October 21, 2021

The Drafting Team was charged by the Release-Based Working Group (Working Group) to provide an overall recommendation on the framework of the State's new Release-Based Remediation Program for Historical Releases that will also be utilized for the framework for remediation of Contemporaneous Releases. The following white paper was developed for the review and endorsement of the Working Group prior to submission to the Connecticut Department of Energy and Environmental Protection (DEEP) for drafting of a commensurate Statutory, Regulatory and implementation framework.

The Drafting Team consists of:

- Eric Boswell, LEP Stantec
- Pamela Elkow, Esq. Carmody Torrance Sandak & Hennessey LLP
- Adam Fox, P.E. Connecticut Department of Transportation
- Samuel Haydock, LEP BL Companies
- Emilee Scott, Esq. Robinson + Cole

The Drafting Team reviewed the five Subcommittee Concept Papers as well as a recent (October 12, 2021) white paper prepared by the "Transition Team" to identify:

- Where there are consensus recommendations
- Open Issues that need to be addressed by the overall Working Group
- Issues that require other Statutory/Regulatory Changes

Background

The Working Group convened five subcommittees and assigned each committee a series of questions (summarized and paraphrased below) to consider within a topical area: ^[1]

1) Discovery of a historical release: What constitutes a historical release? When has such a release been "discovered?" How should discovery be handled in the context of prospective purchaser due diligence?

2) Reporting of a historical release: What is the threshold for requiring reporting of a historical release? Is this threshold quantitative, qualitative, or both? Within what time frame after discovery should a report be required? If reporting is required, what information should be reported?

3) Characterization: Should the regulations prescribe a method or methods that must be used to characterize the nature and extent of such release and its impact upon human health and the environment before undertaking clean-up? Should there be a process for approving a method of characterization selected by a Licensed Environmental Professional (LEP), including standards to validate such a method?

4) Immediate Removal Actions: For what types of releases should immediate action be required? For what types of releases should immediate action be an option and what incentives to undertake such action should be provided?

^[1] The list of questions is illustrative rather than complete. The full list of questions is available at: <u>https://portal.ct.gov/DEEP/Remediation--Site-Clean-Up/Comprehensive-Evaluation-and-Transformation/Release-Based-Cleanup-Program-Topical-Subcommittees</u>.

October 21, 2021

5) Tiers: Which factors will impact the tier to which a release should be assigned (e.g., risks to public health and the environment, impact to groundwater and other natural resources, and degree of removal of pollution)? Will placement in certain tiers require remediation to be completed more quickly?

Overview of Release-Based Remediation Program

While areas of ambiguity remain, when read as a whole the five subcommittee papers present a fairly coherent path from discovery of a release to its eventual closure of a release. Assuming the key assumptions of each subcommittee are accurate, and the key recommendations of each subcommittee are implemented, the release-based program will take shape as outlined below.

Discovery of a Historical Release

There are a variety of fact patterns that might cause constituents of concern to be identified in environmental media, including but not limited to pre-acquisition due diligence, characterization of a contemporaneous release, or construction-related excavation. Under certain circumstances discussed in more detail in the Discovery Concept Paper, the presence of certain constituents in environmental media will lead to a conclusion that a release occurred at some time in the past (i.e., a historical release has been discovered). However, the identification of constituents of concern in the environment will not always mean that a "release" has been discovered. For example, by statute "application of fertilizer or pesticides consistent with their labeling" does not constitute a release.^[2] The Discovery Subcommittee also noted that naturally-occurring constituents are by their very nature not a release. The Discovery Subcommittee noted that absent actual laboratory data confirming the presence of certain constituents, there may be other, multiple lines of evidence that would lead one to conclude that a historical release had in fact occurred. This concept was much more difficult to define but was captured in the concept of "constructive knowledge" of a historical release.

