567—105.210(455H) Demonstration of compliance.

105.210(1) *Purpose.*

a. The purpose of the demonstration of compliance is to provide a mechanism by which to verify that:

(1) Appropriate and acceptable standards are complied with and that compliance can be reasonably expected to continue in the future;

(2) Any and all remedial measures proposed under 567—105.209(455H) have achieved their purpose; and

(3) Appropriate institutional and technological controls, or monitoring mechanisms, have been successfully implemented.

b. In some cases, the demonstration of compliance may mark the final step, taken by the participant prior to the issuance of an unconditional no further action certificate by the department. In other cases, it may mark the transition to the longer term closure activities associated with the site, such as monitoring, maintenance of technological controls, and continuing enforcement of institutional controls. In this latter case, demonstration of compliance activities may or may not result in the issuance of an unconditional no further action certificate, depending on the approach proposed in the response action. In some cases, it may be necessary to successfully complete a monitoring program or to fulfill other agreed-upon obligations prior to the issuance of the no further action certificate.

c. In all cases, sampling of environmental media shall comply with QA/QC requirements addressed in 567—105.208(455H).

105.210(2) *General requirements for demonstrating compliance with soil standards.*

a. For the standard being applied, the demonstration of compliance shall be at the point of compliance or point of exposure as set forth in 567—105.204(455H), 567—105.205(455H), or 567—105.206(455H) relating to background standards, statewide standards, and site-specific standards and as described in a site-specific context pursuant to 105.209(7) relating to risk evaluation/response action.

b. Minimum sample numbers for the demonstration of compliance with the background standard for soils pursuant to 105.210(4)*"b"* or with the statewide standard when applying 105.210(5)*"a"*(1) shall be based on the volume of soil to which the selected standard is being applied as follows:

(1) For volumes less than or equal to 125 cubic yards, a minimum of eight samples.

(2) For volumes greater than 125 cubic yards, but less than or equal to 3,000 cubic yards, a minimum of 12 samples.

(3) For each additional volume of less than or equal to 3,000 cubic yards, a minimum of 12 additional samples.

(4) Additional samples may be required based on site-specific conditions.

c. When EPA applicable guidance used pursuant to these rules requires demonstration of a 95 percent upper confidence limit, the minimum sample number shall be as specified in that guidance.

d. Sample locations for demonstration of compliance shall be selected in a random fashion to be representative, both horizontally and vertically, of the volume of soil being evaluated for compliance.

e. Sampling for the purpose of demonstrating compliance shall be conducted after the completion of site assessment activities and after the implementation of applicable remedial measures.

105.210(3) *General requirements for demonstrating compliance with groundwater standards.*

a. For the standard being applied, the demonstration of compliance shall be at the point of compliance or point of exposure as set forth in 567—105.204(455H), 567—105.205(455H), or 567—105.206(455H) relating to background standards, statewide standards, and site-specific standards and as described in a site-specific context pursuant to 105.209(7) relating to risk evaluation/response action.

b. Monitoring wells installed for the purpose of demonstrating compliance shall be of sufficient number and appropriate location to evaluate all hydrologic strata of concern, based on site-specific considerations, as identified pursuant to 105.209(7), relating to risk evaluation/response action.

c. For statistical methods under 105.210(5)*"b"*(1), compliance with the statewide groundwater standard shall be based on eight consecutive quarters of groundwater data. As an alternative, the department may accept four consecutive quarterly sampling events or less with prior written approval from the department under the following conditions:

(1) There is adequate spatial monitoring of the plume upgradient that indicates a decreasing concentration trend toward the downgradient property boundary.

(2) Parameters affecting the fate and transport of regulated substances within the plume have been fully evaluated.

(3) Concentrations of regulated substances in the plume at the point of compliance monitoring wells along the downgradient property boundary are all less than or equal to the groundwater standard or the limit relating to the PQL, whichever is higher, in all samples collected during the quarters of monitoring.

(4) One of the following is met:

1. The age of the plume is sufficiently well known to permit a judgment to be made regarding its stability.

2. The remediation includes source removal or containment actions that would reduce chemical flux into the plume.

d. When applying a 95 percent upper confidence limit, according to EPA applicable guidance, to demonstrate compliance with the statewide standard for groundwater pursuant to 105.210(5)*"b"*(2) or a site-specific standard for groundwater pursuant to 105.210(6), the minimum sample number shall be as specified in that guidance.

e. Sampling for the purposes of demonstrating compliance shall be conducted after the completion of site assessment activities and after the implementation of applicable remedial measures.

