Final Report to the Connecticut Department of Energy and Environmental Protection

on

Entry Points and Triggers into the Current Connecticut Cleanup Programs

December 15, 2011

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

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Workgroup Membership

The "Triggers" workgroup was comprised of a cross section of the environmental community currently working with the multiple existing environmental Statutes and Regulations in the State of Connecticut including: two (2) Connecticut Department of Energy & Environmental Protection (DEEP) staff; two(2) environmental attorneys; two (2) participants from environmental non-profit organizations; three (3) business representatives (representing private industry and retail petroleum); and seven (7) senior environmental consultants. The group included representation from multiple areas of the licensed environmental community including: eight (8) Licensed Environmental Professionals (LEPs); four (4) Licensed Site Professionals (LSPs); three (3) Professional Geologist (PGs); two (2) Certified Hazardous Material Managers (CHMMs); one (1) Professional Engineer (PE); and one (1) Board Certified Environmental Engineer (BCEE). There was a combined total of approximately 320 years of environmental experience in the group.

Co-leads are indicated with bolding.

Carl Gruszczak, Jr.	**Connecticut Dept. of Energy and Environmental Protection**
Samuel Haydock	**BL Companies**
Gary O'Connor	Pullman & Comley, LLP
Pamela Elkow	Robinson & Cole, LLP
Lisa Wadge	Citizens for Clean Groundwater
Margaret Miner	Rivers Alliance of CT
Martin Hilfinger	Cumberland Farms, Inc.
Michele Alabiso	Drake Petroleum Company, Inc./Warren Equities, Inc.
David Clymer	United Technologies Corporation
Peter Zack	Connecticut Dept. of Energy and Environmental Protection
Mitch Wiest	Roux Associates, Inc
Plato Doundoulakis	Atlas Environmental
Bill Swanson	CDM
Jeff Lambert	Conestoga-Rovers Assoc., Inc.
Matt Hackman	Matthew E. Hackman, P.E. CHMM
Paul Tanner	O'Reilly, Talbot & Okun Associates, Inc.

Executive Summary

The Triggers Workgroup has evaluated the current triggers that require a potentially responsible party to enter into one of Connecticut's 16 Environmental Programs. The workgroup has concluded that the existing statutes do not include uniform, consistent triggers, or entry points; do not create a level playing field for sites with known releases of regulated compounds to the environment; and create a strained regulatory system potentially clogged with low-risk, low-priority sites, which potentially diverts resources from high-risk sites, while at the same time allowing many high risk sites to fall through the cracks.

During our evaluation of Triggers, or Entry Points, our workgroup has put forth a vision for a single environmental statute that protects human health and the environment and establishes both mandatory actions to respond to events and/or conditions and voluntary actions to assess if conditions exist that require action.

The workgroup has defined Triggers, Events, Conditions, and Releases. Our workgroup has not defined all the specific circumstances that would be associated with Triggers, Events, Conditions and the potential associated response actions. A comprehensive list of these specific circumstances should be developed as part of the proposed single environmental statue and associated regulations.

Our evaluation of Triggers into the proposed regulatory program has extended beyond just entry points, for it is the consensus of the group that one cannot evaluate Triggers without also discussing exits out of the program. Triggers that require entry into the environmental program must have exits commensurate with the degree and extent of risk to human health and the environment associated with an event or condition, otherwise the program could be overburdened with low-priority sites and will be ineffective in identifying priorities. However, these exits, or end points, should provide certainty with respect to the requirements of the cleanup and the fulfillment of those requirements in a timely manner. In addition, the workgroup felt that there could be triggers to act, in response to certain events and/or conditions, which could allow for a "window of opportunity" for a party to address the event or condition in order to remediate the event or condition without entering any program, in order to provide incentive to quickly clean up spills or releases once they have been identified.

While our workgroup was able to reach consensus regarding the need for a single environmental statute with both mandatory and voluntary triggers to protect human health and the environment at sites with new events or conditions and which captures all existing sites currently in one of the existing programs, there were differing opinions over several issues including but not limited to:

- The inclusion of economic development as a material concern associated with environmental protection and remediation programs.

- The use of triggers as a means for a member of the general public to drive a requirement to investigate any Site with the potential to have an event or condition as defined herein.
- The inclusion of an effective program for public reporting.
- The inclusion of exits in the discussion of triggers.
- Risk-based[1], site-specific response actions vs. regulations that specify cleanup criteria. The consensus, however, was that response actions should be consistent and based on science.
- The applicability of triggers to release areas vs. entire sites.

The differing opinions between members of the workgroup are discussed further below.

The Triggers workgroup has developed the following vision:

> A unified, cohesive and comprehensive environmental statute governing pollution that protects human health and the environment.
>
> A clear and unambiguous set of events and/or conditions that define the circumstances in which a responsible party or agency must take certain, specified actions to comply with the environmental statue.
>
> A clear, risk-based, unambiguous, and practical process for responsible parties that defines required actions to closure that is protective of human health and the environment that these parties must take to fulfill their obligations under the environmental statute.

