Report to the Connecticut Department of Energy and Environmental Protection

on

# Evaluation of Connecticut's Cleanup Programs - Current State

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Submitted to Support the Comprehensive Evaluation and Transformation of Connecticut's Cleanup Laws

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# Work Group Membership

See Appendix A.

# Executive Summary

As part of the "Transformation" effort by the Department of Energy and Environmental Protection ("DEEP" [1]) to improve Connecticut's remedial programs, six work groups were formed. Each group was directed to study specific aspects of the government/private sector interface as relates property remediation and to develop recommendations to reduce community risk, make site cleanup proceed more efficiently and enhance economic development. The following is the report of Workgroup #1.

<u>Workgroup 1: Evaluation of Connecticut's Cleanup Programs - Current State</u>

To properly evaluate the "Current State" of remedial activities within the state, the work group examined various data sets provided by DEEP and from the January 2011 white paper "Comprehensive Evaluation of Connecticut's Site Cleanup Programs" ("White Paper"). Following up on the White Paper, we examined what additional data were available to drive the group's course of study and subsequent recommendations.

In consideration of the scope of the group's examination the group's efforts focused on three areas of study and report.

1. Present Data
2. Jurisdictional Structure
3. Factors Causing Delay and Impediments
    a. Broken down into Administrative, Tools & Programmatic issues

Depending on how one defines "remedial programs" the state operates more than 15 programs each with remedial connections and a unique set of objectives and responsibilities. Select data from each program are presented below in more detail and the group was able to draw some important conclusions about the effectiveness of the various programs both in terms of its standalone function and the way they fit into an overall objective of remedial performance. Equally as important was the realization that each program uses its own measurement "benchmarks" to track remedial progress. Accordingly, available data to determine specific factors that might influence remedial efficiency were unfortunately very limited. The lack of

[1] As of July 1, 2011, the Department of Environmental Protection ("DEP") became the Department of Energy and Environmental Protection ("DEEP").

consistent remedial benchmark measurements between programs ultimately drove one of the group's major recommendations. Fortunately, the work group was able to rely on the tremendous wealth of experience from the stakeholders who were appointed to the work group.

Another important issue was the inability of existing programs to ensure an appropriate level of cleanup of all releases or to track the status of cleanups and the level of risk reduction achieved at specific sites. More specifically,

1. Existing programs do not require that all releases are reported and remediated
2. Many releases that are required to be remediated under existing programs remain unaddressed with responsible parties out of compliance
3. DEEP has no way of evaluating or tracking partial cleanups which may have significantly reduced risk even though full RSR compliance is not yet achieved.

The group also took a preliminary look at the jurisdictional and regulatory requirements of the various programs and considered alternate models whereby their complexity and disjointedness could be reduced or eliminated in favor of a simplified program.

Drawing from the experience of the group, over 20 factors that cause delays and impediments to the remedial progress were identified. The group subsequently organized these factors into Administrative, Tools and/or Programmatic categories.

The group concluded that the existing programs have serious deficiencies and a comprehensive consideration of reform is both timely and appropriate.

Finally the group has provided four core recommendations on how to improve remedial efficiency in the state. These call for:

1. Unified Remediation Program
2. Common Benchmarking Milestones
3. Improved Enforcement
4. Risk Based Standards

Each core recommendation has numerous subordinate recommendations for consideration and also included are a number of additional Programmatic Ideas for process improvement.

Our primary recommendation is that Connecticut consolidate the present set of remedial programs into a unified program that encompasses all the necessary regulatory requirements

but makes systematic process changes to both facilitate and measure remedial performance and risk reduction.

All members of the work group have unanimously endorsed the findings and recommendations contained herein.

# Introduction

## *Evaluation Background*

The cleanup of pollution and redevelopment of Brownfields and other environmentally-degraded properties is critical for Connecticut. The benefits of such cleanups are significant and include protecting human health and the environment from the effects of pollution, creating opportunities for economic development, and aiding in efforts to make our cities, towns and villages more sustainable.