Reporting of a Historical Release

Once a historical "release" has been "discovered," depending on the level of risk presented by the release there may be an obligation to report such release, which was discussed in detail by the Reporting Subcommittee.^[3] Furthermore, and also depending on the level of risk presented by the release, different release reporting deadlines might apply. The Reporting Subcommittee suggested the two-hour, 72-hour and 120-day reporting structure used by Massachusetts as a potential model. ^[4] Since the Significant Environmental Hazard (SEH) statute has its own set of reporting triggers, work will be needed to integrate the two programs (or statutory change will be needed to consolidate the two programs, which appeared to be the preferred approach of the subcommittees who discussed this issue).

Some historical releases may not require remediation at all, because they do not pose a risk to human health or the environment. In addition, those releases that trigger an obligation to report would not necessarily trigger an obligation to remediate by the person who reported it. For example, downgradient property owners might be required to report the presence of contamination in groundwater, but the

^[2] Conn. Gen. Stat. § 22a-134pp(6).

^[3] The Reporting Subcommittee did not consider reporting requirements for contemporaneous releases, which will be handled through the regulations being developed pursuant to DEEP's authority under Conn. Gen. Stat. § 22a-450.

^[4] Reporting Concept Paper, at 2.

October 21, 2021

responsibility to remediate would rest with the upgradient source. Conversely, releases that trigger an obligation to remediate would not necessarily trigger an obligation to report, as when releases are fully remediated before the reporting deadline (discussed further below). Some types of releases, such as historical fill, might meet the definition of a "release" but might justify special treatment based on the risk profile and widespread nature. The issue of how historical fill is handled and whether or not it should be considered a release at all has been further addressed by the Ad Hoc Committee of Historical Fill and Anthropogenic Background.

Characterization

Once a historical release is discovered, or a contemporaneous release has occurred, the release will need to be characterized, i.e. the nature and extent of the release will need to be evaluated. The characterization concepts discussed by the Characterization Subcommittee will apply to both historical and contemporaneous releases, a circumstance that perhaps suggests that the two programs should be combined at some point. The Conceptual Site Model framework is already well-understood by environmental professionals in Connecticut, so the Characterization Subcommittee suggested that it be used going forward. As the Characterization Subcommittee emphasized, however, the word "site" should now be "understood to mean 'the area where contamination associated with a release has come to be located,' rather than a parcel of real estate defined by a legal description or an assessor's designation." ^[5]

As the Characterization Subcommittee noted, characterization will be an iterative process. For example, when constituents of concern are detected in environmental media, some level of characterization is likely required to ascertain whether a historical release has occurred or whether some exemption (e.g., application of pesticides) applies. Further characterization might be required to identify the applicable reporting deadline, if any. Yet more characterization might be required as remediation is planned and implemented, including confirmatory sampling at the end of the process to document that active remediation is complete. The Characterization Subcommittee emphasized the need to develop guidance regarding characterization together with the draft regulations, not after the regulations are drafted.

Immediate Removal Actions

Some releases will present a risk level so significant that immediate action is necessary to protect human health and/or the environment. Such releases might include, for example, releases that present an explosive or toxic vapor hazard, releases that present a material threat to identified sensitive receptors, and releases that would be considered "significant environmental hazards" as the term is used in Conn. Gen. Stat. 22a-6u. ^[6] In these situations, an immediate response action or "IRA" would be mandated by the new regulations. In other situations, it might be possible to remediate a release quickly (for example, through soil excavation for a release that has not impacted groundwater). The IRA Subcommittee addressed both "mandated" and "non-mandated" IRAs.

The timing of an IRA will influence the timing and applicability of other aspects of the release-based program. For example, similar to the Massachusetts Contingency Plan, reporting to DEEP might not be required if the release is remediated and closed before the applicable reporting deadline. If a release is remediated and closed before the one-year tier classification deadline (see below) then tier classification

^[5] Characterization Concept Paper, at 12.

^[6] IRA Concept Paper, at 7.