The workgroup expressed concern that the proposed vision may be difficult to achieve, and it may be that even proposing such a comprehensive overhaul to Connecticut's environmental statutes and remediation programs goes beyond the scope of our assigned task. While the workgroup's primary recommendation supports the vision of one program embodied in one statute, we recommend that in the absence of achieving the vision, revisions to existing statutes could be implemented to create a more uniform set of triggers to protect human health and the environment and that would apply equally to all sites with the understanding that such an effort would likely be more cumbersome and harder to follow than a unified statute.

Lastly, the workgroup would like to express a shared sentiment that the time given to complete this process was insufficient to produce a report commensurate with the importance of the

[1] Note that some in the Workgroup preferred the term "science-based" as it is perceived as broader than "risk-based". The term "risk-based" as used in this chapter refers to the analysis of the potential adverse environmental and health effects (current or future) caused by hazardous substance releases to the environment in the absence of any actions to control or mitigate these releases. Such risk-based techniques are often applied to the unique site-specific conditions and are commonly employed in other states and in the Federal CERCLA process.

subject matter. However, we are optimistic that the outcome of the entire "visioning" process will result in a significantly improved cleanup program in Connecticut.

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 Workgroup was provided with the following scope and deliverable by DEEP.

Scope: Evaluate the trigger mechanisms and points of entry into the current Connecticut cleanup programs. Determine what situations would compel action under a cleanup program and under what circumstances could what parties voluntarily enter a cleanup program. Evaluate if triggers are capturing all high-risk sites or releases, and are low-risk sites or releases be unnecessarily entered into programs.

Deliverable: Present information from this evaluation and suggest general trigger types and entry points that would compel the highest risk sites or releases to enter a program and still allow parties to voluntarily enter when formal review and approval (including LEP verification) is sought.

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

This workgroup was tasked with reviewing the existing entry points or triggers into Connecticut's various remediation programs. Specifically, we were to "[e] valuate if triggers are capturing all high-risk sites or releases, and if low-risk sites or releases are unnecessarily entered into programs. " Because it was difficult to isolate the "triggering" events for any remedial program from what happens next – getting through and getting out – we found it useful to outline the general concepts of an entire, effective remedial program, and then work backwards to determine whether the current triggers were in line with such a program, and if not, what would be our recommendation for improved triggers. We fully recognize that only certain aspects of such a program are related to "triggers", and we hope and expect that other workgroups tasked with reviewing other aspects of the myriad of Connecticut's remedial programs will be examining the other features of what an effective and protective remedial program ought to be.

We began with the working assumption that a remedial program is most effective if it:

(1) clearly identifies those circumstances that bring an entity into the remedial program (i.e., the "triggers" or "entry points");
(2) those entry points are risk-based or release-based, such that the all sites with similar circumstances are treated the same;
(3) the action necessitated by the trigger or entry point is commensurate with the risk posed by the triggering circumstance (e.g., small, contained spills would result in a different action than discovery of a significant solvent plume); and
(4) the "way out" of the remedial program is risk based, science-based, and also commensurate with the circumstance – one size does not fit all when it comes to responding to a variety of "triggers."

Workgroup Meetings and Format

The Triggers Workgroup held five meetings with people both attending in person and on a conference call line:

Date	Time	Attendance
August 30th	9:30 - 11:30	11 in person, 4 on phone
September 8th	1:30 - 3:30	13 in person, 2 on phone
September 13th	Noon - 1:30	10 in person, 2 on phone
September 21st	1:30 - 3:30	9 in person, 4 on phone

September 26th	11:00 - 1:30	9 in person, 5 on phone

Meetings resulted in assignments distributed to workgroup members at the conclusion of each meeting. There was also dialogue and information sharing between meetings via email. Assignments completed between meetings included evaluations and draft recommendations which were then reviewed during the next meeting. During this process, meeting minutes were taken and when consensus could not be achieved, dissenting opinions were documented for inclusion in this report. Individual workgroup members volunteered to write sections of the draft report that was then distributed to the whole group for review, comments and editing before being finalized.

Areas of Evaluation

By DEEP's own count, there are 16 different statutes or programs, eight of which "trigger" a liability or an obligation for environmental response action of some sort related to known impacts from contaminants or the need to evaluate the presence of contaminants at a site (see **Appendix A**). These include, among others, release reporting, significant environmental hazard reporting, the Connecticut Property Transfer Act, the underground storage tank program, and two voluntary remediation programs. This list does not include liability protection statutes, such as the two covenant not to sue statutes (CGS secs. 22a-133aa and 22a-133bb) or the third-party liability protection statute (CGS sec. 22a-13ee), which set out exit strategies without entry points; the Brownfield programs found in the economic development statutes such as the Abandoned Brownfield Cleanup Program (CGS sec. 32-9ll) or the Brownfield Redevelopment Revitalization Program (PA 11-141, sec. 17); or other related statutes, such as the solid waste statutes and regulation, which also mandate remediation in the context of inactive, unpermitted solid waste disposal areas.