While Connecticut was ground-breaking to initiate strong human health and environmental protections to address pollution, a significant top-to-bottom review of our current cleanup laws and the framework they create has never been conducted. Significant changes, additions, and improvements have been made to the cleanup laws since the late 1960s, but changes have been incremental and selective. This draft workgroup report is part of an on-going Comprehensive Evaluation of the cleanup laws for the State of Connecticut. DEEP intends to use this Comprehensive Evaluation to aid in the transformation of the cleanup laws. A successful transformation of the cleanup laws will create a system of cleaning up contaminated properties that is efficient and effective for the broad array of stakeholders that rely upon the safe reuse of Brownfields and other environmentally-degraded properties.

## *Scope and Deliverable*

The work group was provided with the following scope and deliverable by DEEP:

Scope: Evaluate the current state of the Connecticut cleanup programs. Gather and evaluate information relative to these programs, such as the number of properties that have entered into each program, the rate by which properties enter the programs, the number of properties that have completed the requirements of each program, and determine factors that may influence the length of time to complete investigation and remediation under existing programs.

Deliverable: Present information from this evaluation and discuss factors that may influence the length of time it takes to complete an investigation and a remediation. Suggest potential

mechanisms or programmatic approaches that could increase the speed of investigation and remediation.

DEEP explained that the Workgroup should strive to address the scope and deliverable, and other related topics could be addressed if time permitted. Further, DEEP stressed that all related topics requiring additional evaluation that were related to this scope and deliverable should be documented in this draft report.

### *Subject Matter Background*

Connecticut's cleanup regulations, programs and laws have come into existence and evolved over time. Many statutes have been amended a little at a time, generally independent of other cleanup statutes and regulations. This has led to a "patchwork" of laws, each operating on its own rather than as part of a unified system. The primary desired outcome of a comprehensive evaluation and transformation of Connecticut's cleanup programs is a Healthy Connecticut, along with the other desired outcomes of a healthy economy and job growth, sustainable communities and environmental justice.

## Work Group Meetings and Format

The work group met in 2011 on August 31, September 9, September 15, and September 22. At each work group meeting the leaders led the group in a structured discussion of the problems with the current remediation regime and possible solutions. In general, participants agreed that a particular task needed to be completed, and a person or team volunteered to complete it. Participants circulated draft work product and other thoughts via email between meetings.

## Areas of Evaluation

The areas of evaluation were determined by the work group after consideration of the scope provided. The group remained open to other areas of consideration as the process went forward, but no additional areas of inquiry or focus were further identified. While there are likely other areas of analysis that could yield helpful information, the compressed timeframe of the task required that the work group analysis remain limited to the scope specified.

### *Area 1 - Present Data*

A review of the data available revealed that they are not sufficient to permit a quantitative analysis of specific factors causing impediments and/or delays. Each program (see jurisdiction) maintains a standalone tracking system to monitor remedial benchmarks specific to that program and consequently the measured milestone points are inconsistent. The requirement of Certifying Parties under the Transfer Act to document milestones was established in 2007.

DEEP's ability to track completion of milestones has been in effect since that time, but the relatively small dataset precludes appropriate quantitative analysis at this time.

The data do permit a very simple analysis of sites that enter into a program in any given year and the subsequent rate of completion according to that program's metrics.

For example, consider the "Completion Rates" within the following programs (as reported in the White Paper):

| Program | % complete |
|---|---|
| Transfer Act | 10.50% |
| Superfund | 22.22% |
| Voluntary (CGS § 22a-133x) | 5.77% |
| Voluntary (CGS § 22a-133y) | 14.10% |
| RCRA Corrective Action | 14.29% |

The 10 percent completion rate for the Transfer Act (CGS §22a-134 et seq.) may be somewhat misleading, as it does not account for what may be a large population of sites that have completed all remedial activities <u>except</u> for ongoing groundwater quality monitoring. Although there are in excess of 3700 sites in the Transfer Act program (since 1986), only slightly more than 390 have been confirmed to achieve full compliance with the RSRs. With nearly 260 new sites entering the Transfer Act program each year, the process imbalance is evident. Given the fact that Certifying Parties were not required to document progress until 2007, DEEP is unaware of the status of many sites.

The Significant Environmental Hazards ("SEH") program uses unique benchmarking points that are appropriate for the scope of the program but not comparable to traditional remedial benchmarking points. Of the 770 notifications provided under the SEH program, 196 (25 percent) have achieve "resolved" status, which means that the imminent risk has been abated. An additional 261 sites (34 percent) of sites have reached a "controlled" status, which means that there is no longer an active exposure pathway and risk, although levels of contamination above remedial standards could exist. Therefore, 457 sites (59 percent) have reached some benchmark of completion.

