating a more stringent standard. Consequently, EPD believes that the risk level chosen is appropriate and that 10^{-4} is not

equally protective. Further, as noted in the response to Comment J above, EPD's review of cost considerations determined that cleanup cost may go up for some sites, go down on other sites, and for some will remain unchanged.

N. Comment: The HSRA program should be modified to eliminate outdated exposure assumptions, such as groundwater intake, and to incorporate needed improvements including expansion of the ability to use institutional controls (ICs), focusing free-product remediation on migration potential, considering sustainable remediation, inclusion of municipal drinking water ordinances as existing institutional controls, development of an urban fill policy, and adding scientifically sound composite sampling and soil averaging methodologies.

EPD Response: The proposed Rule amendments address expansion of the ability to use ICs on non-residential property in 391-3-19-.07(9)(c), focusing free-product remediation in 391-3-19-.07(4)(a) and (10)(d)4., and adding composite sampling and soil averaging in 391-3-19-.07(7)(d) and (9)(e). Sustainable remediation, inclusion of municipal drinking water ordinances, and development of an urban fill policy are topics that do not require a Rule change and may be addressed in guidance documents if appropriate. Finally, EPD does not consider groundwater intake to be an outdated exposure assumption as over 20% of the water used in Georgia comes from groundwater sources.