Given the multitude of remedial programs, or perhaps because of it, this evaluation of "triggers" will not focus on each one. We recognized that to accomplish our dual goals of evaluating the existing programs and recommending changes, if warranted, we did not have time to discuss each of the existing programs. That in and of itself was telling. Instead, our group quickly came to a general consensus that there are too many programs, and that the lack of consistently applied entry points into these programs, combined with the fact that many high risk sites never enter into any program, is itself a deterrent to addressing the impacts of pollution in Connecticut. Even without discussing each and every remedial program trigger, the general consensus of our workgroup was that the current scheme of remedial programs in Connecticut is not accomplishing the goal of ensuring that the most polluted sites are identified and remediated.

Several of the existing programs are discussed below.

Property Transfer Act

The one program and trigger that the workgroup did spend time discussing in particular was the Connecticut Property Transfer Act, sometimes described as Connecticut's "flagship remedial program." While our workgroup might not all agree on an ideal program, there was consensus that under the Transfer Act there is a disconnect between the "trigger" and the risk posed by the site. Because entry into the Transfer Act is based on the "transfer" of only certain parcels of real property or business operations, investigation and remediation of other high risk sites or highly contaminated sites that meet the definition of "establishment" can be avoided simply by avoiding a "transfer." Avoiding a transfer can entail structuring a transaction in such a way as to avoid the application of an increasingly complicated definition of "transfer of establishment," or simply mothballing a site and not putting it into productive reuse, which has contributed to the proliferation of Brownfields in Connecticut. Also, there is some disagreement as to the timing of the required milestones when an establishment has transferred several times. Either way, a site that is or has the potential to be significantly contaminated can avoid notice by DEEP, unless some other program is triggered, or can potentially enter the Property Transfer Program several times without actually performing any investigation or remediation. In addition, there are highly contaminated sites in Connecticut that do not meet the definition of an establishment, and therefore are not being addressed due to the absence of uniform triggers.

The flip side to the problem of high risk sites not making it into the Transfer Act program is the perceived problem of too many low risk sites being "triggered" into the Act as a result of a transfer and being treated in the same manner as highly contaminated sites. Because the definition of "establishment" includes sites with a one-time generation of hazardous waste above the threshold, sellers of many sites with no high risk activities or evidence of adverse impacts are often required to investigate and remediate these sites, and significant resources, both private and public, are spent ensuring that there is absolutely no risk associated with these sites, which may have been low risk to begin with. This issue may have been exacerbated by the use of established numerical standards rather than the application of a site-specific risk-based approach.

Voluntary Remediation Programs

A second program that was evaluated, which is actually two programs (CGS sections 22a-133x and 22a-133y), was the Voluntary Remediation Program (VRP). These two programs form the basis of an elective process in which property owners can voluntarily investigate and remediate a property on an expedited basis, in most instances utilizing Connecticut's LEP program. Historically, there was more of a substantive difference between the two programs, with each being applicable to a certain universe of sites. However, with the passage of Public Act 09-235, which made the 133x program available to all persons and all sites, the need for a separate and

distinct VRP for sites in GB/GC groundwater classified areas was eliminated, although there are still parties that prefer the greater independence and lesser oversight of the 133y program.

The consensus of our workgroup is that the VRP is a worthwhile program that served to assist with expediting the investigation and cleanup of properties where the owner was interested in proceeding. This is done through the deferral of most, if not all, sites in the program to LEP oversight, eliminating any possible resource constraints with DEEP staffing oversight. The workgroup also had consensus that two separate programs were not needed, especially with the modifications made to CGS sec. 22a-133x by Public Act 09-235, and that the current "entry point" within the program, the submission of an ECAF and filing fee, was an appropriately simple and effective mechanism.

Our workgroup concurred on the need to keep available the option of entering an entire property, or a portion of a property, into a voluntary investigation and remediation program, in order to provide property owners the opportunity to represent to potential buyers and the public that their property had in fact been investigated and, if necessary, remediated and that site conditions were now protective of human health and the environment. We agreed that the voluntary option should be part of the comprehensive program, consistent with our goal of ensuring that similar properties were treated in a similar fashion. Such a voluntary program would also provide the opportunity for responsible parties that triggered an action for one condition or event and chose to investigate and remediate the entire property to do so without having to then report each and every condition discovered during those investigation/remediation efforts. Consolidating a voluntary investigation and remediation program into the comprehensive program would also eliminate the two, existing and overlapping voluntary remediation programs found at CGS secs. 22a-133x and 133y, accomplishing the goal of simplifying and streamlining the remedial programs in Connecticut.

Spills Reporting

Our workgroup also had a number of discussions regarding the current spill reporting statute, CGS 22a-450, and DEEP's proposed regulations concerning the reporting of releases interwoven within our overall discussion of current triggers and future vision. The spill reporting statute is one of the older environmental laws of the State and was written to address current, active releases of "any oil or petroleum or chemical liquids or solid, liquid or gaseous products, or hazardous wastes". Although there is disagreement between DEEP and the regulated community over the applicability of the statute to all detected contamination, it is clear that this statute has not been used to address historic contamination that is found on a property, leaving this program to serve solely as an entry point to the approximately 8,000 spill events that are reported each year in Connecticut.