The universe of "spills" is estimated at nearly 8000 new reports each year and a total of nearly 100,000 sites reported. The spills program exists to mitigate immediate risk but has no link to any remedial benchmarking. The present open/closed status for reported releases does not sufficiently account for remedial status and leaves greater uncertainty for DEEP, communities and private sector investors.

In summary the analysis of the available data lead us to conclude there are significant inconsistencies and process problems with remedial triggers, goals, and performance in Connecticut.

## *Area 2 - Jurisdictional Structure*

Attached as Appendix B is a list of Connecticut Statutes that require some aspect of remediation to be performed. This list was taken from the tables in Sections II.A and C of the White Paper. Included in the list are several statutes related to prohibition of disposal/release of pollutants, and CGS § 22a-450 and CGS § 22a-451, related to release reporting, although none of these statutes has any affirmative requirement, per se, to perform remediation. They are included nonetheless because they either establish liability for the pollution, therefore giving the polluter incentive to voluntarily perform remediation, or provide a way for DEEP to identify the existence of pollution.

The remediation statutes listed in Appendix B both overlap and contain gaps regarding a requirement to remediate contamination in Connecticut. For example, a property in Connecticut may be subject to an order of the commissioner, be entered into the Transfer Act, and be subject to RCRA corrective action all at the same time. Conversely, a property that is contaminated may be undergoing no remediation at all, either because it has not come to the attention of DEEP because no statutory trigger mandating remediation has occurred or because there is no obligation of the owner or responsible party to conduct remediation, as in the case of a release reported pursuant to CGS § 22a-450 (Release Reporting).

The review of the statutes related to remediation highlighted differences between how private parties and DEEP perform remediation of property. Specifically, DEEP is required to ensure the short-term provision of safe drinking water to homes and schools where wells have been contaminated by other parties (CGS § 22a-471). Where a private responsible party cannot be identified, or does not have the resources to ensure the provision of potable water, DEEP generally orders the municipality to provide for a long term water supply solution (DEEP does not order towns to clean up contamination, rather just provide water). Such action may involve application for grants administered by the DPH or DEEP, and approval from the State Bond Commission. This indirect route to the funding of long-term water supply solutions, involving multiple jurisdictions and approvals, is likely a cause of inefficiencies and delays. According to DEEP staff, administration of the potable water statute, including interaction with other agencies, municipalities, responsible parties and contamination victims consumes nearly 25 percent of the resources of the Remediation Division, time which could be devoted to other efforts that advance actual remediation of contaminated properties.

The jurisdictional structure of “remedial programs” is reflective of the evolution over time of multiple programs to put in place to assess specific emerging environmental challenges. They evolved separately and have not been revisited to consider overall remedial performance objectives in Connecticut.

## *Area 3 - Factors causing delays & impediments*

The group drew from personal experience and perspectives to develop a master list of specific factors driving delays and impediments. Subsequently the group broke down the list in functional categories.

**Administrative Issues**

- Parties understand that the real risk of enforcement approaches zero.
    - The Transfer Act has limited enforcement provisions.
    - The Office of the Attorney General ("AG") is resource-limited in terms of the number of cases they can pursue.
    - There is difficulty (and high resource demand) in identifying and tracking non-notifiers and recalcitrant certifying parties.
    - Historic Administrative Orders have not been resolved and are still on record, thereby impeding site transfer.
- The relationship between DEEP and Licensed Environmental Professionals ("LEPs") has some elements of dysfunction.
    - Currently, LEP-led projects should not require any input from DEEP unless the LEP proposes an alternative means of demonstrating compliance with the RSRs that is not self-implementing and requires DEEP approval (for example, alternative criteria or dilution factors, engineered controls, and ELURs).
        1. Nonetheless, DEEP staff allocates considerable amounts of time to reviewing and discussing with LEPs requests for alternatives or variances that require the Commissioner's authority.
        2. LEPs and/or their clients manage investment risk that the action proposed by the LEP will fail an audit by seeking DEEP's tacit approval prior to rendering conclusions.
        3. LEPs hesitate to consult supervisory staff at DEEP when they feel they have received an inconsistent decision.
- Some LEPs go "overboard" trying to close data gaps rather than facing the possibility of having DEEP disagree as to what constitutes a significant data gap, thereby reducing cost-efficiency and timeliness
- Lack of timely DEEP response to documents after receipt of verification.

