

Good morning,

Please find attached final comments and thoughts from Subcommittees 9 and 10, responding to comments from DEEP and others.

We look forward to our discussions this afternoon. DEEP will ask the Subcommittees to summarize the completion of their final deliberations. Also at today's meeting, we will discuss the Tiers Checklist, as described in our email from a few weeks ago.

Best,  
Graham

# ***Release-Based Subcommittee 9***

## ***Cumulative Risk and Risk-Based Alternative Approaches***

### ***Response to DEEP Comments***

The following document presents responses to comments made by the Department of Energy and Environmental Protection (DEEP) in their 6 April 2023 “Feedback on Subcommittee 9 and 10 Concept Papers”. The Subcommittee appreciates DEEP’s and the Working Group’s efforts on this topic and are offering the following responses to clarify certain positions presented in the Concept Paper.

#### **1. Cumulative Risk Pathways**

- a. **DEEP Comment:** *“the subcommittee suggests that the short form approach to cumulative risk be limited only to evaluating the risks posed by direct exposure to soil impacted by a release.”*
- b. **Response:** The subcommittee recommends that the cumulative risk approach incorporate all potential human health risk pathways from environmental contamination, inclusive of the risks posed by direct exposure to soil as well as exposure to contaminants via soil vapor and indoor air media. The only pathway the subcommittee did not recommend including is exposure to drinking water – which is protected by the Maximum Contaminant Levels (MCL). In the concept paper the subcommittee states that “this cumulative risk approach would apply to the summation of risk from all potential exposure pathways able to be evaluated under a cumulative risk process, including exposure via soil and soil vapor/indoor air media.” (P.5 ¶1 Subcommittee 9 Concept Paper)

#### **2. Definition of a Site**

- a. The subcommittee proposed a definition of release sites to be “locations where contamination resulting from a release has come to be located”. The subcommittee proposed the preceding definition because:
  - i. Releases can extend onto multiple parcels; and
  - ii. Multiple releases can occur/be present on the same parcel.

The subcommittee acknowledges that property uses can only be restricted on a parcel by parcel basis which may result in different evaluations of risk when a release impacts multiple parcels.

# ***Release-Based Subcommittee 9***

## ***Cumulative Risk and Risk-Based Alternative Approaches***

### ***Response to DEEP Comments***

#### **3. Cumulative Risk Standard:**

- a. **DEEP Comment:** *“The Department agrees that, when considering the cumulative risk from direct exposure to soil impacted by a release that contains multiple carcinogens, a cleanup standard ensuring that cumulative excess lifetime cancer risk does not exceed  $1 \times 10^{-5}$  is appropriate, provided that no individual carcinogen exceeds an excess lifetime cancer risk of  $1 \times 10^{-6}$ . Such an analysis must necessarily include an evaluation of all exposure risk pathways.”*
- b. **Response:** In the Concept Paper the subcommittee “recommends establishing a cumulative ELCR of  $1 \times 10^{-5}$  for exposure to multiple carcinogens, an ELCR of  $1 \times 10^{-6}$  for exposure to an individual carcinogen, and a cumulative HI of 1 (allowing for summation of non-cancer risk by target organ) within the RSRs to support a cumulative risk approach.” (P.4 ¶7 Subcommittee 9 Concept Paper). The subcommittee’s recommendation is not related to the development of numeric criteria/clean-up standards. Instead, these values are recommended as cumulative risk thresholds for potential risk to which cumulative risks, calculated using the equations and exposure parameters under appropriate exposure scenarios, are to be compared. The subcommittee recommends that the cumulative risks to human health by environmental contamination consider all potentially complete exposure pathways and not be limited to the direct exposure to soil pathway.

The exposure scenarios recommended by the subcommittee, and supporting equations and exposure parameters, are found in Appendix C of the Concept Paper.

#### **4. Additional Exposure Scenarios**

- a. DEEP believes that following exposure scenarios merit further consideration:
  - i. Property Managed Residential Use (access to soil is highly controlled) [see concept paper p. 2]
  - ii. Passive Recreation [see concept paper pp. 2,6]
  - iii. Trespasser Scenario [concept paper p. 6]
- b. **Response:** The subcommittee noted that the DEEP did not include the Construction Worker or Utility Worker Scenarios in its list of the exposure scenarios meriting further consideration. The Subcommittee recommends the DEEP reconsider excluding these exposure scenarios, as the ability to use these exposure scenarios under a cumulative risk assessment approach would allow for the evaluation of sites under the lens of both current and future uses.