The consensus of our workgroup relative to the spill reporting statute is that it:

- is limited in the universe of sites that are required to report under it,
- requires reporting in a one-size-fits-all manner whereby all spills, regardless of risk to human health and the environment, must report to the State within 24 hours, and
- only provides an entry point and does not require any further action beyond immediate response actions to mitigate the initial threat.

Given these limitations of the spill reporting program, our consensus was that the spill reporting statute requires a significant overhaul or replacement with an appropriate tiered-entry program with appropriate next-steps and exit points. It should be mentioned that the workgroup also discussed the proposed release reporting regulations that have been worked on by DEEP and the environmental community for a number of years. The consensus of our workgroup was that it would be difficult, from a DEEP resource perspective and a regulatory burden perspective, to move forward with the proposed release regulations without eliminating some of the other overlapping programs (i.e. the Property Transfer Program) at the same time.

Significant Environmental Hazard Reporting Program

Finally, our workgroup also discussed the Significant Environmental Hazard Reporting (SEHR) program (CGS sec 22a-6u). This program, we felt, was a good program for identifying high-risk release areas. In addition, the workgroup liked the fact that for certain conditions under the SEHR, certain response actions could be implemented within a specified time frame as a means of eliminating the requirement to report the condition. However, the program, like the spill reporting regulations, only requires reporting and initial response actions to control or mitigate the primary hazard. The SEHR does not require further work and does not include clearly defined exit pathways.

Recommendations[2]

As discussed above, currently 16 different environmental remediation or pollution reporting programs exist in Connecticut, some with overlapping obligations and others without triggers or without remediation obligations. To develop concise and fair entry points that would obligate a responsible party to act in response to pollution conditions, the Trigger Workgroup agreed that a single unified, cohesive and comprehensive environmental statute governing pollution released to the environment, which protects human health and the environment, should be

[2] Several workgroup members have first-hand experience with the Mass Contingency Plan (MCP 310 CMR 40.0000), which is considered a useful model regulation with a successful science-based set of entry and exit points. As CT and Mass are contiguous, with similar geology and history of industrial use and pollution issues, the MCP was discussed often as a useful model for a CT program. In sections below, references are made to certain concepts or portions of the MCP.

developed to replace the current system of 16 different programs. It is recognized that some programs, such as the Resource Conservation and Recovery Act Corrective Action (RCRA CA) and the Toxic Substances Control Act (TSCA), will survive any future regulatory revisions and consolidation. The unified statute can be crafted to meet the goals of RCRA CA and TSCA, such that by complying with one there is compliance with the other. The unified statute should provide a "level playing field" with well-defined entry points, tiered response actions, and multiple exit points commensurate to the site-specific situation.

Recommendation 1 (Unified Environmental Remediation Statue)

The recommended Unified Environmental Remediation Statue or "Super Statue" would enable the development of clear, risk-based, unambiguous, and practical regulations that would include required actions from discovery to closure that are protective of human health and the environment. The Super Statue should include:

(1) Science-based tiered trigger regulations;

(2) Science-based response actions commensurate to the nature of the triggering event (i.e., reporting, investigation and/or remediation);

(3) Multiple science-based tiered exit points, potentially including a "window of opportunity" to address the event or condition in a timely manner that could preclude DEEP notification and entry into a formal program; and

(4) Transition program for sites currently in an existing program.

Additionally, the proposed Super Statue will require the incorporation of the liability provisions already in existence or the creation of new schemes to help capture sites that the existing Transfer Act was originally designed to address. Examples of liability systems designed to help identify or discover sites (i.e., encourage and reward thorough due diligence) include the Massachusetts' Oil and Hazardous Material Release Prevention and Response Act ("21E") that imposes strict, joint and several liability upon current owners or operators of contaminated property regardless of fault.

Recommendation 2 (Unified Entry Points)

The Trigger Workgroup recommends that the regulations promulgated under the proposed Super Statue include a clear and unambiguous set of events and/or conditions that define the circumstances in which a responsible party or agency must take certain, specified actions to comply with the environmental statue.

Entry into the unified and comprehensive environmental statute governing pollution that protects human health and the environment will be mandatory if certain unambiguous triggers are known to exist or voluntary to afford eligible persons[3] liability protections:

(1) **Compulsory / Mandatory Triggers** - Knowledge of an Event or a Condition that poses a threat or potential threat to human health and/or the environment and which requires action in accordance with regulations; or

(2) **Voluntary Compliance** - Decision to perform a voluntary evaluation of conditions at a real property with the purpose of determining whether there is an Event or a Condition that poses a threat or potential threat to human health and/or the environment and which requires action in accordance with regulations. For those sites where Events or Conditions requiring action do not exist, the voluntary option would allow establishing and documenting baseline conditions as a means of future liability relief/protection.

