



Department of Energy & Environmental Protection
Bureau of Water Protection and Land Reuse
Remediation Division
79 Elm Street, Hartford, CT 06106-5127
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**INSTRUCTIONS FOR COMPLETION OF A VOLUNTARY REMEDIATION
(\$22a-133x) VERIFICATION FORM
(Interim)
(DEEP-LEP-VER-133x-Interim)**

The purpose of the Voluntary Remediation (§22a-133x) Verification Form (Interim) is to document the written opinion of an environmental professional, licensed pursuant to Section 22a-133v of the CGS, that an investigation of a specific parcel, portion of the parcel, or release area has been completed in accordance with prevailing standards and guidelines - including but not limited to the Site Characterization Guidance Document (SCGD), and that the specific parcel, portion of the parcel, or release area has been remediated in accordance with the Remediation Standard Regulations (RSRs), Section 22a-133k-1 through 3 of the Regulations of Connecticut State Agencies, with the exception that a selected remedy for groundwater pollution is in operation but has not achieved the remediation standards for groundwater.

Pursuant to Section 22a-133x(b) of the CGS, a verification shall be rendered on a form prescribed by the Commissioner. This Voluntary Remediation (§22a-133x) Verification Form (Interim) is the prescribed form for this particular application.

The Voluntary Remediation (§22a-133x) Interim Verification is also required to identify:

- the long-term remedy that is being implemented
- the estimated duration of the remedy;
- the ongoing operation and maintenance requirements of the remedy; and
- There are no current exposure pathways to the groundwater that have not yet met the remediation standards.

Compliance groundwater monitoring is not considered groundwater remediation, and therefore would not be applicable to a Voluntary Remediation (§22a-133x) Interim Verification scenario.

The Voluntary Remediation (§22a-133x) Verification Form (Interim) [VF] is essentially a checklist of all requirements and provisions in the RSRs. The VF includes prompts to guide the LEP in proper completion of the VF. All applicable checkboxes should be marked. The VF also includes specific references to RSRs provisions. All provisions used to achieve compliance with each criterion are to be marked.

The Department of Energy and Environmental Protection (DEEP) advises that each referenced RSR section be reviewed prior to completing the VF to ensure the application of each provision marked as being used to achieve compliance has been properly applied. *Relevant findings (as defined in the Verification Report Guidance Document) that support the applicability and use of the RSRs are to be presented in the Verification Report, which is expected to be attached to the VF.*

The **VF** is inclusive of all releases at the site at the time of the verification. Therefore, certain provisions may be applicable to more than one (1) release area. The **VF** includes space to identify the applicable release areas for each application.

The **VF** and all attached documents should be submitted to:

Remediation Division, 2nd Floor
Bureau of Water Protection and Land Reuse
Department of Environmental Protection
79 Elm Street, Hartford, CT 06106 - 5127

All **VF**'s undergo an administrative completeness review upon receipt. A complete **VF** will include the Verification Report. Incomplete **VF**'s (including Verification Form and Verification Report) will either be: (1) not processed until complete, or (2) the Verification will be rejected, or (3) the Verification will be flagged for audit. DEEP's response actions will be evaluated on a case-by-case assessment.

General Information

Ver# - The Verification Number is a unique identifier to each verification received by the Commissioner. The Ver# is auto-assigned when the verification is entered into DEEP's database. The Ver# will be entered onto the **VF** by DEEP.

Applicable Release Area ID#s – Throughout the **VF**, Indicate the ID# of all Release Areas (RAs) at which all applicable provisions of the RSRs were used for such RA. Do not include the names of the RAs, just the ID# (e.g., RA-7). The details of names and locations of the RAs should be identified and described in the Verification Report. **Do not state "all" or "site-wide", as this non-specific entry provides no frame of reference. If DEEP must conduct a technical review / research to understand the context of the LEP's application of the RSRs, the Verification will likely be flagged for audit.**

Copies of Important Documents - Certain provisions of the RSRs require Commissioner Approval, a notice, or an environmental land use restriction (ELUR). Copies of these key documents are required because the verification relies on the existence of these documents. Prompts to attach specific documents to the Verification Report are embedded in the **VF**. If the LEP marks the Commissioner approval was used to achieve compliance with a specific provision, but does not attach a copy of said approval to the Verification Report, the verification will be considered incomplete.

