

1 15A NCAC 13B .1634 is proposed for amendment with changes as published in 25:04 NCR 479 as follows:

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3 **15A NCAC 13B .1634 ASSESSMENT MONITORING PROGRAM**

4 (a) Assessment monitoring is required whenever ~~a statistically significant increase over background has been~~  
5 ~~detected for~~ one or more of the constituents listed in Appendix I ~~or whenever a violation of the North Carolina~~  
6 ~~ground-water quality standards (15A NCAC 2L .0202) has occurred.~~ is detected in exceedance of the ground-water  
7 protection standards, as defined in Paragraph (g) or (h) of this Rule.

8 (b) Within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator  
9 shall sample and analyze the ground water for all constituents identified in Appendix II of 40 CFR Part 258. 40  
10 CFR Part 258 – “Appendix II List of Hazardous Inorganic and Organic ~~Constituents~~”, Constituents” (Appendix II),  
11 is incorporated by reference including subsequent amendments and editions. Copies of this material may be  
12 inspected or obtained at the Department of ~~Environment, Health, Environment~~ and Natural Resources, Division of  
13 ~~Solid Waste Management, 401 Oberlin Road,~~ Raleigh, North Carolina at no cost. A minimum of one sample from  
14 each downgradient well shall be collected and analyzed during each sampling event. For any constituent detected in  
15 the downgradient wells as the result of the ~~complete~~ Appendix II analysis, a minimum of four independent samples  
16 from each well (background and downgradient) shall be collected and analyzed to establish background for the new  
17 constituents. The Division may specify an appropriate subset of wells to be sampled and analyzed for Appendix II  
18 constituents during assessment monitoring. The Division may delete any of the Appendix II monitoring parameters  
19 for a MSWLF unit if it can be shown that the removed constituents are not reasonably expected to be in or derived  
20 from the waste contained in the unit.

21 (c) The Division may specify an appropriate alternate frequency for repeated sampling and analysis for ~~the full set~~  
22 ~~of~~ Appendix II constituents required by Paragraph (b) of this Rule, Rule .1634(b), during the active life and post-  
23 closure care of the unit considering the following factors:

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

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

- 32 (1) Within 14 days, submit a report to the Division and place a notice in the operating record  
33 identifying the Appendix II constituents that have been detected;  
34 (2) Within 90 days, and on at least a semiannual basis thereafter, resample all wells of the approved  
35 detection monitoring system for the unit for all constituents listed in Appendix I and for those  
36 constituents in Appendix II that have been detected in response to Paragraph (b) of this Rule, Rule  
37 ~~.1634(b)~~. A report from each sampling event shall be submitted to the Division and placed in the

1 facility operating record. At least one sample from each well (background and downgradient)  
2 shall be collected and analyzed during each of these sampling events;

3 (3) Establish and report to the Division background concentrations for any constituents detected  
4 pursuant to Paragraph (b) or (d)(2) of this Rule; and

5 (4) Obtain a determination from the Division to establish ground-water protection standards for all  
6 constituents detected pursuant to Paragraph (b) or (d) of this Rule. The ground-water protection  
7 standards shall be established in accordance with Paragraph ~~(h)~~ (g) or ~~(i)~~ (h) of this Rule.

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

12 ~~(f) If the concentrations of any Appendix II constituents are above background values, but all concentrations are~~  
13 ~~below the approved ground-water protection standards, using the approved statistical procedures, the owner or~~  
14 ~~operator shall continue assessment monitoring.~~

15 ~~(g)(f)~~ If one or more Appendix II constituents are detected ~~at statistically significant levels~~ above the approved  
16 ground-water protection standards in any sampling event, the owner or operator, shall within 14 days of this finding,  
17 submit a report to the Division, place a notice in the operating record, and notify all appropriate local government  
18 officials.

