

State of Connecticut
RCRA Program Description

May 17, 2004

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State of Connecticut
RCRA PROGRAM DESCRIPTION

I. INTRODUCTION

In 1979, the Connecticut legislature amended Conn. Gen. Stat. 22a-449(c) to authorize the Commissioner of the Department of Environmental Protection ("the Commissioner") to establish and enforce a hazardous waste management program consistent with the federal program under Subtitle C of the Resource Conservation and Recovery Act of 1976 ("RCRA"), as amended from time to time. On July 17, 1990, the Commissioner promulgated regulations that incorporated the federal regulations through July 1, 1989, and Connecticut received final authorization to operate the state program in lieu of the federal program on December 17, 1990.

This Program Description has been prepared in accordance with the requirements of 40 CFR 271.6. It has been written to address the state's existing program, which received final authorization in December 1990, as well as the revisions for which the state is currently seeking authorization. This Program Description supersedes the previous Program Description (1990) and is based on the state's Hazardous Waste Management Regulations sections 22a-449(c)-100 through 119, inclusive and 22a-449(c)-11 of the Regulations of Connecticut State Agencies ("RCSA") revised to September 10, 2002, which incorporate changes to the federal program through January 1, 2001.

II. SCOPE, STRUCTURE, COVERAGE OF THE CONNECTICUT PROGRAM

A. **Scope and Coverage**

1. Description of Scope and Coverage

The Connecticut Hazardous Waste Management Program regulates all generators and transporters of hazardous waste and all hazardous waste treatment, storage, and disposal ("TSD") facilities in the state in accordance with federal Environmental Protection Agency ("EPA") rules codified at 40 CFR 260 to 270, inclusive, 273, and 279. Under sections 22a-449(c)-102(a)(1), 22a-449(c)-103(a)(1), 22a-449(c)-104(a)(1), and 22a-449(c)-105(a)(1) RCSA, all new and existing generators, transporters and TSD facilities are required to notify the Commissioner of their hazardous waste activities. Connecticut also requires certain handlers of universal waste and used oil to notify in accordance with sections 22a-449(c)-113(a)(1) RCSA and 22a-449(c)-119(a)(1) RCSA, respectively.

2. RCRA Authorization Clusters Covered by this Revision

In December 1990, Connecticut received final authorization for the base program, all rules included in Recent Requirements and Non-HSWA Clusters I through V, rules in Non-HSWA Cluster VI, and HSWA Clusters I and II listed in Table 1, and state provisions listed in Table 2:

TABLE 1. Rules in Non-HSWA Cluster VI and HSWA Clusters I and II for which Connecticut is Authorized

Cluster	Checklist	Subject
Non-HSWA VI	24A	Financial Responsibility; Settlement Agreement
HSWA I	17A	Small Quantity Generators
	17B	Delisting
	17B.1	Delisting (Correction included in Checklist 17B)
	17C	Household Waste
	17D	Waste Minimization
	17F	Liquids in Landfills I
	17H	Double Liners
	17I	Ground-Water Monitoring
	17K	Fuel Labeling
	17M	Pre-construction Ban
	17P	Interim Status
	17Q	Research and Development Permits
	17S	Exposure Information
	19	Burning of Waste Fuel and Used Oil Fuel in Boilers and Industrial Furnaces
	19.1	Burning of Waste Fuel (Correction included in Checklist 19)
	23	Generators of 100 to 1000 kg Hazardous Waste
	28H	Standards for Hazardous Waste Storage and Treatment Tank systems
28H.1	Correction 1 included in Checklist 28	
34	Land Disposal Restrictions (Solvents and Dioxin)	
34.1	Land Disposal Restrictions (Correction included on Checklist 34)	
HSWA II	39	California List Waste Land Disposal Restrictions
	39.1	California List Waste (Correction 1)
	42	Exception Reporting for Small Quantity Generators
	44G	Post-Closure Permits
	47	Technical Correction to Checklist 23
	50	Land Disposal Restrictions: First Third Wastes
	50.1	(Correction 1 included in Checklist 50)
	52H	Standards for Hazardous Waste Storage and Treatment Tank Systems (Revision to Checklist 28)
	62	Technical Correction to Checklist 50
63	Land Disposal Restrictions: Second Third Wastes	

TABLE 2. State Provisions for Which Connecticut is Authorized

Federal Subject Area	State Citation	Subject
Identification and Listing of Hazardous Waste	22a-449(c)-101(b)	Conditionally Exempt Small Quantity Generators
	22a-449(c)-101(c)	Recyclable Materials
Standards Applicable to Generators of Hazardous Waste	22a-449(c)-102(b)	Generators
	22a-449(c)-102(c)	Small Quantity Generators
Standards Applicable to Transporters of Hazardous Waste	22a-449(c)-103(b)	Storage
	22a-449(c)-103(c)	Vehicles
	22a-449(c)-103(d)	Training
	22a-449(c)-103(e)	Financial Responsibility

Federal Subject Area	State Citation	Subject
Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	22a-449(c)-104(b) 22a-449(c)-104(c) 22a-449(c)-104(d)	Cost Estimates for Closure Tanks Systems Underground Injection
Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities	22a-449(c)-105(b) 22a-449(c)-105(c) 22a-449(c)-105(d) 22a-449(c)-105(e) 22a-449(c)-105(f)	Facility Containment Standards Ground Water Monitoring Cost Estimates for Closure Tank Systems Underground Injection
Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities	22a-449(c)-106(b) 22a-449(c)-106(c)	Facilities that Collect and Market Used Oil Spent Lead-Acid Batteries Being Reclaimed

Connecticut is now seeking authorization for the following rules:

- Non-HSWA VI:
- 64 Delay of Closure Period for Hazardous Waste Management Facilities
 - 65 Mining Waste Exclusion I
 - 67 Testing and Monitoring Activities
 - 70 Changes to Part 124
 - 71 Mining Waste Exclusion II
 - 72 Modifications of F019 Listing
 - 73 Testing and Monitoring Activities (Technical Correction)
 - 76 Criteria for Listing Toxic Wastes; Technical Amendment
 - 78N Land Disposal Restrictions for Third Third Wastes

- HSWA I:
- CP Hazardous and Used Oil Fuel Criminal Penalties
 - SI Sharing of Information with the Agency for Toxic Substances and Disease Registry
 - 14 Dioxin Waste Listing and Management Standards
 - 16 Paint Filter Test
 - 17E Location Standards for Salt Domes, Salt Beds, Underground Mines and Caves
 - 17G Dust Suppression
 - 17L Corrective Action
 - 17N Permit Life
 - 17O Omnibus Provision
 - 18 Listing of TDI, TDA, and DNT Wastes
 - 20 Listing of Spent Solvents (including checklist 20.1 correction)
 - 21 Listing of EDB Waste
 - 22 Listing of Four Spent Solvents
 - 25 Technical Correction (Paint Filter Test)
 - 30 Biennial Report; Correction
 - 31 Exports of Hazardous Waste
 - 32 Standards for Generators; Waste Minimization Certifications
 - 33 Listing of EBDC

- HSWA II:
- 44A Permit Application Requirements Regarding Corrective Action
 - 44B Corrective Action Beyond Facility Boundary
 - 44C Corrective Action for Injection Wells
 - 44D Permit Modification

- 44E Permit as a Shield Provision
- 44F Permit Conditions to Protect Human Health and the Environment
- 48 Farmer Exemptions; Technical Corrections
- 66 Land Disposal Restrictions; Correction to First Third Wastes (including checklist 66.1 correction)
- 68 Reportable Quantity Adjustment Methyl Bromide Production Waste
- 69 Reportable Quantity Adjustment (F024 and F025)
- 74 Toxicity Characteristics Revision (including checklist 74.1 correction)
- 75 Listing of 1,1-Dimethylhydrazine Production Wastes
- 78H Land Disposal Restrictions for Third Third Wastes
- 79 Organic Air Emission Standards for Process Vents and Equipment Leaks

RCRA I: All Rules

RCRA II: All Rules

RCRA III: All Rules

RCRA IV: All Rules

RCRA V: All Rules

- RCRA VI:
- 148 RCRA Expanded Participation
 - 150 Identification and Listing of Hazardous Waste; Amendments to Definition of Solid Waste
 - 151 Land Disposal Restrictions Phase III (including checklists 151.1-151.6)

RCRA VII: All Rules

- RCRA VIII:
- 160 Land Disposal Restrictions Phase III: Emergency Extension of K088 National Capacity Variance
 - 161 Second Emergency Revision of the Land Disposal Restrictions Treatment Standards for Listed Hazardous Wastes from Carbamate Production
 - 162 Clarification of Standards for Hazardous Waste LDR Treatment Variances
 - 163 Organic Air Emissions Standards for Tanks, Surface Impoundments and Containers; Classification and Technical Amendment
 - 164 Kraft Mill Steam Stripper and Condensate Exclusion
 - 166 Recycled Used Oil Management Standards' Technical Correction and Clarification (including Checklist 166.1)
 - 167A Land Disposal Restrictions Phase IV: Treatment Standards for Metal Wastes and Mineral Processing Wastes
 - 167B Land Disposal Restrictions Phase IV: Hazardous Soils Treatment Standards and Exclusions
 - 167C Land Disposal Restrictions Phase IV: Corrections (including Checklist 167C.1)
 - 167D Mineral Processing Secondary Materials Exclusion
 - 167E Bevill Exclusion Revisions and Clarification
 - 167F Exclusion of Recycled Wood Preserving Wastewaters

- RCRA IX: 169 Petroleum Refining Process (including Checklist 169.1)
 170 Land Disposal Restriction - Phase IV
 171 Emergency Revision of LDR Treatment Standards
 172 Emergency Revision of LDR Treatment Standards
 173 Land Disposal Restrictions Treatment Standards (Spent Potliners)
 176 Universal Waste Rule: Technical Amendment
 177 Organic Air Emission Standards
 178 Petroleum Refining Process Wastes
 179 Land Disposal Treatment Standards: Technical Corrections and Clarifications
 180 Test Procedures for the Analysis of Oil and Grease and Non-Polar Material
- RCRA X: 181 Universal Waste Rule
 182 NESHAPS: Final Standards for Hazardous Air Pollutants for Hazardous Waste Combustors (MACT Rule)(including Checklist 182.1)
 183 Land Disposal Restrictions; Wood Preserving Wastes, Metal Wastes, Zinc Micronutrients Fertilizer, etc.
 184 Wastewater Treatment Sludges from Metal Finishing Industry; 180 day Accumulation Time
 185 Organobromine Production Wastes
 187 Organobromine Production Waste and Petroleum Refining Process Waste: Technical Correction
- RCRA XI: 189 Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Chlorinated Aliphatics Production Wastes; Land Disposal Restrictions for Newly Identified Wastes; and CERCLA Hazardous Substance Designation and Reportable Quantities
 190 Deferral of Phase IV Standards for PCBs as a Constituent Subject to Treatment in Soil

In addition to these rules, Connecticut is seeking authorization for new state provisions identified in Table 3, except for those state-only provisions which are broader in scope as described in A.5.2 of this section.

TABLE 3: State Provisions for Which the State is Seeking Authorization

Federal Subject Area	State Citation	Subject
Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	22a-449(c)-104(e)	Management of Containers
Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities	22a-449(c)-105(g) 22a-449(c)-105(h)	Management of Containers Corrective Action at Interim Status Disposal Facilities
Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities	22a-449(c)-106(b)	Recyclable Materials Utilized for Precious Metals Recovery
Land Disposal Restrictions	22a-449(c)-108(b) 22a-449(c)-108(c)	Underground Injection Prohibition Other Applicable State Provisions

Federal Subject Area	State Citation	Subject
The Hazardous Waste Permit Program	22a-449(c)-110(a)(3) 22a-449(c)-110(b)	Public Informational Meetings Fees
Standards for Universal Waste Management	22a-449(c)-113(b) 22a-449(c)-113(c) 22a-449(c)-113(d) 22a-449(c)-113(e) 22a-449(c)-113(f)	Applicability – Used Electronics Used Electronics – Standards for Small Quantity Handlers Used Electronics – Standards for Large Quantity Handlers Used Electronics – Standards for Transporters Used Electronics – Standards for Destination Facilities
Standards for the Management of Used Oil	22a-449(c)-119(b) 22a-449(c)-119(c) 22a-449(c)-119(d) 22a-449(c)-119(e)	Used Oil Generators Used Oil Transporters Used Oil Processors and Re-refiners Other Applicable Requirements

Connecticut is adopting but not seeking authorization for non-delegable rules and provisions related to a) exports of hazardous waste; b) case-by-case extensions to an effective date for a land disposal restriction (“LDR”); c) petitions to allow land disposal of prohibited waste; and d) variance from a LDR treatment standard. Non-delegable rules include checklists 97 and 152. Non-delegable provisions are also found in checklists 31, 66, 78, 109 and 162.

Connecticut is not adopting rules identified in Table 4.

TABLE 4. Rules Not Adopted

Cluster	Checklist	Comment
HSWA I	SR1	Requirements for existing surface impoundments are obsolete and requirements for newly regulated surface impoundments are now codified at 40 CFR 265.221 - See Checklist 100
	SR2	Variances for facilities covered by SR1 are either obsolete or codified at 40 FR 265.221 – See Checklist 100
	BB	Exceptions to the burning and blending of hazardous waste are now codified at 40 CFR 261.6(a)(3)(vi) - See Checklists 85 and 19
	17J	Rule replaced by BIF
	17R	Superseded by Checklist 31
HSWA II	77	Superseded by Checklist 100
RCRA VI	145	CT does not allow free liquids mixed with a sorbent to be landfilled unless the container is a lab pack.
RCRA VIII	168	Fast track provisions have no applicability in CT; CT did not adopt the less stringent provisions related to comparable fuels/syngas.
RCRA IX	174	Given the short timeframe established by Public Act 01-204 ¹ for updating the regulations, these rules were not adopted in this revision. However, these rules will be considered during the next revision of the state’s regulations.
	175	
RCRA X	186	Rule not applicable to state programs.

¹ Section 5 of P.A. 01-204 provides, in pertinent part, that: [t]he regulations promulgated by the federal Environmental Protection Agency as of January 1, 2001, that implement Subtitle C of the Resource Conservation and Recovery Act of 1976... shall replace the regulations promulgated pursuant to chapters 445, 446d and 446k of the general statutes that pertain to the regulation of hazardous waste unless, prior to January 1, 2002, the Commissioner of Environmental Protection has issued a public notice of intent to adopt such federal regulations and such regulations are submitted to the Secretary of the State, as provided under chapter 54 of the general statutes, no later than June 30, 2002.

Cluster	Checklist	Comment
RCRA XI	188 191,192,193	This rule revises provisions related to comparable fuels/syngas and CT did not adopt those provisions. Post January 1, 2001. To be considered in the next revision of the state's regulations.

3. Regulatory Checklists

Reference should be made to the document entitled "Regulatory Documentation for Federal Provisions for which Connecticut is Seeking Authorization" for details regarding equivalency of the state program with the federal program. This document is attached to the state's Attorney General Statement.

4. Public Process for Program Revision

The Department of Environmental Protection ("the Department") updated its hazardous waste management regulations in two phases. In phase one, which incorporated the federal regulations through July 1, 1995, the Department sought public participation early in the program review process. A Commissioner's Advisory Subcommittee, which included consultants, attorneys, environmental interest groups, and members of the regulated community, was established to provide input during the development of the proposed revisions. The second phase of the update incorporated the federal regulations through January 1, 2001. However, due to the short timeframe imposed in part by Public Act 01-204¹ for updating the regulations, the Department was unable to include the Advisory Subcommittee in the development of the second phase of revisions.

For each phase of the revision process, a public notice was issued and a hearing was held in accordance with the Conn. Gen. Stat. 4-168 and the Department's Rules of Practice, sections 22a-3a-2 to 22a-3a-6 RCSA, inclusive, as follows:

When the proposed revisions to the regulations were complete, notice of the Department's intent to adopt regulations was published in the Connecticut Law Journal. The notice included a) a description of the proposed regulations which was sufficiently detailed to notify the people who were likely to be affected of the subjects and issues involved, b) a statement of the purpose for which the revisions were proposed, c) a reference to the statutory authority for the regulation, and d) when, where and how interested parties could obtain a copy of and comment on the proposed regulation, including the date of the scheduled public hearing.

Following the publication, any interested person could comment on the proposed regulations during the public comment period (which was at least thirty (30) days) and at the public hearing. After considering all comments received, the hearing officer prepared a Statement of Reasons which contained a) the final wording of the proposed regulation, b) a written statement of the principal reasons in support of the final proposed regulations, and c) a response to the principal considerations raised in opposition to the Department's proposed regulations and the reasons for rejecting any such considerations. At least twenty (20) days before submitting the proposed regulations to the Legislative Regulation Review Committee for approval, the Statement of Reasons and a notice of the Department's intent to proceed with the adoption of the proposed regulations was sent to all interested parties, including all commenters.

5. Differences in the State Program

1. *Areas where the State program is more stringent than the Federal program*

- a. **Recyclable Materials.** Persons recycling hazardous waste under the provisions of 40 CFR 261.6(b) and (c)(2) are required (with certain specified exemptions) to file a recycling registration and to submit biennial reports of their recycling activities to the Commissioner (22a-449(c)-101(c) RCSA). In addition, persons managing precious metal recyclable hazardous wastes under the provisions of 40 CFR 266.70 must comply with certain marking and labeling requirements, and submit a recycling registration and biennial reports to the Commissioner (22a-449(c)-106(b) RCSA). Federal regulations do not include analogous requirements.
- b. **Hazardous Waste Determinations.** Under section 22a-449(c)-102(a)(2)(A) RCSA, all generators must perform hazardous waste determinations at least once during each twelve-month period or whenever a process generating a waste changes. Federal regulations do not specify such a schedule for performing hazardous waste determinations.
- c. **Large Quantity Generators (“LQG”).** Connecticut’s LQG requirements are more stringent than the federal regulations. Most notably:
 - i. In addition to the federal requirements, LQGs must also comply with requirements for secondary containment in container storage areas, general inspections of facility structures, equipment and operations, demonstrations regarding aisle space, handling of ignitable, reactive and incompatible wastes, waste analysis and trial tests for tanks systems, and certain closure requirements applicable to facilities (22a-449(c)-102(a)(2)(E), (F) and (K), 22a-449(c)-102(b) RCSA);
 - ii. In addition to the federal requirements for satellite accumulation areas, LQGs must also comply with maintenance and operation requirements and certain requirements regarding the management of containers applicable to facilities (22a-449(c)-102(a)(2)(M) RCSA); and
 - iii. LQGs must comply with additional state requirements regarding marking/labeling, manifests and release reporting (22a-449(c)-102(a)(2)(J), (N) and (P), 22a-449(c)-102(b)(3) RCSA).
- d. **Small Quantity Generators (“SQG”).** Connecticut’s SQG requirements are more stringent than the federal SQG requirements. Most notably:
 - i. In any given month, a SQG may generate no more than 100 kg of contaminated soil, debris or residue resulting from the clean up of a spill of acute hazardous waste. In addition, such contaminated soil, debris or residue cannot contain more than 1 kg of acute hazardous waste. Federal regulations do not include such a limitation (22a-449(c)-100(c)(28)(B) RCSA);
 - ii. Connecticut does not provide an exemption from the manifesting requirements for SQG waste reclaimed under contractual agreement (section 22a-449(c)-102(a)(1)(A) RCSA);
 - iii. Under federal regulations, the amount of waste accumulated by a SQG may not exceed 6000 kg without obtaining a permit or having interim status. In Connecticut, the amount of waste accumulated by a SQG may not exceed 1000 kg (section 22a-449(c)-102(a)(2)(O) and (Q) RCSA);