- Subsequent transfers of sites already in the Transfer Act cause numerous problems and areas of confusion (for example, non-performing certifying parties which may not have any relationship to the subsequent owner).
- Certifying Parties are unaware of responsibilities or rely on bad information from representatives when making decisions.
- Delayed responses from some DEEP staff on initial filing of projects and processing requests for Commissioner approval.
- New/Proposed remedial standards were posted on DEEP's webpage on separate occasions, which prompted uncertainty regarding which standards will ultimately apply to a cleanup.

**Issues with Regulatory "Tools" that Cause Delays**

- The Additional Polluting Substances process is confusing and difficult to explain to clients.
- The case-by-case processing of Ecological Risk Assessments is not effective.
- Ongoing groundwater monitoring requirements for minor exceedances.
- The Environmental Land Use Restriction ("ELUR") process is overly complex.
- The verification process is not self-implementing enough. Closure would go faster with more self-implementing steps.
- In some cases, Connecticut's default numeric cleanup standards are not reasonably close to Federal cleanup standards.
- The definition and applicability for "Interim Verification" is not broad enough.
- Existing and somewhat vague and contradictory/inconsistent cleanup requirements and policies with historical urban fill and historical residual agricultural pesticides.
- There is not enough credit given to reaching legitimate and valuable milestones that are short of "Final Verification" (for example, the requirement that sites meet groundwater remediation standards before verifying that the soil remediation standards have been met).
- The need to meet the RSRs at all release areas before verifying any release areas at Transfer Act sites (the recent allowance of partial and interim verifications notwithstanding).
- "Draft, proposed" criteria have been overly conservative and were put in practice without proper regulatory consideration (note: these draft and proposed criteria were removed, and the LEP must request approval to use).
- Some criteria are not risk-based and are difficult to meet (for example, groundwater protection criteria for extractable total petroleum hydrocarbon).

**Programmatic Issues**

- The cost to investigate and remediate contaminated sites is one of the primary impediments to reaching the end point.
    - Pre-remedial (characterization) costs at lightly impacted sites are frequently the same as those at grossly affected sites.
    - Assessment and remedial costs are not always applied in a high value balance.
    - Documentation and reporting is too costly.
- Lack of effort by certifying parties
    - Lack of Resources
    - Unwillingness to dedicate resources
- In some cases, LEPs are not willing to accept risk of self-implementing their decisions without tacit DEEP approval.
- The "Spills" program does not have standardized requirements for completing investigations and/or remediation.
- Some state agencies (for example, DOT and DPW) are inconsistent in following state guidance in their remedial projects, if the remedial project is not conducted pursuant to a formal remedial program. This has led to transactional/redevelopment difficulties for the particular site.

# Recommendations

## *Unified Remediation Program*

There are currently a large number of pathways for sites to become involved in DEEP remedial programs, but very few clear pathways to closure. Our primary recommendation is to integrate the various programs outlined into a release-based unified program, self-implementing in nearly every way by LEPs, and administered in an executive/audit capacity by the DEEP with respect to record keeping and benchmarking. See Appendix C for a conceptual model graphic of the program.

A significant number of resources will be needed to facilitate the implementation of this program given the complexities of underlying statutory requirements and/or funding arrangements.

### *Common Benchmarking Milestones*

All programs should have common benchmarking standards. The "Threshold" or "Benchmark" milestone points of remedial status must embody all of the following:

- be measured and data based with date fields for future forensic process control analysis;
- be consistent between programs;
- be transparent and accessible online; and
- be thoughtful with respect to risk status and market status.

The program must also have compliance mechanism to ensure reporting to DEEP when benchmarks are achieved.

### *Enforcement Must be Improved*

Emphasis should be increased with respect to recalcitrant parties. Increased coordination between DEEP and the AG's office should yield more consistent enforcement that stakeholders can rely upon and will improve the performance of our state's remedial programs. DEEP and the AG's office must develop more time/cost efficient processes for advancing meaningful enforcement actions. Compliance with the statutes and regulations needs to be the norm in environmental law, as it in other areas.