Along with these entry points, the Trigger Workgroup developed the following definitions:

Proposed Event Definition

Release or threat of a release to the environment of a hazardous substance in exceedance of a reportable quantity. Reportable quantities from a spill, leak, or other event include either a mass or volume of a polluting substance that would be science-based and published in the future regulations (i.e., pounds, gallons etc.). The definitions of "release" and "threat" were discussed at length by the Workgroup and examples of possible definitions of "release" under development by the ASTM E50 committee and "threat" included in the Massachusetts Contingency Plan and provided by the ASTM E50 committee are provided in **Appendix C**.

Proposed Condition Definition

Presence of a hazardous substance in soil, soil vapor, groundwater, and/or surface water at a concentration in exceedance of a reportable concentration. Reportable conditions include concentrations of a polluting substance detected in groundwater, soil, soil vapor, or surface water that would be science-based and published in the regulations. Reportable concentrations have not been established by the workgroup, but will be required as part of the future regulation.

The Triggers Workgroup has not attempted to identify all potential Triggers. A partial list of potential triggers discussed during the workgroup meetings is included in **Appendix D**.

[3] Eligible person as defined by the Brownfields Act (PA11-141) or to be redefined for the proposed Super Statue.

Proposed Action Definition

"Action" as incorporated into the definitions of Events and Conditions, refers to series of tiered responses a responsible party shall undertake that are commensurate with the severity of the Event or Condition as determined by a standardized evaluation of:

(1) The toxicity of the polluting substance;

(2) The quantity released or the concentration detected;

(3) The nature of the exposure pathway (i.e., drinking water source, surficial soils in a residential settings, deep soils in an industrial setting, etc.); and/or

(4) The potential for the above in the case of a threat of a release.

"Actions" may include:

(1) Limited immediate removal actions for small releases that can be successfully completed in a short period of time (e.g., 120 days or less). Reporting to DEEP would not be required for this Action; however, there would be a record keeping requirement. This option is proposed to incentivize rapid remediation of minor pollution Events or Conditions that now linger in the current regulatory system ;

(2) Immediate Abatement action for threats such as, failed tank tightness tests, bulging drums or tanker truck incidents were no release had yet occurred. If the Condition was successfully abated within a certain time period (e.g., 7 days) without a release to the environment, reporting to DEEP would not be required for this Action; however, there would be a record keeping requirement. This option is proposed to incentivize and reward abatement of threats soon after discovery and to prevent releases from occurring;

(3) For all other events or conditions, actions would require reporting to DEEP and subsequent investigation and / or remediation as specified in the proposed Super Statue and corresponding future regulations. Reporting time frames should be tiered and commensurate with the severity of the Event or Condition:

a. High tier reporting (e.g., 2 hours) is recommended for Events or Conditions at residential areas, parks, and schools, or near drinking water supplies or other sensitive receptors with actual or potential threat to such land uses, resources or receptors (similar to the current Significant Environmental Hazard Notification requirements found at CGS 22a-6u) ;

b. Medium tier reporting (e.g., 7 days) for Events or Conditions that do not pose immediate threats to human health or environment; and

c. Low-tier reporting (e.g., 120 days) for smaller Events or Conditions in low risk settings, which could potentially be bypassed by an immediate removal action along with a record-keeping requirement.

Proposed Knowledge Definition

The definition of knowledge as used in the proposed entry points is the same as used in the Massachusetts Contingency Plan:

(1) Actual knowledge; or

(2) Knowledge a person acting in a reasonably prudent and intelligent manner would have, but for that person's willful, knowing or negligent avoidance of learning about the fact or facts in question. In determining whether a person has acted in a reasonably prudent and intelligent manner, any specialized knowledge or training possessed by that person and the circumstances surrounding the fact or facts in question shall be taken into account.

Proposed Applicable Parties – Responsibility to Report or Act

The following is a partial list of persons, entities, or others that the workgroup proposed would be required to report and/or act if they possess knowledge of an Event or a Condition that poses a threat or potential threat to human health and/or the environment and which requires action in accordance with the proposed Super Statue and regulations:

- Current or Past Property Owners / Operators;
- Environmental Consultants (reporting only)[4];
- Department of Energy and Environmental Protection; and
- Other State/Local Agencies (reporting only).

Recommendation 3 (Comprehensive List of Triggers)

As previously stated, a list of potential triggers provided by members of the workgroup is included in **Appendix D**. A subsequent workgroup will be required to develop a comprehensive list of triggers.

[4] Consensus on Environmental Consultants (i.e., LEP) reporting requirements was not reached, as some in the group would limit reporting requirements to clients while others suggested extending reporting requirements to DEEP or the property owner, if different than the client, depending on the severity of the Event or Condition.

Discussion

The Triggers workgroup was able to reach consensus regarding the need for a single environmental statute with sufficient triggers, both mandatory and voluntary, to protect human health and the environment, and which captures all properties currently in one of the existing programs as well as sites subject to new events or conditions. In the event that it is not possible to replace all or most of the existing 16 statutes with a single statute, the workgroup believes that the existing statutes must be revised with respect to triggers and/or entry points in order to create uniform and consistent requirements for entry into one of the cleanup programs. Again, the single statute/program (Super Statute) is preferred.

