



## **Comprehensive Evaluation of Connecticut's Site Cleanup Programs**

**January 2011**

### **I. Introduction**

The Department of Environmental Protection (DEP) is committed to ensuring that Connecticut's site cleanup and Brownfield programs are achieving the results intended by the underlying laws. DEP believes the time has come to take a comprehensive look at the state's environmental site cleanup programs, particularly as they relate to underutilized sites that typically have been subject to multiple releases over time – commonly referred to as Brownfields.

The cleanup or remediation of contaminated sites is critical to the protection of human health and the environment. Remediation is also necessary for the reuse of previously degraded and currently underused properties. Reuse helps achieve several other environmental co-benefits, such as promoting smart growth, encouraging transit oriented development, and making better use of existing infrastructure. In the last twenty-five years, a strong foundation for the remediation of these sites has been laid. That foundation includes spill reporting and response laws that first appeared in 1969, passage of the Property Transfer Act in 1985, adoption of the Remediation Standards Regulations in 1996, the licensing of the first Licensed Environmental Professionals (LEPs) in 1997, creation of the Voluntary Remediation programs in 1995, and ongoing development of guidance documents with the cooperation and input of the regulated community.

The cleanup of contaminated sites is largely driven by state law. Some states, such as Connecticut, have a multitude of different laws that apply to discrete situations. Other states have or are moving to a single cleanup program. The primary federal site cleanup program known as Superfund deals with only the most contaminated sites, and there are a relatively small number of federal Superfund sites in each state, for example Connecticut has 14.

This document provides a baseline of information on Connecticut's site cleanup programs. The information is designed to assist in an evaluation of the extent to which intended results are being achieved, identify opportunities for improvement and efficiencies, and evaluate the potential of any changes to the site cleanup programs. The DEP hopes the evaluation will lead to greater success in the remediation of contaminated sites.

### **II. Current Cleanup Construct**

#### **A. Statutory Programs**

In Connecticut, if a company knows it has had a past release of a hazardous substance, it may not be clear at times what the cleanup "finish line" is or within what timeframe cleanup must be finished. One or more of fourteen different laws might apply depending on the specific facts of the matter. Generally, the laws have different procedures for action and different timeframes and finish lines, if any.

Below is a list of laws that govern releases and pollution in Connecticut, and the year the original law was first adopted:

<b>Authority</b>	<b>Statutory Reference</b>	<b>Date</b>
Pollution or discharge of waste prohibition	CGS 22a-427	1967
Commissioner's authority to issue an order to require person to correct potential source of pollution	CGS 22a-432	1967
Commissioner's authority to issue Orders to a landowner, or municipality	CGS 22a-433 and 428, respectively	1967
Release Reporting	CGS 22a-450	1969
Release Response	CGS 22a-451	1969
Commissioner's authority to respond to and mitigate spills and releases	CGS 22a-449(a)	1969
PCB program	CGS 22a-463 – 469a	1976
Potable Water Program - DEP authorized to provide short-term water to residents/schools if they are served by a contaminated private well, to investigate for the source of such contamination, and to issue orders to either the responsible party (or if such party not known, to municipality) to supply safe drinking water.	CGS 22a-471	1982
Commissioner's authority to issue order to abate pollution	CGS 22a-430(d)	1982
Underground Storage Tanks	CGS 22a-449(d)-(h), RCSA 22a-449d-106	1983
Property Transfer Act - If and when certain properties defined as "establishments" are transferred, they must be investigated by a party to the transfer and then remediated.	CGS 22a-134	1985
State Superfund	22a-133e	1987
Voluntary Remediation Programs	CGS 22a-133x and -133y	1995
Significant Environmental Hazard Notification	CGS 22a-6u	1998
Resource Conservation and Recovery Act (42 U.S.C. §6901 et seq.; "RCRA") Corrective Action regulations	RCSA 22a-449(c)-105(h)	2002

## **B. Tools**

In addition to the laws identified above, the following tools facilitate remediation of contaminated sites in Connecticut.