October 21, 2021

would not be required. If a release is not closed out within one year, then it would be subject to long-term oversight in accordance with the tier to which it is assigned.

Tiers

For releases that are not closed within a set time after occurrence or discovery (for discussion assume one year, though it could be longer or shorter), long-term management and oversight will vary depending on the risk-based tier to which the release is assigned. The releases that present the highest risk profile (for example, because of impacts to drinking water) would be assigned to Tier 1 and would be managed by DEEP or an LEP. If the Tier 1 thresholds are not met, the default Tier 2 would be assigned, and the release would be managed by an LEP similar to most remediation projects today. When active remediation has been concluded or is not necessary, but the release cannot yet be closed out (for example, because of monitored natural attenuation of groundwater or the need to record an environmental use restriction) then the release could be assigned to the lowest-risk Tier 3. To the extent a release is closed using a mechanism that carries long-term obligations (for example, an engineered control or environmental use restriction) the long-term obligations would control, and the release would exit the tier framework.

Transition Group

In addition, the Transition Group was formed to identify voids or gaps regarding transition to a Release-Based program from and integration with existing programs, including the statutes and regulations relating to these programs. The Transition Group's primary goal was to identify the potential impacts the new release-based remediation program and regulations on the existing CT DEEP programs and make suggestions on how to properly and practically integrate them to: (i) minimize uncertainty and provide clarity when and/or where overlap of programs may exist; (ii) support consistency and predictability; and (iii) provide clear guidelines to achieve finality and closure with no unintended consequences.

Ad-Hoc Committees

The Working Group formed two Ad Hoc Committees: 1) Historical Fill and Anthropogenic Background, and 2) Residential Properties, which have submitted separate white papers.

The conclusion of that Historical Fill and Anthropogenic Background white paper is that it may be best to amend the statute and/or regulations to exclude historical fill from the definition of "release." Alternatively, the presence of historical fill could be exempt from the various requirements of the released-based reporting program, such as reporting, characterization or tiering, while retaining simply an obligation to "make safe" the location of the historical fil. There was agreement that historical fill and anthropogenic background should be treated differently and should not adversely impact or complicate the process of investigating and remediating discreet releases (contemporaneous or historical).

The white paper for Residential Properties offered five recommendations, which are summarized below:

- 1. The health and safety standards should not be lessened to ease the burden of homeowner given the sensitivity and risk associated with residential land use.
- 2. Releases prevention efforts should be incorporated for USTs and ASTs through homeowner education, scheduled inspection, financial incentives/assistance for UST removals.
- 3. Lessen the burden to homeowners who experience a spill by providing homeowner education for response, financial assistance for cleanup, and lowering the administrative burden through

October 21, 2021

streamlined reporting and increasing the reporting quantity of fuel oil release where an imminent risk to human health or the environment is not present.

- 4. Reportable quantities for releases other than fuel oil should not be changed but the administrative should be streamlined.
- 5. An innocent landowner/downgradient owner protection from remediating a release caused by others and originating on a separate property should be considered with a streamlined means of applying the protection.

The Drafting Team took the concept papers and associated flow-charts and developed a Comprehensive Flow Chart (See Appendix A) that tied together each of the individual steps into a conceptual framework for the identification, reporting, characterization, and remediation of contemporaneous and historical releases. The Drafting Team also developed a matrix to synthesize the individual concept papers (See Appendix B) to assist in the identification of (1) areas of agreement, (2) potential conflicts, (3) gaps in the overall process, and (4) additional questions for DEEP. The analysis resulted in the identification of the following:

- 1) Agreements
 - a. Not all releases will need to be remediated and/or reported.
 - b. Statutory/Regulatory Framework needs to be consistent across all programs. This will require reconciliation of the differences between programs.
 - c. Resource constraints across DEEP and LEP universe having DEEP and/or LEPs involved in too many releases will break the program – But if not DEEP or LEPs who? We do not have consensus on this yet – there is not consensus, perhaps PGs, PEs, CHMMs could be used for Tier 2 releases where groundwater is not impacted or threatened and/or Tier 3.
 - d. DEEP needs to properly/functionally delegate authority to LEPs
 - e. There should be a recognition that this process is complicated and that the drafting of the regulation should be an iterative process and coincidental with development of guidance documents & associated forms.
 - i. More than one public comment period is needed so that subsequent drafts after initial public comment also receive public input and review
 - ii. The shift in approach is so disparate from the existing transfer-based process that it will require continuous evolvement; accomplished by a statutorily required annual review process.
 - f. The Site Characterization Guidance Document will need to be updated so that it can be Standard of Care for both Release-Based and Transfer Act compliance.
 - g. There needs to be consistent and clear integration between the proposed Release-Based program for Historical Releases and the contemporaneous Release Reporting Regulations (RCSA 22a-450-1 to 22a-450-6).
 - h. Every group relied heavily on the framework of the Massachusetts Contingency Plan as the basis of what a Release-Based program should look like.
- 2) Potential Conflicts
 - a. Do we need a new tier of environmental professional to accommodate the universe of releases? Should other existing qualifications and experience be recognized as suitable?

October 21, 2021

Penalties, errors & omissions insurance requirements should be considered as part of the final recommendation.

- b. Who has an obligation to report. The findings of the Reporting and Discovery Subcommittees do not line up on who is required to report.
- 3) Gaps in Process
 - a. What to do with releases we want reported, but for which the maintainer is not responsible (e.g., downgradient property owners, or widespread historical fill)
 - b. How to capture the "creator" of a historical release/ Certifying Party can transfer responsibility
 - c. Is there a private right of action under the authorizing Statute?
 - d. What is the required Closure Documentation?
 - e. Standards for reporting criteria for each media and receptor.
 - i. Transition Group recommends maintaining the RSRs for closure for consistency with the Transfer Act properties
 - ii. What are the standards that will be utilized for reporting criteria?
 - iii. What standards will be utilized for closure of releases under the new program and how will Risk Assessment factor into the process
 - f. Process for Special Exemptions
 - g. How will naturally-occurring hazardous conditions be handled?
- 4) Questions for DEEP
 - a. What is the level of Tiers that the DEEP would be able to administer with its future staffing upon program implementation?
 - b. What can DEEP do to make processes simpler and less burdensome as the universe of sites that will be subject to this new program will necessitate a streamlined program.
 - c. What is DEEP going to do to change the regulatory framework that allows for more beneficial reuse of materials that will be required to be removed from a larger universe of properties in the State.
 - d. Will DEEP allow the use of Alternative options and compliance mechanisms identified under the Release-Based Remediation program under properties subject to the Transfer Act?

Conclusion

Overall, there was generally consensus between each of the subcommittees that resulted in processes that, when integrated, will form a coherent and logical overall approach to a Release-Based Remediation Program for the identification, reporting, characterization, and remediation of contemporaneous and historical releases. The integration of the five subcommittee topics form a framework of the pathway to move from discovery to closure (regulatory compliance) of a release (contemporaneous or historical). However, there is still much work to do in order to fully develop all of the components, details, standards, and guidance for such a program that will meet the goals of the Working Group to transform Connecticut's cleanup framework to:

• Align with 48 other states' programs to keep Connecticut's economic vitality

October 21, 2021

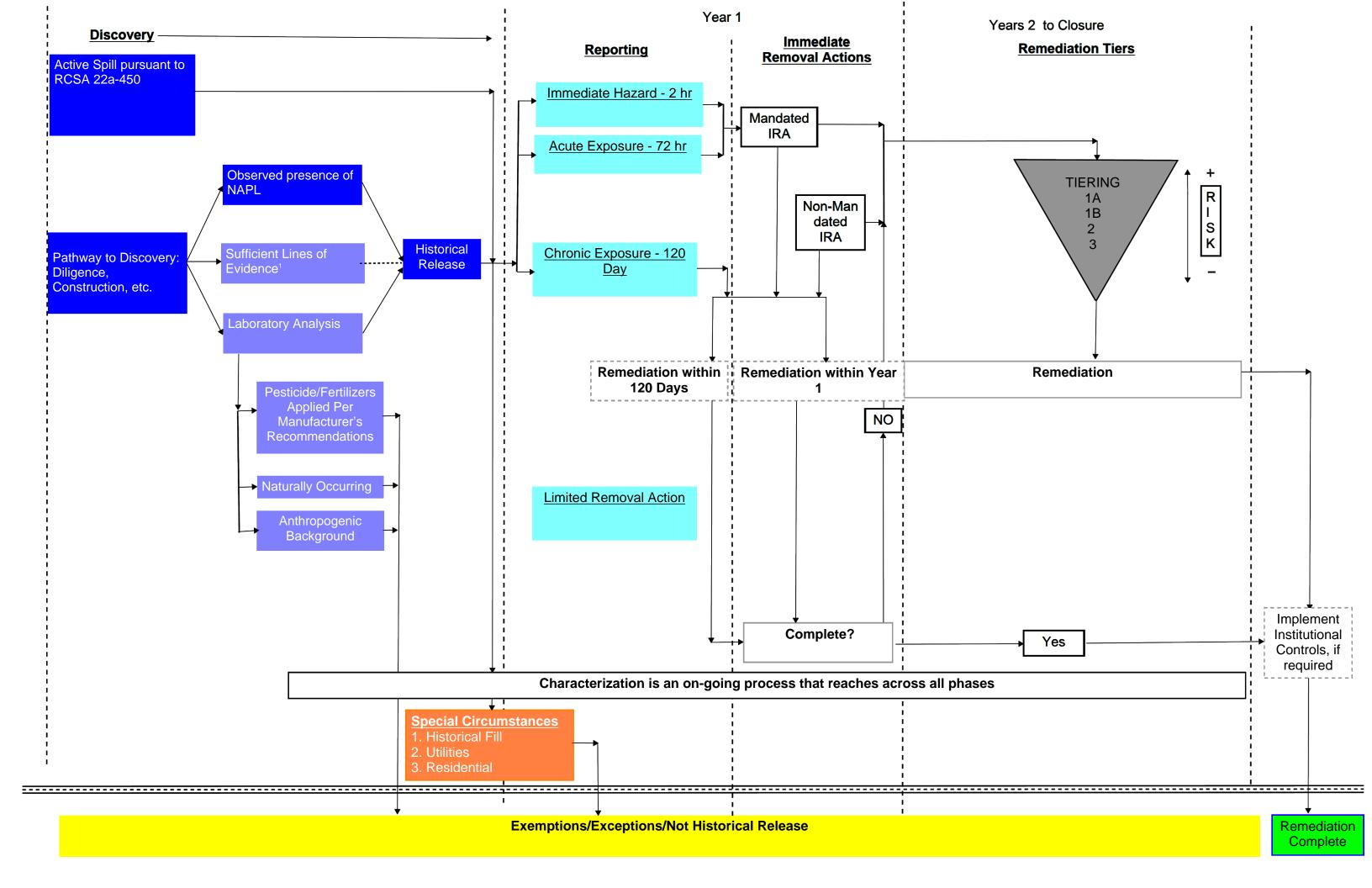
- Maintain environmental protections, and
- Ensure practicality for property owners and practitioners.

In addition, as identified by the Transition Team, modifications to and/or elimination of existing statutes and regulations must be part of the process of developing the new Release-Based Remediation Program

The process of assimilating of the individual concept papers further emphasized that the subcommittee chairs for each of the Phase 1 Subcommittees should be available to consult and/or reconvene committees when there are issues that need to be resolved or prior to and during regulation development/review to ensure there are no unintended consequences during the process.

