

## FREQUENTLY ASKED QUESTIONS: SITE REMEDIATION & WASTE MANAGEMENT PROGRAM IMPLEMENTATION OF NOVEMBER 25, 2015 INTERIM GROUND WATER QUALITY STANDARDS

**QUESTION 1.** Are the numbers posted on the [Division of Water Monitoring and Standards web page](#) considered ground water quality criteria or ground water quality standards?

**ANSWER 1.** The table [Ground Water Quality Standards N.J.A.C. 7:9C: Interim Ground Water Quality Criteria Table](#) lists the “Interim GWQ Criterion,” the “PQL,” and the “Higher of PQL and Interim GWQC.” “GWQ” is “ground water quality,” “PQL” is “practical quantitation limit,” and “GWQC” is “ground water quality criterion.” As noted at the bottom of the table, the higher of the PQL and interim ground water quality criterion is the numerical standard (constituent standard) to be applied for each constituent in Class II-A ground waters [see the [Ground Water Quality Standards, N.J.A.C. 7:9C-1.9\(c\)](#)]. For the purposes of this document, the Department is using the “Higher of PQL and Interim GWQC” as the ground water quality standard. Additionally, pursuant to the Remediation Standards, N.J.A.C. 7:26D-2.2(a)1, interim ground water quality standards are also ground water remediation standards. For the remainder of these questions, the term “remediation standards” will be used, to be consistent with the document “Site Remediation & Waste Management Program, Implementation of November 25, 2015 Interim Ground Water Quality Standards.”

**QUESTION 2:** Are the interim ground water remediation standard compounds included in the Target Compound List/Target Analyte List of analytical parameters specified in the [Technical Requirements for Site Remediation](#), specifically at N.J.A.C. 7:26E-2.1(c) and N.J.A.C. 7:26E Table 2-1?

**ANSWER 2:** The following compounds are included as current Target Compound List/Target Analyte List parameters:

1. Cresols (mixed isomers-all three)
2. 1,4-Dioxane
3. 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)

**QUESTION 3:** Are laboratories currently certified by the New Jersey Department of Environmental Protection, Office of Quality Assurance to perform analyses for the compounds with interim ground water remediation standards?

**ANSWER 3:** Of those compounds included in the list of Interim Ground Water Criteria, the Office of Quality Assurance has given certifications for all of the compounds except for the following:

1. 1-Chloro-1,1-difluoroethane
2. 1,1-Dichloro-1-fluoroethane
3. 1,1,1-Trifluoroethane
4. Tri-cresyl phosphate (mixed isomers)
5. Tri-ortho-cresyl phosphate

For the analysis of samples for parameters or categories of parameters for which certification is not available pursuant to the [Regulations Governing the Certification of Laboratories and Environmental Measurements](#) at N.J.A.C. 7:18, the person responsible for conducting the remediation shall follow the requirements found in the [Technical Requirements for Site Remediation](#) at N.J.A.C. 7:26E-2.1(a)2.

**QUESTION 4:** Can these laboratories certified by the New Jersey Department of Environmental Protection, Office of Quality Assurance achieve reporting limits that are at or below the interim ground water remediation standards for the targeted compounds?

**ANSWER 4:** Regarding laboratories achieving reporting limits, the [Technical Requirements for Site Remediation](#) at N.J.A.C. 7:26E-2.1(a)4 require the use of analytical method(s) that have analytical sensitivity sufficient to accurately measure concentrations to meet the data quality objectives detailed in the site-specific quality assurance project plan.

The certification process does not require laboratories to achieve any specific reporting level. The exception would be for those Contract Laboratory Program Statement of Work Methods in which contract required quantitation levels are specified for the parameters as contractual requirements and as such, attaining the contract required quantitation levels (which are for all intent and purposes are reporting limits) would be necessary to obtain certification. Reporting levels are determined by each laboratory for each parameter and for each method employed. As always, persons responsible for conducting the remediation and LSRPs are to communicate their needs to the laboratories prior to engaging them and implementing a method for any analytical work.

The practical quantitation levels for the new/revised interim ground water quality criteria were developed from methods that are readily available in the field of environmental trace analysis. Practical quantitation levels for these compounds were determined by the New Jersey Department of Environmental Protection, Division of Science, Research and Environmental Health.

Support information with regard to the establishment of the practical quantitation levels for the new/revised interim ground water quality criteria may be found at the [Division of Science, Research and Environmental Health's website](#).

**QUESTION 5.** What is the technical basis for the November 25, 2015 addition of the new compounds to the [Ground Water Quality Standards N.J.A.C. 7:9C: Interim Ground Water Quality Criteria Table](#), and for the change in the interim ground water remediation standard for 1,4-Dioxane?