- iv. SQGs may only accumulate waste in a tank or container and may not operate uncovered tanks (22a-449(c)-102(c) RCSA);
 - v. In addition to the federal requirements, SQGs must also comply with requirements for pre-transport, manifesting, secondary containment for containers, general inspection and certain closure requirements applicable to LQGs or facilities (section 22a-449(c)-102(c) RCSA); and
 - vi. SQGs must comply with additional state requirements regarding marking/labeling, recordkeeping, manifesting and release reporting (22a-449(c)-102(a)(2)(J), (P) and (EE), 22a-449(c)-102(c) RCSA).
- e. Conditionally Exempt Small Quantity Generators ("CESQG"). Connecticut's CESQG requirements are more stringent than the federal requirements. Most notably:
- i. In any given month, a CESQG may generate no more than 100 kg of contaminated soil, debris or residue resulting from the clean up of a spill of acute hazardous waste. In addition, such contaminated soil, debris or residue cannot contain more than 1 kg of acute hazardous waste. Federal regulations do not include such a limitation (22a-449(c)-101(a)(2)(P) RCSA);
 - ii. Hazardous waste generated by a CESQG can not be sent to a municipal solid waste landfill in Connecticut (22a-449(c)-101(a)(2)(S) and (U) RCSA);
 - iii. Under federal regulations, a CESQG accumulating more than 1000 kg of waste becomes subject to the requirements applicable to SQGs. In Connecticut, such a CESQG becomes subject to the requirements applicable to LQGs (22a-449(c)-101(a)(2)(T) RCSA);
 - iv. If hazardous waste generated by a CESQG is mixed with non-hazardous waste and the resulting mixture exceeds quantity limitations specified in 40 CFR 261.5, such mixture is subject to full regulation rather than the reduced requirements applicable to CESQGs as allowed by the federal program (22a-449(c)-101(a)(2)(V) RCSA);
 - v. Mixtures of CESQG hazardous waste and used oil are subject to the full hazardous waste regulations and not the requirements for used oil as allowed by the federal program (22a-449(c)-119(a)(1)(A) RCSA); and
 - vi. CESQGs must maintain all hazardous waste determination records for at least three (3) years from the date the waste was last sent to an on-site or off-site treatment, storage or disposal facility (22a-449(c)-101(b)(2) RCSA). There are no recordkeeping requirements for CESQGs under federal regulations.
- f. Manifesting. Connecticut requires that all sections of the manifest be completed. In addition, eight copies of the form are required rather than four as required by the federal program. (22a-449(c)-102(a)(2)(GG) and (HH), 22a-449(c)-102(b)(3), 22a-449(c)-104(a)(2)(H) and (I), 22a-449(c)-105(a)(2)(I) and (J) RCSA). See Appendix D for a copy of the state's manifest form.
- g. Transporters (excluding universal waste transporters). Connecticut requires transporters to train their personnel (22a-449(c)-103(d) RCSA). There is no federal analog to this requirement. In addition, Connecticut has adopted more stringent requirements regarding permitting. If a transporter stores hazardous waste somewhere other than in or on a vehicle for any period of time, such transporter must obtain a RCRA permit for that storage activity (22a-449(c)-103(b)(1) RCSA). Federal regulations (40

CFR 270.1(c)(2)(vi)) exclude transporters storing waste in containers at a transfer facility for less than 10 days from the permitting requirements. Also, storage of hazardous waste in or on a vehicle for more than 72 hours requires approval from the Commissioner (22a-449(c)-103(b)(2) RCSA). No federal analog to this requirement exists.

- h. Lead-acid batteries. Persons managing lead-acid batteries may manage such batteries under 40 CFR 266 as incorporated by section 22a-449(c)-106 RCSA, or under the universal waste rule as incorporated by 22a-449(c)-113 RCSA. If a person chooses to manage lead-acid batteries under 40 CFR 266, such person must comply with additional state management, inspection and registration requirements (22a-449(c)-106(c) RCSA).
- i. Boilers and Industrial Furnaces (“BIF”). Connecticut did not incorporate 40 CFR 266.100(b) which replaced the standards applicable to BIFs in 40 CFR 266 subpart H with the maximum achievable control technology (“MACT”) requirements of 40 CFR 63, subpart EEE. Since the state did not adopt this provision, BIF owners/operators must continue to comply with the more stringent standards of 40 CFR 266, subpart H (22a-449(c)-106(a)(1)(B) RCSA). In addition, owners/operators of smelting, melting and refining furnaces must submit a waste analysis plan describing how they will sample and analyze hazardous waste and otherwise comply with 40 CFR 266.100(d) or (g) (22a-449(c)-106(a)(2)(E) and (O) RCSA). There is no federal analog to this requirement.
- j. Treatment, Storage and Disposal Facilities (“TSDF”). Under sections 22a-449(c)-104(d) and 22a-449(c)-105(f) RCSA, Connecticut prohibits the underground injection of hazardous waste.
- k. Groundwater Monitoring. Connecticut’s groundwater monitoring regulations for interim status facilities are more stringent than the provisions of 40 CFR 265, Subpart F. A site-specific parameter list and more frequent sampling and reporting are required. These more stringent provisions may be reduced to the federal minimum requirements if deemed appropriate by the Commissioner (22a-449(c)-105(c) RCSA).
- l. Permitting. Connecticut’s permitting requirements are more stringent than federal permitting requirements. Most notably:
 - i. If the Commissioner denies a permit for a facility, or if a facility’s interim status is terminated in a manner other than through issuance of a permit, the owner or operator of such facility must comply with the closure/post-closure and financial requirements of 40 CFR 264 subparts G and H (22a-449(c)-110(a)(2)(T) and (SS) RCSA). No explicit federal analog to this requirement exists;
 - ii. When issuing, renewing, transferring, modifying, or revoking a permit, the Commissioner considers the record of the applicant or permit holder regarding compliance with the environmental laws of Connecticut, all other states and the federal government. In addition, applicants and permit holders may be required to submit to a state and national criminal history records check. Such compliance history reviews are conducted pursuant to Conn. Gen. Stat. 22a-6m. No federal analog to this requirement exists;
 - iii. Federal regulations exempt Class 1 and 2 modifications from the requirements of 40 CFR 124.5. However, pursuant to Conn. Gen. Stat. 22a-6h, the Commissioner must, at least thirty days prior to approving or denying an application for a Class 1 or 2 permit modification, publish notice of his tentative determination regarding such application in a newspaper having substantial circulation in the

affected area. In addition, the Commissioner must provide notice of his tentative determination to the chief elected official of the municipality in which the regulated activity is proposed;

- iv. If the Commissioner decides not to hold a public hearing regarding a draft permit, the Commissioner must hold a public informational meeting regarding such draft permit (22a-449(c)-(a)(2)(III) RCSA). The public notification requirements for informational meetings are identical to the public notification requirements for hearings (22a-449(c)-(a)(2)(YY), (BBB), (DDD), (EEE), (GGG) and (HHH) RCSA; and
 - v. Under Conn. Gen. Stat. 22a-454(a), hazardous waste permits issued by the Commissioner shall be valid for a fixed term not to exceed 5 years. Federal regulations allow RCRA permits to be effective for a fixed term not to exceed 10 years.
- m. Used Oil. Connecticut's used oil requirements are more stringent than the federal requirements in many areas. Most notably:
- i. Used oil collection centers must obtain a permit from the Commissioner (22a-449(c)-119(a)(2)(A), (Q) and (R) RCSA).
 - ii. Storage time allowed at used oil transfer facilities is limited to 10 days rather than 35 days (22a-449(c)-119(a)(2)(A) and (DD) RCSA).
 - iii. Mixing characteristic hazardous waste with used oil is prohibited unless such mixing facilitates the recycling of the hazardous waste (22a-449(c)-119(a)(2)(D) RCSA).
 - iv. Analytical testing is required to demonstrate that used oil meets the fuel specification of 40 CFR 279.11. In addition, such testing must utilize EPA-approved test methods, or alternative methods approved by the Commissioner in writing prior to use (22a-449(c)-119(a)(2)(G), (ZZ), (UUU), (VVV) RCSA).
 - vi. The use of used oil as a dust suppressant is prohibited (22a-449(c)-119(a)(2)(H) and (ZZZ), 22a-449(c)-119(a)(1)(B)) RCSA).
 - vii. No person may burn used oil in a boiler, heater or similar device used to heat a residential building. In addition, no person may sell, offer for sale or make available, used oil for burning in a boiler, heater or similar device used to heat a residential building (22a-449(c)-119(a)(2)(J), (FFF), (TTT), and (YYY) RCSA).
 - vi. Used oil transporters, transfer facilities, processors and re-refiners must notify the Commissioner in the event of a spill and to comply with applicable state spill reporting and notification requirements (22a-449(c)-119(a)(2)(W) and (MM) RCSA).
 - vii. Used oil transporters, transfer facilities, processors and re-refiners, and burners must ensure that total halogen samples are representative, and must use certain specified test methods or alternative methods approved by the Commissioner (22a-449(c)-119(a)(2)(Z), (PP) and (III) RCSA).
 - viii. Used oil processors and re-refiners are subject to additional closure requirements (22a-449(c)-119(a)(2)(AAA), 22a-449(c)-119(d) RCSA).

- ix. Used oil that is not recycled cannot be managed under 40 CFR 279 (not just that which cannot be recycled, as indicated in the federal rules) (22a-449(c)-119(a)(2)(YYY) RCSA).
- x. Used oil generators must: (1) determine the total halogen content of their used oil; (2) if necessary, rebut the presumption of mixing with halogenated hazardous waste; and, (3) maintain records of analyses or other information used to comply with total halogen determinations (22a-449(c)-119(b)(1)(A) and (B) RCSA).
- xi. Used oil generators must comply with certain secondary containment requirements with respect to storage of used oil (22a-449(c)-119(b)(2) RCSA).
- xii. Used oil transporters must provide secondary containment when transferring used oil from one transport vehicle to another (22a-449(c)-119(c) RCSA).

2. *Areas where the State program is broader in scope than the Federal program*

- a. **Recyclable Materials.** In Connecticut, the Commissioner may impose additional requirements on persons engaging in recycling activities, including those recyclable materials or activities that would otherwise be exempt from regulation (22a-449(c)-101(c) RCSA). Also, the scrap metal exemption of 40 CFR 261.6(a)(3)(ii) does not apply to ignitable or reactive scrap metals in Connecticut. Scrap metals meeting the characteristics of ignitability or reactivity are subject to regulation as hazardous wastes (22a-449(c)-101(a)(2)(X) and 22a-449(c)-101(c)(1) RCSA).
- b. **Identification and Listing.** Under section 22a-449(c)-101(a)(2)(e), commercial chemical products listed in 40 CFR 261.33 are classified as a solid waste when accumulated speculatively. Federal requirements do not classify such products as a solid waste.
- c. **Generators.** LQGs, SQGs, and CESQGs may only offer hazardous waste to a transporter who has a current, valid state permit (22a-449(c)-101(b)(1), 22a-449(c)-102(b)(1), 22a-449(c)-102(c)(4) RCSA). There is no federal analog to this requirement.
- d. **Transporters.** Under Conn. Gen. Stat. 22a-454 and section 22a-449(c)-11 RCSA, hazardous waste transporters must obtain a state permit. In addition, section 22a-454-1 RCSA establishes fees for hazardous waste transporters. There are no federal analogs to state permitting and fee requirements for hazardous waste transporters.
- e. **Permitting.** In addition to RCRA permitting requirements, Conn. Gen. Stat. 22a-454 requires any person whose principal business is collecting, storing or treating waste oil, petroleum or chemical liquids, or hazardous wastes (as defined by Conn. Gen. Stat. 22a-448), any person acting as a contractor to mitigate the effects of a release of such substance or waste, and any person or municipality disposing of such substance or waste to obtain a permit from the Commissioner. Conn. Gen. Stat. 22a-448 defines hazardous waste as any waste material which may pose a present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of or otherwise managed, including hazardous waste identified in Section 3001 of RCRA. Since the state's definition of hazardous waste and the universe of owners/operators subject to state permitting requirements are broader in scope than the federal program, owners/operators of commercial hazardous waste facilities that are exempt from RCRA permitting requirements under the federal program may require 22a-454 state permit. Examples

of wastes and facilities excluded from federal permitting requirements but are subject to state permitting requirements include: wastes excluded from the definition of solid or hazardous waste under 40 CFR 261.3 and 261.4; certain recyclable materials utilized for precious metal recovery under 40 CFR 266.70; metal recovery furnaces exempted under 40 CFR 266.100(d); precious metal recovery furnaces exempted under 40 CFR 266.100(g); owners/operators of used oil processing and re-refining facilities; soil treatment facilities; mobile recycling activities; recycling facilities that do not store waste prior to recycling; and transfer facilities storing wastes for 10 days or less. In addition, Connecticut law requires Siting Council Approval for hazardous waste facilities. Conn. Gen. Stat. 22a-117 prohibits commencement of construction or modification of a hazardous waste facility, unless such person has been issued a certificate of public safety and necessity by the Connecticut Siting Council or such person is exempt from the requirement pursuant to Conn. Gen. Stat. 22a-117(b). There is no federal analog to the state's siting requirements.

- f. Fees. Section 22a-449(c)-110(b) RCSA and Conn. Gen. Stat. 22a-454(d) establish fees for hazardous waste permits and certain status changes. There is no federal analog to state fees.
- g. Used Oil. Connecticut expanded the federal definition of "used oil" to include waste oil that has not been used but is no longer suitable for the services for which it was manufactured due to the presence of impurities or a loss of original properties (22a-449(c)-100(c)(35) and 22a-449(c)-119(a)(2)(A) RCSA). In addition, under Conn. Gen. Stat. 22a-454(a), facilities in the business of collecting, storing, or treating used oil must obtain a state permit. Such facilities are not required to obtain a permit under federal regulations.

3. *Areas where the State program differs from the Federal program*

- a. Freedom of Information. Connecticut's regulations do not incorporate federal provisions regarding availability and confidentiality of information (section 22a-449(c)-100(b)(1)(B) RCSA). Rather, the state's Freedom of Information Act ("FOIA") (section 1-200 et. seq. of the Connecticut General Statutes) governs the availability and confidentiality of information in Connecticut.
- b. Interim Status Facilities. Under section 22a-449(c)-105(h) RCSA, interim status facilities must comply with state requirements regarding corrective action at disposal facilities (See Section VII of this Program Description for a complete discussion of the state's corrective action program).
- c. Chlorinated Aliphatics. Under federal regulations, K174 wastes are not classified as hazardous wastes if certain requirements are met. Connecticut classifies K174 wastes as hazardous waste but excludes these wastes from transportation, and TSDF management and permitting requirements provided certain requirements are met (22a-449(c)-101(a)(2)(EE), (GG) and (HH), 22a-449(c)-108(a)(2)(V), (BB), and (DD) RCSA). While Connecticut's approach is different, the state's requirements for these wastes are equivalent to the federal requirements.
- d. Universal Waste. In addition to batteries, pesticides, thermostats and lamps included in the federal universal waste rule, Connecticut added used electronics to the state's universal waste rule (22a-449(c)-113 RCSA).
- e. Used Oil. Connecticut modified the federal provisions for rebutting the presumption that used oil has been mixed with F001 or F002 wastes (22a-449(c)-101(a)(2)(G), 22a-449(c)-119(a)(2)(B), (BB), (RR), and (KKK), 22a-449(c)-119(b)(1)(B) RCSA). This modification incorporates EPA's long-standing

policy that if used oil is analyzed and found not to contain more than 100 ppm of any of the compounds associated with F001 and F002 wastes, such used oil is not considered to be mixed with halogenated hazardous waste. As modified, Connecticut's rebuttable presumption provisions are equivalent to the federal requirements.

B. Structure of Connecticut Program

Pursuant to Conn. Gen. Stat. 22a-449(c), the Commissioner is authorized to adopt regulations to carry out the intent of RCRA Subtitle C and to enforce such regulations. The Department is the sole agency responsible for implementing the state's hazardous waste management program. The organization of the Department is detailed in Appendix A, Figure 1.

Within the Department, the Bureau of Waste Management is designated as the lead in administering the program. The Bureau of Waste Management is responsible for the state's previously authorized program as well as the program revisions. The Bureau of Waste Management is included in the Air, Water, Waste Programs. The organization of the Bureau of Waste Management is shown in Appendix A, Figures 2 and 3 respectively.

Two Divisions within the Bureau of Waste Management have RCRA responsibilities: the Waste Engineering and Enforcement Division, and the Remediation/Planning and Standards Division. As part of a limited reorganization in 2003, the Remediation Section of the Bureau of Water Management was moved into the Waste Planning and Standards Divisions, resulting in all of the Department's remediation programs now residing in one bureau. The organization of the Remediation/Planning and Standards and Engineering and Enforcement Divisions is shown in Appendix A, Figures 4 and 5 respectively.

The Bureau of Waste Management also includes the Oil and Chemical Spill Response Division, and the Pesticide, PCB, and Underground Storage Tank Division. All Divisions report to the Bureau Chief.

The Bureau of Waste Management works in cooperation with other Bureaus within the Department including the Bureaus of Air Management and Water Management. Staff of the Bureau of Water Management's Permitting, Enforcement and Remediation Division is directly involved in corrective action activities. The organization of this Division is shown in Appendix A, Figure 6.

Many other agencies and groups in Connecticut are involved in work related to the state's hazardous waste management program. A brief description of these agencies and groups including their activities and areas of expertise is provided below.

Connecticut Chief State's Attorney's Office

The Chief State's Attorney's Office is responsible for coordinating all criminal investigations and prosecutions for criminal violations of environmental laws. The Environmental Crimes Unit works with DEP's program to investigate alleged criminal violations. Under Conn. Gen. Stat. 22a-131a, a state court may impose a fine of up to \$250,000 for individuals (\$1,000,000 for corporations) and may require imprisonment of up to fifteen years for certain criminal violations of environmental laws.

Office of the Attorney General

The Office of the Attorney General has the authority to represent the Department in civil court proceedings. The Attorney General's Environmental Protection staff provides assistance in civil matters, seeking enforcement of orders, injunctions and recovery of civil penalties. Under Conn. Gen. Stat. 22a-131, the Attorney General may impose civil penalties of up to \$25,000 per day per violation.

Connecticut Siting Council ("CSC")

The Connecticut Siting Council was established under Conn. Gen. Stat. 22a-114. The council has the responsibility for siting and evaluating the need for new or expanded hazardous waste facilities in Connecticut. The council reviews applications for a Certificate of Public Safety and Necessity, oversees and facilitates negotiations between developer and host community, and performs other related activities.

CONNSTEP

The Connecticut Department of Economic and Community Development sponsors CONNSTEP, the Connecticut State Technology Extension Program, with support from the National Institute of Standards and Technology Manufacturing Extension Program, and Connecticut manufacturers. CONNSTEP's mission is to help Connecticut manufacturers apply advanced manufacturing and management techniques to become more competitive, supporting the growth of Connecticut's economy. CONNSTEP offers up to 16 hours of free direct technical assistance on manufacturing and business issues including federal and state environmental awareness and current pollution prevention alternatives.

Department of Public Health ("DPH")

The Department consults with DPH regarding any regulation affecting public health. DPH analyzes media samples submitted by Department RCRA personnel to determine the identity and concentration of chemical contaminants. Samples may be collected by RCRA staff during complaint investigations, pursuit of enforcement actions, clean-up operations, or during routine inspections of hazardous waste facilities and generators. In addition to DPH, samples may also be submitted to private certified labs, as allowed pursuant to Conn. Gen. Stats. 22a-6 and 22a-424.

EPA

The Department works with EPA to ensure that the RCRA program is implemented effectively in Connecticut. The two agencies share information and allocate resources to ensure that complaints are investigated and appropriate follow-up action is taken.

Northeast Hazardous Waste Coordination Committee

The Northeast Hazardous Waste Coordination Committee consists of 14 member states, and meets periodically to discuss and coordinate interstate hazardous waste enforcement matters. EPA and the U.S. Department of Justice are represented at committee meetings. The work of the committee enhances the spirit of regional law enforcement communication and cooperation.

In particular, the committee provides technical training for inspectors and civil and criminal investigators, fostering coordination among administrative, civil and criminal investigatory and enforcement agencies.