### *Standards Should be Risk Based*

Site remediation should be protective of human health and the environment, and should facilitate the achievement of closure in a timely manner. To balance these goals, DEEP should incorporate risk-based standards into its programs. For example, DEEP should:

- Provide more flexibility with respect to using risk-based criteria developed for a specific site in a self-implementing manner.
- Where the site lends itself to a presumptive remedy, dramatically streamline the investigation process.
- Make pragmatic public policy decisions regarding urban fill, pesticides and broad use of a wide variety of institutional controls.

### *Other Programmatic ideas*

The group arrived at other miscellaneous suggestions:

- Develop specific cost optimization strategies for sites with low uncertainty and risk in order to support a more direct and cost effective path to risk mitigation and a return to productive use.

- Reallocate resources toward the Remediation Division staff and infrastructure (for example, increased training and educational opportunities, increased information technology capabilities and support). If state government is to transform itself in a way that significantly aids the mission of remediating and redeveloping contaminated properties, then DEEP must have the resources.

- Cleanup criteria should be incorporated into revised regulations and vetted through legislatively mandated processes.

- Provide opportunities for LEPs to discuss DEEP staff decisions with supervisors if necessary.

- Increase flexibility in using interim remedial measures and interim verifications, letting property owners, the community and the marketplace know when important remedial goals have been achieved.

- ELURs are too complex – DEEP should consider Uniform Environmental Covenants.

- Post remediation groundwater monitoring for minor soil remediation sites with no groundwater impacts should be simplified and reduced/eliminated for minor releases.

- Expanded use of "self-implementing" tools, such as:

    - Environmental land use restrictions

    - Engineered controls

    - Calculation of alternative criteria and criteria for additional polluting substances

    - Develop a mechanism for self-implementing Ecological Risk Assessments.

- Fees should encourage timely progress

- LEPs should retain the freedom to select the most efficient means for attaining cleanup criteria.

- Streamline the process for Additional Polluting Substances.

# Discussion

The work group evaluating the current state of Connecticut's Cleanup Programs asked the question:

**What should most fundamentally characterize an excellent Connecticut cleanup program (or set of programs)?**

And the work group's unanimous conclusion is this:

**An excellent program or set of programs that addresses pollutant releases in a protective, cost efficient and timely manner, inclusive of recent and historical releases.**

Then the work group set out to evaluate to what degree the current programs meets this objective, what impedes meeting the objective, and what recommended actions would lead to meeting the objective.

The work group concluded that the current patchwork of programs fails to meet the objective because:

1. Most releases are not addressed by any of Connecticut's cleanup statutes or programs (rather, most releases identified by due diligence environmental site investigations), and there are no requirements for investigation or remediation for this universe of releases.
2. A very large number of releases are addressed only with respect to short-term/acute risks (for example, "spills") where the existing program does not have defined requirements for investigation and remediation.
3. A relatively small number of releases are in a program with defined requirements for investigation and remediation (for example, those in the Transfer Act Program, and UST Program), but the program requirements are often not met or are not met in a timely manner for a variety of reasons discussed further in this report.

Accordingly, the work group's overall recommendations can be summarized as follows:

1. Ensure that all releases are appropriately addressed by cleanup statutes and/or regulations;
2. As outlined in the recommendations, revise the existing structure of remedial programs to facilitate completing investigations and remediation in such manner that quality, consistency, throughput, recordkeeping and public disclosure are greatly increased.

# Appendices

Appendix A – Work Group Roster

Appendix B – List of Remediation Statutes

Appendix C – Uni-Program Conceptual Diagram

# Appendix A – Work Group Roster

Co-leads are shown in bold italics.

