

## **15A NCAC 02L .0106 INITIAL RESPONSE, SITE ASSESSMENT, AND CORRECTIVE ACTION**

(a) Where groundwater quality has been degraded, the required corrective action shall be restoration to the level of the standards, or as closely thereto as is economically and technologically feasible in accordance with this Rule. The corrective action strategies addressed in this Rule can be through either active remediation in Paragraph (g), natural attenuation in Paragraph (h), or risk-based remediation in Paragraph (i). In all cases involving requests to the Secretary for approval of corrective action plans or termination of corrective action, the responsibility for providing all information required by this Rule lies with the person(s) making the request.

(b) Any person conducting or controlling an activity, permitted or unpermitted, that results in the discharge of a waste or hazardous substance or oil to the ground surface, vadose zone, or groundwaters of the State shall take action upon discovery to terminate and control the discharge, mitigate any hazards resulting from exposure to the contaminants, and follow the requirements in Paragraphs (c), (d), or (e) of this Rule.

(c) Any person conducting or controlling an activity that has not been permitted by the Department pursuant to G.S. 143-215.1, Article 9 of G.S. 130A, or Article 11 of G.S. 130A that results in an increase in the concentration of a substance in excess of the standard, other than agricultural operations defined under G.S. 106-581.1, shall take the following steps:

- (1) Within 24 hours of discovery of the violation, notify the Department of the activity that has resulted in the increase and the contaminant concentration levels, if known.
- (2) Respond in accordance with Paragraph (f) of this Rule.
- (3) Implement a monitoring program in accordance with Rule .0110 of this Section.
- (4) Submit a site assessment report to the Director in accordance with Rule .0111 of this Section.
- (5) Submit a notification in accordance with the requirements of Rule .0114(a) of this Section.
- (6) If required, submit a corrective action plan to the Director in accordance with Rule .0111 of this Section or pursue risk-based remediation per Paragraph (i) of this Rule. If a corrective action plan is submitted for active remediation or natural attenuation, then:
  - (A) Submit a notification in accordance with the requirements of Rule .0114(b) of this Section.
  - (B) Implement the corrective action plan upon its approval by the Secretary.
  - (C) Submit a notification in accordance with the requirements of Rule .0114(c) of this Section.

(d) For any person conducting or controlling an activity that is conducted under the authority of a permit issued by the Department pursuant to G.S. 143-215.1, Article 9 of G.S. 130A, or Article 11 of G.S. 130A that results in an increase in concentration of a substance in excess of the standards at or beyond the review boundary:

- (1) The Director may require, based on information including data trends, geologic and hydrogeologic conditions, and spacing between the review and compliance boundaries, that the person shall demonstrate, through predictive calculations or modeling, that one or more of the following will prevent a violation of standards at the compliance boundary:
  - (A) geologic or hydrogeologic conditions;
  - (B) facility design; or
  - (C) operational controls.
- (2) If an exceedance of the standards is expected through professional judgment or predicted through modeling at or beyond the compliance boundary, the person may submit a plan for alteration of existing site conditions, facility design, or operational controls that will prevent a violation at the compliance boundary, and implement that plan upon its approval by the Director. In approving the plan, the Director shall consider geologic and hydrogeologic conditions, the nature and extent of the contamination, technical and economic feasibility, and public health impacts on all potential receptors should the contaminated plume reach them.

(e) For any person conducting or controlling an activity that is conducted under the authority of a permit issued by the Department pursuant to G.S. 143-215.1, Article 9 of G.S. 130A, or Article 11 of G.S. 130A that results in an increase in concentration of a substance in excess of the standards beyond the compliance boundary or within the compliance zone as specified by Rule .0107(p) of this Section, the person shall take the following steps:

- (1) Within 24 hours of discovery of the initial violation, notify the Department of the activity that has resulted in the increase, the contaminants that are in exceedance, and the contaminant concentration levels.
- (2) Respond in accordance with Paragraph (f) of this Rule.
- (3) Implement a monitoring program in accordance with Rule .0110 of this Section.
- (4) Submit a site assessment report to the Director in accordance with Rule .0111 of this Section.