The committee maintains a computer information pointer system which allows quick cross referencing of cases in the various states and assists each state in contacting appropriate enforcement personnel in other states.

U.S. and Connecticut Departments of Transportation

The Department works with the U.S. and Connecticut Departments of Transportation in coordinating the regulation of hazardous materials transported within the State of Connecticut.

III. RESOURCES: STAFFING AND FUNDING

A. Staffing

The RCRA hazardous waste program is administered by two Divisions within the Bureau of Waste Management ("the Bureau"): the Waste Engineering and Enforcement Division ("WEED") and the Planning and Standards Division ("PSD"). Each Division Director reports to the Bureau Chief, who ensures consistency and coordination among each program. The Bureau currently has 49 positions with 40.6 full time equivalent ("FTE") allocated to the RCRA program.

Staff occupations are identified by the job titles shown in Appendix A, Figures 3 and 4. Appendix B contains specifications for each of the job titles utilized by these Divisions that pertain to the RCRA program. Each group having RCRA responsibility is described below with FTE information provided.

1. Office of the Bureau Chief

The Office of the Bureau Chief has 2 positions with 0.7 FTE for the RCRA program. These positions are responsible for insuring consistency and coordination within the RCRA program and include the Bureau Chief and an environmental analyst.

2. The Waste Engineering and Enforcement Division

WEED has primary responsibility for administering Conn. Gen. Stat. 22a-448 to 22a-454, inclusive. There are 34 RCRA positions assigned to WEED with 29.1 FTE for the RCRA program. Currently, 4 of these positions are vacant (3.8 FTE). WEED is the lead for a) compliance and enforcement activities for hazardous waste generators, transporters and facilities; b) the permitting of treatment, storage and disposal facilities and transporters; and c) closure/post-closure activities. WEED staff also provide consultation in technical and procedural matters and coordinate efforts among state and federal agencies in matters relating to hazardous waste.

Office of the Director

The Office of the Director has 3 positions with 2.3 FTE for RCRA. Currently, 2 of these positions are vacant (1.8 FTE). These positions are responsible for oversight of WEED and include the Director, an Assistant Director and an Administrative Assistant.

Enforcement and Compliance Assurance Program

The Enforcement and Compliance Assurance Program is subdivided into two districts (Eastern and Western), each having responsibility for a geographical area encompassing a similar number of regulated entities. There are 19 positions assigned to this program (17.7 FTE for RCRA). Currently, one of these positions is vacant having a FTE of 1.0. Field inspectors and environmental analysts perform inspections and investigations concerning compliance with the RCRA regulations. Their reports are utilized to support follow-up enforcement actions that are drafted and managed by office staff assigned to the districts. Field and office staff are comprised of engineers, geologists, biologists, and environmental scientists. In addition, staff of this program are responsible for the groundwater monitoring program at hazardous waste facilities. Staff involved in groundwater monitoring have backgrounds in geology, hydrology, chemistry, and engineering. Clerical staff also assist in the administration of the Enforcement and Compliance Assurance Program.

RCRA Permitting Program

The RCRA Permitting group handles the processing of applications for transporter and RCRA Part B permits, and the review of financial responsibility records. There are 6 positions (4.4 FTE) assigned to the RCRA Permitting program. Currently, one of these positions (1.0 FTE) is vacant. Staff are comprised of engineers, environmental analysts (having backgrounds in chemistry and biology), and clericals. The engineers and analysts review and process applications for hazardous waste permits, provide technical assistance to industry and the public, and work with EPA staff on particularly complex or dual permit issues. Staff from RCRA Permitting and Enforcement and Compliance Assurance Programs work closely with one another to ensure consistency between the two programs.

Program Analysis

The Program Analysis group provides support to the other groups in WEED. This group gathers and disseminates information to the other groups, develops regulations, drafts authorization applications, coordinates special projects, strategic planning, annual reporting and grant applications, oversees OSHA Health and Safety training, conducts policy research and development, provides public education, outreach, and technical assistance, develops guidance documents, and processes status change requests. There are 6 positions assigned to the Program Analysis group totaling 4.7 FTE. Program Analysis staff consist of engineers, environmental analysts (with backgrounds in engineering, biology, and chemistry), and clericals.

3. The Remediation and Planning and Standards Division

This Division is responsible for most remediation programs, including corrective action, plus the state's manifest tracking and biennial reporting systems, budgeting and program finances. The Division has 10.8 FTE devoted to RCRA activities.

Office of the Director

The Office of the Director has 1 position having a FTE of 0.2. The Director is responsible for oversight of the PSD.

Information Management Program and the Business Office

The Information Management Program oversees the manifest tracking system and the biennial reporting program's data management system. There are 5 positions in this group, all assigned to RCRA. Currently, one of these positions is vacant having a FTE of 1.0. These positions include clerical and information technology staff, and environmental analysts (planning).

Business Office

Fiscal Administrators in the Business Office oversee program budgeting and finances. There are 2 positions (0.6 FTE).

RCRA Corrective Action and Closure

The Remediation Section of the PSD is responsible for multiple remediation programs, both non-RCRA and RCRA. The RCRA programs include closure/post-closure activities and permitting at generator and facility sites and remediation activities at RCRA corrective action facilities. There are 5 FTEs assigned for corrective action and closure activities. Staff consists of engineers and environmental analysts with backgrounds in geology, chemistry, hydrology and environmental science. See Section VII of this Program Description for a complete discussion of staffing resources for the state's corrective action program.

B. Changes from Previous Authorization

1. Staffing Levels and Reorganizations

Although staffing levels have fluctuated since the state's previous authorization application, with the filling of four vacancies, current staffing levels will be essentially the same as they were in 1990. In addition, while the responsibilities carried out by the RCRA programs within the Bureau of Waste Management have remained relatively unchanged, the presence of the Remediation programs provides much greater flexibility for these programs through the availability of additional resources.

Current organizational charts are attached in Appendix A. However, these charts represent a transitional structure for the Bureau. The Department is currently in the process of an additional reorganization evaluation, and it is anticipated that these charts will change in the near future. Once the new organization of the Bureau has been established, updated charts will be submitted as an addendum to this Program Description.

2. Size of Regulated Community

Although, due to pollution prevention and waste minimization efforts, there have been significant shifts between regulatory status categories over the last ten years, the overall size of the regulated community has remained fairly constant. The shifts from TSDf to generator and LQG to SQG mostly happened in the mid-1990s, while the shifts from SQG to CESQG are on-going. It is estimated that there are currently 215 TSDfS, 547 LQGs, and 2028 SQGs. Since CESQGs are not required to notify the Commissioner of their hazardous waste activities, it is not possible to accurately estimate the number of CESQGs in the state. However, increased efforts to obtain notifications from small businesses and to revise existing notifications have increased the number of CESQGs and SQGs listed in the RCRAInfo database.

3. Program Revision Impacts

Only a few provisions for which the state is seeking authorization will impact workload or resources. These provisions are discussed below.

Newly adopted federal rules that expand the scope of the state program with respect to resources include the used oil management standards, the universal waste rule, and the 40 CFR 264 and 265, Subparts AA, BB, and CC air emission standards. In addition, the land disposal restrictions have been expanded and the state is seeking authorization for corrective action. For each of the new and modified rules, the Department is expanding inspector and enforcement staff training, compliance inspections, and outreach activities. To evaluate compliance with these rules, inspectors will be thoroughly trained and rule-specific checklists (or new sections of existing checklists) have been developed for use during compliance inspections. Any violations of the new rules will be followed-up by either an informal or a formal enforcement response. In addition, the Department is developing educational/outreach materials to keep the regulated community informed of the new requirements.

Used Oil Rule

Connecticut's used oil regulations incorporate the used oil standards of 40 CFR 279, with numerous clarifications and more stringent provisions, and some broader-in-scope provisions. The adoption of these rules brought about major changes in the way that used oil is regulated in Connecticut. In particular:

- a. It imposed new management requirements on used oil generators, transporters, transfer facilities, and processors. Previously, the used oil regulations only applied to used oil marketers and burners.
- b. It expanded the scope of the used oil rules to include all used oil that is recycled. Previously, the used oil regulations only applied to used oils which were recycled by being burned for energy recovery.
- c. It expanded the universe of materials that are subject to the regulations to include numerous wastes that previously were not subject to the used oil standards (such as filters, absorbents, and oily wastewaters).

These changes have impacted, and will continue to impact the workload and resources of Connecticut's hazardous waste program in the following ways:

- a. **Staff training.** Significant staff training will be required for the Department to successfully implement this new rule. In addition to inspectors and enforcement staff, permitting staff will also need training because Conn. Gen. Stat. 22a-454 requires the permitting of certain commercial waste handlers, including some types of used oil handlers. In addition, some RCRA TSDFs handle used oil in addition to hazardous waste, and as a result, used oil issues sometimes arise during the processing of RCRA permits. Limited staff training has already been provided several years ago, however, owing to the passage of time since that training, the presence of new staff hired since that date and other factors, additional training in the new used oil regulations will be needed to accomplish the objectives outlined above. It is anticipated that in-house training capabilities will be utilized, or, if available, that of EPA Regional staff or contractors.
- b. **Permitting.** Since Conn. Gen. Stat. 22a-454 requires certain commercial used oil handlers to obtain a permit from the Commissioner, and some RCRA TSDFs handle used oil in addition to hazardous waste, the adoption of the used oil rule will impact the state's current permitting process. The Department's current permit formats have been reviewed for consistency with the new used oil requirements and modified to

reflect the new provisions. With respect to existing RCRA permits, the state has adopted 40 CFR 270.4(a) as modified by 22a-449(c)-110(a)(2)(G) RCSA. Under the state's program, any applicable requirement not included in a facility's permit which becomes effective by statute or regulations after such permit is issued shall apply to that facility. Therefore, owners/operators of used oil facilities must comply with the new requirements in addition to their permit. However, Department staff will need to review existing permits at the time of renewal and modify such permits as needed for consistency with the new requirements. For state permits, section 22a-449(c)-119(e) RCSA provides that any person subject to the used oil requirements must also comply with the terms and conditions of any permit. As with existing RCRA permits, Department staff will review existing state permits at the time of renewal and modify such permits as needed for consistency with the new requirements.

- c. Inspection resources. Because the new used oil regulations include many more provisions and because they regulate many new materials and used oil handlers, more time will be required in performing inspections at, and preparing inspection reports for, used oil handler sites. The Department is currently in the process of revising its inspection checklists to include the new used oil provisions.
- d. Education/outreach. The Department has made a significant effort to notify members of the regulated community affected by the new used oil requirements and assist them in coming into compliance with the new rules. Numerous presentations on the new used oil regulations were made to industry and trade groups prior to, and in anticipation of, the adoption of the new rules. In addition, a comprehensive draft used oil guidance package was prepared in 1999 and has been made widely available since that time. Most recently, a fact sheet summarizing the changes made in the first phase of revisions to the state's hazardous waste regulations was distributed to all the hazardous waste handlers in Connecticut (many of which also generated used oil). This fact sheet had several sections devoted to the new used oil regulations. The Department will finalize the 1999 guidance and distribute it to the regulated community. In addition, the Department will continue its outreach efforts in the form of presentations to industrial and trade groups, participation in conferences, and so on. Such activities are consistent with DEP's Compliance Assurance Policy dated May 23, 1997. (See Appendix C for a copy of the Department's Compliance Assurance Policy.)

Universal Hazardous Waste

Connecticut's universal waste rule is essentially equivalent to the requirements of 40 CFR 273 with respect to batteries, pesticides, thermostats and lamps. In addition to these federal universal wastes, Connecticut also includes used electronics as a universal waste. The used electronics regulatory requirements mirror many of the universal waste rule management standards for the other universal wastes.

Connecticut has included a new section in its RCRA inspection checklists for evaluating compliance with the universal waste rule. In addition, a fact sheet has been prepared to provide the regulated community guidance on the new universal waste rule requirements.

Organic Air Emissions Rules

Connecticut's adoption of the air emission standards in 40 CFR 264 and 265, Subparts AA, BB, and CC will increase enforcement, inspection and analysis workloads, and place additional burdens on technical staff. The new inspection and analysis activities will be included in current RCRA compliance inspections and violations of the new rules will be managed under the current enforcement process by existing staff. Existing RCRA inspection and enforcement staff will be trained to handle their new responsibilities. Specialized equipment for

emissions detection may need to be purchased and courses on their use provided for field staff. In addition, the Department will evaluate the feasibility of meeting some or all of these inspection needs through the use of Bureau of Air Management staff.

Specific facilities that may be affected by the new organic air emission standards need to be identified and will be included in the list of state inspection priorities negotiated between the state and EPA. There will also need to be coordination between the Bureau of Waste Management and the Bureau of Air Management to integrate organic air emissions data into the state's data management system.

Since Section 22a-449(c)-110 of the Regulations of Connecticut State Agencies (RCSA), which incorporates 40 CFR 270, requires RCRA TSDF's to obtain a permit from the Commissioner, the adoption of the organic air emission standards will impact the state's current permitting process. The Department's current permit formats are being reviewed for consistency with the new subpart CC requirements and modified as needed to reflect the new provisions. With respect to existing RCRA permits, the state has adopted 40 CFR 270.4(a) as modified by 22a-449(c)-110(a)(2)(G) RCSA. Under the state's program, any applicable requirement not included in a facility's permit that becomes effective by statute or regulations after such permit is issued shall apply to that facility. Therefore, owners/operators of affected facilities must comply with the new requirements in addition to those in their existing permit. However, Department staff will need to review existing permits at the time of renewal and modify such permits as needed for consistency with the new requirements.

Land Disposal Restrictions

Connecticut's land disposal restriction (LDR) requirements, found at section 22a-449(c)-108 RCSA, incorporate by reference the provisions set forth in 40 CFR 268, with certain state-specific changes. The federal LDR regulations have continually evolved since they were first promulgated in 1980 and Connecticut is currently authorized through the Second Third of the LDR regulations. Connecticut is now seeking authorization for the federal LDR standards through January 1, 2001 which include Phase IV of the LDR. The Department has updated its inspection checklists to include LDR requirements and related fact sheets are in the process of being updated. In addition, training will be provided to staff on LDR compliance and enforcement issues, as such training becomes available.

Corrective Action

See Section VII of this Program Description for a complete discussion of the state's corrective action program.

4. Program Funding

The following table presents estimated costs associated with the state program as well as funding sources. These numbers include the cost of technical and administrative support as well as other costs to the program (i.e. fringe, contractual, travel, supplies, equipment and other expenses). Costs are also projected over the next two years.

Fiscal Year	Federal Funds	State Funds	Total
2004-2005	2,475,000	904,645	3,379,645
2005-2006	2,625,000	958,924	3,583,924
2006-2007	2,625,000	1,016,459	3,641,459

*EPA approved funding total.

Program funding is negotiated during the Performance Partnership Agreement and the Performance Partnership Grant development process. While additional funding may be necessary to enhance activities in program development, GIS, waste minimization, corrective action and state authorization, the state has sufficient funding to cover the costs, projected over the next two years, for the current program as well as the program revisions presented in Section II.

IV. STATE PROCEDURES, PERMITTING, AND INTERAGENCY COORDINATION

1. Statutory Changes/Rules Procedures

Federal regulations require the state to make statutory and regulatory amendments to conform to changes in the federal program within specified time periods. The Connecticut legislature meets every year: from January to early June in odd-numbered years and from February to early May in even-numbered years. Therefore, the state can enact conforming statutory amendments once a year. Connecticut has a bicameral process that involves review of all legislative proposals by various committees and final gubernatorial approval. (See Appendix D for statute adoption procedures).

The state's procedure for adopting and amending regulations is set forth in Conn. Gen. Stat. 4-168 to 4-172, inclusive, and the Department's Rules of Practice, section 22a-3a-3 RCSA. (See Appendix D for regulation adoption procedures and timeline.)

2. Notification of Hazardous Waste Activity

Upon request, the Department sends a Notification of Regulated Activity Form (EPA-8700-12) to sites required to obtain an EPA identification number. The universe of sites required to obtain an EPA Identification Number is identical to the universe regulated by federal program. Once the Department receives the completed form, it is checked for completeness and it is verified that the site has not already been assigned a number. WEED staff enters the information into EPA's RCRAInfo database and the RCRAInfo system assigns an EPA identification number to the site. The Department notifies the affected generator/facility of its assigned ID number.

Sites subject to the RCRA notification requirements that fail to obtain an EPA ID number are known as "non-notifiers." Non-notifiers are discovered through a variety of mechanisms, including complaints and referrals from other programs such as the Bureau of Water Management, the State Department of Public Health Services and local officials (e.g., the fire marshal, local health department) and review of manifest data. The Department also utilizes outreach (publications, conferences, etc.) to inform potential handlers of the notification requirements. When non-notifiers are discovered, the appropriate enforcement action as outlined in the Enforcement Response Policy, attached as Appendix K, may be pursued. In the event a non-notifier is identified by an EPA inspector, EPA will assign a "non-notifier" ID number using information collected during the inspection, enter the information into RCRAInfo and provide the information to the state.

3. Rule-Making Petitions, Variances and Waivers

Connecticut has not adopted federal regulations related to rulemaking petitions (40 CFR 260, subpart C) nor the waiver of groundwater monitoring requirements for certain surface impoundments (40 CFR 265.90(e)). With regard to the delisting procedures of 40 CFR 260, subpart C, it is appropriate, due to EPA's resources and the national scope of delisting, that this decision-making process remain with EPA, however, the state can decide not to adopt a federal delisting. If the state chooses to adopt a federal delisting, the delisted wastes do not automatically become delisted under Connecticut law, since Connecticut regulations incorporate the federal regulations by reference as of a certain date. Such wastes would become delisted the next time Connecticut updates its incorporation by reference. Should the need arise to adopt EPA's delisting of a certain waste sooner than the next update, Connecticut can at any time go through the process to amend its regulations to incorporate the delisting.

In addition, Connecticut has incorporated 40 CFR 268.44 which allows a petitioner to request a general or site-specific variance from a land disposal treatment standard. However, Connecticut is not seeking authorization for 40 CFR 268.44(a)-(g).

4. Manifest Tracking System

The Department has developed a comprehensive integrated load-by-load hazardous waste tracking system capable of accounting for most hazardous waste originating from or destined for Connecticut locations. Emphasis is placed on obtaining accurate and complete information from generators. Manifest data is stored electronically, and original copies are kept in the Department's file room for five years and are readily accessible. Manifests from prior years are boxed, catalogued and stored off-site and retrieved if the original copy is needed.

The state has adopted all federal requirements for hazardous waste manifest use by generators, transporters and destination facilities, except for the manifest exemption of 40 CFR 262.20(e) regarding small quantity generator waste reclaimed under a contractual agreement. In addition to the federal requirements, Connecticut requires generators, who provide oral instructions to transporters who cannot deliver hazardous waste to the designated facility, to provide a written follow-up of such instructions to the transporter and the Commissioner within 3 days. In addition, Connecticut requires that all sections of the manifest be completed, including all shaded areas and Items A-K. Eight (8) copies of the form are required with each copy being distributed as follows:

- Copy 1: Facility Mails to Destination State
- Copy 2: Facility Mails to Generator State
- Copy 3: Facility Returns to Generator
- Copy 4: Facility Retains
- Copy 5: Transporter 1 Retains
- Copy 6: Generator Mails to Destination State
- Copy 7: Generator Mails to Generator State
- Copy 8: Generator Retains

See Appendix E for a copy of the state's manifest form.

The manifest section received an average of 36,000 hazardous waste manifests each year from 1997 through 2001. As indicated above, the state receives copies from the generator and from the TSDF. When the manifest copies are received, they are screened to determine if the correct form has been used, whether there are errors or omissions, and for legibility. Manifests documenting only shipments of non-RCRA hazardous wastes or

shipments from CESQGs are boxed for temporary storage without cataloguing or indexing. Following review and correction, if applicable, the manifest is forwarded to data entry. In addition, field staff reviews the information contained on the manifest during inspections and flags violations of the hazardous waste management regulations.