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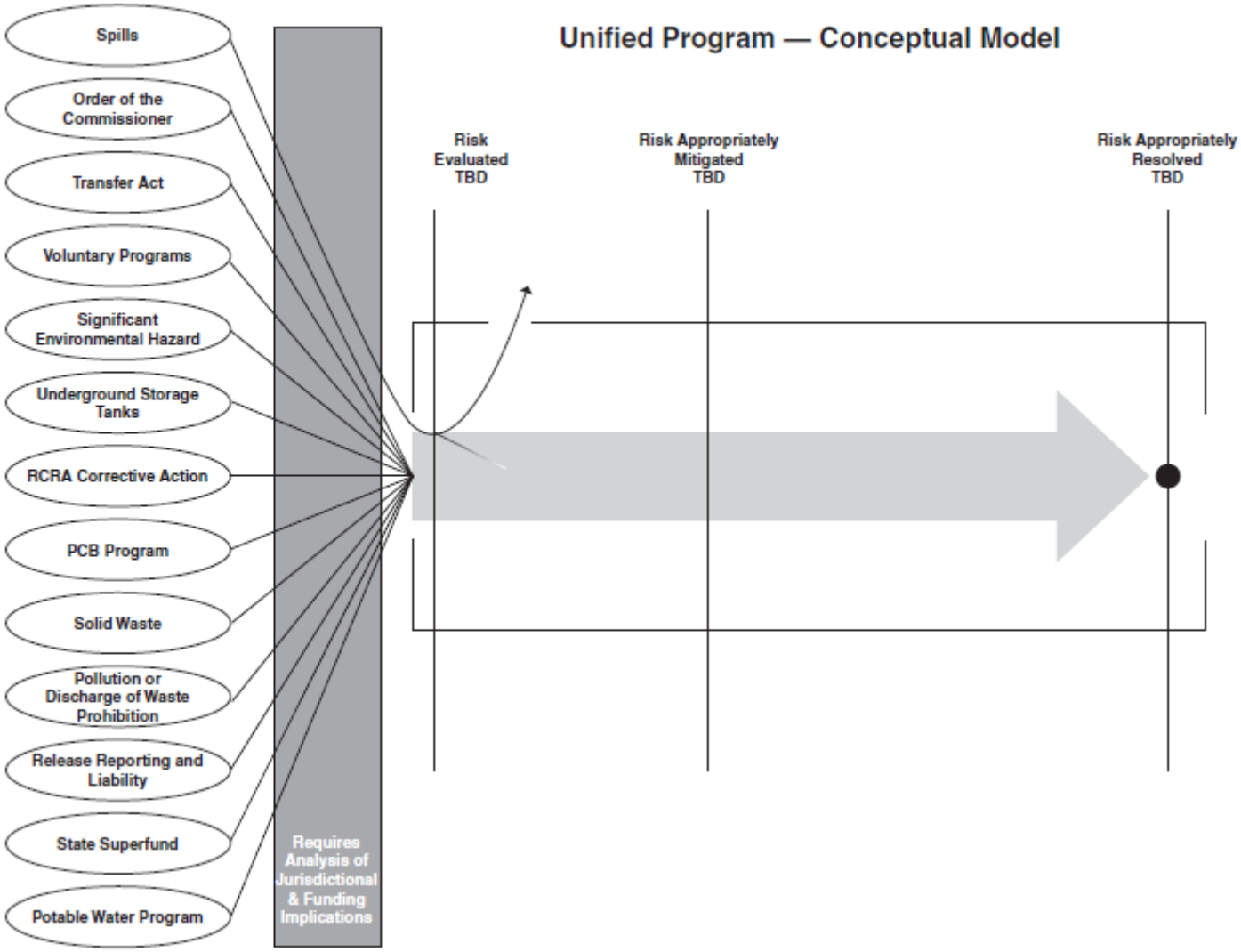
# Appendix B – List of Remediation Statutes

| LIST OF REGULATIONS GOVERNING REMEDIATION IN CONNECTICUT | | |
|---|---|---|
| Authority | Statutory Reference | Date |
| Order of the Commissioner | Multiple | Varies |
| Transfer Act | 22a-134 | 1985 |
| Voluntary Programs | 22a-133x and 133y | 1995 |
| Significant Environmental Hazard | 22a-6u | 1998 |
| Underground Storage Tanks | 22a-449(d) – (h) | 1983 |
| RCRA Corrective Action | 22a-449(c) | 2002 |
| PCB Program[1] | 22a-463 – 469a | 1976 |
| Solid Waste[1] | 22a-209 | 1971 |
| Pollution or Discharge of Waste Prohibition[1] | 22a-427 | 1967 |
| Release Reporting and Liability[1] | 22a-450 and 451 | 1969 |
| State Superfund[2] | 22a-133e | 1987 |
| Potable Water Program[2] | 22a-471 | 1982 |
| [1]These statutes do not have any affirmative obligation, per se, for an owner or responsible party to perform remediation, although they do provide for incentive to do so because of the establishment of liability for the pollution.<br>[2]Programs wherein DEEP performs response actions (as opposed to a private party). | | |

# Appendix C – Uni-Program Conceptual Diagram