

15A NCAC 02L.0106 CORRECTIVE ACTION

(a) Where groundwater quality has been degraded, the goal of any required corrective action shall be restoration to the level of the standards, or as closely thereto as is economically and technologically feasible. In all cases involving requests to the Director 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 which results in the discharge of a waste or hazardous substance or oil to the groundwaters of the State, or in proximity thereto, shall take immediate action to terminate and control the discharge, mitigate any hazards resulting from exposure to the pollutants and notify the Division of the discharge.

(c) Any person conducting or controlling an activity which has not been permitted by the Division and which results in an increase in the concentration of a substance in excess of the standard, other than agricultural operations, shall:

- (1) immediately notify the Division of the activity that has resulted in the increase and the contaminant concentration levels;
- (2) take immediate action to eliminate the source or sources of contamination;
- (3) submit a report to the Director assessing the cause, significance and extent of the violation; and
- (4) implement an approved corrective action plan for restoration of groundwater quality in accordance with a schedule established by the Director, or his designee. In establishing a schedule the Director, or his designee shall consider any reasonable schedule proposed by the person submitting the plan. A report shall be made to the Health Director of the county or counties in which the contamination occurs in accordance with the requirements of Rule .0114(a) in this Section.

(d) Any person conducting or controlling an activity which is conducted under the authority of a permit issued by the Division and which results in an increase in concentration of a substance in excess of the standards:

- (1) at or beyond a review boundary, shall demonstrate, through predictive calculations or modeling, that natural site conditions, facility design and operational controls will prevent a violation of standards at the compliance boundary; or 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, or his designee.
- (2) at or beyond a compliance boundary, shall assess the cause, significance and extent of the violation of standards and submit the results of the investigation, and a plan and proposed schedule for corrective action to the Director, or his designee. The permittee shall implement the plan as approved by and in accordance with a schedule established by the Director, or his designee. In establishing a schedule the Director, or his designee shall consider any reasonable schedule proposed by the permittee.

(e) For the purposes of Paragraphs (c) and (d) of this Rule, an activity conducted under the authority of a permit issued by the Division, and subject to Paragraph (d) of this Rule, is one for which:

- (1) a permit has been issued pursuant to G.S. 143-215.1;
- (2) the permit was originally issued after December 30, 1983;
- (3) the substance for which a standard has been exceeded outside the compliance boundary has been released to groundwater as a result of the permitted activity;
- (4) all other activities shall for the purpose of this Rule be deemed not permitted by the Division and subject to the provisions of Paragraph (c) of this Rule.

(f) Corrective action required following discovery of the unauthorized release of a contaminant to the surface or subsurface of the land, and prior to or concurrent with the assessment required in Paragraphs (c) and (d) of this Rule, shall include, but is not limited to:

- (1) Prevention of fire, explosion or the spread of noxious fumes;
- (2) Abatement, containment or control of the migration of contaminants;
- (3) Removal, or treatment and 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 which would be potential continuing sources of pollutants to the groundwaters such as contaminated soils and non-aqueous phase liquids. Contaminated soils which threaten the quality of groundwaters must be treated, contained or disposed of in accordance with applicable rules. The treatment or disposal of contaminated soils shall be conducted in a manner that will not result in a violation of standards or North Carolina Hazardous Waste Management rules.

(g) The site assessment conducted pursuant to the requirements of Paragraph (c) of this Rule, shall include:

- (1) The source and cause of contamination;

- (2) Any imminent hazards to public health and safety and actions taken to mitigate them in accordance with Paragraph (f) of this Rule;
- (3) All receptors and significant exposure pathways;
- (4) The horizontal and vertical extent of soil and groundwater contamination and all significant factors affecting contaminant transport; and
- (5) Geological and hydrogeological features influencing the movement, chemical, and physical character of the contaminants.

Reports of site assessments shall be submitted to the Division as soon as practicable or in accordance with a schedule established by the Director, or his designee. In establishing a schedule the Director, or his designee shall consider any reasonable proposal by the person submitting the report.

(h) Corrective action plans for restoration of groundwater quality, submitted pursuant to Paragraphs (c) and (d) of this Rule shall include:

- (1) A description of the proposed corrective action and reasons for its selection.
- (2) Specific plans, including engineering details where applicable, for restoring groundwater quality.
- (3) A schedule for the implementation and operation of the proposed plan.
- (4) A monitoring plan for evaluating the effectiveness of the proposed corrective action and the movement of the contaminant plume.