If the manifest is not acceptable, appropriate action is taken. If the errors or omissions are minor, a phone call is made to the responsible party advising them of the correct manner to complete the form, and they are also warned that the error must not recur on future manifests.

When multiple manifest violations are discovered during inspections or record reviews, a Notice of Violation or an unilateral Administrative Order may be issued or a referral may be made to the Office of the Attorney General or Chief State's Attorney's Office.

When exception, discrepancy, or unmanifested waste reports are received, they are reviewed and the database is revised. All exception, discrepancy and unmanifested waste reports are kept on file, attached to the original manifest, if available.

In 1979, the Hazardous Waste Management Program began using a computerized data entry and reporting system for managing manifest information. In 1984, the system was revamped and improved, using a statistical software package ("SAS"). In 1995, other enhancements were made to the system to improve data quality and enhance the data entry process. Since 1998, the Department has been accepting manifest data from one large facility electronically on a quarterly basis (paper copies are still required).

The majority of the information contained on the manifest is entered into the computer and edited to ensure correctness. All copies received are indicated. The information is then transported via batch processing each night to update the master file. The Department has the capability to access these records on the computer. By entering the desired criteria, selected manifest screens can be called up for review. The paper copies of the manifest are then filed. Original copies are pulled when necessary for enforcement or other purposes.

The Department utilizes a Micro Soft Access database to run individual searches and sorts of manifest information. Queries can be made based on a number of different parameters including but not limited to: generator name or address, manifest number or EPA ID number, date, DOT shipping names, hazard class and EPA Waste Number, volumes, or a combination of these categories. The Department plans to add transporter and TSDf information to the database in the near future.

The Department has the capability of preparing custom printouts, such as reports on shipments destined for out-of-state TSDf's, or shipments coming into Connecticut from out-of-state generators, transporter reports, and summaries by waste code. The Department previously provided the Department of Revenue Services with data, which they used to base the invoices for the amount of hazardous waste generator tax. The enabling statute was sunsetted in June 2001 so this is no longer done. In addition, the Department prepares reports of shipments for which all copies of the manifest were not received or shipments with discrepancies are noted.

Department staff provides frequent technical assistance to the public regarding the preparation and use of manifests. This is performed during inspections, as a result of phone inquiries, and via announcements and workshops. Also, a variety of handbooks and facts sheets are available. In addition, Connecticut has worked closely with other New England states, assisting in the development of a New England Uniform Manifest. A Memorandum of Agreement was developed which provides for reciprocal use of New England forms.

Connecticut has also worked closely with other northeastern states, the EPA and Canada in order to promote the efficiency, effectiveness and consistency of our manifest programs.

5. Import/Export Coordination

Connecticut has incorporated the federal export/import requirements at section 22a-449(c)-102(a)(1) RCSA. While the authority to administer certain export provisions cannot be delegated to the state, Connecticut has incorporated the federal export/import requirements in their entirety.

The Department's manifest tracking system gives the Department the capability of preparing reports on hazardous waste shipments destined for out-of-state TSDF's, shipments coming into Connecticut from out-of-state generators, and transporter reports (See Section V.C.1 for a description of the manifest tracking system). This information is provided to any interested party upon request.

6. Biennial Reports

The Department uses the RCRAInfo database to determine which generators are LQGS and need to submit a Biennial Report. An extract is created from RCRAInfo with name and address information. The Department uses this list to track incoming reports and to flag delinquent reporters. EPA form 8700-13A/B (11-00) and instructions package, including special instructions for Connecticut handlers, are sent to the generators in January (See Appendix F for a copy of forms and instructions). For the 2001 report, Connecticut used the standard EPA forms package and responses for all fields were mandatory. However, the Off-Site Identification ("OI") form was not required.

Reports or postcards indicating a change in status for the reporting year are due back to the state by March 1 of the year the report is submitted. All LQGs who are sent a report package and have not responded by the due date are sent a warning letter and final notice to respond to the Department by May 31. After that date, the staff contacts the delinquent companies by phone. For the 2001 report, the Department received 554 reports. Fifty-five LQGS remain non-compliant to date. See section V.A. for a discussion of the types of enforcement actions being used by the Department to bring these LQGs into compliance.

For the 2001 report, the Department targeted certain LQGs who submitted large reports in previous years for electronic submittal using the (free) Waste Reporter software – provided by Environmental Support Solutions of Arizona. Over 125 generators submitted reports using the software, which helped improve data quality, and saved time for both the generators and the State.

The reports are logged into the database as they come in and staff reviews the reports for completeness and data quality before data entry. Follow-up with the companies is done by phone and/or email and all errors are resolved before the report is sent to data entry. In addition, the Department provides technical assistance for both filling out the forms and using the Waste Reporter software. Staff performed all data entry for the 2001 report using Waste Reporter. The data is compiled and further error checking routines are run using the (free) BRState software – provided by Florida. The data is uploaded to the Region I database, run through various edit utilities, and corrected as needed. It is then sent to the National Oversight Database ("NODB") by the date required by EPA headquarters.

7. Permitting

The state permit program regulates owners/operators of facilities involved in the collection, storage, treatment and/or disposal of RCRA hazardous waste pursuant to the section 22a-449(c)-110 RCSA. Such owners/operators, except those specifically excluded in 40 CFR 261 and 264.1(f) and (g), must obtain a RCRA Part B permit. All hazardous waste permits issued by the Department must follow the process outlined in Appendix G. Section 22a-449(c)-110 RCSA specifies what needs to be included in a permit application. Procedures to provide public notice, opportunity for public comment, response to comments received during the public comment period, and public hearings and informational meetings are specified in sections 22a-449(c)-110 and 22a-3a-6 RCSA, and Conn. Gen. Stats. 4-166 to 4-189, inclusive, 22a-6g, 22a-6h and 22a-6l.

In addition to RCRA permitting requirements, Conn. Gen. Stat. 22a-454 requires any person whose principal business is collecting, storing or treating waste oil, petroleum or chemical liquids, or hazardous wastes (as defined by Conn. Gen. Stat. 22a-448), any person acting as a contractor to mitigate the effects of a release of such substance or waste, and any person or municipality disposing of such substance or waste to obtain a permit from the Commissioner. Conn. Gen. Stat. 22a-448 defines hazardous waste as any waste material which may pose a present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of or otherwise managed, including hazardous waste identified in Section 3001 of RCRA. Since the state's definition of hazardous waste and the universe of owners/operators subject to state permitting requirements are broader in scope than the federal program, owners/operators of commercial hazardous waste facilities that are exempt from RCRA permitting requirements under the federal program may require a 22a-454 state permit. Examples of wastes and facilities excluded from federal permitting requirements but are subject to state permitting requirements include: wastes excluded from the definition of solid or hazardous waste under 40 CFR 261.3 and 261.4; certain recyclable materials utilized for precious metal recovery under 40 CFR 266.70; metal recovery furnaces exempted under 40 CFR 266.100(d); precious metal recovery furnaces exempted under 40 CFR 266.100(g); owners/operators of used oil processing and re-refining facilities; soil treatment facilities; mobile recycling activities; recycling facilities that do not store waste prior to recycling; and transfer facilities storing wastes for 10 days or less.

8. Interim Status

The Department approves interim status facilities pursuant to sections 22a-449(c)-105 and 110 RCSA, which incorporate by reference 40 CFR 265 and 270.70, respectively. Interim status facilities must submit a Part B Permit Application to the Department for review and approval in accordance with 40 CFR 265. Interim status is terminated in accordance with 40 CFR 270.73.

9. Inspections, Fieldwork and Compliance

The Department has developed an Enforcement Coordination Plan, attached as Appendix H. This plan establishes procedures that the Department will use to coordinate the inspection and enforcement activities of the Bureaus of Air, Waste, Water and Office of Long Island Sound Programs.

Below is a description of the processes and goals of the Department's hazardous waste inspection program.

a. Inspection Program Objectives include:

- i. meeting EPA performance partnership agreement inspection commitments;
- ii. maintaining a field presence to provide a deterrent effect and to promote compliance with Connecticut's hazardous waste regulations;
- iii. collecting evidence to ensure that alleged violations are well documented, and that documentation supports any necessary enforcement activities;
- iv. educating hazardous waste handlers on safe hazardous waste management and Connecticut's existing and new hazardous waste regulations; and
- v. providing pollution prevention advice to reduce the quantity and toxicity of hazardous waste generated.

b. Types of Hazardous Waste Program Inspections:

- i. full compliance evaluation inspections (CEI) or partial compliance evaluation inspections (PEI) denoted by "PEI," also called a Focus Inspection at conditionally exempt small quantity generator (CESQG); small quantity generator (SQG), large quantity generators (LQGs), transporters, and TSD facilities;
- ii. compliance schedule evaluation (CSE) (or, "follow-up") inspections at CESQGs, SQGs, LQGs and TSD facilities;
- iii. complaint investigations and referrals from within the Department, and/or other agencies including EPA;
- iv. inactive and out of business inspections (of hazardous waste handlers that have moved, gone out of business, or have otherwise ceased to handle hazardous waste);
- v. sampling inspections for case development;
- vi. visits to potential hazardous waste handlers for which notification forms have not been completed (non-notifiers);
- vii. generator status determination inspections (often concurrent with non-notified visits or complaint investigations);
- viii. compliance assistance (regulations and guidance) at schools, state parks, and new businesses;
- ix. multimedia inspections with other programs within the Department and other state agencies.

c. Choosing Inspections:

The following factors are generally considered when selecting site for an inspection:

- i. *the amount of time elapsed since the last inspection:* RCRAInfo is checked for hazardous waste handlers that have not been inspected within the past 5 years and the past 10 years;
- ii. *whether any citizen complaints or referrals from other Programs have been made:* the hazardous waste program complaint logbook is checked for citizen complaints or referrals that have not been investigated or that require further investigation;
- iii. *whether any follow-up inspections need to be conducted:* the RCRAInfo database or desk files are checked for facilities that need follow-up inspections (i.e., a previous inspection identified violation(s) and there are still outstanding issues);
- iv. *within 3 years following closure of a formal enforcement action:* these handlers will be reinspected to ensure continued compliance with environmental requirements;
- v. *a review of Connecticut's manifest database for the past year:* a handler will be inspected if there is an indication that a SQG or CESQG is operating at a higher status;
- vi. *risk based, sector based and location based inspections;*
- vii. EPA national and regional priorities;
- viii. DEP's strategic planning and strategic initiative priorities;
- ix. environmental equity considerations.

d. Pre-Inspection Activities:

Once the facilities to be inspected are chosen, the inspector reviews all relevant available information for each of the handlers to be visited. At a minimum, the information that is reviewed prior to an inspection includes the facility file (if one exists), former inspection reports, Connecticut's hazardous waste manifest database, compliance history, notification status, and annual and biennial reports.

e. Inspection Activities:

Under most circumstances, hazardous waste inspections are unannounced. Upon arrival at the facility to be inspected, the inspector meets with the individual(s) responsible for hazardous waste management. After explaining the purpose of the visit, the inspector gets background information on the facility processes, materials used, and waste management activities. The inspector then tours the facility to observe on-site processes, such as: manufacturing operations and recycling activities; hazardous waste management practices, including hazardous waste treatment, storage, disposal, satellite accumulation, and waste minimization activities; reviews facility records including waste analyses, material safety data sheets, manifest/shipping records, inspection schedule and logs, personnel training records, contingency plans, tank assessments, biennial reports, spill reports, land disposal restriction information. Reviews applicable facility records, taking photographs and samples as deemed appropriate, and takes appropriate notes and copies of documents for preparation of the inspection report. Copies of inspection checklists for each handler are attached in Appendix I.

Before leaving a facility, the inspector conducts an exit meeting. At this meeting, the inspector briefly recaps the scope of the inspection, summarizes preliminary inspection findings, and informs the facility representative(s) of

the likely outcome of the inspection. The inspector issues field warning notices for minor violations if necessary, explains the enforcement process and recommends corrective measures. The inspector also provides outreach materials such as new regulations, guidance documents, fact sheets and pollution prevention information to the facility contact.

f. **Post-Inspection Follow-Up:**

Upon return to the office, the inspector enters information about the inspection into RCRAInfo, contacts the facility for additional information if necessary, and within 30 days writes a comprehensive inspection report. If necessary, referrals are made to other divisions and/or state agencies (Appendix H).

For all inspections, a letter and a copy of the inspection report is sent to the facility documenting the visit and findings. The inspection report and materials gathered during the inspection process are routed to the supervisor for review and follow up enforcement action if necessary. Copies of all inspection related materials are maintained in a facility file within DEP's Public File Room. The inspectors may also participate in the enforcement process as described in Section V.

10. Administrative Review Procedures for Permit Decisions

Requests for administrative review of permit decisions taken by the Commissioner may be made as set forth in Chapter 54 of the Connecticut General Statutes (Uniform Administrative Procedures Act) and sections 22a-3a-2 through 22a-3a-6 RCSA (Connecticut Rules of Practice).

Following a hearing, the hearing officer prepares a written "proposed decision" for the parties. If the decision is adverse to a party, that party has fifteen days to request the opportunity to file exceptions and present briefs and oral arguments to the Commissioner. Following the filing of exceptions and presentation of briefs and oral arguments, the Commissioner makes a final decision which is delivered to each party. Within fifteen days of receipt of the final decision, a party may file a petition for reconsideration of the decision. Within twenty-five days of the filing of the petition, the Commissioner must determine if reconsideration is appropriate. If reconsideration is appropriate, the Commissioner will initiate proceedings to consider reversal or modification of the final decision. All parties involved in the case and all other interested persons are notified of the proceeding and are given the opportunity to participate.

11. Access to Public Documents Procedures

The public may access program documents in one of two ways. Any person may request program documents pursuant to the state's FOIA (Conn. Gen. Stats. 1-206 et seq.). Such requests must be made in writing. Requests made via e-mail are accepted provided the e-mail contains the requestor's name and post office address. See Appendix J for state procedures regarding the processing of FOIA requests.

Interested parties may also review program documents in the Department's public file room located at Department headquarters at 79 Elm Street, Hartford. See Appendix K for information on the public file room and associated procedures.

12. Pollution Prevention

The Waste Planning and Standards Division has primary responsibility for the Department's pollution prevention program. A statewide plan for pollution prevention identifies eleven substances with associated pollution minimization strategies. Those substances are: chlorine, chromium, copper, ethylene glycol & solvent degreasers, ground-level ozone, household hazardous products, lead, mercury, pesticides, non-point source pollution, and zinc. Through the use of education and outreach, multiple audiences are developing an awareness of the many pollution prevention strategies that exist. The plan also requires the Department to ensure cross-media, cross-program communication and coordination, which is carried out by the pollution prevention office. Tasks include the coordination of a cross-bureau pollution prevention work group, conducting employee training, multimedia cross training, and assisting with incorporation of pollution prevention into permitting and enforcement.

As the plan emphasizes the formation of partnerships and voluntary participation, technical assistance on pollution prevention is provided through partnerships with both community organizations and trade associations such as dry cleaners, printers, and metal finishers. Presentations on pollution prevention are also given for civic groups, schools, and manufacturers. Community pollution prevention assistance is continuing in the City of Hartford through a grant from EPA. Other assistance programs include facilitation of NICE³ (National Industrial Competitiveness through Energy, Environment, and Economics) grants and the coordination of the Connecticut EnergySense program. EnergySense, a program to reduce energy consumption and greenhouse gas emissions, is currently active in the cities of New Haven and Windham. A continuing alliance with CONNSTEP provides pollution prevention assistance to manufacturers in the state.

In June 1998, Connecticut joined with the other Northeast states and Eastern Canadian Premiers in endorsing a regional Mercury Action Plan. The plan calls for the virtual elimination of anthropogenic mercury releases in the region. During March 2000, Connecticut followed the regional effort with a state plan, "Toward the Virtual Elimination of Mercury from the Solid Waste Stream" which provides a mercury reduction strategy consistent with the regional plan. Legislation based on the NEWMOA model passed the Connecticut legislature and Public Act 02-90 was signed by the Governor in July, 2002, which requires labeling and proper management of products containing mercury among other features. Mercury reduction continues as a priority of the Department and the Office of Pollution Prevention is coordinating the education effort and many of the related activities.

For more information on Pollution Prevention, see the Department website at: <http://dep.state.ct.us/wst/p2>

V. ENFORCEMENT AND COMPLIANCE TRACKING

A. Enforcement Overview

Connecticut's hazardous waste program uses enforcement actions for several reasons including:

1. Maintaining an enforcement program meets certain obligations which the Department has for operating the RCRA program in Connecticut, in lieu of EPA;
2. The actions require compliance with regulations that have been violated;
3. Enforcement actions act as a deterrent, both to the recipient of the action and the regulated community as a whole;

4. Economic advantage or savings realized by non-compliance are eliminated;
5. Violators are punished;
6. Enforcement actions ensure prevention and/or clean-up of pollution sources, protection and/or restoration of natural resources, and protection of public health and safety; and
7. Enforcement actions increase awareness and understanding of the regulations, both in the regulated community and the general public.

Enforcement of Connecticut's hazardous waste management regulations, as well as all other Department regulations, is done in accordance with the Department's ERP. The most recent revision of the ERP became effective on June 1, 1999. A copy of the ERP is included as Appendix L.

There are several types of enforcement actions that may be used by Department staff:

1. Notice of Violation ("NOV") – This is the most common type of enforcement action. An NOV generally requires that violations be corrected, or a schedule for return to compliance be established within 30 days. If the site inspection found High Priority Violations, or the recipient is determined to be a High Priority Violator (as these terms are defined in the ERP), the ERP indicates that a penalty should be sought. In such a case, an NOV is typically issued as an initial action. This puts the recipient on notice that violations have occurred and must be corrected. Additional action, as described below, is then taken to obtain penalties;
2. Unilateral order – This is a type of administrative order that may be issued by the Department. A unilateral order may be issued when there are numerous violations, or if a recipient fails to comply with a previously issued NOV. Unilateral orders do not include penalties. However, an order requiring correction of the violations may be issued, along with a referral to the Office of the Attorney General to seek a penalty for the violations. A person issued an unilateral order may request a hearing pursuant to Chapter 54 of the Connecticut General Statutes (Uniform Administrative Procedures Act) and sections 22a-3a-2 through 22a-3a-6 RCSA (Connecticut Rules of Practice). If a hearing is held, a person who is aggrieved by a final decision of the Department may appeal to the superior court.
3. Consent order – This is a type of administrative order which has been negotiated between the Department and the recipient of the action. In general, a consent order will include a compliance schedule for correction of the violations and require payment of a penalty for those violations. Some of the penalty may be offset by one or more supplemental environmental projects. At times, a consent order may not involve a penalty;
4. Cease and desist order – This type of administrative order is issued when conditions at a site present actual and substantial harm, or there is an imminent threat of such harm. A recipient must comply with a cease and desist order immediately upon receipt of such an order. By statute, a hearing must be held within ten days of issuance of a cease and desist order. Within fifteen days of the hearing, the Commissioner must issue a final decision affirming, modifying or reversing the cease and desist order. The Department's RCRA program rarely issues a cease and desist order, as violations of the magnitude to justify such an action are more typically referred to the Office of the Attorney General to seek a court imposed injunction (temporary or permanent), and request for imposition of a civil penalty;

5. Referral to the Office of the Attorney General – In this type of action, the Commissioner formally requests that the Connecticut Attorney General initiate action in state court seeking penalties and/or injunctive relief against a violator. This type of referral is made when the violations are particularly egregious, consent order negotiations have broken down, or there is non-compliance with a previously issued unilateral order or consent order. Many cases referred to the Attorney General settle with the negotiation of a Stipulated Judgment. Such a Judgment is signed by an Assistant Attorney General (on behalf of the Commissioner and the Attorney General) and the defendants. The Judgment becomes final after it has been sent to court and signed by a judge. Cases that cannot be settled through negotiations are tried in Superior Court. Referrals, as well as unilateral and consent orders, may be multi-media in nature;
6. Criminal Referral – Violations that appear to have been intentionally or knowingly committed may be investigated for possible criminal activity. Such cases are referred to Connecticut’s Chief State’s Attorney’s Office or EPA’s Criminal Investigation Division. Criminal referrals are typically done in conjunction with administrative or civil actions; and
7. Referrals to EPA – Cases may be referred to EPA for possible investigation and/or enforcement. This is done primarily when a facility has violations of federal regulations not yet adopted by the state, violations which have an interstate component or are regional in nature, or when EPA is independently developing an enforcement action against the violator.

