**Section 840.118 Demonstration of Compliance**

a) Compliance with the on-site and off-site groundwater quality standards set forth in Sections 840.116(a) and (b) of this Subpart:

1) Compliance with on-site groundwater quality standards will be achieved when no statistically significant increasing trend that can be attributed to Ash Pond D is detected in the concentrations of all constituents monitored in accordance with Section 840.114 of this Subpart at the down-gradient boundaries of the Hutsonville site for four consecutive years after changing to an annual monitoring frequency pursuant to Section 840.114(c).

2) Compliance with off-site groundwater quality standards:

A) Compliance with off-site groundwater quality standards set forth in Section 840.116(b) of this Subpart will be achieved when:

i) A statistically significant decreasing trend in concentrations of constituents monitored in accordance with Section 840.114 of this Subpart in the upper zone of the underlying aquifer at the down-gradient boundaries of the Hutsonville site is detected in the concentrations of all constituents monitored for a period of four consecutive years after changing to an annual monitoring frequency pursuant to Section 840.114(c);

ii) No statistically significant increasing trend that can be attributed to Ash Pond D is detected in concentrations of constituents monitored in accordance with Section 840.114 of this Subpart in the lower zone of the underlying aquifer at the down-gradient boundaries of the Hutsonville site for four consecutive years after changing to an annual monitoring frequency pursuant to Section 840.114(c); and

iii) All concentrations of constituents monitored in accordance with Section 840.114 of this Subpart are at or below the applicable groundwater quality standards as provided in Section 840.116(b) of this Subpart at the down-gradient boundaries of the Hutsonville site.

B) If a groundwater management zone for off-site properties with groundwater contamination from Ash Pond D is established as provided in Section 840.116(b) of this Subpart, the compliance points will be determined as set forth in the GMZ approved in the closure plan or post-closure care plan, as appropriate.

b) For purposes of demonstrating compliance:

1) The owner or operator of Ash Pond D must perform an annual trend analysis for each monitoring well located at the down-gradient boundaries of the Hutsonville site for all constituents monitored in accordance with Section 840.114 of this Subpart, based on a minimum of four consecutive samples, by applying Sen's Estimate of Slope.

2) If a groundwater management zone for off-site properties with groundwater contamination from Ash Pond D is established as provided in Section 840.116(b) of this Subpart, the demonstration of compliance will be determined as set forth in the GMZ approved in the closure plan or post-closure care plan, as appropriate.

c) Compliance with nondegradation standards during closure and post-closure care periods:

1) If the results of sampling and analysis show an increasing trend at any monitoring well located at the down-gradient boundaries of the Hutsonville site, a Mann-Kendall analysis must be performed at 95 percent confidence to determine whether the increasing trend is statistically significant. The owner or operator of Ash Pond D must investigate the cause of a statistically significant increasing trend as determined under subsection (b) of this Section. If the statistically significant increasing trend occurs during post-closure care, the investigation must include more frequent inspection of the surface of the cover system and evaluation of background concentrations and the effectiveness of the groundwater collection trench required by Section 840.120 of this Subpart.

A) If an investigation performed in accordance with subsection (c)(1) of this Section attributes a statistically significant increasing trend to a superseding cause, the owner or operator of Ash Pond D must notify the Agency in writing, stating the cause of the increasing trend and providing the rationale used in that determination.

B) If there is no superseding cause for the statistically significant increasing trend and sampling frequency has been reduced pursuant to Section 840.114(b) or (c) of this Subpart to semiannual or annual sampling, the owner or operator must return to a quarterly sampling schedule. After four consecutive quarterly samples show no statistically significant increasing trend, the frequency of groundwater monitoring may be returned to either semiannual or annual, whichever frequency was utilized prior to the return to quarterly sampling.

C) For purposes of this subsection (c)(1), notifications concerning statistically significant increasing trends and revisions of the sampling frequency must be reported to the Agency in writing within 30 days after making the determinations, as provided in Section 840.144(f) of this Subpart.

2) If a statistically significant increasing trend is observed to continue over a period of two or more consecutive years and there are no superseding causes for the trend, the owner or operator must perform the following:

A) A hydrogeologic investigation; and

B) Additional site investigation, if necessary.

3) Based on the outcome of the activities required by subsection (c)(2) of this Section, the owner or operator of Ash Pond D must take action to mitigate statistically significant increasing trends that are causing, threatening or allowing exceedences of off-site groundwater quality standards as set forth in Section 840.116(b). These actions must be proposed as a modification to the post-closure care plan within 180 days after completion of the activities required by subsection (c)(2) of this Section.