Specifically for Commissioner Approvals, the dates of any approvals must be entered in the **VF** and a copy of the approval letter [only] must be attached to the Verification Report.

Specifically for ELURs, the date that the ELUR was recorded on the land records must be entered in the **VF** and a copy of the Certificate of Title page (with volume and page deed references and the date recorded) is to be attached to the Verification Report. **Please attach only the COT page.** This is required to ensure that all stakeholders know that the ELUR has indeed been recorded, and the specific RSR provision is, therefore, complete.

It is also important to provide the requested detail and information related to any financial surety mechanisms that have been established for Commissioner-Approved engineered controls.

Part I: Site Information

Property Name and Address - Provide the name of the site by the full, legal company/firm name. Use the name that was indicated on the environmental condition assessment form (ECAF) when the property entered the VRP. If identifying a corporation or limited partnership registered with the Secretary of the State, fill in the name exactly as it is shown on the registration. If identifying an individual's property, provide the full legal name, including title and suffix. Provide the full and exact street address of the location of the site.

Description in Tax Assessor's Office - Provide the lot, block, and map numbers, as listed in the Town's land records. If this does not correlate with the lot, block, map numbers indicated on the ECAF, please explain.

Acreage of Property – Include the total acreage of all contiguous properties that are referred to as part of this site.

Part II: Verification Information

- A. The verification is rendered for a specific property through the ECAF filing. In order to identify the specific project, provide the date the ECAF was filed with the Department and the Rem# assigned by the Department to the ECAF filing. Note: The applicable Rem# is to be entered on each page of the **VF**.
- B. Check whether this verification is being rendered for the entire parcel, a portion of the parcel, or for a specific release area.
- C. The LEP is to provide his/her legal signature and license number, printed name, phone number, and e-mail address. The LEP is to imprint or stamp his/her seal in the box provided.

Part III: Regulatory History

A. Previous Remedial Program Information

If the property had previously been in a remedial program, indicate which program, and insert the applicable Rem#.

B. Previous Verification History

If a previously rendered verification that has been submitted for the subject property or a Commissioner Approval of Investigation or Remediation is being relied on by the LEP, provide the requested information. Then indicate if any of the conditions or environmental controls that may have been used with any such previous verification changed.

B. Significant Environmental Hazard

Complete this box as applicable. **Note: all SEHN's filed for the subject parcel, portion of the parcel, or release area must be abated or resolved prior to rendering a verification.**

Part IV: Standards for Soil Remediation

A. Release Determination and Investigation

It is presumed that, since groundwater remediation is ongoing, that a release to soils occurred. Therefore, this section of the **VF** has two (2) options to check regarding releases to soil at the subject parcel, portion of the parcel, or release area - and presents the final assessment of release determination and investigation completed at the subject parcel, portion of the parcel, or release area. Only one option is applicable.

1. **Releases to Soil – No Remediation or other Compliance Measure Required** - Check this box only if **all** detected concentrations of substances in soil – at all release areas - were less than applicable Direct Exposure Criteria (DEC) and Pollutant Mobility Criteria (PMC).

The box related to site characterization is not an option – this is a confirmation that the LEP's conclusion that remediation or other compliance measure was not required is based on a validated Final Conceptual Site Model.

2. **Releases to Soil – Remediation or other Compliance Measure Required** - If substances in soil at the site have ever exceeded criteria and RSR compliance for these substances was not verified, check the applicable boxes for Criterion Exceeded, indicate the category of COCs, and indicate the measures used to achieve or demonstrate compliance.

The final box in this section is a confirmation by the LEP that the Verification Report documents and explains how the Soil Remediation Standards were achieved at each release area. This is relevant for any and all releases.