- (5) Submit a notification in accordance with the requirements of Rule .0114(a) of this Section.
- (6) If required, submit a corrective action plan to the Director in accordance with Rule .0111 of this Section or pursue risk-based remediation per Paragraph (i) of this Rule. The corrective action plan may include alteration of existing site conditions, facility design, or operational controls that will prevent a violation at the compliance boundary. If a corrective action plan is submitted for active remediation or natural attenuation, then:
  - (A) Submit a notification in accordance with the requirements of Rule .0114(b) of this Section.
  - (B) Implement the corrective action plan upon its approval by the Secretary.
  - (C) Submit a notification in accordance with the requirements of Rule .0114(c) of this Section.

(f) Initial response actions required to be conducted prior to or concurrent with the site assessment required in Paragraphs (c) and (e) of this Rule shall include:

- (1) Prevention of fire, explosion, or the spread of noxious fumes.
- (2) Abatement, containment, or control of the migration of contaminants.
- (3) Removal, treatment, or control of any primary pollution source such as buried waste, waste stockpiles, or surficial accumulations of free products.
- (4) Removal, treatment, or control of secondary pollution sources that would be potential continuing sources of pollutants to the groundwaters, such as contaminated soils and non-aqueous phase liquids. Contaminated soils that threaten the quality of groundwaters shall be treated, contained, or disposed of in accordance with rules in this Subchapter and in 15A NCAC 13 applicable to such activities. The treatment or disposal of contaminated soils shall be conducted in a manner that will not result in a violation of the standards or 15A NCAC 13 Rules.

The initial response actions shall be documented in the site assessment report required under Rule .0111(b) of this Section. The Director may request written documentation of the response actions in advance of the site assessment report if the Director determines that there is an immediate threat to human health based on information including the nature and extent of the release, the potential exposure pathways, and proximity to human receptors.

(g) Corrective action using active remediation. A corrective action plan prepared pursuant to Paragraphs (c) or (e) of this Rule shall be implemented using a remedial technology demonstrated to the Director to provide the most effective means, taking into consideration geological and hydrogeological conditions at the contaminated site, for restoration of groundwater quality to the level of the standards. Corrective action plans for active remediation shall include the information in Rule .0111(c) of this Section.

(h) Corrective action using natural attenuation. Any person required to implement an approved corrective action plan for a site subject to Paragraphs (c) or (e) of this Rule may request that the Secretary approve such a plan based upon natural processes of degradation and attenuation of contaminants. Corrective action plans for natural attenuation shall make the demonstration and include the information in Rule .0111(d) of this Section.

(i) Corrective action using risk-based remediation. A person choosing to use risk-based remediation shall comply with the requirements in G.S. 130A Article 9 Part 8.

(j) Termination of active remediation prior to achieving the standards. Any person required to implement an approved corrective action plan for a site subject to Paragraph (g) of this Rule may request that the Secretary approve termination of the active remediation prior to achieving the standards. The owner and operator of an active remediation system shall demonstrate, by terminating the active remediation and then implementing an approved natural attenuation corrective action under Paragraph (h) of this Rule, that all potential receptors will be protected. A request submitted to the Secretary under this Paragraph shall include:

- (1) A discussion of the duration of the corrective action, the total project cost, projected annual cost for continuance, and evaluation of the success of the corrective action.
- (2) An evaluation of alternate treatment technologies that could potentially result in further reduction of contaminant levels, projected capital, and annual operating costs for each technology.
- (3) The effects, including public health impacts, on groundwater users if contaminant levels remain at levels existing at the time corrective action is terminated.
- (4) The proposed contaminant concentrations to actively remediate to prior to reaching the standards in the source area and all predictive calculations and model runs demonstrating that the standards will be met at all existing or potential receptors, based on travel time and the natural attenuation capacity of subsurface materials or on a barrier to groundwater migration that exists or will be installed by the person making the request.