**ANSWER 5.** Each of the listed compounds has been detected at sites undergoing remediation, and therefore the interim ground water remediation standards were developed. The basis for the derivation each of the interim ground water remediation standards is found at the [Interim Ground Water Quality Standards](#) webpage and the Fact Sheets/Technical Support Documents included

therein. The Department was aware of new toxicological information and analytical methodology for 1,4-Dioxane, which prompted a reevaluation of the standard.

**QUESTION 6.** Is there information available which can assist persons responsible for conducting the remediation and LSRPs in determining whether their investigation should include an evaluation of the interim ground water remediation standards compounds (i.e., could there be situations where no further investigation will be needed to address the changes associated with one or more of the compounds listed in the November 2015 ground water remediation standards)?

**ANSWER 6.** The person responsible for conducting the remediation and the LSRP will need to evaluate the potential for discharge of any of the November 25, 2015 ground water remediation standards or, in the case of 1,4-Dioxane, the potential for 1,4-Dioxane to be present in excess of 0.4 ug/l in ground water. The person responsible for conducting the remediation and the LSRP are required to evaluate each site individually using his or her professional judgment. If, in the professional judgement of the LSRP, there is no potential for discharge or potential for 1,4-Dioxane to be present in excess of 0.4 ug/l at the site in question, then the person responsible for conducting the remediation and the LSRP would present his or her lines of evidence to support a designation of no further investigation is required.

**QUESTION 7.** If previous investigation activities did not identify (for this example) 1,4-Dioxane as a compound of concern and the nature of the site-related discharge(s)/presence of site-related compounds of concern do not have the potential for 1,4-Dioxane to be present, would these be sufficient lines of evidence to support a position that no further sampling for 1,4-Dioxane is required to address the November 2015 interim ground water remediation standard?

**ANSWER 7.** The Department concurs that this example would constitute sufficient lines of evidence to support a position that no further investigation of a given chemical compound is required. When considering lines of evidence to support no further investigation for 1,4-Dioxane, the person responsible for conducting the remediation and the LSRP should also include an evaluation of the analysis completed at the site and whether the method detection limit for that analysis met the November 2015 ground water remediation standard.

**QUESTION 8.** From the September 2015 USEPA Contract Laboratory Program Scope of Work, it appears that the current semi-volatile organic compound method cannot separate 3-Methylphenol (m-Cresol) and 4-Methylphenol (p-Cresol) and the two compounds are quantitated as 4-Methylphenol. Therefore, can the results for 4-Methylphenol be added to the concentrations of 2-Methylphenol (o-Cresol) as an acceptable approach to establish the concentration for total cresols?

**ANSWER 8.** The interim standard of 50 ug/l is for total cresols. As such, the results of the two analyses should be added together.

However, it may be possible that laboratories are able to separate the compounds using different analytical conditions, columns and/or gas chromatographic flow rates allowed under other

methods. Should the laboratory be able to separate the compounds, then the results of all three are to be added to determine the total cresol concentration.

**QUESTION 9.** For those compounds for which an interim ground water remediation standard was posted on November 25, 2015 that are **not** on the Target Compound List - can the list of tentatively identified compounds for volatile organic compounds and semi-volatile organic compounds from previous analyses be reviewed in order to provide an additional line of evidence (in addition to a review of site history documenting that there is no evidence of the use of the specific compound in question) to determine whether additional investigation/sampling of the compound is required?

**ANSWER 9.** Tentatively Identified Compounds for volatile organic compounds and semi-volatile organic compounds can always be used for additional lines of evidence. However, their utility will be limited in most cases. Some of the compounds do not lend themselves well to the routine analyses applied when analyzing for volatile and semi-volatile compounds. Additionally, without the calibration and quality control information (that is not available with tentatively identified compounds), there is no way to know at what concentration level (and as such, is the result above or below a compound specific criteria) any compound could be detected under the analytical operating conditions established for the targeted analytes.

**QUESTION 10.** If previous investigation activities included analysis for compounds for which an interim ground water remediation standard was posted on November 25, 2015, and the results were all none detected with no qualifiers, but the method detection limits/reporting limits were above the November 2015 interim ground water remediation standard, can a comprehensive review of historic site information be used to document that there is no evidence of the use of the specific compound in question in order to eliminate the need for further sampling of the compound(s) in question?

**ANSWER 10.** If previous investigations included analysis for one or more of the November 2015 ground water remediation standards and all results were not detected but the method detection limits/reporting limits were in excess of the November 2015 ground water remediation standard, the person responsible for conducting the remediation and the LSRP can still apply professional judgement to determine the necessity of conducting additional analysis to meet the reporting limit of a given November 2015 ground water remediation standard. The person responsible for conducting the remediation and the LSRP will be required to present the lines of evidence that lead to the judgement that additional analysis was not required within the next key phase document submission.