B. Compliance Measures

This section of the **VF** provides the information related to the compliance measures indicated in the Part IV. A.3 box above. Check all applicable boxes for each measure taken. Indicate the Release Areas (RA's) at which the specific measure was used.

1. **Excavation** – If remedial excavation of polluted soil was conducted, indicate the volume and disposition of said soil.
2. **Engineered Control** – The use of an Engineered Control requires the Commissioner's approval, and the recordation of an Environmental Land Use Restriction (ELUR). Indicate whether the EC (and resultant ELUR) were related to DEC or PMC. Follow all prompts on the **VF**.

The RSRs provide for establishing the surety mechanism within one year of construction of the EC. If required, this mechanism must be in place before the verification is rendered. Indicate the type of surety mechanism and the date the surety mechanism was established and documented. A copy of the surety mechanism must be attached to the Verification Report.

If an EC was used to achieve compliance under a previous verification, and said EC required a financial surety mechanism, indicate that this was the case, and also indicate that this mechanism is still valid. The **VF** provides for comments on this subject.

3. **In-Situ Remediation** – If in-situ remediation of polluted soil was conducted to achieve compliance, indicate if this measure was pursued under a Temporary Authorization or General Permit. The **VF** provides for comments on this remedial measure.
4. **Institutional / Administrative Compliance Measures** – This is a confirmation that the LEP’s use of a compliance measure was used to achieve compliance with the Standards for Soil Remediation.
5. **Other Compliance Measures** – This is provided for the LEP to describe any other remedial/compliance measure that was used to achieve compliance with the Standards for Soil Remediation.
6. **Public Notice of Remediation** - The final box in this section is a confirmation by the LEP that **public notice of remediation** has been published in accordance with the Voluntary Remediation Program and the RSRs.

C. Application of Standards for Soil Remediation

This section of the **VF** provides all options / provisions of the RSRs to demonstrate compliance with the Standards for Soil Remediation and the means used to apply the provisions. Indicate in each table what provisions were used and at what Release Areas they were used. The details of how and what data were used to achieve or demonstrate compliance (“Relevant Findings”) should be explained in the Verification Report. *Ensure that the provisions are properly applied by reading the referenced RSR section next to the provision.*

1. **Background Conditions - 22a-133k-2(a)(2)** – Pursuant to Section 22a-133k-2(a)(2) of the RSRs, notice is required to be submitted to the Commissioner if background conditions are applicable at the project site. Checking the box on this Form acts as said Notice. In checking this box and the use of Background, the LEP is also confirming that the use of this provision (and all pre-requisites) is discussed in the Verification Report – and must indicate the page /section of this discussion in the report.
2. **Direct Exposure Criteria (DEC) - 22a-133k-2(a)1(A) and k-2(b)** – Check all applicable boxes to indicate the provisions that were used at the subject site to achieve or demonstrate compliance with the DEC. Subset boxes must be appropriately marked to indicate the specific requirements to apply such provision were completed. Some subsets are “either-or” for application of that specific provision, and some subsets are “all-applicable”. The provisions for inapplicability of the DEC are located at the end of Table 2.
3. **Compliance with DEC – 22a-133k-2(e)** – Indicate how the “compliance data” was applied to demonstrate compliance with the DEC.
4. **Pollutant Mobility Criteria (PMC) - 22a-133k-2(a)1(B) and k-2(c)** – Check all applicable boxes to indicate the provisions that were used at the subject site to achieve or demonstrate compliance. Subset boxes must be appropriately marked to indicate the specific requirements to apply such provision were completed. Some subsets are “either-or” for application of that specific provision, and some subsets are “all-applicable”. The provisions for inapplicability of the PMC are located at the end of Table 4.