In accordance with the Department’s ERP, a formal enforcement action must be sought whenever there are High Priority Violations or the violator has been classified as a High Priority Violator. For formal enforcement actions that involve penalties, such penalties are calculated in accordance with the Department’s Civil Penalty Policy, which became effective on February 1, 2001. (A copy of the Policy is included as Appendix M.) Penalties for violations of Connecticut’s hazardous waste management regulations may be obtained through consent orders, judgments pursuant to a civil action (i.e., referral to the Office of the Attorney General) and criminal convictions. Each penalty typically includes a gravity-based component, economic benefit, a continuing violation component and adjustments. The gravity-based component is based on the extent of deviation (the degree to which the violator has deviated from the substance and intent of the requirement) and the potential for harm, which the violation poses, to public health and safety, the environment and the regulatory program. Adjustments may be either downward (e.g., for good faith effort by the violator) or upward (e.g., if a violator has a history of non-compliance). The process for calculating penalties is more fully described in the Civil Penalty Policy.

B. Compliance With New Program Elements

With the recent revisions to the hazardous waste management regulations, Connecticut has now adopted EPA’s used oil regulations (40 CFR 279), universal waste regulations (40 CFR 273), the organic air emission standards (40 CFR 264 and 265, Subparts AA, BB and CC). The state is also seeking authorization for corrective action. Many other changes have also been adopted, most of which are relatively minor. Addressing these minor revisions should not be burdensome to the Department. However, the rules noted above represent a significant change to the state’s hazardous waste program and the Department is taking steps to ensure that compliance with these new rules is adequately evaluated.

The inspection checklists have been revised to address the universal waste regulations. During inspections, field staff have been evaluating compliance with these regulations. When violations have been found, appropriate enforcement action has been taken. Given current staff expertise and the nature of the regulations, specific training may not be necessary.

Inspection checklists have been revised to address the used oil regulations. Field staff have been evaluating compliance with these regulations during inspections and appropriate enforcement has been taken to address violations that have been found. Handling of used oil and used waste water-soluble oil has been evaluated during inspections for many years. The used oil regulations now establish more stringent requirements for handling these wastes. There are people within WEED who are very knowledgeable with respect to these regulations. Any training that may be needed can be conducted within WEED.

Monitoring compliance with the organic air emission standards will present the biggest challenge for the Department. WEED has updated the inspection checklists to include organic air emission requirements. While several of the field staff and enforcement staff received EPA training on these regulations and accompanied EPA on organic air emission inspections, such training was conducted several years ago, and it is only with the recent revisions of the regulations that staff actually began evaluating compliance with the organic air emission standards. Given the complexity of the regulations, and the amount of time that has elapsed since staff received training, the Department is working with EPA to provide additional training to staff. Such training will consist of workshops and seminars, as such training becomes available, and continued coordination with EPA to accompany EPA inspectors on organic air emission inspections.

See Section VII of this Program Description for a detailed discussion of Connecticut's corrective action program.

C. Manifest Tracking and Data Management

The state has implemented the following data management and tracking systems for compliance and enforcement purposes:

1. Manifest Tracking

Manifest data is entered into a computerized data management (tracking) system that is used to track compliance with manifest requirements and informs the state when manifest copies are not received as required. The tracking system allows inspectors to review records of all recent hazardous waste shipments made by a generator, and produce a summary report prior to an inspection. The system is also used to verify information reported by generators and facilities on biennial report forms.

2. Enforcement Tracking

Connecticut uses RCRAInfo to track hazardous waste inspections and enforcement actions. In addition, when an enforcement action is proposed, such action is added to WEED's Hazardous Waste Agenda Tickler which tracks all pending enforcement actions. The Agenda Tickler is updated by lead staff on a monthly basis. Once issued, enforcement actions are removed from the Agenda Tickler and entered and tracked via RCRAInfo and PAMS (Permit Application Management System), a state maintained computerized data management system that tracks enforcement action issuance and final compliance dates.

3. Notifier Tracking System

Connecticut uses RCRAInfo to track facilities that have filed notification forms and updates and those facilities that have EPA ID numbers. The state compares RCRAInfo and manifest data to identify non-notifiers.

4. Reporting

All LQGs and TSDFs must file a Biennial Report of activities related to waste generation and shipment. In addition, all hazardous waste transporters are required to file a monthly report summarizing transportation activity.

5. Compliance Monitoring Resources

Training of compliance assurance staff comes from a variety of sources, including EPA, the Department and other state agencies, NEWMOA, ASTSWMO, and NEEP. The Department relies most heavily on EPA, through formal, informal and electronic means. Formal training on new federal rules and programs is identified and arranged through the Performance Partnership Agreement process. Informal training occurs continuously through regular dialogue and meetings between the Department and EPA staff. The Department assigns staff as the lead on various rules and issues, to participate in EPA-state conference calls and committees, and to monitor EPA listservers for new developments. EPA’s website is monitored and accessed continuously by all staff for guidance and regulations. The Department also provides training through seminars by lead staff of the Department and other state agencies, regular compliance assurance staff meetings, and support from the Department’s Office of Enforcement Policy and Coordination.

VI. ESTIMATED REGULATED ACTIVITY

A. **Estimated Number of Handlers**

1. Estimated Number of Generators.....	2575*#
2. Large Quantity Generators.....	547*
3. Small Quantity Generators:	2028*
4. Mixed Waste Generators	73
5. Number of Permitted Transporters (as of 7/30/02).....	190
6. Number of Permitted On-Site TSDFs.....	6
7. Number of Permitted Commercial TSDFs.....	4
8. Number of Interim Status TSDFs	205*

* Based on RCRAInfo data as of July 2002.

This figure does not include CESQGs. Since CESQGs are not required to notify, it is not possible to accurately estimate the number of CESQGs in the state.

B. **Estimated Annual Quantity of Hazardous Waste***

1. Generated in Connecticut.....	182,137 tons
2. Transported into Connecticut.....	18,717 tons
3. Shipped out of Connecticut.....	64,469 tons
4. Stored in Connecticut.....	132,435 tons
5. Treated in Connecticut.....	42,840 tons
6. Disposed in Connecticut	0 tons
7. Mixed Waste Generated in Connecticut	36 tons

*Data based on 2001 Biennial RCRA Report.

VII. CORRECTIVE ACTION

A. Executive Summary - RCRA Corrective Action: Integrated Cleanups Focused On Results

Purpose

This "program description" document describes Connecticut's environmental remediation programs and demonstrates that these programs are consistent with the federal requirements for corrective action under the Resource Conservation and Recovery Act ("RCRA").¹ The purpose of these remediation requirements is to ensure that contaminated properties are cleaned up. This demonstration is the basis for the Connecticut Department of Environmental Protection ("DEP")'s application to the United States Environmental Protection Agency ("EPA") for authorization to administer the corrective action program in Connecticut. A state seeking authorization must submit a document to EPA that describes, among other things, the scope, structure, coverage, and processes of the state program. A state that receives authorization to administer a program receives federal funding for the program.² Although this document does not itself establish binding requirements, it is intended to provide information to regulated facilities and to environmental professionals working on behalf of regulated facilities regarding specific elements and broad program goals of the corrective action program in Connecticut.

One cleanup program: a common scope, a common goal

Several federal and state statutes and regulations, including the RCRA corrective action program, require owners or operators of hazardous waste management facilities to clean up environmental contamination resulting from releases of hazardous wastes or hazardous constituents. The common goal of EPA and DEP is to make contaminated properties safe for people and the environment, and to restore natural resources, including surface water and groundwater.

One cleanup program: efficient and effective coverage

Connecticut's corrective action program will build on existing regulations, statutes, and water quality standards, such as the existing state requirement for sitewide investigation and remediation applicable upon ownership transfer and the broad statutory enforcement authority available to the state to require the investigation and remediation of potential sources of pollution. The advantage of integrating multiple regulatory authorities and mechanisms is that facilities only need to work with one overseeing program. This coordinated cleanup approach allows facilities to efficiently meet multiple regulatory requirements while effectively protecting human health and the environment.

Structure of the corrective action program in Connecticut: a flexible framework

The structure of the corrective action program that has been and will be used to clean up hazardous waste facilities in Connecticut consists of the federal and state remedial programs described in federal and state statutes, regulations, and guidance. The tools to accomplish this cleanup include enforcement actions, permits, and regulations. The program's framework is consistent with the federal guidelines published in 1996 as the Advance Notice of Proposed Rulemaking ("ANPR") [61 FR 19432]³ and is more fully described in the "Process" section.

¹ "Corrective action" is a term that means environmental investigation and remediation.

² 40 CFR 271.6

³ http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gen_ca/anpr.htm

Concept of Parity

As stated in the 1996 ANPR,¹ in the September 24, 1996 “Integration Policy,”² and in the 1998 “Post-Closure Rule,”³ most facilities in the RCRA corrective action universe are potentially subject to cleanup under numerous cleanup authorities, both federal and state. The concept of parity is described in the 1996 ANPR, which stated that:

EPA’s position is that any procedural differences between RCRA and CERCLA should not substantively affect the outcome of remediation. Generally, cleanup of any given site or area at a facility under RCRA corrective action or CERCLA will substantively satisfy the requirements of both programs... [In general,] RCRA and CERCLA program implementers can defer cleanup activities... to one program with the expectation that no further cleanup will be required under the other program. Similarly, a remedy that is acceptable to one program can be presumed to meet the standards of the other. The same principle should apply to authorized state corrective action programs and state CERCLA analogous programs... [61 FR 19441].

EPA and the State are committed to ensuring that the concept of parity is applied to corrective action facilities subject to multiple clean-up authorities.

Status of corrective action in Connecticut: significant progress and important next steps

In Connecticut the initial stages of corrective action have been completed at the majority of RCRA facilities subject to corrective action. That is, a large percentage of initial investigations and assessments have been completed and many stabilizing measures are in place that control or abate threats to human health or the environment and prevent or minimize the spread of contamination. This is due in part to federal program accomplishments in the 1980s and 1990s related to the prioritization and assessment of regulated facilities and in part to the closure, enforcement, and regulatory programs in Connecticut that have required site remediation since the early 1980s. Most notably, since 1985 the Property Transfer program in Connecticut has required sitewide investigation and remediation at hazardous waste management facilities whenever ownership changes. Also, since the early 1980s RCRA closure activities have focused on removal of wastes and compliance with conservative cleanup criteria. Next steps include completion of stabilization measures at several facilities that have not yet achieved environmental indicators and restoration of sites through achievement of final remedies.

Summary: Corrective Action Program Steps Completed

1. High priority treatment, storage, and disposal facilities (“TSDs”) subject to Corrective Action.
 - There are 238 TSD facilities in Connecticut. Of these, EPA and CT DEP have identified 123 TSD facilities in Connecticut on the Government Performance and Results Act (“GPRA”) baseline corrective action universe list.
 - The GPRA facilities represent almost $\frac{3}{4}$ (74%) of the baseline for EPA New England.

¹ http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gen_ca/anpr.htm

² http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gen_ca/coordmem.pdf

³ http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gen_ca/postclsr/f28221.pdf

- There are approximately 100 Interim Status RCRA Land Disposal Facilities in Connecticut subject to Connecticut's corrective action implementation regulation RCSA 22a-449(c)-105(h), effective September 2002.
2. RCRA Facility Assessments and/or Investigations ["RFA," RFI"] were conducted by EPA, EPA contractors, and CT DEP in the 1980s and 1990s. Such assessments or investigations have been completed at more than 80% of the GPRA universe list.
 3. Determinations of human exposures and groundwater migration controls: Environmental Indicator Reports have been completed for most of the 123 sites on the GPRA list. As of September 2003, 70% of GPRA facilities had human exposures in control and 57% of GPRA facilities had contaminated groundwater migration under control.

Summary: Next steps/Goals

1. Determine the appropriate authorizing mechanism (permit, order, regulation, other state program) for facilities that lack corrective action implementing mechanisms. Facilities with existing permits, orders, or in the Property Transfer Program will continue to clean up sites under these mechanisms. The Department may have a facility use another option if mutually agreed.
2. Determine the lead agency for individual sites during transition between agencies. Update transition plan as necessary.
3. Complete corrective action at RCRA facilities.
 - Ensure public participation when remedial actions proposed
 - Ensure public participation when remediation complete determinations proposed.
 - Achieve "no further action/remediation complete" determinations.
 - Either terminate interim status after all corrective action, closure, and public participation items are complete or issue post-closure permits as necessary.

B. Statutory and Regulatory Authorities Checklist

Authority...	Federal statute or regulation	State statute or regulation	Comment
<p>To require cleanup of releases to all environmental media and of all hazardous waste and hazardous constituents</p>	<p>RCRA 3008(h)</p> <p>RCRA 3004(u) and (v)</p> <p>40 CFR 264.101(a) for facilities seeking permit</p>	<p>Conn. Gen. Stat. 22a-432 for all facilities;</p> <p>22a-449(c)-104(a)(2)(O), incorporating with changes 40 CFR 264.101(a) for facilities seeking permit;</p> <p>Conn. Gen. Stat. 22a-134 for facilities undergoing ownership change;</p> <p>At any facility where cleanup is required, the RSRs [RCSA 22a-134k-1 through 3] apply to all releases of all polluting substances, including, but not limited to, hazardous waste and hazardous constituents</p>	
<p>When issuing permits, to require cleanup of releases that extend beyond facility boundaries</p>	<p>RCRA 3004(v)</p> <p>40 CFR 264.90(a)(1) for facilities seeking permit</p> <p>40 CFR 264.101(b) for facilities seeking permit</p>	<p>Conn. Gen. Stat. 22a-432 applies at all facilities, and authorizes DEP to require any property owner or operator, through issuance of an order and if needed a referral to the Attorney General, to correct actual and potential sources of pollution [regardless of property boundaries]</p> <p>22a-449(c)-104(a)(1), incorporating 40 CFR 264.101(b) for facilities seeking permit</p> <p>Also, Conn. Gen. Stat. 22a-471 gives DEP authority to order a facility that has polluted groundwater that does or may affect drinking water to provide potable water.</p>	

Authority...	Federal statute or regulation	State statute or regulation	Comment
When issuing permits, to specify schedules of compliance for addressing corrective action for continuing releases not corrected prior to permit issuance	RCRA 3004(u) 40 CFR 264.101(b)	RCSA 22a-449(c)-104(a)(1) incorporating 40 CFR 264.101(b) applies to facilities where permits are issued; the state requires schedules for investigation and remediation in other implementing tools as well [orders, interim status LDF corrective action implementation regulation, property transfer program].	
Is broad enough to require corrective action at the federal definition of "facility," specifically at "all contiguous property under the control of the owner/operator."	40 CFR 264.101	RCSA 22a-449(c)-100(c)(15)(B) & (C) incorporates this definition for facilities seeking RCRA permits and also for interim status land disposal facilities	
To compel owners/operators to investigate and characterize releases as well as to study potential remedies.	RCRA 3008(h) RCRA 3013 RCRA 3004(u) RCRA 3004(v) RCRA 7003	Conn. Gen. Stat. 22a-432 Conn. Gen. Stat. 22a-5a For interim status LDFs, RCSA 22a-449(c)-105(h) For RCRA facilities undergoing ownership changes, Conn. Gen. Stat. 22a-134	
To enforce corrective action [i.e., ability to issue orders or file suit to enforce any permit condition or order]	RCRA 3008(a)	General authority: Conn. Gen. Stat. 22a-6(a)(3); Specifically for LDFs: RCSA 22a-449(c)-105(h); Specifically for enforcement of environmental land use restrictions: Conn. Gen. Stat. 22a-133p	

C. Introduction

The Resource Conservation and Recovery Act is a federal statute [law] with several different sections authorizing EPA or authorized states to require investigation and remedial action of potential sources of pollution ("corrective action"). Specifically, RCRA corrective action requires owners or operators of hazardous waste facilities to clean up environmental contamination resulting from any releases at the facility of hazardous wastes or hazardous constituents. The instruments used to accomplish this cleanup include permits, enforcement actions, and other enforceable mechanisms.

In Connecticut, the remediation of facilities that have releases of hazardous waste or hazardous constituents is triggered through a variety of actions, including:

- Transfer of a hazardous waste establishment, per the Property Transfer statute
- RCRA Operating Permit issuance
- RCRA Post-Closure Permit issuance
- State administrative order or judicial order
- Federal administrative order or judicial order
- State regulation RCSA 22a-449(c)-105(h) for interim status Land Disposal Facilities (“LDFs”) as of 9/10/2002

The Department is seeking authorization from EPA for the corrective action program based on Connecticut’s ability to accomplish corrective action using existing enforceable mechanisms as described below.

D. Authorized Implementation Instruments

1. Permits

Section 3004(u) of RCRA [42 US Code 6901 et seq.] provides EPA with authority to design and implement the corrective action program. Specifically, it requires that any operating or post-closure permit issued under section 3005(c) to a hazardous waste treatment, storage, and/or disposal facility (“TSDF”) must address corrective action for releases of hazardous waste or hazardous constituents from solid waste management units at the facility, regardless of when the waste was placed in the unit. Connecticut regulations [RCSA 22a-449(c)-104(a)(2)(P)] modify the language of this requirement [found in the federal regulations at 40 CFR 264.101(a)] to make it consistent with other state cleanup programs so that corrective action must address all releases of hazardous waste or constituents at the facility, regardless of the time such release occurred. That is, Connecticut emphasizes the site-wide scope of RCRA corrective action and coordinates the language with other site-wide cleanup programs by deleting the references to “units.”

2. Enforcement

Federal

Section 3008(h) of RCRA gives EPA authority to issue orders requiring corrective action or other responses whenever there is or has been a release of hazardous waste or constituents from an interim status facility. The Federal authority under 3008(h) cannot be delegated to the States; a State may have its own authority (as Connecticut does) that is analogous to RCRA section 3008(h). Section 3004(v) authorizes EPA to require corrective action beyond the facility boundary, if appropriate.

State

Section 22a-432 of the Connecticut General Statutes (“Conn. Gen. Stat.”) authorizes Connecticut to issue an order to any person that has established or is maintaining a facility or that has created or is maintaining a condition which reasonably can be expected to create a source of pollution to the waters of the state. This authority extends to taking enforcement action against the owners of real property under both 22a-432 and 22a-433. If administrative enforcement actions [unilateral orders and consent orders] do not result in compliance then the Commissioner of Environmental Protection is authorized to request the Connecticut Attorney General to bring an action in the superior court to compel compliance.

Additionally, Conn. Gen. Stat. section 22a-5 includes in the definition of the duties and powers of the commissioner that the commissioner shall provide for the prevention and abatement of all water, land, and air

pollution. Conn. Gen. Stat. section 22a-5a clarifies that whenever the commissioner orders the abatement, correction, or remedy of any violation, condition, pollution, or potential pollution, then that order may require investigation, study, data gathering, or monitoring.

Conn. Gen. Stat. section 22a-6(a)(3) generally empowers the commissioner to enter orders and institute legal proceedings including, but not limited to, suits for injunctions, for the enforcement of any statute, regulations, order, or permit administered, adopted, or issued by the commissioner.

Conn. Gen. Stat. section 22a-6a holds violators liable to the state for costs and expenses in restoring natural resources. Conn. Gen. Stat. section 22a-131 authorizes the commissioner to assess civil penalties upon violators of the terms of any provision of the state's hazardous waste program and requires the Attorney General to institute a civil action to recover such penalty, upon the commissioner's request.

Regarding facilities that are also regulated under the state's property transfer program, Conn. Gen. Stat. 22a-134c clarifies that the commissioner's authority under any other statute or regulation, including but not limited to, the authority to issue any order, is not affected by the property transfer program [22a-134 to 22a-134e, inclusive].