Appendix A

Comprehensive Flow Chart



Appendix B

Drafting Team

	Discovery of Historical Releases	Reporting Newly-Discovered Historical Releases	Characterization of a Discovered Release	Immediate Removal Actions	Tiers
Key Assumptions	 PA 20-9 contains the definition of a "release" Not all historical releases or anthropogenic background conditions will be reportable and/or require remediation Residential properties will be treated differently Historical releases may be exempt from Released-Based program but may have other regulatory obligations Historical fill that meets the definition of "Clean Fill" means (1) natural soil (2) rock, brick, ceramics, concrete, and asphalt paving fragments which are virtually inert and pose neither a pollution threat to ground or surface waters nor a fire hazard and is not a release or an historical release. 	 A "release" as defined under PA 20-9 has been identified The person (creator or maintainer) who may have an obligation to report has been identified and has notice of the historical release The person who may be responsible for reporting has at least the essential facts needed to file an initial report (analytical or other quantitative/qualitative information) and proximity to sensitive receptors. 	 Any release or spill must be characterized using Conceptual "Spill" Model (CSM) process Site Characterization Guidance Document sets the expectations on how the CSM is applied Characterization is needed to determine level of reporting, tiering and remediation Some level of characterization may be required before identification as discovered Exemption applies Representative of Background/Naturally Occurring Background From a different release Level/extent of characterization is commensurate with level of risk If a release is reportable, characterization should be required 	 IRA team assumes that some releases subject to non-mandated IRAs may not need to be reported. There has been some contemporaneous release or a new discovery of a historic release. Immediate Removal Actions apply to both Historic and Contemporary Releases The Massachusetts Contingency Plan was used as a model to guide IRA team discussions. 	 That reportable quantities and/or reportable concentrations will be developed to identify reportable releases Not all discovered releases will require reporting No COC's over regulatory levels Release has been sufficiently addressed before the corresponding reporting deadline Characterization and remediation can begin without reporting or tier classification
Recommendations	 Update the Statutory Definition of Release Establish new regulatory definitions for: Discovery Historical Release Naturally Occurring Substance Anthropogenic Background Establish comparison screening levels for: Naturally Occurring Substance Anthropogenic Background Develop exemptions/processes for handling Special Circumstances Historical Fill Residential Utilities 	 Use the MCP as a framework 2 hours 72 hours 120 days Some Newly Discovered Historical Releases will never be reported Qualitative (e.g., imminent threat to human health) and Quantitative (actual criteria, based on circumstances) reporting criteria Releases can be and are remediated in a timely manner should not require reporting (assuming no imminent threat) Some releases will be significant enough that they require reporting, even if the creator/maintainer doesn't report – akin to SEH, and perhaps in lieu of SEH Allow for withdrawal of report if new information confirms release was not reportable Reporting of PFAS should be evaluated "as the understanding and science evolves." 	 Establish Naturally Occurring Background concentrations in soils & groundwater for metals Establish ranges for anthropogenic background concentrations Exemptions where characterization is not required or limited to demonstration of exemption: Pesticides applied pursuant to manufacturer's recommendations Releases reported to DEEP and acknowledged as complete Incidental releases due to normal operation of motor vehicles Normal paving and maintenance of a consolidated bituminous concrete surface Trihalomethanes or any other substance within drinking water released from a public water supply distribution system Six exemptions from the MCP 	 Mandated IRAs - Similar to MA "Immediate Removal Actions" reportable releases that exceed a specified quantity of regulated material; releases that "present a material threat to identified sensitive receptors;" significant environmental hazards; releases that present an explosive or toxic vapor hazard. Non-Mandated IRAs Voluntary action to totally address small problems before Tier Classification deadline (similar to MA "Limited Removal Actions") or reduce magnitude of larger problem before or after Tier Classification (similar to MA "Release Abatement Measure"). Releases that do not trigger an IRA threshold may voluntarily undertake a non-mandated IRA. 	 Develop a set of reportable quantities and/or reportable concentrations that identify if there is the presence of a historical release Develop regulatory framework for tiering procedures that: reflects the significance of releases and level of oversight required Tier 1 – Highest Risk Tier 2 – Lower Risk aligns with the Newly-Discovered Spill Reporting Requirements. To exit the program a Verification by a LEP will be submittal only or approval by DEEP Recommended timeframes for closure