**QUESTION 11.** If 1,4-Dioxane was delineated to the previous ground water remediation standard of 10 ug/L, and additional time is needed to delineate to the November 2015 interim ground water remediation standard of 0.4 ug/L beyond the timeframe to submit the remedial **action** report noted under Scenarios 1a and 1b, would NJDEP allow for an extension of the RA timeframe if the appropriate documentation and justification are submitted?

**ANSWER 11.** An extension is available for both regulatory and mandatory timeframes to complete and submit the remedial **action** report for Scenarios 1a and 1b provided the extension is filed pursuant to the [Administrative Requirements for the Remediation of Contaminated Sites](#) at N.J.A.C. 7:26C-3, as appropriate.

**QUESTION 12.** In general, can I get an extension of a regulatory or mandatory timeframe if such an extension would normally be approved, but also now includes an interim ground water remediation standard compound under any of the listed scenarios?

**ANSWER 12.** An **extension** is available for both regulatory and mandatory timeframes as specified within Scenarios 2a, 2b, 3a, and 3b provided the extension is filed pursuant to the [Administrative Requirements for the Remediation of Contaminated Sites](#) at N.J.A.C. 7:26C-3, as appropriate. An **extension is not available** for any persons responsible for conducting the remediation required to meet the May 2016 statutory timeframe to complete the remedial investigation and submit the remedial investigation report.

**QUESTION 13.** For sites with a final remediation document - if the “final” concentration of 1,4-Dioxane was below 4.0 ug/L but above 0.4 ug/L, would no further remediation be required since the remaining concentration is within an order of magnitude of the revised standard?

**ANSWER 13.** Scenario 4b addresses final remediation documents where 1,4-Dioxane was remediated to 10 ug/l and there is no ground water remediation permit currently in effect. Under this scenario, if ground water sampling reveals the concentrations of 1,4-Dioxane remaining are **equal to or greater than** 4 ug/l, additional actions are required. When concentrations are **less than** an order of magnitude of the November 25, 2015 ground water remediation standard (i.e., **less than** 4 ug/l), no additional action is required.

**QUESTION 14.** For situations under the listed scenarios that require that the NJDEP Spill Hotline be notified, is this notification still necessary if the site is already an ISRA-subject site? In the past, the NJDEP was reluctant to have additional Spill Hotline notifications associated with ISRA sites. What if the new Spill Hotline notification is associated with an existing ground water plume - can I just add the additional compound to the list of compounds of concern on my Case Inventory Document (rather than create a whole new area of concern/spill number, which will likely complicate the administrative close out of my site)?

**ANSWER 14.** The Department is requiring notification to the hotline without regard to case type. This notification ensures tracking of those specific circumstances where ground water contaminants have been identified in excess of the November 25, 2015 ground water remediation standards that were not historically evaluated or detected.

**QUESTION 15.** Do classification exception areas, whether already established or to be established, need to be evaluated for these new interim ground water remediation standards? Do I need to modify an existing classification exception area for a site if one already exists, and if yes, when?

**ANSWER 15.** Yes, classification exception areas need to be evaluated, and, if necessary, modified. The evaluation should be performed based on the criteria as outlined in each of the scenarios.

- For contaminated sites that were granted an extension to complete the remedial investigation by May 7, 2016 and the remedial investigation is not yet completed, the classification exception area shall be submitted with the remedial investigation report and shall, at a minimum, include all compounds delineated to the ground water remediation standard in effect prior to November 25, 2015. If modifications to that classification exception area needed due to the presence of one or more contaminants for which an interim ground water remediation standard was established on November 25, 2015, then a modified classification exception area shall be submitted with the permit application that is submitted with the remedial action report.
- For all other contaminated sites where the remedial investigation is not complete, the classification exception area shall be submitted with the remedial investigation report.
- For all contaminated sites where the remedial investigation is complete, if modifications to that classification exception area are needed due to the presence of one or more of the new interim ground water remediation standards, a modified classification exception area shall be submitted with the permit application that is submitted with the remedial action report.
- For all contaminated sites with a ground water remedial action permit, if modifications to that classification exception area are needed due to the presence of one or more of the new interim ground water remediation standards, a modified classification exception area shall be included as part of a ground water remedial action permit modification application.
- For all contaminated sites (a) that have a final remediation document, (b) where 1,4-Dioxane was remediated to or below 10 ug/l, (c) where 1,4-Dioxane is present at concentrations at or above 4 ug/l, and (d) there is no ground water remedial action permit, the presence of 1,4-Dioxane triggers the requirement to report a discharge and the establishment of a new case. The classification exception area shall be submitted with the remedial investigation report.