During meetings and discussions, there were differing opinions over several issues, including but not limited to:

- The inclusion of economic development as a material concern associated with environmental protection and remediation programs. While it is the experience of many of the workgroup that most cleanups are driven by development and redevelopment, other stakeholders within the group felt that the effectiveness of cleanups is diminished when both economic and health/environmental concerns are given consideration during the decision-making process.
- The use of triggers as a means for a member of the general public to drive a requirement to investigate any Site with the potential to have an event or condition as defined herein. Some members of the workgroup were looking for triggers as a means of investigating any site with the apparent potential for releases and contamination. The majority of the group did not feel this was appropriate or practical.
- The inclusion of an effective program for public reporting was an important issue in order to give the public a voice and to help keep the public informed. Concern was expressed that, currently, notification is made to DEEP and there is no way for the public to find out what actions resulted from the notification. Subsequent discussion on this issue determined that reporting mechanisms exist but need to be improved to aid in the ability to track response and provide transparency.
- The inclusion of exits points in the discussion of triggers. Some in the workgroup felt that we spent too much time discussing getting out of the program, which diluted the focus on entry points or triggers and required response actions. However, it was very clear that the majority of the workgroup members believe that the State of Connecticut cannot impose new triggers without developing pathways to closure commensurate with the risk and magnitude of the event or condition.

The intent of the most of the workgroup's proposals is to remove obstacles or disincentives, real or perceived, and to create incentives for the timely response to all events or conditions that could pose a threat to human health or the environment. With that in mind, it was felt by

many in the workgroup that it is important to consider exit options at the same time as considering entry points, and that allowing a greater number of exit options that are commensurate with the nature of the risk presented to human and the environment would allow for a greater number of entry points in the unified program.

Appendices

Appendix A – Current Statutory Trigger Review Table

Appendix B – Current Legal Requirement for Response Actions

Appendix C – Example Definitions

Appendix D – Example Entry Points/Triggers

Appendix A – Current Statutory Trigger Review Table

Authority	Statutory Reference	Date	Triggers
Authority Statutory Reference Date Pollution or discharge of waste prohibition	CGS 22a-427	1967	· No person or municipality shall cause pollution of any of the waters of the state · No person or municipality shall maintain a discharge of any treated or untreated wastes in violation of any provision of this chapter
Commissioner's authority to issue an order to require person to correct potential source of pollution	CGS 22a-432	1967	· Any person has established a facility or created a condition which reasonably can be expected to create a source of pollution to the waters of the state · Person is maintaining any facility or condition which reasonably can be expected to create a source of pollution to the waters of the state
Commissioner's authority to issue Orders to a landowner, or municipality	CGS 22a-433 and 428, respectively	1967	· The municipality is causing pollution of the waters of the state · A community pollution problem exists · Pollution by a municipality or a community pollution problem can reasonably be anticipated in the future
Release Reporting	CGS 22a-450	1969	· The discharge, spillage, uncontrolled loss, seepage or filtration of oil or petroleum or chemical liquids or solid, liquid or gaseous products, or hazardous wastes which poses a potential threat to human health or the environment
Release Response	CGS 22a-451	1969	Person, firm or corporation which causes pollution and contamination of any land or waters of the State through any: · discharge of oil or petroleum or chemical liquids or solid, liquid or gaseous products or hazardous wastes; · spillage of oil or petroleum or chemical liquids or solid, liquid or gaseous products or hazardous wastes; · uncontrolled loss of oil or petroleum or chemical liquids or solid, liquid or gaseous products or hazardous wastes; · seepage of oil or petroleum or chemical liquids or solid, liquid or gaseous products or hazardous wastes; or · filtration of oil or petroleum or chemical liquids or solid, liquid or gaseous products or hazardous wastes.
Commissioner's authority to respond to and mitigate spills and releases	CGS 22a-449(a)	1969	Commissioner of the Department of Environmental Protection shall, to the extent possible, immediately contain and remove or otherwise mitigate: · discharges of solid, liquid or gaseous product or hazardous wastes; · spills of solid, liquid or gaseous product or hazardous wastes; · uncontrolled losses of solid, liquid or gaseous product or hazardous wastes; · seepage of solid, liquid or gaseous product or hazardous wastes; or · filtration of solid, liquid or gaseous product or hazardous wastes.

PCB program	CGS 22a-463 - 469a	1976	· DEEP "White Paper" - requirement to act is for any release of PCBs · Spills of PCB containing fluids (similar to any other release under CGS 22a-450) · Presence of PCBs in soil and ground water (reportable under 22s-6u) · TSCA requires notification (to EPA) for: · discharges of PCBs to water (SW and GW) within 24 hours; · discharges to grazing and crop lands (within 24 hours); · spills of greater than 10 pounds of PCBs (within 24 hours); · high concentration spills (greater than 500 ppm); and · many other scenarios. · Subpart D 761.50(b)(3)(ii) - PCB waste spilled or released into the environment on or after July 2, 1979 where the concentration of spill is greater than 50 ppm · Subpart G 761.125(a)(1)(iv) - spills of 10 lbs or less of PCBs by weight
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	· Contaminated drinking water supplies · Threatened drinking water sources
Commissioner's authority to issue order to abate pollution	CGS 22a-430(d)	1982	· Person or municipality has initiated, created or originated a discharge to the waters of the state without a permit · Person or municipality is maintaining a discharge to the waters of the state without a permit · Person or municipality is in violation of a permit to discharge to the waters of the state