19 (1) The owner or operator shall also:

20 (A) Characterize the nature and extent of the release by installing additional monitoring  
21 wells, as necessary;

22 (B) Install at least one additional monitoring well at the facility boundary in the direction of  
23 contaminant migration and sample this well in accordance with Paragraph (d)(2) of this  
24 Rule;

25 (C) Notify all persons who own land or reside on land that directly overlies any part of the  
26 plume of contamination if contaminants have migrated off-site; and

27 (D) Within 90 days, initiate an assessment of corrective measures as required under Rule  
28 .1635 of this Section; or

29 (2) The owner or operator may demonstrate that a source other than a MSWLF unit caused the  
30 ~~contamination, exceedance of the ground-water protection standards, or the statistically significant~~  
31 ~~increase exceedance~~ resulted from error in sampling, analysis, ~~statistical evaluation,~~ or natural  
32 variation in ground-water quality. A report documenting this demonstration shall be ~~certified by a~~  
33 ~~Licensed Geologist or Professional Engineer and~~ approved by the Division. If required by G.S.  
34 89C or G.S. 89E, a professional engineer or licensed geologist shall prepare these documents.  
35 [Note: The North Carolina Board of Examiners for Engineers and Surveyors and the Board of  
36 Licensing of Geologist has determined, via letters dated January 1, 2011 and November 30, 2010  
37 respectively, that preparation of documents pursuant to this Paragraph constitutes practicing

1 engineering or geology under G.S 89C and G.S 89E.] A copy of the approved report shall also be  
2 placed in the operating record. If a successful demonstration is made, the owner or operator shall  
3 continue may discontinue assessment monitoring, and may return to detection monitoring if the  
4 Appendix II constituents are at or below background and approval is given by the Division. Until a  
5 successful demonstration is made, the owner or operator shall comply with Paragraph ~~(g)~~ (f)(1) of  
6 this Rule including initiating an assessment of corrective measures.

7 ~~(h)(g)~~ The owner or operator shall obtain a determination from the Division on establishing a ground-water  
8 protection standard for each Appendix II constituent detected in the ~~ground-water.~~ ground-water. The ground-water  
9 protection standard shall be the most protective of the following: subparts (1) through (4) or subpart (5)

- 10 (1) For constituents for which a maximum contamination level (MCL) has been promulgated under  
11 the Section 1412 of the Safe Drinking Water Act codified under 40 CFR Part 141, the MCL for  
12 that constituent;
- 13 (2) For constituents for which a water quality standard has been established under the North Carolina  
14 Rules Governing Public Water Systems, 15A NCAC 18C, the water quality standard for that  
15 constituent;
- 16 (3) For constituents for which a water quality standard has been established under the North Carolina  
17 Groundwater Classifications And Standards, 15A NCAC 2L, .0202, the water quality standard for  
18 that constituent;
- 19 (4) For constituents for which MCLs or water quality standards have not been promulgated, the  
20 background concentration for the constituent established from wells in accordance with Rule  
21 .1631(a)(1) and Rule .1632 of this Section; or
- 22 (5) For constituents for which the background level is higher than the MCL or water quality standard  
23 or health based levels identified under Paragraph (i) of this Rule, the background concentration.  
24 The owner or operator may request the Division approve a background level that is higher than the  
25 standard established in .1634 (g) subparts (1) through (3) or health based levels identified under  
26 Paragraph (i)(h) of this Rule. The background level shall be established in accordance with Rule  
27 .1631(a)(1) and Rule .1632 . The approved background level will be the established groundwater  
28 protection standard.

29 ~~(i)(h)~~ The Division may establish an alternative ground-water protection standard for constituents for which neither  
30 an MCL or water quality standard has not been established. These ground-water protection standards shall be  
31 appropriate health based levels that satisfy the following criteria:

- 32 (1) The level is derived in a manner consistent with E.P.A. guidelines for assessing the health risks of  
33 environmental pollutants;
- 34 (2) The level is based on scientifically valid studies conducted in accordance with the Toxic  
35 Substances Control Act Good Laboratory Practice Standards (40 CFR Part 792) or equivalent;
- 36 (3) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk  
37 level (due to continuous lifetime exposure) of  $1 \times 10^{-6}$ ;

1 (4) For systemic toxicants, the level represents a concentration to which the human population  
2 (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without  
3 appreciable risk of deleterious effects during a lifetime. For the purposes of this Rule, systemic  
4 toxicants include toxic chemicals that cause effects other than cancer or mutation.

5 ~~(h)~~(i) In establishing ground-water protection standards under Paragraph ~~(h)~~ (h) of this Rule the Division may  
6 consider the following:

- 7 (1) Multiple contaminants in the ground water;
- 8 (2) Exposure threats to sensitive environmental receptors; and
- 9 (3) Other site-specific exposure or potential exposure to ~~ground water.~~ ground-water.

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11 *History Note: Authority G.S. 130A-294;*  
12 *Eff. October 9, 1993.*  
13 *Amended Eff. January 1, 2011.*