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***Cumulative Risk and Risk-Based Alternative Approaches***  
***Response to DEEP Comments***

The Subcommittee recommends the use of equations and exposure parameters for the Construction Worker and Utility Worker exposure scenarios that were developed by the USEPA, provided as Appendix C-4 and Appendix C-5 of the Concept paper, respectively. Each of these exposure scenarios assume an exposure duration of 1 year (50 weeks) at a given site containing contamination, which is a conservative duration for a general construction contractor (ie. not a remediation or other specialized environmental contractor). Further, the inclusion of these exposure scenarios as a recommendation for the concept paper were developed with concurrence with the staff support from the Department of Health.

**Subcommittee 10 Concept Paper**  
**ADDENDUM AND RESPONSE TO COMMENTS**  
**Roles and Qualifications of Non-LEP Environmental Professionals**

**May 3, 2023**

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This Addendum to the March 3, 2023 Subcommittee 10 Concept Paper (“Concept Paper”) responds to comments by DEEP and members of the public and the Working Group’s discussions in the March 14, 2023 and April 10, 2023 Working Group Meetings.

**I. Response to Comments**

**A. *Leveraging Conn. Gen. Stat. § 22a-454 Permit Program***

In its Concept Paper, Subcommittee 10 acknowledged a continuing role for Permitted Spill Response Contractors (“PSRCs,” i.e., those licensed under Conn. Gen. Stat. § 22a-454) and assumed that PSRCs would handle emergency response and immediate removal actions rather than certifying compliance with the RSRs. Concept Paper, at 4. Subcommittee 10 further acknowledged that DEEP had indicated that it did not intend to stand up a new licensing program for Technical Environmental Professionals (“TEPs”). Concept Paper, at 5.

In its April 6, 2023 Feedback on Subcommittee 9 and 10 Concept Papers (“DEEP Feedback”), DEEP indicated that “with some adjustment” permits issued pursuant to Conn. Gen. Stat. § 22a-454 “can be used to achieve many of the subcommittee’s goals.” DEEP Feedback, at 6. Specifically, Conn. Gen. Stat. § 22a-454(a) provides:

No person shall engage in the business of collecting, storing or treating waste oil or petroleum or chemical liquids or hazardous wastes or of acting as a contractor to contain or remove or otherwise mitigate the effects of discharge, spillage, uncontrolled loss, seepage or filtration of such substance or material or waste nor shall any person, municipality or regional authority dispose of waste oil or petroleum or chemical liquids or waste solid, liquid or gaseous products or hazardous wastes without a permit from the commissioner.

This section provides the basis for the current PSRC regime.

Subcommittee 10 agrees that the existing authority under Conn. Gen. Stat. § 22a-454 can be leveraged to provide the permitting and oversight structure envisioned for TEPs. Application forms can be reworked to require documentation of the training and credentials required. By leveraging existing statutory authority, DEEP will be able to more nimbly stand up the new program and tweak it as needed during the implementation phase. To the extent that DEEP sees value in designating different types of TEPs, or maintaining a distinction between TEPs and PSRCs, permit subtypes can be developed to distinguish different categories. DEEP could even develop general permits under Conn. Gen. Stat. § 22a-454(e) to streamline procedures for certain types of TEPs (e.g., municipal emergency response personnel).

Subcommittee 10, and its individual members, reserve the right to comment further as the regulations take shape. In particular, as discussed in the Concept Paper, the questions of “WHO are TEPs?” and “WHAT sorts of releases will TEPs handle?” are tightly interconnected. In addition, as EPOC noted in its March 31 comments, DEEP will need to develop endpoints under the RSRs and/or spill regulations for “lower volume, lower toxicity releases that don’t reach the environment.” EPOC comments, at 3. Subcommittee 10 suggests that DEEP come to an internal conclusion as to the “WHAT” question, and develop proposed endpoints for such lower-risk releases, and then solicit feedback from the Working Group on the “WHO” question. It would also be helpful for DEEP to provide additional context on the projected future role of the DEEP spill response team and whether they will be certifying closure of releases under the new program.