105.210(4) *Demonstration of compliance with a background standard.*

a. To apply a background standard the participant shall demonstrate to the department, in writing, that the apparent background contamination at the site is due to widespread or naturally occurring contamination and shall obtain the department's approval to apply this subrule. Data collected for the purpose of determining the applicable background standard is subject to department approval, interpretation, and manipulation, if necessary for the purpose of establishing a meaningful background standard.

b. For soil, the minimum sample number to determine the background standard shall be ten, unless a lesser number is approved by the department, and the number of samples from the affected area shall be based on volume as described in 105.210(2)*"b."* No sample collected from the affected area may exceed the sum of the background arithmetic mean and three times the sample standard deviation, as calculated based on the background sampling.

c. For groundwater, a minimum of 12 locations shall be sampled in the background reference area, unless a lesser number is approved by the department, and an equal number shall be collected from the affected area. In areas involving more than one hydrologic strata, more samples may be required. Sampling shall be conducted concurrently in the background reference area and the affected area. No sample collected from the affected area may exceed the sum of the background arithmetic mean and three times the sample standard deviation, as calculated based on the background sampling.

105.210(5) *Demonstration of compliance with the statewide standard.* The following requirements shall be met in order to demonstrate compliance with the statewide standard. Testing shall be performed individually for each contaminant being addressed and for which a no further action certificate is sought.

a. To demonstrate compliance with the statewide standard for soils in each affected area, soil samples taken at the enrolled site must be within the statistical limits of either 105.210(5)*"a"*(1) or *"a"*(2), as well as all other applicable requirements of this rule.

(1) Seventy-five percent of all soil samples, collected during a single event, shall be less than or equal to the statewide standard, with no individual sample exceeding ten times the statewide standard.

(2) In accordance with EPA-approved methods (OSWER 9285.6-10, 2002), the 95 percent upper confidence limit of the arithmetic mean of soil sample values from the affected area shall be at or below the statewide standard.

b. To demonstrate compliance with the statewide standard for groundwater in each compliance monitoring well, water samples taken from the wells must be within the statistical limits of either 105.210(5)*"a"*(1) or *"a"*(2), as well as all other applicable requirements of this rule.

(1) Seventy-five percent of all samples collected in each compliance monitoring well over time shall be less than or equal to the statewide standard, with no individual sample exceeding ten times the statewide standard.

(2) In accordance with EPA-approved methods (OSWER 9285.6-10, 2002), the 95 percent upper confidence limit of the arithmetic mean of samples collected from a compliance well over time shall be at or below the statewide standard.

105.210(6) *Demonstration of compliance with a site-specific standard.* To demonstrate compliance with a site-specific standard, the participant shall use the tests identified in 105.210(5)*"a"*(2) and *"b"*(2), except that the 95 percent upper confidence limit of the arithmetic mean for samples from the medium of concern shall be at or below the site-specific standard.

105.210(7) *Compliance with cumulative risk.* In addition to standards for individual contaminants as prescribed above, cumulative risk criteria must be attained, except that for the soil pathway only, the cumulative risk criteria may be attained in lieu of the standards for individual contaminants. Cumulative carcinogenic health risks shall not exceed 1 in 10,000. Noncarcinogenic health risks affecting the same target organ shall not exceed a cumulative hazard quotient of 1. Cumulative risk criteria are applicable to multiple contaminants in the same medium and multiple media in which exposure is likely to occur to the same individual. Cumulative risks shall be based on the same exposure assumptions that are used for determining the selected standard.

a. Risks associated with background levels of contaminants shall not be included in the cumulative risk determination. Background levels of contaminants shall be determined in accordance with 105.210(4) or, if approved by the department, by the use of generally available information on background levels of contaminants.

b. In situations where the risk associated with exposure to a contaminant at a concentration equal to the selected standard is greater than the acceptable cumulative risk, the cumulative risk may be calculated assuming the risk associated with exposure to the contaminant at a concentration equal to the selected standard is equal to the acceptable cumulative risk criterion. The department will provide a guidance document for calculating cumulative risk and make it readily available to the public.

105.210(8) *Final report.* A final report shall be submitted to the department that documents the accomplishment of all provisions set forth in the risk evaluation/response action document. This shall include, as applicable to the specific situation, discussions related to verification of compliance with selected standards, successful completion of remedial actions, implementation of necessary institutional or technological controls, and initiation of any required monitoring strategy. Sufficient details shall be included to permit the department to verify that the terms proposed in the response action have been met with regard to the statistical determination of compliance with standards.

105.210(9) *Department review and approval.*

a. The final report is subject to review and approval by the department. Following review, the department will either approve the report or make a written response indicating the reason(s) why the report is unacceptable. Acceptance of the report may result in the issuance of an unconditional no further action certificate or it may mark a transition to the long-term closure activities associated with the site, as proposed in the response action. A decision that the report is unacceptable may be based upon an insufficiency of the report or it may be based on a judgment that the terms of the response action have not been met.

b. In cases where a participant has elected to proceed through this program without department interaction and without submitting site assessment pursuant to 567—105.208(455H), or risk evaluation/response action documents pursuant to 567—105.209(455H), the final report shall contain the substantive information related to those rules in addition to information required under this rule in a manner that clearly sets forth for departmental review the same process.

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