

**15A NCAC 13B .1634 ASSESSMENT MONITORING PROGRAM**

(a) Assessment monitoring is required whenever one or more of the constituents listed in Appendix I is detected in exceedance of the ground-water protection standards, as defined in Paragraph (g) or (h) of this Rule.

(b) Within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator shall sample and analyze the ground water for all constituents identified in Appendix II of 40 CFR Part 258. 40 CFR Part 258 – "Appendix II List of Hazardous Inorganic and Organic Constituents" (Appendix II), is incorporated by reference including subsequent amendments and editions. Copies of this material may be inspected or obtained at the Department of Environment and Natural Resources, Division of Waste Management, Raleigh, North Carolina at no cost. A minimum of one sample from each downgradient well shall be collected and analyzed during each sampling event. For any constituent detected in the downgradient wells as the result of the Appendix II analysis, a minimum of four independent samples from each well (background and downgradient) shall be collected and analyzed to establish background for the new constituents. The Division may specify, as provided for in 40 CFR 258, an appropriate subset of wells to be sampled and analyzed for Appendix II constituents during assessment monitoring. The Division may delete, as provided for in 40 CFR 258, any of the Appendix II monitoring parameters for a MSWLF unit if it can be shown that the removed constituents are not reasonably expected to be in or derived from the waste contained in the unit.

(c) The Division may specify an appropriate alternate frequency for repeated sampling and analysis for Appendix II constituents required by Paragraph (b) of this Rule, during the active life and post-closure care of the unit considering the following factors:

- (1) Lithology of the aquifer and unsaturated zone;
- (2) Hydraulic conductivity of the aquifer and unsaturated zone;
- (3) Ground-water flow rates;
- (4) Minimum distance of travel;
- (5) Resource value of the aquifer; and
- (6) Nature, fate, and transport of any detected constituents.

(d) After obtaining the results from the initial or subsequent sampling events required in Paragraph (b) of this Rule, the owner or operator shall:

- (1) Within 14 days, submit a report to the Division and place a notice in the operating record identifying the Appendix II constituents that have been detected;
- (2) Within 90 days, and on at least a semiannual basis thereafter, resample all wells of the approved detection monitoring system for the unit for all constituents listed in Appendix I and for those constituents in Appendix II that have been detected in response to Paragraph (b) of this Rule. A report from each sampling event shall be submitted to the Division and placed in the facility operating record. At least one sample from each well (background and downgradient) shall be collected and analyzed during each of these sampling events;
- (3) Establish and report to the Division background concentrations for any constituents detected pursuant to Paragraph (b) or (d)(2) of this Rule; and
- (4) Obtain a determination from the Division to establish ground-water protection standards for all constituents detected pursuant to Paragraph (b) or (d) of this Rule. The ground-water protection standards shall be established in accordance with Paragraph (g) or (h) of this Rule.

(e) If the concentrations of all Appendix II constituents are shown to be at or below the approved ground-water protection standards, for two consecutive sampling events, the owner or operator shall report this information to the Division, and the Division shall give approval to the owner or operator to return to detection monitoring.

(f) If one or more Appendix II constituents are detected above the approved ground-water protection standards in any sampling event, the owner or operator, shall within 14 days of this finding, submit a report to the Division, place a notice in the operating record, and notify local government officials. The owner or operator:

- (1) shall:
  - (A) Characterize the nature and extent of the release by installing additional monitoring wells, as necessary;
  - (B) Install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with Paragraph (d)(2) of this Rule;
  - (C) Notify all persons who own land or reside on land that directly overlies any part of the plume of contamination if contaminants have migrated off-site; and
  - (D) Within 90 days, initiate an assessment of corrective measures as required under Rule .1635 of this Section; or

- (2) may demonstrate that a source other than a MSWLF unit caused the exceedance of the ground-water protection standards, or the exceedance resulted from error in sampling, analysis, or natural variation in ground-water quality. A report documenting this demonstration shall be approved by the Division. If required by G.S. 89C or G.S. 89E, a professional engineer or licensed geologist shall prepare these documents. [Note: The North Carolina Board of Examiners for Engineers and Surveyors and the Board of Licensing of Geologist has determined, via letters dated July 16, 2010 and November 30, 2010 respectively, that preparation of documents pursuant to this Paragraph constitutes practicing engineering or geology under G.S. 89C and G.S. 89E.] A copy of the approved report shall also be placed in the operating record. If a successful demonstration is made, the owner or operator may discontinue assessment monitoring, and may return to detection monitoring when approval is given by the Division. Until a successful demonstration is made, the owner or operator shall comply with Paragraph (f)(1) of this Rule including initiating an assessment of corrective measures.
- (g) The owner or operator shall obtain a determination from the Division on establishing a ground-water protection standard for each Appendix II constituent detected in the ground-water. The ground-water protection standard shall be the most protective of Subparagraphs (1) through (4) or Subparagraph (5);
- (1) For constituents for which a maximum contamination level (MCL) has been promulgated under the Section 1412 of the Safe Drinking Water Act codified under 40 CFR Part 141, the MCL for that constituent;
  - (2) For constituents for which a water quality standard has been established under the North Carolina Rules Governing Public Water Systems, 15A NCAC 18C, the water quality standard for that constituent;
  - (3) For constituents for which a water quality standard has been established under the North Carolina Groundwater Classifications And Standards, 15A NCAC 02L .0202, the water quality standard for that constituent;
  - (4) For constituents for which MCLs or water quality standards have not been promulgated, the background concentration for the constituent established from wells in accordance with Rule .1631(a)(1) and Rule .1632 of this Section; or
  - (5) The owner or operator may request the Division approve a background level that is higher than the standard established in Subparagraphs (1) through (3) of this Paragraph or health based levels identified under Paragraph (h) of this Rule. The background level shall be established in accordance with Rule .1631(a)(1) and Rule .1632. The approved background level shall be the established ground-water protection standard.
- (h) The Division may establish an alternative ground-water protection standard for constituents for which neither an MCL or water quality standard has not been established. These ground-water protection standards shall be health based levels that satisfy the following criteria:
- (1) The level is derived in a manner consistent with E.P.A. guidelines for assessing the health risks of environmental pollutants;
  - (2) The level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR Part 792) or equivalent standards;
  - (3) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) of  $1 \times 10^{-6}$  and;
  - (4) For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For the purposes of this Rule, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.
- (i) In establishing ground-water protection standards under Paragraph (h) of this Rule the Division shall consider the following:
- (1) Multiple contaminants in the ground water;
  - (2) Exposure threats to sensitive environmental receptors; and
  - (3) Other site-specific exposure or potential exposure to ground-water.

*History Note: Authority G.S. 130A-294;  
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