**B. *Conflicts of Interest, LEP Code of Conduct, and Ensuring a Level Playing Field***

DEEP and Subcommittee 10 have each acknowledged the importance of creating a “level playing field” and allowing LEPs equal access to TEP activities. See, e.g. Concept Paper at 1. As EPOC discussed in its comments, LEPs and PRSCs presently operate under very different endpoints and standards of care. Further, discussions in the April 10 Working Group meeting touched on the LEP Code of Conduct, specifically conflict of interest provisions applicable to LEPs. R.C.S.A. §22a-133v-6(e).

Subcommittee 10 reemphasizes its commitment to a level playing field between LEPs and TEPs. Tensions between the standards applicable to LEPs and the standards applicable to TEPs should be thoughtfully addressed. Solutions may include:

- Including in the certification form applicable to lower risk releases a disclosure of any financial interest the TEP or his/her employer might have in the release at issue (for example, if the TEP is a plant employee or works for a utility) and an attestation that the financial interest did not impact decision-making.
- A revision to the LEP Code of Conduct that would permit LEPs to certify lower-risk releases on the same terms as TEPs even if there is a financial interest at play as long as such financial interest is disclosed and did not impact decision-making (for example, LEPs employed by utilities).

The specific blend of solutions that will be most appropriate will depend upon the answers to the “WHAT” question.

Members of the Working Group:

At the May working group meeting, the Department plans to present the “Tiers Checklist.” We are excited for this presentation, and want to provide both the checklist and some background information before we meet.

The checklist sets out the substance of how releases will be allocated into Tiers. Remember that tiering will be required only if cleanup to a cleanup standard has not been achieved within the first year after discovery of a release. When looking at the checklist, you will see that it is closely tied to the first-year milestones previously discussed. One way the checklist evaluates risk is by evaluating compliance with the first year “milestones.” For example, if the release requires Immediate Action and that Immediate Action is not completed, the release is assigned to the most stringently supervised Tier. The “First Year Road Map” previously presented to the working group is useful in understanding the checklist, and I have attached a copy of that roadmap for your reference. Together, the road map and checklist provide a compressive look at the process, from discovery through the end of a longer term cleanup. While there is still work to do on cleanup standards and closure documents, the road map and checklist form the backbone of the Department’s approach.

The Department anticipates that the checklist will be included – as an appendix – to the Release Based Cleanup Regulations. We are excited to begin sharing actual regulatory text with this group. It is anticipated that the checklist will be paired with a regulatory section that address the mechanics of tiering; that section will address required documentation, timelines, process steps and fees. While the Department intends to focus its presentation on the substance of tiering – what factors require a release to be assigned to a specific tier – the presentation will also touch briefly on some of these other topics that we know are of great interest to the working group. Please also note that releases will be able to be re-assigned during the cleanup process; a release assigned to one tier because of an unbroken receptor pathway can be reassigned once that pathway is broken.

We hope that providing the checklist in advance of the presentation will allow time to review the checklist together with the first year road map. I am looking forward to the discussion – and all of the good questions - that will follow the presentation.

Best and be well,  
Graham



# Tier Checklist

DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION  
BUREAU OF WATER PROTECTION AND LAND REUSE  
REMEDIAL DIVISION [www.ct.gov/deep/remediation](http://www.ct.gov/deep/remediation)  
79 Elm St., Hartford, CT 06106-5127

Please fill out this form from the beginning each time tiering is conducted. If this is a re-tiering, please include a copy of the last approved Tier Checklist. If the release complies with the cleanup standards, tiering may not be necessary, and closure documentation should be submitted. Refer to the Tiering Checklist Instructions for more information on how to fill out and submit this form properly. The address in the headers will automatically update upon printing (including printing to pdf) or print-previewing.

## Part I: General Information

Placeholder for Site address, contact information, and date of release discovery.

## Part II: Certifications

Placeholder for signatories/certifications.

## Part III: Tier Determination

### Tier 1A. DEEP Oversight

Answer the following questions. Any box checked in the Tier 1A Indicator column at right designates the release as Tier 1A.

1. Does the release qualify as a Significant Existing Release requiring Immediate Action under [ref. TBD]

- ☐ No (Skip to line 2)  
☐ Yes (Proceed to 1a)

1a. Immediate Action requirements have been met

☐ Yes

2. Receptors are known and documented

☐ Yes

3. Release characterization is complete (soil and groundwater)

☐ Yes

#### Tier 1A Indicator

☐ No

☐ No

☐ No

If any boxes in this column are checked, stop here. This release is Tier 1A. Otherwise proceed to Tier 1B determination.