Conn. Gen. Stat. Section 22a-133x and 22a-133y provide that owners of certain properties, including but not limited to RCRA facilities, may voluntarily initiate and complete site investigation and remediation. As part of this program, licensed environmental professionals may be delegated the responsibility of verifying that the remediation has achieved compliance with Connecticut's Remediation Standard Regulations. If a RCRA facility pursues site cleanup in this program then the state will nonetheless still review the progress of the cleanup to ensure that corrective action obligations are met, including for example, public participation. To date no RCRA facility has used the voluntary program to complete corrective action.

3. Corrective Action Beyond the Facility Boundary

RCRA Section 3004(v), which authorizes EPA to require corrective action beyond the facility boundary, has an analog in Connecticut law. Conn. Gen. Stats. 22a-432 authorizes the commissioner to issue enforcement actions that can require owners or operators to correct actual or potential sources of contamination, regardless of property boundary. Furthermore, the Remediation Standard Regulations [RCSA 22a-133k-1 through K-3] apply to a facility owner or operator that is required (whether through enforcement, a permit, or another requirement) to remediate a release to soil or groundwater. Compliance with Connecticut's Remediation Standard Regulations ("RSRs") can require extending remedial actions beyond the facility boundary of the facility from which a contaminant source emanates. For example, a groundwater plume from a facility must be remediated to a level that allows existing uses to continue and to prevent degradation of surface water. Additionally, Conn. Gen. Stats. 22a-471 authorizes Connecticut to require that a facility provide potable water to people whose drinking water wells may be affected, or are affected, by a plume that the facility caused. The potable water supply may be the provision of bottled water, the installation and maintenance of filters, or the extension of water utility lines.

4. Other enforceable mechanisms: CT's implementation rule for interim status LDFs

On September 10, 2002 Connecticut DEP filed with the Connecticut Secretary of State regulations that were approved on September 4, 2002 by the Connecticut legislature's Regulations Review Committee [RCSA 22a-449(C)-105(h)]. This section of Connecticut's Hazardous Waste Management Regulations relates to remedial work ("corrective action") at RCRA interim status land disposal facilities.

The rule requires hazardous waste land disposal facilities to notify the Department of Environmental Protection of the status of sitewide environmental assessment cleanup efforts. A state document, known as an Environmental Conditions Assessment Form ("ECAAF"), must be submitted by August 27, 2003. Facilities that

submitted an ECAF after October 1, 1995 must submit a notice by February 26, 2003 identifying the date such ECAF was filed and updating any information in the ECAF. The state will notify the facility if further investigation and remediation are required and may delegate to a Licensed Environmental Professional (“LEP”) the oversight of a facility’s investigation and remediation. Once notified, the facility must submit for DEP approval a schedule for investigation and remediation. A compliance schedule for completing investigation and remediation would subsequently be agreed upon by the Department and the facility, with the goal of coordinating work with existing remedial programs. For facilities at which oversight is delegated to an LEP the schedule must, unless otherwise approved, provide for investigation completion within two years and initiation of remediation within three years.

The overall goal of the rule is to help integrate the investigation and remediation requirements of multiple state and federal cleanup programs and promote DEP’s and EPA’s common vision of one cleanup program.

The value of the rule reflects the predominant role that non-RCRA authorities have played in the investigation and cleanup efforts at Connecticut properties. Although EPA has managed some RCRA corrective action activities [primarily RFI/RFA, NCAPS scoring] in the state since the enactment of HSWA in 1984, CT DEP has managed sitewide investigations and cleanups at many of the facilities subject to RCRA corrective action since at least the early 1980s through enforcement actions [Conn. Gen. Stat. 22a-432/433 orders] and since 1987 through the property transfer program. This rule incorporates numerous features of existing state remediation programs to provide continuity and consistency between existing programs and the corrective action program: For example, the ECAF, key definitions [hazardous waste, hazardous substances], the use of LEPs, and the use of common endpoints [RSRs].

The state implementation rule for interim status LDFs will help address environmental priorities with limited resources and uses a process similar to other departmental remediation programs. Specifically:

- Submission of ECAF includes timing provision to coordinate investigation and remediation oversight at facilities based on priorities;
- Provision for designation of LEP/DEP oversight
- Timeframes for investigation and remediation [if LEP delegated, same as for PTP]
- More sites can be investigated and remediated with use of LEPs, reserving DEP staff for evaluating non-delegated sites, for interpreting RSRs, and for coordinating public participation;
- Public participation will be coordinated between the RCRA [CA, closure, interim status termination] and non-RCRA [PTP, RSR] requirements

E. The RCRA Corrective Action Universe in Connecticut

1. Government Performance and Results Act (“GPR”) Baseline

Connecticut has 123 treatment, storage, or disposal facilities (“TSDs”) on the GPR Corrective Action Baseline and approximately 238 facilities subject to corrective action. The GPR figure represents about 7% of the nation’s baseline and 74% of EPA New England (Region 1)’s baseline.

2. Land Disposal Facilities

In Connecticut, there are currently identified about 100 RCRA land disposal facilities. The Department estimates that approximately 10 to 15 currently unidentified disposal facilities may be identified in the future. or a geographically small state, Connecticut has a large number of land disposal facilities with only the much larger states of Texas and Ohio having more land disposal facilities. This resulted from Connecticut’s relatively large metal plating and finishing industries active in the twentieth century, from its early requirements to manage metal

hydroxide sludges on the land rather than discharging sludges to surface water. Further, Connecticut's conservative cleanup criteria used during the closure of many of these facilities in the early 1980s resulted in the closure of many surface impoundments as land disposal facilities, even though waste was removed.

Also, Connecticut has a large number of interim status facilities, rather than permitted facilities. This reflects the large number of facilities that elected to stop conducting regulated treatment, storage, or disposal activities rather than pursue operating permits, and the anticipation in the 1980s and 1990s that corrective action activities would minimize the number of facilities requiring post-closure permits.

3. Treatment and Storage Facilities

The majority of treatment and storage facilities in Connecticut are facilities with container storage areas and tanks. Most of these facilities have closed or intend to close their treatment or storage units without needing an operating permit or a post-closure permit. These facilities have cleaned up any releases or will clean up releases from the container storage area or tank system in a manner that protects human health and the environment. If there is a release to soil or groundwater that cannot be cleaned up to comply with the Remediation Standard Regulations, then that facility must close the unit as a land disposal unit.

As permit applicants originally, such facilities acquired sitewide corrective action obligations that must be met. Normally, a schedule of compliance for completing any corrective action *that could not be completed prior to issuance of the permit* would be included in the permit. Since the permit application will be withdrawn and terminated [denied] rather than issued for facilities seeking to stop permitted activities, the schedule of compliance must be issued in another mechanism, such as an order, or in the schedule of work approved as part of the Property Transfer Program. The corrective action requirements for public participation and final administrative disposition of permit applications will be applied to treatment and storage facilities in the same manner as for land disposal facilities.

Since these facilities are "establishments" as defined in Connecticut's Property Transfer Program, sitewide investigation and remediation is required if a transfer of the facility occurs. Many of these facilities are already in the Property Transfer Program. If treatment and storage facilities complete sitewide investigation and remediation they could seek termination of interim status based on the completion of closure and corrective action activities, the completion of public participation activities, and the lack of need for an operating or post-closure permit. If these facilities wish to terminate their interim status the department will evaluate, as resources allow, whether closure and sitewide corrective action have been completed and will ensure that public participation requirements are met prior to issuing a tentative determination to terminate a RCRA permit application.

Since the final administrative disposition of permit applications is a base program responsibility, Connecticut has the authority to dispose of permit applications that have been withdrawn or will not have permits issued. For consistency with the federal program and to ensure protection of human health and the environment, Connecticut will ensure that all RCRA closure, corrective action remediation activities have been completed at treatment and storage facilities regardless of the mechanism that implemented sitewide investigation remediation. If a Licensed Environmental Professional has been delegated the responsibility to oversee a facility's investigation and remediation, then prior to tentatively determining that remediation is complete DEP staff will review the work to ensure compliance with the clean-up endpoints (Remediation Standard Regulations), to ensure consistency with the program elements identified in this program description, and to ensure that public participation occurs. State law [Conn.Gen. Stats. 22a-134 et seq.] requires public notice of remedial activities at sites subject to the Property Transfer Act. State law [Conn.Gen. Stats. 22a-6h] requires public notice and participation when Connecticut makes a tentative determination on a permit application. Therefore, as with RCRA land disposal facilities,

RCRA treatment and storage facilities must include public participation as part of the remedial process, including the point at which DEP determines that remediation is complete [with or without institutional controls].

F. Effect of Corrective Action Program on non-permitted facilities: Avoiding duplicative enforcement through one cleanup program

Connecticut is seeking to operate the Corrective Action Program for all facilities regardless of permit status [permitted facilities, facilities awaiting permit issuance, and facilities that no longer need a permit] whether or not the facilities are within the corrective action permit universe included in the formal EPA authorization, except for sites where EPA will be the lead agency, as specified in the Coordination Plan. The state's goal is to simplify and coordinate the remedial requirements of all facilities subject to corrective action in Connecticut, so as to avoid having facilities subject to separate cleanup requirements from both the state and EPA.

While Connecticut's regulations compelling implementation of corrective action at interim status land disposal facilities do not apply to non-land disposal facilities, many of these facilities nevertheless have or will implement sitewide investigation and cleanup under another remedial program (primarily the Property Transfer program) or an enforcement action. Facilities undergoing corrective action under another state program must meet the same clean-up endpoints pursuant to Connecticut's Remediation Standard Regulations as facilities subject to the land-disposal facilities regulation. In addition, as noted above, for non-land disposal facilities, the CT DEP is committing to taking public comment and reviewing LEP determinations prior to terminating interim status, just as in the case of land disposal facilities. Also, prior to terminating interim status at a non-land disposal facility, the CT DEP will require that mail notice be given to all persons on a facility mailing list, in addition to following the standard notice requirements set out in Conn. Gen. Stats. 22a-6(h).

If and when the CT DEP determines that all RCRA closure and corrective action requirements have been met at a non-land disposal facility, the CT DEP intends to terminate the interim status of that facility. Connecticut has long been authorized for the base RCRA program, which includes permitting and enforcement responsibilities at all facilities subject to corrective action. Connecticut will use its base program authority to determine that a permit is not necessary and thus terminate a facility's interim status if but only if the facility has met both the base program closure requirements and the corrective action requirements. Connecticut is committed to ensuring agency review of remediation completion determinations and ensuring public participation in proposed remediation actions and tentative remediation completion determinations, which are important steps needed before the state can make a final "permit is not necessary" decision. The processes to be used in making this "permit is not necessary" decision is intended to match guidance EPA has issued on completion of remediation.¹

The CT DEP has discussed its plans regarding non-land disposal facilities with the EPA, which has expressed its view that cleanups under the Property Transfer program, if subject to public comment and State agency review as specified above, can meet its environmental needs. Thus the CT DEP and EPA agree in the memorandum of agreement for program authorization ("Memorandum of Agreement") that the EPA in general will defer to and not duplicate the State's remedial reviews regarding non-land disposal facilities which undertake corrective action under the Property Transfer program. The exact nature of this agreement is specified in the Memorandum of Agreement, but should result in non-land disposal facilities undergoing corrective action under the Property Transfer program being handled similarly to land disposal facilities undergoing corrective action in the formally

¹ *Final Guidance on Completion of Corrective Action Activities at RCRA Facilities*, 68 FR 8757 (US EPA, Feb. 25, 2003) http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gen_ca/compfedr.pdf

authorized program. In addition, the CT DEP and EPA agree in the Memorandum of Agreement that they will cooperate to avoid duplication of effort with respect to facilities which undergo cleanups under other state or federal programs (e.g., under federal or state orders or federal or state voluntary programs).

G. Delegation of Closure and Corrective Action to Licensed Environmental Professionals

Licensed Environmental Professionals may be delegated the responsibility of overseeing clean-up activities at treatment, storage, and/or disposal sites, including closure of regulated units and corrective action. This approach is consistent with the practice of considering delegation of investigation and remediation activities to Licensed Environmental Professionals at sites implementing investigation and remediation through other clean-up programs. Connecticut retains enforcement ability and may retract such delegation if deemed necessary. The state delegates [and retracts] oversight responsibility to Licensed Environmental Professionals through a letter to the facility. An example of such a letter is attached [Appendix N]. In addition to any site-specific topics, the delegation letter highlights matters of programmatic importance, such as the definition of "facility," public participation, ecological risk, quality assurance, and the clean-up criterion for lead. Future letters might be modified to reflect different issues that arise in the future.

H. Federal Program Management Philosophy

On October 7, 1999, EPA withdrew most of its proposed corrective action regulations (published in 1990), saying that detailed regulations are not necessary [64 FR 54604] to accomplish cleanup goals. http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gen_ca/withdrwl.htm

This Federal Register notice also made it clear that the 1996 Advance Notice of Proposed Rulemaking ("ANPR") [61 FR 19440], should be considered the primary implementation guidance. The ANPR identifies the basic operating principles of EPA's Corrective Action Program:

- Risk-based decision making
- Focus on results, not process
- First control exposures and stabilize continuing releases
- Phase activities at large individual facilities
- Provide meaningful inclusion of all stakeholders
- Use the most appropriate mechanism to address corrective action requirements
- States should be the primary implementers

I. RCRA Reforms

Connecticut will incorporate into its Corrective Action Program the RCRA Reforms I, II, and any subsequent reforms consistent with the state's remedial goals. Connecticut will conduct the RCRA Corrective Action Program in a manner that promotes rapid achievement of cleanups while protecting human health and the environment. Specifically, the State will, to the extent practicable:

- *Embrace flexible, practical, results-based approaches that focus on control of human exposure and contaminated groundwater migration in the short term, with final cleanup being the long-term goal.*
- *Provide ready public access to information and meaningful opportunities for public involvement in the cleanup process.*
- *Foster a culture of innovation, creativity, communication, and technical expertise focused on accelerating cleanups and meeting program goals.*

- *Carefully consider key program guidance (and updates) for the RCRA Corrective Action Program*¹.

J. Revised 40 CFR Subpart S: Special Provisions for Cleanups

The two portions of Subpart S that were not withdrawn in 1999 include *Corrective Action Management Units* ["CAMU"] and *Temporary Units* ["TU"]. Connecticut has incorporated with changes 40 CFR 264.552 and 553 [as revised through January 1, 2001] at RCSA 22a-449(c)-104(a). These rules are newly adopted and will be incorporated into Connecticut's available strategies for managing remediation waste at remediation sites. Amendments to the CAMU rule were made final on January 22, 2002 and the Department will review these amendments in the future.

K. Corrective Action Process: Essential Elements

1. Federal focus on flexibility

As emphasized in the 1996 ANPR, EPA believes that corrective action program implementation should focus on results rather than on any one prospective linear process.² The Department shares this belief and the idea that a successful corrective action program must be procedurally flexible. Although this section discusses process, the elements should be viewed as evaluations necessary to make good cleanup decisions, not prescribed steps along a path.³ The process elements identified by EPA include:

- a. Initial Site Assessment
- b. Site Characterization
- c. Interim Actions
- d. Development of Remediation Goals and Criteria
- e. Evaluation of Remedial Alternatives and Remedy Selection
- f. Remedy Implementation
- g. Termination of Interim Status/No permit necessary determination

2. Comparison of Connecticut's Corrective Action Program to EPA's ANPR

a. Initial Site Assessment

At most facilities subject to corrective action an initial site assessment has been conducted, either as a RCRA Facility Assessment ("RFA") or as a Connecticut property transfer environmental site assessment. Such assessments typically represent a compilation of existing information on potential contaminant releases and exposure pathways, and receptors. Information gathered during RFAs or property transfer site assessments usually form the basis for initiating full-scale site characterization. If an assessment was conducted some years ago, a site assessment will be necessary to update existing information. In the case of interim status land disposal

¹ memorandum dated April 5, 2001 from EPA Office of Solid Waste to EPA Regions

² P. 2, *Fact Sheet#1*, RCRA Corrective Action Workshop, EPA, March 2000

³ 61 *Federal Register* 19443, May 1, 1996

facilities, state regulations require that a statement of existing conditions (an "Environmental Condition Assessment Form" or "ECAAF") must be submitted by February 26, 2003 if only an update is needed or by August 27, 2003 if an ECAAF has either never been submitted or has not been submitted since October 1, 1995.

b. Site Characterization

Connecticut has drafted a *Site Characterization Guidance Document*, to assist facilities in the investigation of their site. The purpose of the Site Characterization is to determine whether or not releases of pollutants have occurred at the site and, if so, provide a comprehensive description of the nature and extent of the release and its potential for impact on human health and the environment.

Like EPA, Connecticut DEP endorses the development of a Conceptual Site Model as a dynamic tool used to accomplish the site characterization goals. DEP's guidance describes three phases of investigation, as needed, for each site.

Phase I: The goal of a Phase I assessment is to provide a physical description of the site. Existing and past uses of the site must be determined in order to identify pollutants that may have been used on site and any potential areas where releases have occurred.

Phase II: Phase II assessments build on the results of Phase I with the goal of determining whether or not a release has occurred. The Phase II investigation must address pollutant migration pathways and receiving media as well as identify potential receptors, both human and ecological.

Phase III: If the results of the Phase II assessment indicate that a release has occurred, a comprehensive study is undertaken in Phase III. The purpose of this assessment is to define the nature and extent of any releases. Migration of contaminants must be defined. Potential exposures to human and ecological receptors must be identified.

The draft *Site Characterization Guidance Document* provides a flexible framework for defining site conditions. Data gathered as part of the investigation is tailored to each site and the objectives of the study being conducted. DEP endorses the use of existing information to streamline remedial investigations. Innovative technologies may be employed during site characterization if they can provide useful information to the process.

Connecticut DEP uses risk-based criteria contained within the Connecticut Remediation Standard Regulations ["RSRs"] RCSA 22a-133k-1 through 3, inclusive] in order to determine whether or not remediation has been accomplished at a site. These criteria may also be used in order to establish whether or not remediation is needed at a site, similar to the EPA concept of Action Levels. Other technically defensible levels, as needed, may also be proposed by a facility when evaluating releases at a site.

c. Interim Actions

Both federal and state guidance allow for interim actions such as source removal, installation of treatment systems, and provision of alternate drinking water supplies. Interim actions to expedite risk reduction and the determination of stabilization status are underway or completed at the majority of corrective action facilities. Federal and state interim remedial efforts are generally compatible with, or will be a component of, the final remedy for facilities.

d. Development of Remediation Goals and Criteria

US EPA and CT DEP share the common remedial goal of achieving final remedies that are protective of human health and the environment, and that maintain protection over time. In order to accomplish this objective at remediation sites within Connecticut, CT DEP has developed Remediation Standard Regulations (RSRs) and is guided by the Connecticut Water Quality Standards (WQS).

Remediation Standard Regulations Development

Although federal regulations do not identify quantitative cleanup levels for the corrective action program, Connecticut has regulations identifying standardized cleanup criteria for soil and groundwater. The Remediation Standard Regulations ("RSRs") became effective January 30, 1996 and apply to any remediation required by law, regulation, enforcement, or permit condition. Therefore the RSRs apply to any facility subject to corrective action. The RSRs contain baseline numeric standards for the remediation of soil and groundwater. The remediation of a contaminated facility must consider at a minimum, the criteria for both these environmental media. Factors that may affect the degree of remediation at a polluted site include the groundwater quality classification of the site, the land use of the site, and proximity to sensitive receptors of the contamination.

CT DEP developed the RSRs to determine whether sufficient remediation has been conducted at sites that have been required by statute, regulation, or enforcement action to be cleaned up. The RSRs may also be used to determine the sufficiency of remediation at sites that are voluntarily cleaned up. Therefore remediation previously conducted may be useful in determining that required cleanups are complete.