1. Environmental Land Use Restrictions (ELURs) (CGS 22a-133n through -133s), enacted in 1994. An ELUR is a deed restriction, given by a property owner to the Commissioner, which runs with the land. It allows contaminants to remain on a property as long as activities on the property are limited to prevent unacceptable exposures to the contamination. The deed restriction "locks in" the assumption about future activities – for example, no residential use.
2. Remediation Standard Regulations (RSRs) (RCSA 22a-133k-1 through -3), adopted in 1996. These regulations provide a common endpoint for cleanups of some sites, but do not apply to all releases and contaminated sites. RSRs also contain alternatives to the standards, some of which are self-implementing and others that require DEP approval. Some alternatives are widely used at brownfield sites, such as Engineered Controls and ELURs.

3. Licensed Environmental Professionals (LEPs) (CGS 22a-133v), established by statute in 1995. Licensed by the Board of Examiners of Environmental Professionals, LEPs are authorized to oversee the investigation and cleanup of sites under the Transfer Act, Voluntary Programs and RCRA Corrective Action, if oversight is delegated by DEP. Working with an LEP allows responsible parties to proceed at a faster pace than the traditional process of submitting reports for DEP review and approval. DEP retains authority to audit the cleanup work. The LEP program also frees up DEP's limited resources to focus on higher priorities.
4. Guidance Documents. The DEP has issued a series of guidance documents to help LEPs and parties conducting cleanup work. Guidance documents provide transparency, and identify a standard of care that DEP has found acceptable over time. Such standardization and transparency provides efficiency and certainty for regulated parties and DEP, while still allowing other "custom" site-specific approaches to meet requirements. Guidance is usually drafted by a committee of DEP staff and other technical professionals, such as LEPs.
5. RCRA Corrective Action delegation from US EPA to DEP, starting in 2004. Delegation allows DEP to administer the federal program and applies to cleanup of releases at certain sites regulated by RCRA. Regulations to administer the program are adopted at RCRA 22a-449c-105(h).
6. State financial incentives and assistance:
  - a. Administered by DECD's Office of Brownfield Remediation & Development in cooperation with DEP:
    - i. Urban Sites Remedial Action Program
    - ii. Special Contaminated Property Remediation & Insurance Fund
    - iii. Dry Cleaning Establishment Remediation Fund
    - iv. US EPA Revolving Loan Funds awarded to DECD - Hartford & Statewide
    - v. US EPA Site Assessment Program awarded to DECD
    - vi. Regional Brownfield Redevelopment Loan Fund
    - vii. Municipal Brownfield Pilots
  - b. Administered by DEP and a Review Board: UST Petroleum Cleanup Account (CGS 22a-449a through -449i, and 22a-449p), has been involved with the remediation of approximately 1,400 commercial tank sites, and 4,500 residential tank sites since 1992. Reimburses costs of investigation and cleanup.
7. Liability incentives. Prominent examples include:
  - a. Municipal Liability Relief:
    - i. Transfer Act exemptions for Municipalities
    - ii. Remediation Grants from DECD: no additional liability (32-9ee)
    - iii. Investigation: will not incur cleanup liability by entering property to investigate (22a-133dd)
  - b. Abandoned Brownfield Cleanup Program, enacted in 2009. Allows an innocent new owner, who acquires a brownfield (unused since 1999) to redevelop, clean up the property and avoid any state law obligation to investigate and clean up off-site contamination.
  - c. Transfer Act audits: three year window on DEP's authority to audit a final cleanup
  - d. Covenants Not to Sue (22a-133aa and -133bb), includes provisions to assist Brownfield redevelopment
  - e. State Liability Relief for innocent owners (defined at 22a-452d)
  - f. Third Party Liability Relief (22a-133ee): non-responsible parties that own a contaminated property, and investigate/remediate it, have no liability for costs or damages to any

person other than state or federal government for pollution on or from such owner's property that occurred prior to such owner taking title

There have been many recent activities to improve the above-referenced tools. For instance, the LEP regulations are currently undergoing a proposed amendment process; the public hearing was held in November 2010. In addition, recent guidance documents include Site Characterization (2007, updated 2010), Verification (2008), Engineered Controls (2009, updated 2010), Well Receptor Survey (2009), Laboratory Quality Assurance and Quality Control (2006-2009, updated 2010) and ELURs (2010).

As part of DEP’s commitment to a lean culture, site cleanup-related “Lean Teams” used a “kaizen” event (a week-long event to take apart a process, identify waste, and reassemble the value-added steps) to improve efficiency and quality. The three teams are implementing improvements on:

- Engineered Controls - application/approval process,
- ELURs - application/approval process, and
- Potable Water program – supply of short-term safe drinking water.