(i) In the evaluation of corrective action plans, the Director, or his designee shall consider the extent of any violations, the extent of any threat to human health or safety, 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, the time and costs estimated to achieve groundwater quality restoration, and the public and economic benefits to be derived from groundwater quality restoration.

(j) A corrective action plan prepared pursuant to Paragraph (c) or (d) of this Rule must be implemented using the best available technology for restoration of groundwater quality to the level of the standards, except as provided in Paragraphs (k), (l), (m), (r) and (s) of this Rule.

(k) Any person required to implement an approved corrective action plan for a non-permitted site pursuant to this Rule may request that the Director approve such a plan without requiring groundwater remediation to the standards. A request submitted to the Director under this Paragraph shall include a description of site specific conditions, including information on the availability of public water supplies for the affected area; the technical basis for the request; and any other information requested by the Director to thoroughly evaluate the request. In addition, the person making the request must demonstrate to the satisfaction of the Director:

- (1) that all sources of contamination and free product have been removed or controlled pursuant to Paragraph (f) of this Rule;
- (2) that the time and direction of contaminant travel can be predicted with reasonable certainty;
- (3) that contaminants have not and will not migrate onto adjacent properties, or that:
 - (A) such properties are served by an existing public water supply system dependent on surface waters or hydraulically isolated groundwater, or
 - (B) the owners of such properties have consented in writing to the request;
- (4) that the standards specified in Rule .0202 of this Subchapter will be met at a location no closer than one year time of travel upgradient of an existing or foreseeable receptor, based on travel time and the natural attenuation capacity of subsurface materials or on a physical barrier to groundwater migration that exists or will be installed by the person making the request;
- (5) that, if the contaminant plume is expected to intercept surface waters, the groundwater discharge will not possess contaminant concentrations that would result in violations of standards for surface waters contained in 15A NCAC 2B .0200;
- (6) that public notice of the request has been provided in accordance with Rule .0114(b) of this Section;
- (7) that the proposed corrective action plan would be consistent with all other environmental laws.

(l) Any person required to implement an approved corrective action plan for a non-permitted site pursuant to this Rule may request that the Director approve such a plan based upon natural processes of degradation and attenuation of contaminants. A request submitted to the Director under this Paragraph shall include a description of site specific conditions, including written documentation of projected groundwater use in the contaminated area based on current state or local government planning efforts; the technical basis for the request; and any other information requested by the Director to thoroughly evaluate the request. In addition, the person making the request must demonstrate to the satisfaction of the Director:

- (1) that all sources of contamination and free product have been removed or controlled pursuant to Paragraph (f) of this Rule;
 - (2) that the contaminant has the capacity to degrade or attenuate under the site-specific conditions;
 - (3) that the time and direction of contaminant travel can be predicted with reasonable certainty;
 - (4) that contaminant migration will not result in any violation of applicable groundwater standards at any existing or foreseeable receptor;
 - (5) that contaminants have not and will not migrate onto adjacent properties, or that:
 - (A) such properties are served by an existing public water supply system dependent on surface waters or hydraulically isolated groundwater, or
 - (B) the owners of such properties have consented in writing to the request;
 - (6) that, if the contaminant plume is expected to intercept surface waters, the groundwater discharge will not possess contaminant concentrations that would result in violations of standards for surface waters contained in 15A NCAC 2B .0200;
 - (7) that the person making the request will put in place a groundwater monitoring program sufficient to track the degradation and attenuation of contaminants and contaminant by-products within and down gradient of the plume and to detect contaminants and contaminant by-products prior to their reaching any existing or foreseeable receptor at least one year's time of travel upgradient of the receptor and no greater than the distance the groundwater at the contaminated site is predicted to travel in five years;
 - (8) that all necessary access agreements needed to monitor groundwater quality pursuant to Subparagraph (7) of this Paragraph have been or can be obtained;
 - (9) that public notice of the request has been provided in accordance with Rule .0114(b) of this Section; and
 - (10) that the proposed corrective action plan would be consistent with all other environmental laws.
- (m) The Division or any person required to implement an approved corrective action plan for a non-permitted site pursuant to this Rule may request that the Director approve termination of corrective action.
- (1) A request submitted to the Director under this Paragraph shall include:
 - (A) a discussion of the duration of the corrective action, the total project's cost, projected annual cost for continuance and evaluation of the success of the corrective action;
 - (B) an evaluation of alternate treatment technologies which could result in further reduction of contaminant levels projected capital and annual operating costs for each technology;
 - (C) effects, including health and safety impacts, on groundwater users if contaminant levels remain at levels existing at the time corrective action is terminated; and
 - (D) any other information requested by the Director to thoroughly evaluate the request.
 - (2) In addition, the person making the request must demonstrate to the satisfaction of the Director:
 - (A) that continuation of corrective action would not result in a significant reduction in the concentration of contaminants (At a minimum this demonstration must show the duration and degree of success of existing remedial efforts to attain standards and include a showing that the asymptotic slope of the contaminants curve of decontamination is less than a ratio of 1:40 over a term of one year based on quarterly sampling);
 - (B) that contaminants have not and will not migrate onto adjacent properties, or that:
 - (i) such properties are served by an existing public water supply system dependent on surface waters or hydraulically isolated groundwater, or
 - (ii) the owners of such properties have consented in writing to the request;
 - (C) that, if the contaminant plumes expected to intercept surface waters, the groundwater discharge will not possess contaminant concentrations that would result in violations of standards for surface waters contained in 15A NCAC 2B .0200;
 - (D) that public notice of the request has been provided in accordance with Rule .0114(b) of this Section; and
 - (E) that the proposed termination would be consistent with all other environmental laws.
 - (3) The Director shall not authorize termination of corrective action 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.
 - (4) The Director may authorize the termination of corrective action, or amend the corrective action plan after considering all the information in the request. Upon termination of corrective action, the Director shall require implementation of a groundwater monitoring program sufficient to track the degradation and attenuation of contaminants at a location of at least one year's predicted time of travel upgradient of any

existing or foreseeable receptor. The monitoring program shall remain in effect until there is sufficient evidence that the contaminant concentrations have been reduced to the level of the standards.

(n) Upon a determination by the Director that continued corrective action would result in no significant reduction in contaminant concentrations, and the contaminated groundwaters can be rendered potable by treatment using readily available and economically reasonable technologies, the Director may designate the remaining area of degraded groundwater RS. Where the remaining degraded groundwaters cannot be made potable by such treatment, the Director may consider a request for reclassification of the groundwater to a GC classification as outlined in Rule .0201 of this Subchapter.

(o) If at any time the Director determines that a new technology is available that would remediate the contaminated groundwater to the standards specified in Rule .0202 of this Subchapter, the Director may require the responsible party to evaluate the economic and technological feasibility of implementing the new technology in an active groundwater corrective action plan in accordance with a schedule established by the Director. The Director's determination to utilize new technology at any site or for any particular constituent shall include a consideration of the factors in Paragraph (h) of this Rule.

(p) Where standards are exceeded as a result of the application of pesticides or other agricultural chemicals, the Director shall request the Pesticide Board or the Department of Agriculture to assist the Division of Environmental Management in determining the cause of the violation. If the violation is determined to have resulted from the use of pesticides, the Director 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) The approval pursuant to this Rule of any corrective action plan, or modification or termination thereof, which permits the migration of a contaminant onto adjacent property, shall not affect any private right of action by any party which may be effected by that contamination.

(r) If a discharge or release is not governed by 15A NCAC 2L .0115 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 (k) or (l) of this Rule unless such a person demonstrates to the Director that:

- (1) contamination resulting from the discharge cannot qualify for approval of a plan based on the requirements of the Paragraphs; or
- (2) the cost of making such a demonstration would exceed the cost of implementing a corrective action plan submitted pursuant to Paragraph (c) of this Rule.

(s) If a discharge or release is not governed by 15A NCAC 2L .0115 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 Director 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 (k) and (l) of this Rule; or
- (2) seek discontinuance of corrective action pursuant to Paragraph (m) of this Rule.

History Note: Authority G.S. 143-215.2; 143-215.3(a)(1); 143-215.94A; 143-215.94T; 143-215.94V; 143B-282; 1995 (Reg. Sess. 1996) c. 648, s. 1; Eff. August 1, 1989; Amended Eff. October 1, 1993; September 1, 1992; Temporary Amendment Eff. January 2, 1998; January 2, 1996; Amended Eff. October 29, 1998.