Underground Storage Tanks	CGS 22a-449(d)-(h), RCSA 22a-449d-106	1983	· Red Tag Program: · Release from an UST · Design construction, installation and operation of UST is not in accordance with the requirements (of 22a-449o) for a double walled UST system · Failure to have or to operate proper leak detection, overfill or spill protection measure · UST Compliance Inspection Program: · Paperwork discrepancy · Liquids in a spill bucket or UST system sump · Any UST equipment deficiencies · Red Tag of UST system · 22a-449(d)-101: · Discharge to the waters of the state without a permit pursuant to CGS 22a-430 · Uncontrolled passage of liquid into or out of a UST system · Failure to properly update UST Notification (formerly EPHM-6) · Failure to properly complete inventory reconciliation and investigate an abnormal loss or gain as part of inventory reconciliation (four consecutive days) · Exceeding the life expectancy of a UST · Failure to maintain ancillary UST equipment · Failure to notify the state of the results of a tank tightness test · Failure to maintain financial responsibility under section 22a-449(d)-109 · 22a-449(d)-103: · Any spills and overfills in accordance with subsection 22a-449 (d)-105(d) · Failure to maintain cathodic protection in accordance with this section · All releases, including suspected releases, spills and overfills, and confirmed releases. · 22a-449(d)-105: · Presence of product or vapors in soils, basements, sewers and utility lines and nearby surface waters · Erratic behavior of product dispensing equipment, the sudden loss of product from the UST system or an unexplained presence of water in the tank · Monitoring results from a release detection method indicates a release may have occurred unless device is found to be defective · Release of a hazardous substance of equal to or in excess of its reportable quantity · 22a-449(d)-106 - UST Failure · 22a-449(d)-107 - Contaminated soils, contaminated groundwater or free product as a liquid or vapor is discovered

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	· Need an "Establishment" and a "Transfer of establishment" · "Establishments" are real property or business operations where: · More than 100 kg of hazardous waste was generated in any one month since 11/19/1980; · Dry cleaning facility existed since 5/1/1967; · Furniture stripping facility existed since 5/1/1967; · Vehicle body repair facility existed since 5/1/1967; or · Hazardous waste from other location was disposed of on-site. · "Transfer of establishment" is defined as "Change in ownership" with 16 exceptions
State Superfund	22a-133e	1987	· Listed on Hazardous Release Sites Inventory (Jan 15, 1981) or later revisions to list · Determined by Commissioner to be threat to environment or public health, including property transfer, UST, RCRA site, CERCLA site, or other source federal, state or local or any other source · An EPA CERCLA Site where cleanup timeframe is not consistent with assessment report schedule or whose EPA CERCLA Site score is ineligible for CERCLA funding
Voluntary Remediation Programs	CGS 22a-133x and -133y	1995	· 22a-133y - submittal of remedial action plan · 22a-133x - the filing of the ECAF and payment of fee
Significant Environmental Hazard Notification	CGS 22a-6u	1998	· Public or private drinking water wells in which pollution is detected (above or below an acceptable standard) · Polluted groundwater within 500 feet of a drinking water well (pollution may threaten drinking water wells) · Polluted groundwater beneath an occupied building (pollution may pose a risk to indoor air quality) · Polluted groundwater that discharges to a surface water body (pollution may pose a risk to aquatic life) · Polluted soil within two feet of the surface (pollution in soil may pose a direct contact risk to humans) · The presence of vapors from polluted soil, groundwater or residual free product at levels posing a potential explosion hazard and imminent threat to human health, public safety and the environment
Resource Conservation and Recovery Act (42 U.S.C. §6901 et seq.; "RCRA") Corrective Action regulations	RCSA 22a-449(c)-105(h)	2002	· Regulated Facility is in violation of a permit or an order · A release has occurred at a regulated facility or a listed or characteristic waste · The nature and extent of a problem or potential problem at a regulated facility needs to be evaluated · An imminent and/or substantial threat or endangerment to human health or the environment may exist

Appendix B – Current Legal Requirement for 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
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

Appendix C – Example Definitions

ASTM E50 Committee Definitions

Release – any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance, petroleum products, or pollutant or contaminant), but excludes (A) any release which results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such persons, (B) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine, (C) release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954 (42 U.S.C. §2011 et seq.), if such release is subject to Requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of such Act (42 U.S.C.§2210), or, for the purposes of CERCLA §9604 or any other response action, any release of source byproduct, or special nuclear material from any processing site designated under 42 U.S.C. §7912 (a)(1) or 42 U.S.C. §7942 (a), and (D) the normal application of fertilizer.