The RSRs provide:

- baseline specific criteria that may be used at any site to determine whether or not remediation is necessary,
- self-implementing alternatives to the baseline criteria for specific circumstances,
- self-implementing exceptions to the criteria for specific circumstances, and
- an opportunity to request approval of site-specific alternatives to the self-implementing standards and the options for remediation.

Public Act 89-365 codified at Section 22a-133k of the Connecticut General Statutes requires the Commissioner of Environmental Protection to adopt regulations establishing standards for remediation of contaminated hazardous waste disposal sites and other properties that have been subject to a spill. The legislative goal is the full protection of health, public welfare, and the environment, with a preference for clean up methods that are permanent, if feasible.

More than two dozen individuals were part of an advisory committee from 1993 to 1995 that drafted the proposed remedial standards. In addition to CT DEP staff the committee's members included state and local public health officials, attorneys, environmental consultants, and representatives from academia, environmental advocacy organizations, financial institutions, industry associations, utilities, and manufacturing firms. After almost three years of research, review, and drafting, the Department held a public hearing to receive comments on November 6, 1995. The hearing record was held open through November 15, 1995 to receive comments. Several changes were made to reflect the public comments, and after legal and legislative review and approval the RSRs became effective January 30, 1996.

The RSRs established numeric criteria for soil and groundwater that are protective of human health. Groundwater criteria protective of aquatic receptors are also explicitly included in the RSRs. Additionally, the regulations incorporate provisions that allow the Commissioner to take any action necessary to protect human health and the environment. These provisions, along with the provision for conducting Ecological Risk Assessments incorporated into the regulations, allow Connecticut to establish remedial goals necessary to protect human health and the environment.

Water Quality Standards

Connecticut Water Quality Standards (WQS) establish an overall policy for management of surface water and groundwater resources within Connecticut. The WQS are established in accordance with the directives of Section 22a-426 of the Connecticut General Statutes and provide for the protection of human health and the environment through the protection of surface and ground waters from degradation as well as the restoration of degraded surface and ground waters to conditions suitable for the maintenance of existing uses and attainment of designated uses not currently achieved.

The WQS are comprised of three components: narrative statements of policy, numerical water quality criteria and classification maps that show the surface water and ground water classifications for the water resources within the State. These classifications identify water quality goals and designated uses for these resources.

The WQS provide the policy and guidance needed to protect and improve water quality within Connecticut in accordance with Connecticut's Clean Water Act (Chapter 446k of the Connecticut General Statutes). The Statutes provide the legal framework for establishing the WQS, permitting discharges to the waters of the State as well as the abatement of pollution. The WQS are implemented by the Statutes and by various Regulations, including, but not limited to those for hazardous materials management and solid waste management.

Surface Water Quality Standard Number 14 contained within the WQS document effective December 17, 2002, is particularly pertinent to the assessment and remediation of potential impacts to the environment. Standard 14 states:

"Surface waters and sediments shall be free from chemical constituents in concentrations or combinations which will or can reasonably be expected to result in acute or chronic toxicity to aquatic organisms or otherwise impair the biological integrity of aquatic or marine ecosystems outside of any dredged material disposal area or areas designated by the Commissioner for disposal or placement of fill material or any zone of influence allowed by the Commissioner, or bioconcentrate or bioaccumulate in tissues of fish, shellfish and other aquatic organisms at levels which will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors, or health risks to human consumers of aquatic organisms or wildlife unless such sediments are capped with material suitable for unconfined, open water disposal as an appropriate means or ensuring consistency with this standard as approved by the Commissioner in writing. In determining consistency with this Standard, the Commissioner shall at a minimum consider the numeric criteria listed in Appendix D and any other information he or she deems relevant."

Additionally several of the Ground Water Standards included in the WQS state that it is the DEP's policy to:

"maintain or restore quality such that the ground water will not adversely affect surface water quality or prevent the maintenance or attainment of any designated uses of surface waters to which that ground water discharge."

And

"to eliminate or reduce in the ground water any pollutant which presents a hazard of fire, explosion, or toxic or hazardous emission to the environment or otherwise poses a threat to public safety or an unacceptable risk to public health..."

Prevention of Risk to Human and Ecological Populations

Both the RSRs and the WQS are concerned with preventing or remediating risks to human and ecological populations. Often this is accomplished through some form of risk assessment. Risk assessment is a structured scientific process that evaluates the potential for adverse effects to occur within either human or ecological populations as a result of exposure to one or more stressors. As such, risk assessment is an integral component of any successful remediation program. The main components of risk assessment are stressors and exposure. Without both the presence of a stressor and exposure of a receptor to that stressor, risk cannot occur. Within the context of remediation, one of the most common stressors is chemical contamination. Potential receptors at sites with contamination can be either human or ecological. Within these broad groups, further delineation of receptors can be made. For example, humans can be categorized as residents, site workers, children, or subsistence fishers, to name a few. Ecological receptors can also span a very broad range.

Not all populations require inclusion in remedial considerations. The key is exposure. If, during preparation of an adequate site characterization document, both the presence of contamination has been documented and the potential for receptors to be exposed to that contamination exists, then risks to that population must be considered within the remedial process. Conversely, if contamination exists at a site but exposure to those contaminants by certain receptors is not likely or possible, it is not necessary to include these receptors within the remedial process. The exclusion of incomplete exposure pathways from further consideration is consistent with EPA guidance for both human and ecological risk assessments. A complete and accurate site assessment will identify the receptors that need to be addressed as remedial goals and objectives are identified. Existing and potential future exposures must be considered. Findings that no potential for risk exists [for example, because no complete pathway exists] must be documented in the site characterization.

When evaluating risks or establishing risk-based remedial goals for the protection of human health, Connecticut uses an excess lifetime cancer risk level of one in a million (10^{-6}) for exposures to individual carcinogens. Risks for non-cancer endpoints are set at a Hazard Index of 1 for exposures to individual substances. In cases where exposure to multiple carcinogens is possible, DEP has established an acceptable risk level of one in one hundred thousand (10^{-5}). For exposures to multiple non-carcinogenic substances, DEP established a cumulative Hazard Index of 1 for substances with the same target organ. Further, the Commissioner may require additional remediation to ensure that cumulative risks are addressed, when applicable. EPA guidance states, "available risk-based media cleanup standards are considered protective if they achieve a level of risk which falls within the 10^{-6} to 10^{-4} risk range [ANPR, 61 FR 19450]." Connecticut's policies are consistent with EPA guidance.

Application of Remediation Objectives and Criteria to a Site

When it has been determined that releases have occurred and that human or ecological populations have been or could potentially be exposed to contaminants, a remediation plan for the site must be developed and implemented. The RSR contain media specific risk-based criteria that address human exposure to contaminated soils, groundwater or volatile compounds as well as ecological exposures to contaminated groundwater that impacts surface water bodies. The Remediation Standard Regulations contain provisions in both the soils and groundwater sections that allow the Commissioner to require any other activities necessary to prevent or abate any threat to human health or the environment. For risk pathways and receptors not explicitly covered by the established criteria within the Remediation Standard, the development of risk-based remedial goals either through the use of published risk-based benchmarks or the development of site-specific risk assessments may be required on a case by case basis.

Soil Remediation

Two remediation criteria must be met when remediating soil. These two criteria are the Direct Exposure Criteria and the Pollutant Mobility Criteria.

Direct Exposure Criteria: These criteria are established to protect human health from exposure to contaminants in soil. With some exceptions, these criteria apply to soil located within fifteen feet of the ground surface. Polluted soil must be remediated to a concentration that is consistent with the Residential Direct Exposure Criteria, unless the site is used exclusively for industrial or commercial purposes. In such a case, the Industrial/Commercial Direct Exposure Criteria may be used, provided an Environmental Land Use Restriction is recorded to ensure that the site is not used for residential purposes in the future. The purpose of the direct exposure criterion is to minimize the health risk from direct contact with soil and resultant soil ingestion. The exposure assumptions are consistent with EPA guidance.

Provisions are made within the regulations for the development of site-specific Direct Exposure Criteria [RCSA 22a-133k-2(i)]. Site-specific criteria are usually developed when the exposure patterns at the site in question are different from the assumptions used in the derivation of either the Residential or Industrial/Commercial Direct Exposure Criteria. Requiring site-specific cleanup criteria for lead in soil, to account for different exposure assumptions for children and pregnant women, would be an example of DEP using that ability. For lead in soil, Connecticut follows EPA guidance for using a default residential direct exposure criterion of 400 mg/kg. Refer to EPA's directive dated August 1998, *Clarification to the 1994 Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities*¹ and any updates to that guidance.

Pollutant Mobility Criteria: These criteria are established to prevent the pollution of groundwater caused by soil contamination that is available to migrate into groundwater. With some exceptions, these criteria apply to soil located above the seasonal low water table. The Pollutant Mobility Criteria vary depending on the groundwater quality classification of the site. The criteria are based on identifying the levels at which groundwater can achieve the Ground Water Protection Criteria, with differing assumptions of dilution for GA and GB areas. The RSRs also provide for the development of alternative Pollutant Mobility Criteria.

¹ http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/land_use/pbpolicy.pdf

Groundwater Remediation

Three criteria apply to the remediation of a groundwater plume. These criteria include Groundwater Protection Criteria, Surface Water Protection Criteria, and Volatilization Criteria.

Groundwater Protection Criteria: These criteria require that groundwater plumes in high quality groundwater areas be remediated to background quality, or, in certain instances, to levels that adequately protect existing and future uses of groundwater as public or private drinking water supplies. In areas that have been classified as having degraded groundwater quality due to historical land use practices, the groundwater must be remediated to adequately protect any existing use of groundwater, including levels protective of agricultural and industrial uses and Groundwater Protection Criteria if drinking water uses exist. The RSRs also specify circumstances in which exemptions or variances from the Groundwater Protection Criteria are appropriate. The groundwater protection criteria identified in the RSRs are derived using risk-based equations contained in the regulations. The risk calculations and exposure assumptions used by CT DEP are consistent with federal guidance. If the federal Maximum Contaminant Levels ("MCLs") established in the Federal Drinking Water Program were more restrictive than the risk-based GWPC at the time the RSRs were drafted, the GWPC were set equal to the MCL.

Surface Water Protection Criteria: These criteria apply to groundwater plumes that discharge to a surface water body and are established to ensure that surface water quality is not impaired by the discharge of contaminated groundwater. The Surface Water Protection criteria are based on the Water Quality Criteria as contained in the Connecticut Water Quality Standards and include an estimate of in-ground dilution. However, if the plume discharges to a wetland or an intermittent stream, or the extent of the plume occupies more than 0.5% of the upstream drainage basin, the remediation goal of a groundwater plume is the aquatic life criteria in Appendix D of the Water Quality Standards, not the Surface Water Protection Criteria. Alternate criteria can be self-implemented based on ¼ of 7Q10 flow and using the lower of human health or aquatic life criteria or alternate criteria can be developed for substances for which a Surface Water Protection Criteria is not included within the RSRs or for consideration of other site-specific issues.

Volatilization [Indoor Air] Criteria: These criteria are established to protect human health from volatile substances in shallow groundwater that may migrate from groundwater and enter overlying buildings. The Volatilization Criteria for groundwater vary depending on whether the overlying building is used for residential or industrial/commercial purposes. In cases where the Industrial/Commercial Volatilization Criteria are appropriate, an Environmental Land Use Restriction must be recorded. Site-specific Volatilization Criteria may be calculated. If the Volatilization Criteria for Groundwater are exceeded, soil vapors below the building(s) may be evaluated using Volatilization Criteria for Soil Vapor contained in the RSRs. The risk-based equations and exposure assumptions used in the derivation of the volatilization criteria for both groundwater and soil vapor were consistent with EPA guidance when the RSRs were promulgated in 1996. In response to revisions in EPA guidance, toxicological data, transport models, or other information concerning vapor migration, the Commissioner can require, on a site-specific basis, that more stringent criteria be applied to protect human health and can propose revisions to the regulatory baseline criteria.

Site-Specific Evaluations

The RSRs provide standardized risk based remediation criteria. However, the regulations do provide for the consideration of site-specific conditions. Site-specific factors can be addressed through a wide range of actions. The regulations provide for site-specific modifications to the remediation criteria contained in the RSRs.

Additionally, the Commissioner may require, or a facility may elect to submit for the Commissioner's review and approval, site-specific risk assessments. Provisions contained in both the soil and groundwater portions of the RSRs allow the Commissioner to take any action necessary to prevent or abate pollution or to prevent or abate any threat to human health or the environment [RCSA 22a-133k-2(i) and 22a-133k-3(i)]. This may include the requirement to conduct site-specific risk assessments for either human or ecological health. These risk assessment can range from simple to complex evaluations, depending upon site considerations. Connecticut follows EPA guidance for both human and ecological risk assessments.

There are many situations that may trigger a site-specific risk assessment, including, but not limited to:

1. When exposure assumptions contained in the risk-based remediation criteria provided in the RSRs do not accurately reflect existing or future exposure patterns for the site;
2. When additional exposure pathways, not explicitly addressed within the RSRs, are a concern at the site;
3. Where potential contamination of the human or ecological food chain may exist due to the potential exposures to constituents that may bioconcentrate or bioaccumulate (e.g. contaminants in fish, meat, eggs, other dairy products, wildlife, or selected plants, or through subsistence use of the land for farming, hunting, fishing);
4. Where site-specific lead remediation goals could be more stringent than those specified in the RSRs, CT DEP follows EPA guidance for using a default residential direct exposure criteria of 400 mg/kg to account for different exposure assumptions for children and pregnant women.
5. Where potential risks may exist through the use of GB ground water (e.g. for toilets, sinks, dishwashers, industrial processes, agriculture, or lawn watering).
6. Where multiple exposures to the same contaminant(s) related to the same facility may exist (e.g. where a person could be exposed via more than one medium such as air, ground water, surface water, soil, or sediment, or at more than one location such as in the workplace, home or daycare);
7. Where dermal exposure is an important route of exposure (e.g. for chemicals that are well absorbed);
8. Where the toxicity of a chemical has been re-evaluated and increased in EPA's Integrated Risk Information System (IRIS) or through peer review by the National Center for Environmental Assessment (NCEA) since the latest version of the RSRs;
9. Where unusual routes of exposure exist at a site (e.g. dirt biking, routine heavy dust or vapor exposures, situations where there may be exposure to contaminated sediments); where excessive exposures may exist (e.g. dusty or other hands-on occupations such as construction or agricultural workers; known pica behavior; purposive ingestion of soil as in folk remedies; or where exposure occurs over long periods of time);
10. Where additional evaluations are needed to evaluate the potential for specific biological responses due to exposure to site related substances (e.g. asthmatic or allergic mechanisms);

11. Where fugitive particulate emissions from bare soil can occur now or in the future in either an industrial or residential situation;
12. Where multiple constituents are of concern at a site, the Department reserves the ability to require further remediation if necessary, on a site-specific basis, to reflect the increased risk associated with exposures to multiple contaminants.

Although Connecticut's RSRs provide standardized risk assumptions and calculations, nothing precludes the Commissioner from taking any action necessary to prevent or abate pollution or to prevent or abate any threat to human health or the environment. Where the RSRs' model for formulating the risk assessment is different from a site-specific condition, then the commissioner has omnibus authority, as specified in RCSA 22a-133k-2(i) and 22a-133k-3(i), to require a site-specific risk assessment using site-specific exposure assumptions.

e. Evaluation of Remedial Alternatives and Remedy Selection

As remedial goals and criteria are identified for a site, the process of identifying and selecting an appropriate remedy can begin. EPA guidance makes clear that characterization and evaluation of remedial alternatives are not "isolated steps in a linear process [ANPR, 61 FR 19447]." The State has followed, and will continue to follow, this approach in allowing for either concurrent or sequential analysis of remedial alternatives and site characterization. The state agrees with EPA that, at some facilities, agency approval of a separate "Corrective Measures Study" ("CMS") may not be necessary and agrees that, for some facilities, performance-based approaches for achieving clearly stated remedial goals will be favored. [ANPR, 61 FR 19448]

US EPA and CT DEP share the common remedial goal of achieving final remedies that are protective of human health and the environment, and that maintain protection over time. Although it is primarily the responsibility of the party performing the remediation to define remedial alternatives and to recommend a preferred remedy, the remedy selected must receive DEP approval. The federal and state programs share a common preference for permanent reductions in toxicity, mobility or volume while allowing for consideration of exposure controls to remedy risk when permanent reductions are not available or practical.

The federal recommendations for cleanup goals, as stated in the ANPR and the *Handbook of Groundwater Protection and Cleanup Policies for RCRA Corrective Action*¹ and fact sheets² are consistent with state cleanup goals, as stated in the Remediation Standard Regulations and Water Quality Standards. When more than one remedial alternative exists federal guidance recommends considering "threshold criteria" and "balancing criteria," both of which are more fully described in the fact sheet, *Final Remedy Selection for Results-Based RCRA Corrective Action*³ and briefly are:

Threshold criteria

- a. protect human health and the environment
- b. achieve media cleanup objectives [including CT's RSRs]
- c. control sources of releases to reduce or eliminate further releases

¹ <http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gw/qwhandbk/qwhndbk.htm>

² <http://www.epa.gov/epaoswer/hazwaste/ca/workshop/fremedy/expect.pdf>

³ <http://www.epa.gov/epaoswer/hazwaste/ca/workshop/fremedy/select.pdf>

Balancing criteria

- a. long-term effectiveness
- b. toxicity, mobility, and volume reduction
- c. short-term effectiveness
- d. implementability
- e. cost
- f. community acceptance
- g. state acceptance

Appropriate remedial alternatives can take many forms. Connecticut shares EPA's recognition that **natural attenuation**, in certain circumstances, can be an acceptable component of remedial actions for contaminated groundwater. The RSRs require that releases be remediated, but do not specify the technology or the timeframe for achieving remedial goals. However, the Department reserves the right to make the determination that natural attenuation is an appropriate approach. Specifically, the Department will consider the anti-degradation policy of Connecticut's Water Quality Standards in determining if active measures are required. Generally, natural attenuation can only be considered if a groundwater contaminant plume is under control, of known and decreasing concentrations, and is not affecting surface water or drinking water. Groundwater monitoring to document the effectiveness of this remedial method is required.

Additionally, it may be necessary to consider whether or not remediation is feasible at a site. The RSRs allow for a **variance for Technical Impracticability** to be granted if non-aqueous phase liquids cannot be contained or removed, if remediation to the extent technically practicable has been conducted, or remediation is technically impracticable as determined using EPA's "Guidance for Evaluating the Technical Impracticability for Groundwater Restoration" [EPA/540-R-93-080].¹ This is consistent with EPA's recognition of technical impracticability discussed in the CERCLA statute, the National Contingency Plan, and the 1996 corrective action ANPR [61 FR 19451].

Application of certain remedies may require the use of an **Environmental Land Use Restriction ("ELUR")** as an alternative to remediating contamination to a concentration that is consistent with specific criteria of the RSRs. The purpose of an ELUR is to prevent certain types of uses of a property, or limit specific activities on a contaminated property or in order to minimize the risk of exposure to the pollutants. For example, an ELUR may prohibit the destruction of a building located above contaminated soil to prevent the contamination from being exposed. An ELUR must be recorded on the municipal land records. The alternate use of an ELUR to achieve compliance with the Remediation Standard Regulations is at the discretion of the property owner in the sense that if an ELUR provides the same level of protection that further cleanup provides, then a property owner may elect to pursue the use of an ELUR. Further site remediation is required to achieve compliance with the cleanup endpoints if a future site owner prefers to conduct further cleanup work rather than maintaining the land use restriction. State law [Connecticut General Statutes 22a-133o] provides that ELURs run with the land and are binding on the current and future landowners and users. State law [Connecticut General Statutes 22a-133p] provides enforcement of the ELUR. Specifically, DEP can issue administrative orders or request that the Attorney General institute a civil action for injunctive relief and to recover a civil penalty. Owners and tenants are jointly and severally liable for abating violations. State law [Connecticut General Statutes 22a-133o] specifies that an ELUR may be recorded only if all other interests in the property have irrevocably subordinated their interest to the ELUR and that ELURs bind the landowner and all successors and assigns. Conn. Gen. Stats. 22a-133o also specifies that a landowner may only be released from the ELUR if the DEP commissioner provides

¹ <http://www.epa.gov/oerrpage/superfund/resources/gwdocs/techimp.htm>

written approval of the owner's demonstration that the land has been remediated in accordance with Connecticut's Remediation Standard Regulations.

f. Remedy Implementation

Media clean-up objectives: Points of compliance and compliance timeframes

Implementation of the preferred remedial alternatives must address points of compliance and compliance timeframes, among other considerations. Points of compliance are media specific, and according to both federal and state guidance, are developed on a site-specific basis. Guidance on points of compliance and methods for determining compliance with the remediation criteria provided in the RSRs are also contained in these regulations.