Drafting Team

	Discovery of Historical Releases	Reporting Newly-Discovered Historical Releases	Characterization of a Discovered Release	Immediate Removal Actions	Tiers
Open Items / Regulatory Reconciliation	 Clarification of "who" discovers a historical release is required for the following Creator/maintainer Investigator LEP regulations will require revision to so as not to discourage due diligence using LEPs SCGD and RSR will require revisions, replacement or amendment Reconciliation of recommended definitions and other statutes, regulations, and guidance documents 			 There are 16 existing and proposed programs in Connecticut that would trigger liability or obligation to conduct response actions (e.g., spill reporting, significant environmental hazards, voluntary remediation program, Transfer Act). SEH program needs to be integrated into "Unified Program" that will include PA 20-9 program. LEP regulations may need to be updated to provide closure authority of certain contemporaneous releases. 	 Tiering for additional polluting substances and/or emerging contaminants where there are no numerical standards Timeframe for tier classification did not reach consensus. The majority suggested one year while others indicated a deadline ranging from six months to two years, with an ability to extend the deadline. Tier 1 vs. Tier 1A & Tier 1B Whether lesser risk releases (Tier 3) require LEP Oversight or could be accomplished through a Qualified Environmental Professional, the qualifications of which could not be agreed upon. Whether newly discovered historical releases that contain polluted historic fill/anthropogenic background should be subject to or be treated separately
LEP Responsibilities	 LEP/consultant has no responsibility to report under the statute as currently drafted Noted that some historical releases may "bad enough" that reporting by the LEP/Consultant/person performing due diligence must report Some releases will be significant enough that they require reporting, even if the creator/maintainer doesn't report – akin to SEH, and perhaps in lieu of SEH 		 LEPs would be qualified to perform characterization for all discovered release and any characterization necessary to determine whether a release was discoverable under the Release-Based Cleanup Program or whether detection of a constituent would meet the requirements of an exemption. Specific initial training and continuing education should be required for individuals who are not LEPs who are permitted to perform limited characterization activities, should be held accountable if their actions were not in accordance with regulations or prevailing standards and guidelines. Individuals holding other licenses such as LSPs, LSRPs, PEs, or PGs are not qualified to perform discovered releases 	 IRA team assumes some IRAs will need to be LEP-led (e.g. if there are impacts to groundwater or surface water). Less-significant issues can be handled by a Qualified Environmental Professional (e.g., LEP, spill contractor, CHMM, UST operator) 	Tie LEP oversight to the characterization and remediation for the tiers with the most environmental risk (Tiers 1 and 2)
DEEP Infrastructure		 Information should be publicly available, on a searchable web portal Require GPS coordinates for reports moving forward Uniformity: 	 Need to update Site Characterization Guidance Document to reflect investigation to be release based. 		 DEEP will need to develop an online spill tracking platform that identifies spills with a unique identification number as well as spatially that is searchable by the public. Develop specific reporting forms: For initial reporting

Drafting Team

Discovery of Historical Releases	Reporting Newly-Discovered Historical Releases	Characterization of a Discovered Release	Immediate Removal Actions	Tiers
	 Each release should be assigned a single tracking number, akin to the Release Tracking Number in the MCP. Same tracking number system should be used for new and historical releases. Same forms should be used for both new and historical releases. 			 Release Characterization Form Initial Tiering Form Tier Reclassification Form Status Report Form Status Report Form (Tier 3) Remedial Action Plan/Public Notice Form Verification/Interim Verification Form Exit Form