## Tier 1B. LEP Oversight – Receptor Risk

*If any of the Tier 1A indicators above are checked, do not proceed with Tier 1B determination.*

Answer the following questions. Any box checked in the Tier 1B Indicator column at right designates the release as Tier 1B.

		Tier 1B Indicator
1. Groundwater has been impacted by the release.	<input type="checkbox"/> No (Skip to line 2) <input type="checkbox"/> Yes (Proceed to 1a)	
1a. Groundwater plume migrates off of the source parcel.	<input type="checkbox"/> No (skip to line 2) <input type="checkbox"/> Yes (proceed to 1b)	
1b. Off-site groundwater plume exceeds applicable groundwater criteria.	<input type="checkbox"/> No	<input type="checkbox"/> Yes
2. A scoping level ecological risk assessment has been completed.	<input type="checkbox"/> Yes (Proceed to 2a)	<input type="checkbox"/> No
2a. A screening level ecological risk assessment was warranted.	<input type="checkbox"/> No (skip to line 3) <input type="checkbox"/> Yes (proceed to 2b)	
2b. A screening level ecological risk assessment has been completed.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3. Vapor intrusion or groundwater receptor pathways are present.	<input type="checkbox"/> No (skip to line 4) <input type="checkbox"/> Yes (Proceed to 3a & 3b)	
3a. Vapor intrusion pathway is present, and groundwater complies with volatilization criteria provisions [RSR ref. TBD].	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3b. Drinking water pathway is present, and groundwater complies with GWPC provisions [RSR ref. TBD].	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4. A Remedial Action Plan has been prepared.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

If any boxes in this column are checked, stop here. This release is Tier 1B. Otherwise proceed to Tier 2 determination.

## Tier 2. LEP Oversight – Controlled Risk

*If any of the Tier 1A or 1B indicators above are checked, do not proceed with Tier 2 determination.*

Answer the following questions. Any box checked in the Tier 2 Indicator column at right designates the release as Tier 2.

1. All potential receptor pathways have been eliminated or investigations demonstrated that there are no receptor pathways (note: if vapor intrusion or drinking water pathways have not been eliminated, the release must be Tier 1B per question 3 under Tier 1B).	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. A scoping or screening level ecological risk assessment identified the need for a site-specific ecological risk assessment	<input type="checkbox"/> No (Skip to line 3) <input type="checkbox"/> Yes (Proceed to 2a)	
2a. A site-specific ecological risk assessment has been completed	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3. Soil remediation is/was required.	<input type="checkbox"/> No (Skip to line 4) <input type="checkbox"/> Yes (Proceed to 3a)	
3a. Soil impacted by the release complies with the soil standards (including recording necessary EURs).	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4. Groundwater complies with the groundwater standards (including completion of any applicable groundwater compliance monitoring).	<input type="checkbox"/> Yes * <input type="checkbox"/> No (Proceed to 4a)	
4a. The only groundwater remediation remaining is MNA. Information required by [ref. TBD] has been submitted.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

If any boxes in this column are checked, stop here. This release is Tier 2. Otherwise proceed to Tier 3 determination.

\*If the release complies with the cleanup standards, tiering may not be necessary.

### Tier 3. Monitoring Oversight

*If any of the Tier 1A, 1B, or 2 indicators above are checked, do not proceed with Tier 3 determination.*

Answer the following questions. Any box checked in the Tier 3 Indicator column at right designates the release as Tier 3.

MNA is being conducted in accordance with [ref. TBD]

☐ No \*

**Tier 3  
Indicator**

☐ Yes

If any boxes in this column are checked, this release is Tier 3.

\*If the release complies with the cleanup standards, tiering may not be necessary.

## Part IV: Attachments

Check all that apply and attach appropriate documentation to this form:

☐ Attachment A – Previous Tier Checklist (if this is a re-tiering)

☐ Attachment B – Supporting Documentation [citation to regs. for required documentation TBD]