### C. Comparison of themes/actions

Each cleanup law has its own trigger and targeted outcome, which may differ in some way with the other laws.

**Current Legal Requirement for Regulated Parties to perform response actions**

Statute	Required to Control short-term hazards	Required to Timely Control Migration of Pollution	Trigger for Requirement to Act	Requirement Applies to Release or Site-wide	Required to Self-implement Action (don't wait for DEP to require action)	Published, standardized finish line	Published Timeline to Finish Cleanup
Spills/releases 22a-450 and 451	Yes	Yes	Release exists	Release	Yes	No	No
Transfer Act 22a-134	No	No	If and when a property transfers, if property meets definition of an “Establishment”	Site-wide	Investigate -Yes  Cleanup – No (pre 10/1/09)  Cleanup – Yes (post 10/1/09)	Yes - RSRs	Only if property transferred after 10/2009
Voluntary 22a-133x and 22a-133y	No	No	Voluntary	Release or Site-wide – 22a-133x  Site-wide – 22a-133y	No	Yes - RSRs	No

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Significant Hazard Notification 22a-6u	In part	Potentially	Knowledge of release above thresholds	Release	No	No	No
Underground Storage Tanks (CGS 22a-449(d)-(h))	Yes	Yes	Release exists	Release	In part	In part – RSRs	No
RCRA Corrective Action regulations (RCSA 22a-449(c)-105(h))	No	No	Release exists at a RCRA facility	Site-wide	In part	Yes - RSRs	No
Potable Water 22a-471	In part	No	None	Release	No	No	No
PCB Program (CGS 22a-463 – 467)	Yes	Yes	Release exists	Release	In part	Yes – RSRs and federal requirements	No

#### D. Data

It is difficult to measure how well the site cleanup programs are working, due to a variety of factors. There is no direct measurement for risk reduction. We can measure “cleanups completed,” though not all cleanup laws/programs have finish lines, and those that do may have different finish lines. As we look at data, two caveats apply. One, some laws do not specify a “finish line,” and instead merely initiate a process, leaving vague what the law intended as a successful endpoint or final compliance. Two, a site may not have reached a formal, clear “all done” finish line, yet significant cleanup and risk reduction may have been achieved at the site.

The following table summarizes major site cleanup program data.

### Site Cleanup Program Data

Statutory Program	Number of Sites (approx)	Number of Cleanups Completed (approx)	Average Years to Complete Cleanup (approx)	Average New Sites per Year (approx)
Transfer Act	3,762	395	7 years for those that complete	200
State Superfund	12	4	data not available	<1
Federal Superfund (National Priority List)	14	8	15 years	<1
Voluntary 22a-133x	381	23	data not available	23
Voluntary 22a-133y	78	11	data not available	6
“Significant Hazard” notifications	600	No complete cleanup required by statute	No complete cleanup required	55
RCRA Corrective Action	238	34	data not available	0

The above data can provide the basis for further analysis of site cleanup in Connecticut. For instance, under the Transfer Act, after 25 years relatively few sites have achieved the final cleanup endpoint. The factors responsible for this result may include:

- no statutory deadline to complete cleanup,
- over-reliance on expecting a future owner to do the work,
- cleanup is not counted as “complete” until all long-term remedies and monitoring are finished,
- DEP’s ability to provide sufficient resources for timely action, when needed,
- sites where contamination is decades old, creating complex challenges such as off-site migration, bedrock impacts, or ground and surface water impacts, and/or
- waiting years for a transfer to trigger an investigation.

### III. Past Evaluations and Changes

#### A. Recent amendments to site cleanup laws

The site cleanup program statutes have evolved over time. Many statutes have been amended a little at a time, usually independent of other cleanup statutes and regulations. That has led to what some call a “patchwork” of laws, each operating on its own instead of as part of a single system. Some past amendments to cleanup laws are highlighted below:

- 1996: Transfer Act amended to:
  - o create affirmative requirement to investigate releases (prior to 1996, parties had no affirmative requirement to conduct investigations); and
  - o allowed DEP to delegate oversight to LEPs.