Although the federal program does not have regulations regarding remediation timeframes, permits and orders can include schedules of compliance. Similarly, the Department has the statutory authority to issue enforcement actions and permits requiring compliance with remediation schedules. Additionally, land disposal facilities are subject to the compliance timeframes specified in Connecticut's implementation rule [RCSA 22a-449(c)-105(h)]. These timeframes are consistent with those already required for hazardous waste facilities which have filed with Connecticut's property transfer program. Specifically, facilities that have been notified by the Department that an LEP may oversee the investigation and remediation are required to complete site-wide investigation within two years and initiate remediation within three years of such notification. For facilities for which the Commissioner has retained oversight of the process, the facility must receive the Commissioner's approval of a schedule for investigation and remediation. If work falls behind schedule the Department is authorized to take enforcement action and assess penalties.

Completion of corrective measures

The RSRs specify the requirements for determining compliance with the remediation criteria contained in the regulations. Specifics are provided for each type of criteria and include a discussion of sampling and analytical requirements along with prescribed methods of interpreting the data and handling matrix interferences. In general, compliance is demonstrated when either all samples or the ninety-five percent upper confidence level of the arithmetic mean of all sample results from affected areas are equal to or less than the applicable remediation criteria, provided that no single sample exceeds two times the applicable criteria for the substance.

The federal ANPR states that, in the absence of final regulations addressing completion of corrective measures, determinations of corrective action completion should be based on:

- Compliance with media cleanup standards;
- Completion of source controls;
- Completion of removal and decontamination; and
- As needed, the issuance of a post-closure permit or other enforceable document to ensure that long-term operation and maintenance of any engineering controls is continued and that monitoring is conducted.

Guidance on determining that remediation is complete/termination of interim status

Applicable federal guidance may be found in the Federal Register notice at 68 FR 8757, February 25, 2003, Final Guidance on Completion of Corrective Action Activities at RCRA Facilities.¹

Additionally, EPA has provided guidance in the Handbook of Groundwater Protection and Cleanup Policies for RCRA Corrective Action² for determining completion of groundwater remedies.

g. Termination of interim status/No permit necessary determination

Completion of cleanup / Site ready for re-use

Once RCRA closure and sitewide corrective action is complete CT DEP may determine that neither a RCRA operating permit nor a post-closure permit is necessary for a treatment, storage, or disposal facility. Following public participation, the facility's interim status may then be terminated and the facility will no longer be subject to RCRA facility requirements [RCSA 22a-449(c)-105, incorporating 40 CFR 265]. Generator and transporter requirements continue to apply if the facility still generates or transports hazardous waste.

Public participation—when remediation proposed and when remediation complete

Public participation is an integral part of the remedial process. Both federal guidance and state statutes and regulations applicable to corrective action facilities [state statutes regarding permit denial procedures, Property Transfer Act, Remediation Standard Regulations, interim status land disposal facility corrective action implementation regulation] require public notice and an opportunity for public comment before remedy selection and before final administrative determinations regarding permit applications, including termination of interim status. EPA has provided guidance for public participation activities in its *RCRA Public Participation Manual*, September 1996. Connecticut's Property Transfer statute and the interim status land disposal facility corrective action implementation regulation [RCSA 22a-449(c)-105(h)] both require that prior to beginning remedial action the facility owner or operator [or certifying party] must provide public notice of the proposed remediation in the following manner:

- The notice must be published in a newspaper having a substantial circulation in the municipality in which the disposal facility is located.
- The public notice must provide a 45-day public comment period.
- A copy of the public notice must be mailed to the town's director of health and to persons on the facility mailing list.
- A copy of the public notice must be either mailed to abutting property owners, or, in lieu of mailing the notice to abutters, a sign may be placed at the facility identifying that an environmental cleanup is in progress at the site and identifying a contact for further information.

State regulations RCSA 22a-449(c)-110(a)(2)(RR), incorporating 40 CFR 270.73(a) describe the procedural requirements for terminating interim status through a permit denial or an administrative finding that a permit is

¹ http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gen_ca/compfedr.pdf

² <http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gw/gwhandbk/gwhbfinl.pdf>

not necessary. Public notice is required as part of the process and can be combined with public participation elements performed as part of corrective action and RCRA closure obligations. State law [Conn. Gen. Stat. 22a-6h] compels the state to issue a tentative determination before acting on any permit application. A legal notice of this tentative determination must be published and a copy of the notice must be provided to the town. This notice will also be mailed to anyone on the facility mailing list.

Remediation complete determinations involving institutional controls or a portion of a facility

If a facility's completion of remediation includes the use of institutional controls (for example, an Environmental Land Use Restriction) or only addresses a portion of a facility, then this situation will be described in documents provided for public comment during the public participation phase prior to the state making a final determination that remediation is complete.

Resources

Implementation Resources: New inspection and analysis activities will be combined with existing efforts

Inspection and analysis activities will primarily be combined with existing efforts. The first analysis that needs to be done is the determination of the most appropriate mechanism for implementing corrective action, or for coordinating investigation and remediation work already in progress. For approximately 75% of the land disposal facilities at least one implementing mechanism is already in place and some level of investigation and remediation has already occurred pursuant to that mechanism or due to other reasons.

Specifically, for the approximately 75 land disposal facilities that are being reviewed under Connecticut's Property Transfer Program inspection and analysis activities already exist as part of site review. A few exceptions exist related to sites that are not in active review because of facility abandonment and will need to be addressed with targeted analyses.

Of the land disposal facilities not in the property transfer program 11 are municipal solid waste landfills and will be reviewed for consistency with corrective action program requirements in the context of combining existing post-closure monitoring and maintenance operations required by existing permits or enforcement actions.

EPA and DEP have separately issued orders to several land disposal facilities. These orders require investigation and remediation and are part of existing workloads within different programs. The remaining 25 land disposal facilities will need to either document that existing investigation and remediation activities are in place or will need to submit a plan for investigating and remediating sitewide conditions.

For treatment and storage facilities a variety of implementation tools are similarly in place for many of the facilities. Regardless of implementation tool, all of the facilities must engage in public participation activities, all must receive DEP's approval of the remedial action plan and the determination that remediation is complete, and all must obtain a final administrative disposition of their RCRA permit application, whether withdrawn or left incomplete.

Many of the land disposal facilities have submitted at least some information regarding existing conditions in their Post-Closure Part B Permit Applications. Connecticut's corrective action implementation rule for interim status facilities [RCSA 22a-449(c)-105(h)] will provide the mechanism for initiating compliance with the requirement to complete corrective action prior to permitting. For those facilities for which an operating permit or post-closure permit is the most appropriate mechanism for further activities then a schedule for compliance

with the corrective action portion of the permit, as 40 CFR 264.101 [RCSA 22a-449(c)-104(a)] requires, will be developed during the permitting process.

Enforcement resources

The Department has general inspection and enforcement authority described in state law (Conn. Gen. Stat. 22a-6). This authority allows the Commissioner to inspect and investigate possible violations of statutes, regulations, orders, or permits (i.e., all the types of corrective action implementation instruments) and to issue orders and institute legal proceedings to enforce those implementation instruments.

Additionally, for the approximately 75% of RCRA land disposal facilities already in the Property Transfer Program statutory authority exists for enforcing compliance with the investigation and remediation requirements of that program in Conn. Gen. Stat. 22a-134a to 22a-134d, inclusive. For example, if facilities fall behind in their schedules of compliance, then the Department may respond with an enforcement action using either its general enforcement authority or the specific enforcement authority provided in the Property Transfer Act.

Staff resources

Technical staff members with corrective action responsibilities include environmental analysts and engineers with varying backgrounds in geology, hydrology, chemistry, ecology, soil science, environmental science, and engineering. The staff members [analysts/engineers and supervisors] available for corrective action oversight and enforcement activities include, a percentage of one person in the Water Management Bureau with ecological risk assessment review capabilities, a percentage of the approximately 38 people [six supervisors, 32 staff members] in the Department's general remediation section [formerly part of the Permitting, Enforcement, and Remediation Division ("PERD")] and five people [one supervisor, four staff members] in the RCRA program [formerly part of the Waste Engineering and Enforcement Division ("WEED")]. The general remediation section and the RCRA program are currently both in the Remediation Division of the Waste Management Bureau.

There are several thousand sites in DEP's inventory of known or potentially contaminated sites in Connecticut. Staff members are currently assigned to approximately 2,700 sites. The percentage of staff time spent on the 238 sites subject to RCRA corrective action varies, with approximately 2.5% of general remediation division staff workload attributable to RCRA corrective action activities and approximately 80% of RCRA program staff workload attributable to RCRA corrective action (and closure) activities. The combined resources of the general remediation staff and the RCRA program remediation staff equal a total of five FTEs. Increased percentages of staff time allocation and increased program accomplishments beyond the commitments reflected by the existing grant would be commensurate with the level of additional grant funding provided.

Data integration: Tracking program progress

All sites subject to corrective action are included in the existing electronic inventory of several thousand potentially contaminated sites in Connecticut.

Additionally, since it is critical that EPA have real-time data on the progress at corrective action sites, milestones achieved in the corrective action program are logged in EPA's national database, "RCRAInfo." Currently EPA staff and some DEP RCRA staff enter the data.

Although corrective action milestones may be achieved in a state program that doesn't use the same terminology as historically used in the corrective action process, the recording of key events is still possible.

Key events to be recorded in RCRAInfo as they occur include:

RCRAInfo Code	Event	Analogous state event	Comments
CA 050	RCRA Facility Assessment (RFA)	Phase I/II site investigations	RFA/PA done for 207 facilities
CA 075	Prioritization	EPA NCAPS unique to EPA	Done for all but 12; 126 high; 53 medium; 28 low
CA 100 CM& E 310, 340, 620, 621, 622	RCRA Facility Investigation (RFI) imposition	Phase II/II site investigations; site characterization complete; enforcement orders and judgments coded in CM& E also; property transfer program Form III submittal	Use order issuance or Form III submittal date for imposition date; 107 done
CA 200	RFI approved	Step approval letter in enforcement action; Letter approving site investigation	
CA 210	CA Responsibility Referred to a Non-RCRA Federal Authority	SF = Referred to CERCLA OT = Referred to Other Authority	
CA 380	Public Notice on Proposed Remedy	interim status LDFs: public notice on proposed remedial action plan; T& S facilities that are also Property Transfer Program sites: public notice on proposed remedial action plan; others—public notice on proposed remedial action plan; remedy selected through letter approving remedial action plan following public comment period and any revisions related to public comments received	
CA 400	Remedy Selected	Approval of remedial action plan	
CA 550	Certification of Remedy Construction	Letter concurring with remedy completion	Could still have post-remediation groundwater monitoring
CA 600, 650	[600] Stabilization Measures Implemented [650] Stabilization Construction Completed	Letter or memo	
CA 725, 750	Environmental Indicators (EI) [725] Human Exposures Controlled	EI reports; letter; DEP uses EPA formats exactly	

RCRAInfo Code	Event	Analogous state event	Comments
	Determination [750] Contaminated Groundwater Migration Under Control		
CA 800	Ready for Reuse Determination	Letter	
CA 999	Corrective Action Completed	Letter that remediation is complete; [statement of basis]	
CL360, 370, 380, 390, 395	Closure plan approved; closure certified, closure verified; deed notice received; equivalency determination	DEP uses EPA formats exactly	
OP/PC 160, 170	Public notice for permit Public hearing	DEP follows state permitting procedures	
OP 200 or PC 200	Permit application denial [termination of interim status] <i>or</i> Post-closure permit issued	Determination that no further remediation is necessary; remediation is complete; <i>or</i> Post-closure permit or equivalent mechanism issued.	

Additional burdens on technical staff

Technical staff will need increased training and support at least in the fields of ecological risk assessment and RCRAInfo database entry. Although staff members are trained in Connecticut's water quality standards, soil and groundwater cleanup standards, and waste management regulations, these same staff members may or may not require additional training to review ecological risk assessments focused on terrestrial or aquatic ecosystems. The Department expects to further discuss support from EPA on these training needs, specifically to arrange and schedule such training to occur. Some training will be necessary for DEP staff members who are not currently familiar with RCRAInfo. The Department has provided, and will continue to provide, information and education for LEPs to ensure that those LEPs overseeing remediation at corrective action facilities are aware of their obligations to document compliance with corrective action requirements.

Delegation of oversight responsibilities to Licensed Environmental Professionals

The Department intends to optimize government resources in two ways. First, DEP will concentrate its oversight role on facilities that the private sector cannot or will not address (such as abandoned sites). Second, DEP will focus its resources on performing tasks that the public sector must perform (such as providing equitable and consistent interpretations of clean-up endpoints, auditing some LEP-led sites, and recording milestones in RCRAInfo). Therefore, at sites already delegated to LEPs under another remedial program, LEPs can continue to oversee sitewide cleanup at facilities subject to corrective action. The department included such capability in its interim status corrective action implementation rule for land disposal facilities [RCSA 22a-449(c)-105(h)] to both maximize resources and to provide assurance that investigation and remediation work already completed for another remedial program (such as the Property Transfer Program) under an LEP's oversight will be considered valid for verifying compliance with corrective action requirements, provided such work is sufficient to identify and correct releases and to ensure that remedial activities are protective of human health and the environment.

Criteria for using an LEP: Statutory considerations

The Connecticut General Statutes Section 22a-134a (g) states: In determining whether review and approval of the remediation by the commissioner will be required, or whether a licensed environmental professional may verify that the remediation has been performed in accordance with the remediation standards, the commissioner shall consider:

- a. The potential risk to human health and the environment posed by any discharge, spillage, uncontrolled loss, seepage or filtration of hazardous waste on the parcel;
- b. The degree of environmental investigation at the parcel;
- c. The proximity of the parcel to significant natural resources;
- d. The character of the land uses surrounding the parcel;
- e. The complexity of the environmental condition of the parcel; and
- f. Any other factor the commissioner deems relevant.

Criteria for using an LEP: Staff generally consider these factors:

- a. Status of any enforcement actions;
- b. Potential for impact to sensitive receptors in the area, (especially private or public drinking water supplies);
- c. Interests of other DEP units involved with the site;
- d. Compliance history of party certifying to investigate and remediate;
- e. Complexity of contaminant distribution;
- f. Likelihood that extensive DEP involvement will be needed while reviewing alternative approaches under RSRs or Covenant-Not-To-Sue; and
- g. Time critical issues regarding site redevelopment.

L. Quality Assurance Project Plans (QAPP)

Connecticut is committed to assuring quality throughout the corrective action program. Connecticut addresses the specific elements contained in EPA's quality assurance guidance documents through a combination of standard protocols (such as EPA SW-846 for test methods), procedural guidance (such as for RCRA Closure activities and for Site Characterization,) laboratory certification requirements administered by the state Department of Public Health, and licensing procedures (when using Licensed Environmental Professional to oversee project management). Refer to the QAPP crosswalk attached [Appendix O] and to the EPA Guidance, *Quality Assurance Guidance for Conducting Brownfields Site Assessments*, (US EPA OSWER, September 1998) and updates to that document.¹ Connecticut will follow the EPA guidance for ensuring that facilities will achieve and document the general principles for quality assurance that are identified in the EPA guidance.

M. Transition & Coordination Plan

The following discussion addresses the strategy developed by EPA and Connecticut to begin and continue the transition of the responsibilities and workload for corrective action permits, orders, and other mechanisms to the state, pursuant to EPA authorization of Connecticut's corrective action program. This transition period occurs while Connecticut prepares its application for authorization and while awaiting EPA's review, public comment, and final authorization.

¹ <http://www.epa.gov/brownfields/pdf/bfqag4.pdf>

Both parties agree in the Memorandum of Agreement submitted concurrently with this Program Description as part of Connecticut's authorization application, as well as through regular updates provided as part of the grant process, that the corrective action program will be implemented cooperatively in a manner consistent with federal and state law and policy.

Since the enactment of HSWA, EPA has managed much of the RCRA Corrective Action activities in the state. However, since 1985 Connecticut has also managed sitewide investigations and cleanups at many of the facilities subject to RCRA Corrective Action. As the state takes the lead in overseeing the implementation and completion of corrective action at sites EPA's role will continue. This role includes support to DEP on matters of technical consistency and training and in individual cases to continue to complete oversight of remediation work until certain goals are achieved such as stabilization or completion of final remedies.

Although site-specific corrective action work-sharing activities will be defined in annual grant work plans, the following is a general description of the universe of RCRA facilities subject to corrective action and the initial distribution of the workload between EPA and Connecticut.

There are 123 high priority facilities on the GPRAs baseline. There are at least 238 facilities total [of low, medium, and high priority-rank] in Connecticut that are subject to corrective action. High priority facilities will generally take precedence over medium and low priority facilities. However, medium and low priority facilities undergoing sitewide investigation and cleanup for property transfer are encouraged to coordinate work to ensure compliance with all applicable program considerations.

There are eleven treatment, storage, or disposal facilities currently operating or formerly operating with operating permits or having operating permits drafted. The rest of the facilities are interim status facilities. About 100 of these interim status facilities are land disposal facilities subject to the implementation rule in CT's hazardous waste management regulations. Of these approximately 75% are currently conducting or will conduct sitewide investigation under the CT DEP Property Transfer program.

Connecticut and EPA will coordinate the remediation work ongoing at facilities and determine which agency shall serve as the lead and which shall serve as a support agency, based on the specific circumstances for each facility. This coordination will consider each facility's situation with respect to its environmental stabilization status, environmental setting, the presence of responsible parties, the timing of business decisions such as real estate or facility ownership transactions, and staff resources. EPA and the State are committed to ensuring that the concept of parity is applied to corrective action facilities subject to multiple clean-up authorities. Through coordination, EPA and CT DEP will achieve the common goal of making contaminated properties safe for people and the Connecticut environment.

N. References

Statement of Reasons in Support of the proposed RSRs, CT DEP, 1995

Introduction to the proposed RSRs, CT DEP, 1995

Remediation Standard Regulations, CT DEP, 1996

Water Quality Standards, CT DEP, 2002

Comprehensive State Ground Water Protection Program: A Profile of the State of Connecticut, CT DEP, 1995

CT DEP Program Fact Sheets—Remediation Standard Regulations, Property Transfer Program, Environmental Land Use Restrictions, Potable Water Program

EPA Corrective Action General Guidance

<http://www.epa.gov/epaoswer/hazwaste/ca/guidance.htm>

<http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gw/gwhandbk/gwhndbk.htm>

<http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gw/gwhandbk/gwhbfnl.pdf>

EPA Final Guidance on Completion of Corrective Action Activities at RCRA Facilities

http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gen_ca/compfedr.pdf

ANPR

http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gen_ca/anpr.htm

Integration policy

http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/gen_ca/coordmem.pdf

Risk-based clean closure

<http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/risk/cclosfnl.pdf>

Role of state gw plans

<http://www.epa.gov/superfund/resources/csgwpp/role.pdf>

Lead guidance

http://www.epa.gov/epaoswer/hazwaste/ca/resource/guidance/land_use/pbpolicy.pdf

Alternative LDR treatment standards for soil

http://www.epa.gov/epaoswer/hazwaste/ldr/soil_f4.pdf

Draft EPA guidance for evaluating vapor intrusion to indoor air

<http://www.epa.gov/correctiveaction/eis/vapor/guidance.pdf>