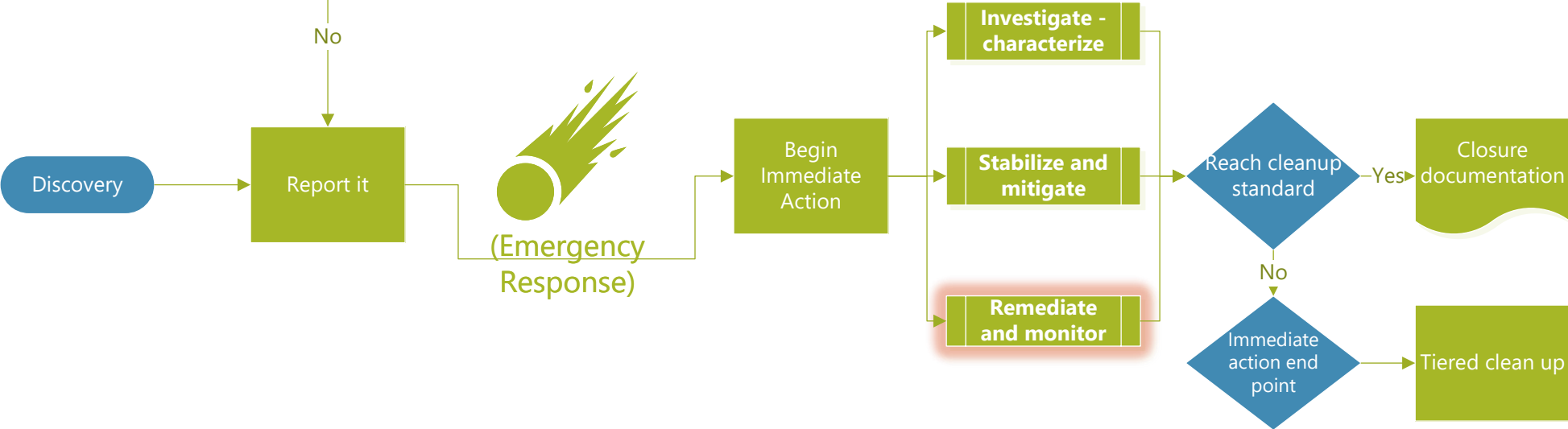
# Release-Based Cleanup

## Roadmap to the first year after discovery

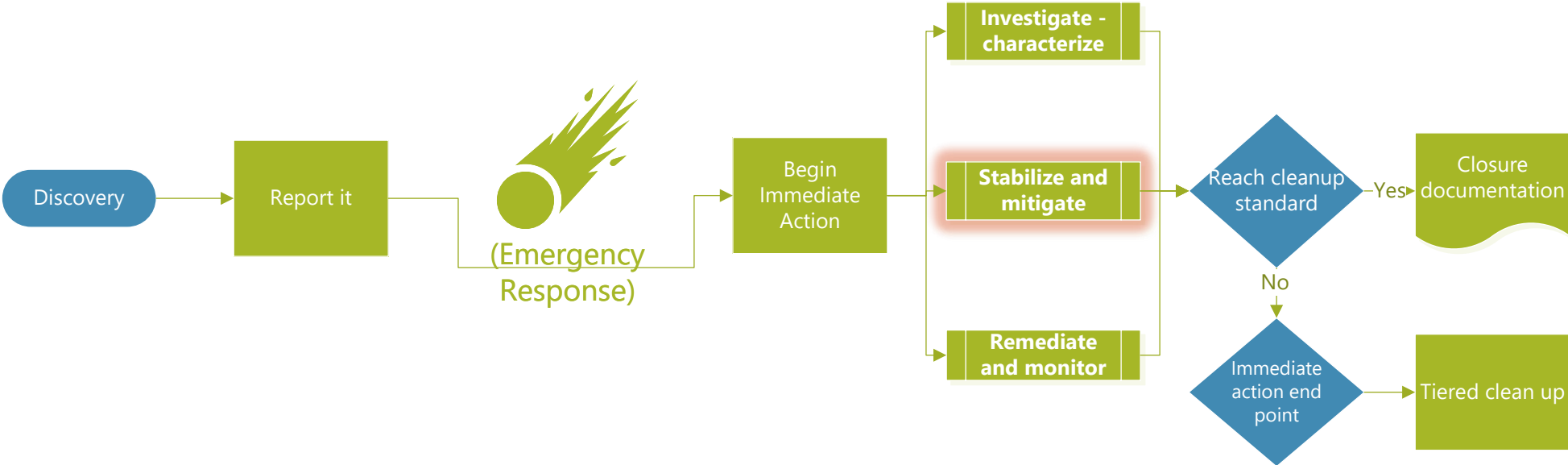
New Release  
Not Reportable



New Release  
Reportable



Historical  
SEH-like



Historical  
Others



Flowchart shapes