- (5) A demonstration that continuation of active remediation would not result in a significant reduction in the concentration of contaminants. This demonstration shall show the duration and degree of success of existing remedial efforts to attain the standards. For the purpose of this Rule, a "significant reduction" is demonstrated by showing that the asymptotic slope of the contaminant concentrations over time is less than a ratio of 1:40 over a term of one year based on four consecutive quarters with sampling events spaced at least three months apart.
- (6) A natural attenuation corrective action plan for the remaining contamination in accordance with Paragraph (h) of this Rule.
- (k) The Secretary shall not authorize termination of active remediation for any area that, at the time the request is made, has been identified by a State or local groundwater use planning process for resource development.
- (l) The Secretary may authorize the termination of active remediation, or amend the corrective action plan after considering all the information in the request. In making the authorization, the Secretary shall consider geologic and hydrogeologic conditions, the nature and extent of the contamination, technical and economic feasibility, and public health impacts on all potential receptors should the contaminated plume reach them. The Secretary will review the request for completeness and may request any additional information necessary to make their authorization.
- (m) In the evaluation of active remediation or natural attenuation corrective action plans, the Secretary shall consider the extent of any violations, the extent of any threat to human health, the extent of damage or potential adverse impact to the environment, technology available to accomplish restoration, the potential for degradation of the contaminants in the environment, geologic and hydrogeologic conditions, the time estimated to achieve groundwater quality restoration, technical and economic feasibility, and the public and economic benefits to be derived from groundwater quality restoration.
- (n) Where continued corrective action would result in no significant reduction in contaminant concentrations as determined in Subparagraph (j)(5) of this Rule, the person may request that the Secretary designate the area of degraded groundwater RS. The Commission may also consider a request for reclassification of the groundwater to a GC classification as outlined in Rule .0319 of this Subchapter.
- (o) If at any time the Secretary determines that a new technology is available that would remediate the contaminated groundwater to the standards specified in Rule .0202 of this Subchapter, the Secretary may require the person to evaluate the economic and technological feasibility of implementing the new technology in an active remediation corrective action plan. The Secretary's determination to utilize new technology at any site or for any particular contaminant or constituent of interest shall include a consideration of the factors in Rule .0111(c) of this Section.
- (p) Where the standards are exceeded as a result of the application of pesticides or other agricultural chemicals, the Secretary shall request the Pesticide Board or the Department of Agriculture and Consumer Services to assist the Department in determining the cause of the violation. If the violation is determined to have resulted from the use of pesticides, the Secretary shall request the Pesticide Board to take appropriate regulatory action to control the use of the chemical or chemicals responsible for, or contributing to, such violations, or to discontinue their use.
- (q) If a discharge or release is not governed by the rules in Section .0400 of this Subchapter and the increase in the concentration of a substance in excess of the standard resulted in whole or in part from a release from a commercial or noncommercial underground storage tank as defined in G.S. 143-215.94A, any person required to implement an approved corrective action plan pursuant to this Rule and seeking reimbursement for the Commercial or Noncommercial Leaking Petroleum Underground Storage Tank Cleanup Funds shall implement a corrective action plan meeting the requirements of Paragraph (g) or (h) of this Rule unless the person demonstrates to the Secretary that:
- (1) contamination resulting from the discharge cannot qualify for approval of a plan based on the requirements of the Paragraphs (g) or (h) of this Rule; or
  - (2) the cost of making such a demonstration would exceed the cost of implementing a corrective action plan submitted pursuant to Rule .0111(c) of this Section.
- (r) If a discharge or release is not governed by the rules in Section .0400 of this Subchapter and the increase in the concentration of a substance in excess of the standard resulted in whole or in part from a release from a commercial or noncommercial underground storage tank as defined in G.S. 143-215.94A, the Secretary may require any person implementing or operating a previously approved corrective action plan pursuant to this Rule to:
- (1) develop and implement a corrective action plan meeting the requirements of Paragraphs (g) and (h) of this Rule; or
  - (2) seek discontinuance of corrective action pursuant to Paragraph (j) of this Rule.
- (s) Pursuant to this Rule, the approval of any corrective action plan, modification, or termination thereof, that permits the migration of a contaminant onto adjacent property, shall not affect any private right of action by any party that may be affected by that contaminant.

*History Note:* Authority G.S. 143-215.1; 143-215.3; 143-215.94T; 143-215.94V; 143B-282;  
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