5. **Compliance with Pollutant Mobility – 22a-133k-2(e)(2)** - Indicate how the “compliance data” was applied to demonstrate compliance with the PMC.
6. **Other Provisions** – This section provides for the LEP to indicate continued use of 500 mg/K for Lead [per 22a-133k-1(g)] and/or the use of the Widespread Polluted Fill variance.
7. **Non-Aqueous Phase Liquids (NAPL)** – If NAPL was present at the subject parcel, portion of the parcel, or release area, indicate the extent to which it was remediated. The presence and remediation of NAPL is to be discussed in the Verification Report – and Table 7 must indicate the page /section of this discussion in the report.

Part V: Groundwater Remediation Standards

A 133x Interim Verification indicates that groundwater has been impacted by a release and that a selected remedy for remediation of the groundwater is in operation.

A. Groundwater Remediation

1. Check the applicable boxes in this table to indicate the Criterion Exceeded, indicate the category of COCs, and indicate the selected remedy that is ongoing to achieve compliance. Identify the release area(s) at which the selected remedy is targeting.
2. **Characterization** - The LEP should be able to mark these two boxes to indicate he/she has an adequate understanding of the plume(s) that is being remediated and has sufficient information to understand the seasonal and dimensional conditions of the groundwater and the plume(s). Appropriate discussion of the groundwater investigation and the LEP’s understanding of the hydrology and plume conditions is to be included in the Verification Report.
3. **Selected Remedy Requirements** - These boxes are pre-requisites to support the 133x Interim Verification. If all boxes cannot be checked, then the 133x Interim Verification is not valid. The details of marked boxes should be explained in the Verification Report.
4. **If there were no plumes other than the plume(s) with the selected remedy, check this box and skip to Section Part IV: Receptors.**
5. If there were or are plumes other than the plume(s) with the selected remedy, but the plume(s) are in compliance with the remediation standards, check this box and complete the remainder of the VF.

B. Groundwater Impact Determination and Plume Investigation

1. **Other Releases to Groundwater – No Remediation or other Compliance Measure Required** - Check this box if substances were detected in groundwater, but all detected substances in groundwater were less than all criteria of the Groundwater Remediation Standards before remediation or initiation of other compliance measure. There is a box to confirm that the seasonal and three-dimensional distribution of all applicable plumes have been adequately characterized.

2. **Releases to Groundwater – Remediation or Other Compliance Measure was Required** - Check this box if substances in groundwater within the boundaries of the property ever exceeded criteria, and check the applicable boxes for Criterion Exceeded, indicate the category of COCs, and indicate the measures used to achieve compliance.
3. Complete this table if remedial measures were conducted to address Vapor Intrusion. Check the applicable boxes to indicate which measure was taken.

C. Application of Groundwater Remediation Standards

This section of the **VF** provides all options / provisions of the RSRs to demonstrate compliance with the Groundwater Remediation Standards and the means used to apply the provisions. Indicate in each table what provisions were used and at what Release Areas they were used. The details of how and what data were used to achieve or demonstrate compliance (“Relevant Findings”) should be explained in the RAR. *Ensure that the provisions are properly applied by reading the referenced RSR section next to the provision.*

1. **Application of Groundwater Remediation Standards - RCSA 22a-133k-3** – In order to validate the application of the Groundwater Remediation Standards, **all** subsections of Table #1 are expected to be completed. The LEP should be able to mark the first two boxes to confirm that the all plumes have been adequately characterized in accordance with prevailing standards and guidelines (including the SCGD), and the he/she has an understanding of the seasonal and dimensional groundwater conditions.

The next box confirms that groundwater monitoring has been completed in accordance with 22a-133k-3(g), with subsections related to the purpose of the groundwater monitoring program. Mark **all** boxes as appropriate. If a specific subsection is not applicable, then mark “Not Applicable”.

The last box is an acknowledgement that the Verification Report presents discussion of adequate representation and data usability for compliance.