Material threat - A physically observable or obvious threat which is reasonably likely to lead to a release that, in the opinion of the environmental professional, is threatening and might result in impact to public health or the environment. An example might include an aboveground storage tank system that contains a hazardous substance and which shows evidence of damage. The damage would represent a material threat if it is deemed serious enough that it may cause or contribute to tank integrity failure with a release of contents to the environment.

Massachusetts Contingency Plan Definitions

Threat - Threat of release means a substantial likelihood of a release of oil and/or hazardous material which requires action to prevent or mitigate damage to health, safety, public welfare or the environment which may result from the release. Circumstances which represent a threat of release include, but are not limited to, sites containing or conducting an amount of oil and/or hazardous material in excess of the Reportable Quantity for that oil and/or hazardous material, or of an unknown quantity, where no release has occurred but where a person required by 310 CMR 40.0331 to report the threat of release has knowledge of any corrosion, damage, malfunction or other condition that is likely to result in a release.

Appendix D – Example Entry Points/Triggers

These example entry points and triggers are a partial list of potential triggers and are only fleshed out here for representation. The notification time frames, thresholds quantities, and concentrations are examples and are not being proposed by the Group to be used "as is". Ultimately, the final entry points and triggers should be developed as regulations under a single cleanup program statute[5]:

- PID or FID soil headspace readings of greater than 100 ppmv as isobutylene, if the current use is residential or where groundwater is classified as GA, or readings greater than 500 ppmv as isobutylene if the current use is industrial/commercial or current groundwater classification is GB. **Notification within seven (7) days.**

- PID/FID soil vapor readings of greater than 5 ppmv as isobutylene, if the current use is residential, or where groundwater is classified as GA, or readings greater than 50 ppmv as isobutylene if the current use is industrial/commercial or current groundwater classification is GB. **Notification within seven (7) days.**

- Laboratory analytical data, based on sampling and analyses performed in accordance with appropriate Reasonable Confidence Protocols, that exceed 10 times the applicable RSR criteria for soil[6], groundwater, soil vapor or indoor air for the current use where the sample is collected, i.e. residential or industrial/commercial, GA or GB groundwater classification, EXCEPT that, in residential areas, laboratory soil analytical data that exceeds the applicable RSR soil criteria in the soils from ground surface to one foot below ground surface." **Notification within 180 days.**

- "The detection of either light or dense non-aqueous phase liquid (LNAPL or DNAPL) in soil, groundwater or surface water as follows:
    - In soil, if the concentration exceeds Csat, the saturation concentration of the NAPL substance in the site soil.
        - **Notification within two-hours** if groundwater is GA or current use is residential.
        - **Notification within seven days** if groundwater is GB or current use is industrial/commercial;
    - In groundwater, if the measured thickness of NAPL in any monitoring well exceeds 0.05 ft.
        - **Notification within two-hours** if groundwater is GA or current use is residential.
        - **Notification within seven days** if groundwater is GB or current use is industrial/commercial;
    - On surface water, if there is any observable "sheen" or any accumulation of LNAPL. **Notification within two hours.**

[5] There is also a useful set of exclusions in the MCP 310 CMR 40.0317, which can be used as examples of how to keep "non-releases" from entering a remedial program, allowing the program to be focused on serious threats to human health and the environment.

[6] There was concern among some of the workgroup members that use of 10 times the applicable RSR criteria could result in an uneven playing field. A site with greater than 10 times the criteria would be required to remediate to the RSR criteria while a similar or neighboring site could not even enter the program even if it contained as much as 9.9 times the RSR criteria.

- Knowledge of any Significant Environmental Hazard condition as described in CGS 22a-6u.

- Nothing shall prevent any property owner from voluntarily choosing to act to investigate and/or remediate their property, even if no "triggers" are present. Nothing shall prevent a third-party, with the consent and permission of the property owner, from investigating and/or remediating a portion or entirety of a parcel of real property, even if no "triggers" are present.

Some specific scenarios were discussed, which are presented below, that illustrate how a unified program with tiered entry points and response actions might function:

- Historical release identified during subsurface investigation, regardless of purpose of investigation, below regulatory standards - **Determine if most impacted area has been identified, document investigation for internal records and no additional investigation warranted because release not a threat to human health and environment.**

- Historical release identified during subsurface investigation, regardless of purpose of investigation, in exceedence of regulatory standards - **Notify DEEP, delineate plume/AOC, determine if area can be removed in less than 120 days, excavate, notify DEEP of abatement when completed.**

- Historical release identified during subsurface investigation, regardless of purpose of investigation, in exceedence of regulatory standards - **Notify DEEP, delineate plume/AOC, if area cannot be abated within 120 days, implement ongoing investigation and remediation if necessary. Determine risk to Human Health and Environment after collecting a "reasonable" amount of data, request closure as appropriate.**

- Release contained within containment sump - **Investigate source of release, evacuate material, repair as warranted.**

- Ongoing release contained within containment sump - **Notify DEEP, investigate source of release, evacuate material, repair as warranted, complete investigation of area immediately surrounding release.**

- Change in use of the site to a more sensitive use (i.e. agricultural to residential/school or Industrial/Commercial to residential/school) - **Require investigation and entry into a clean-up program, if warranted.**