- 2002: RCRA regulations amended:
  - o to make 100 of the 268 Corrective Action sites subject to an affirmative requirement to complete investigation and, when cleanup is complete, to meet the RSRs.
- 2007: Transfer Act amended to provide:
  - o quicker delegation to LEP oversight;
  - o affirmative obligation to submit investigation completion reports and remedial action plans within specified timeframes; and
  - o audit certainty: 3 year window for DEP to audit cleanup at LEP-lead sites.
- 2009: Transfer Act amended to provide:
  - o 8 year timeline to complete cleanup or support interim verification indicating most active remediation has been completed; and
  - o expanded exemptions for municipalities.

## **B. Brownfields action**

The legislature has set up various Brownfield Task Forces over the past several years to explore opportunities to promote the cleanup and reuse of brownfield properties, and to make recommendations for public and private sector actions. Many of the changes outlined in the proceeding sections highlight some of the legislative improvements stemming from the efforts of those Task Forces. See also the website of the Office of Brownfield Remediation and Development – [www.ctbrownfields.gov](http://www.ctbrownfields.gov) – within the Department of Economic and Communities Development, for additional information on the state’s brownfield programs.

## **IV. Opportunities for the future**

A comprehensive evaluation of the site cleanup programs is worthwhile to find opportunities for improvement. While progress has been made in the past through incremental improvements, the Brownfields Task Force indicated in their last report (February 2009) that sweeping changes remain necessary. The comprehensive evaluation should determine the extent and scope of changes to the site cleanup programs, and provide an opportunity for broad stakeholder input to ensure all interests are represented. Improvements could come in the form of statutes, regulations, guidance, program administration, best practices guidelines, and/or education. Recommended goals and analysis include the following:

### **A. Desired outcomes**

1. Healthy Connecticut
2. Healthy economy and job growth
3. Sustainable communities
4. Environmental Justice

### **B. Overarching analysis**

1. Is the current framework achieving the goals of the existing laws?
2. What are specific impediments to prompt clean up under existing site cleanup programs?
3. What mix of improvements could achieve better cleanup results?
4. Is there value in a comprehensive overhaul of laws governing remediation?

### **C. Evaluate other states**

Other states have conducted significant and comprehensive site cleanup program revisions over the years. It is important to see if desired outcomes are being significantly achieved in these states. In addition, evaluation of other systems in other states will ensure Connecticut evaluates all options to improve the site cleanup system. Potential states for evaluation include:

1. New Jersey  
New Jersey recently performed a comprehensive evaluation of its cleanup programs from 2006-2008. The evaluation resulted in significant changes to its cleanup laws in 2009. New Jersey adopted a system that moves aggressively towards a single cleanup system for most releases/sites, an affirmative process, and use of licensed professionals (LSPs – similar to LEPs) to oversee most sites.
2. Massachusetts  
In the 1990s Massachusetts adopted a single cleanup system for all releases of hazardous materials. It is an affirmative program, with broad categories of Responsible Parties obligated to act, clear deadlines for completing and reporting each phase of investigation and cleanup, and reliance on licensed professionals at all sites.

### **D. Promote sustainable communities**

Effective and efficient site cleanup promotes Brownfield remediation and reuse, which is a critical to supporting responsible growth and transit oriented development (TOD). In addition, increasing Brownfield remediation and reuse in the State could grow opportunities for renewable energy and low impact development (LID). The following points should be considered in a comprehensive evaluation of the State's site cleanup programs:

1. Environmental protection is benefited by sustainable development and wise use of existing resources. Can remediation programs be coordinated with them to increase incentives for both cleanup and sustainable use?
2. Although tools exist now to make cleanup cost-effective for brownfields, can additional cost-saving tools be identified for brownfields without creating real or perceived less protective standards than exist for other locations?
3. Can sustainable reuse of a site – e.g., LID, TOD, renewable energy – and the anticipated environmental benefits allow for more flexible cleanup standards or tools for clean up?
4. Could pilot/demonstration projects – publicly and/or privately financed - be initiated at abandoned brownfields, such as solar “brightfields?”

### **E. Stakeholder Process**

To effectively evaluate Connecticut's site cleanup programs, a broad array of stakeholders is essential. A robust stakeholder process will ensure all issues are uncovered, discussed, and addressed before changes are made.