2. **Compliance with Criteria for Groundwater - 22a-133k-3(g)2(A)** – The LEP is to check each box to indicate that all pre-requisites to demonstrate compliance have been met. Also indicate if the quarterly compliance sampling was completed within 1 year or 2 years. If any substance was detected above criteria during any of the compliance rounds, indicate where in the Verification Report this is discussed, and the significance of the exceedance. The last box is to be checked if an alternative means to demonstrate compliance had been approved by the Commissioner.
- 2a. **Groundwater Compliance not applicable – Incidental Sources – 22a-133k-3(f)** – Check this box if the remediation criteria for groundwater do not apply due to “Incidental Sources”. Complete the table to indicate the category of ‘Incidental source’.
3. **Background Groundwater Quality - 22a-133k-3(a)(1)(B) and k-3(a)(2)** – Check the applicable box to indicate whether Background was the remedial goal, or if achieving Background was not required, or if achieving Background was exempt due to Technical Impracticability.

If meeting Background Water Quality was not required, the LEP is directed to complete Table 4a.

4. **Compliance with Background - 22a-133k-3(g)2(B)** – If Background groundwater quality is used as the goal for remediation of a groundwater plume, indicate how groundwater data was applied to demonstrate compliance.
- 4a. **Compliance with Background not Required – 22a-133k-3(d)(1) or (d)(2)** - Check one of the 2 options to indicate why meeting Background Water Quality was not required. All subsets of each option chosen must be filled to indicate valid application.
5. **Groundwater Protection Criteria – 22a-133k-3(a)2(A) and k-3(d)** - Check the applicable boxes to indicate that the provision used to achieve compliance with the GWPC.
6. **Compliance with GWPC - 22a-133k-3(g)2(B)** – If the groundwater protection criteria was the remedial goal for a plume, indicate how groundwater data was applied to demonstrate compliance.
7. **Surface Water Protection Criteria - 22a-133k-3(a)1(A) and k-3(b)** - Check all applicable boxes to indicate the provisions used to achieve compliance with the SWPC.
8. **Compliance with SWPC - 22a-133k-3(g)2(C)** – The surface water protection criteria is applicable at all sites. Indicate how groundwater data was applied to demonstrate compliance.
9. **Volatilization Criteria - 22a-133k-3(a)1(A) and k-3(c)** – Check all applicable boxes to indicate the provisions used to achieve compliance with the VolC, or whether the VolC was exempt or not applicable. All subset boxes of the chosen option(s) must be checked to confirm the usability of the chosen option(s).
10. **Compliance with VolC - 22a-133k-3(g)2(D)** – If the volatilization criteria is applicable, indicate how groundwater/soil vapor data was applied to demonstrate compliance.
11. **Other Provisions: “Policy on Upgradient Contamination - 8/28/97” and Technical Impracticability – 22a-133k-3(e)(2)** - Check applicable boxes to indicate if one of these provisions were used to achieve compliance. The details of how all marked provisions were used to achieve compliance are expected to be explained in the Verification Report.

Part VI: Receptors

Complete all information requested in this Section of the **VF**. Details of the Environmental Setting and results of any sensitive receptor survey should be explained in the Verification Report.

Check the applicable boxes to indicate if an ecological receptor was identified and/or evaluated. Details regarding any evaluation of potential ecological exposure pathways, where contaminants could affect aquatic and terrestrial life, as identified in the Conceptual Site Model (CSM), should be included in the Verification Report.

If water supply wells had been impacted from any on-site release, indicate the number of supply wells impacted and check and complete the applicable boxes to indicate the measures instituted to provide potable water supply. The details of how all marked provisions were used to achieve compliance should be explained in the Verification Report.

Green Remediation

This is intended for information gathering purposes only. Completing this section is optional and does not have any implication on the validity of the verification.

Part VII: Certification

Completion of this section of the **VF** is to document that the ECAF Certifying Party is cognizant that the verification is being rendered on their behalf. This certification must be signed by a legally authorized and binding representative of the ECAF Certifying Party.

The fact that a selected groundwater remedy is ongoing mandates public notification of remediation pursuant to Section 22a-134a(i) of the CGS. Check this box to affirm that the public notification of remediation was published, and the documentation of such is included in the RAR.