

**Waste Engineering and Enforcement Division
Memorandum**

Date: May 3, 2002

To: David A. Nash, Director, Waste Engineering and Enforcement Division
From: Diane W. Duva, Environmental Analyst

**RATIONALE FOR HAZARDOUS WASTE DETERMINATIONS OF
CONTAMINATED ENVIRONMENTAL MEDIA:**

CONNECTICUT'S "CONTAINED-IN" POLICY

POLICY

Connecticut's "contained-in" policy establishes the criteria for deciding when contaminated environmental media are considered not to contain hazardous waste and therefore may be managed as non-hazardous contaminated media. The policy does not establish cleanup criteria for soil and groundwater, and does not prescribe what constituents should be evaluated or how to do a hazardous waste determination. When media concentrations are below the hazardous waste levels described in this policy, but are greater than applicable Remediation Standard Regulations ("RSR") criteria, then the media may be handled as non-hazardous contaminated media subject to RSR reuse requirements and to Connecticut solid waste requirements. The policy applies to environmental media [soil and groundwater] managed in Connecticut.

NEED FOR THE POLICY

The focus of activity at contaminated sites has shifted over the last decade from investigation to remediation, due in part to changes in State and Federal laws and programs. These changes have highlighted the need to simplify the handling of environmental media generated from the remediation of contaminated sites ("contaminated media") and to reduce treatment, transportation, and disposal costs.

RCRA regulations do not specifically address the management of contaminated media, and applying regulations intended for process wastes to contaminated media undermines efforts to clean up contaminated sites. This policy is based on the premise that contaminated media are different from as-generated process wastes from industrial and commercial processes. The RCRA requirements are prevention-oriented and are meant to encourage *reduction* of as-generated process waste while the goals of contaminated media treatment and disposal encourage *production* of as much "waste" as possible. When applied to contaminated sites RCRA regulations therefore provide incentives to leave pollution in place or to select remedies that minimize their applicability. They also increase the project cost and administrative procedures, without increasing environmental benefit. This can result in remediation decisions that are less protective and/or less efficient, and can result in decisions to not initiate remediation.

BACKGROUND

The “contained-in” policy ends the distinction between managing environmental media contaminated with listed hazardous waste differently from environmental media contaminated with characteristically hazardous waste. It establishes that the *concentration* rather than the *source* of contamination determines if environmental media contain hazardous waste. As EPA wrote in its proposed HWIR-Media regulations, “Applying [the rules for listed vs. characteristic wastes] differently, depending on how the media came to be regulated as hazardous, would be unnecessary and artificial, and would further complicate how these rules would be implemented in the field.” Whether waste is listed or characteristic remains an important determination for management of as-generated wastes, but it is unimportant for setting protective management controls for contaminated media.

At the national level, Congress, the Administration, and U.S. EPA have recognized that certain RCRA requirements may be increasing the costs and delaying the progress of some hazardous waste cleanups. Legislative efforts have been initiated in the last few years to clarify EPA’s authority regarding contaminated media management and EPA has promulgated regulations specifically for contaminated media [“HWIR-Media”]¹. While the proposed HWIR-Media rule intended to set national criteria for determining if contaminated media must be managed in the same manner as hazardous waste, the final rule did not. Instead, the final rule reasserted the states’ authority to establish “contained-in” policies that set such criteria.

Historically, EPA and the States have sought to address the application of RCRA’s prevention-oriented standards to remedial actions through a series of regulatory and policy directives (such as the “Contained-In” policy). The U.S. Environmental Protection Agency recognizes that states have the authority to set the concentrations below which environmental media do not contain hazardous waste. (See the attached reference table.) To date, Connecticut has not had a written “Contained-In” policy, relying instead on letters written to answer site-specific hazardous waste determination questions. However, our past practice of applying a drinking water standard to soil and water undermines the Connecticut Remediation Standard Regulations by potentially identifying as “hazardous waste” soils that would otherwise be considered “clean enough” to remain at certain sites.

In the last few years, staff in this division have discussed this policy within the Department, have researched other states’ “Contained-In” policies, consulted with EPA staff at EPA-New England and at EPA Headquarters, and have worked with the regulated community and the environmental community to determine the usefulness, advantages, and disadvantages of implementing this proposed policy. We have begun using this proposed policy on a site-specific basis, and now recommend finalizing the policy to make it self-implementing for the regulated community. Site-specific decisions that deviate from the self-implementing criteria can still be allowed through the Department’s written approval.

Choice of Criteria

¹Refer to EPA’s April 29, 1996 proposed rule, “Requirements for Management of Hazardous Contaminated Media (HWIR-Media),” published in Vol. 61 No. 83 of the Federal Register, page 18780. The final rule, “Hazardous Remediation Waste Management Requirements,” was promulgated November 30, 1998, published in Vol. 63, No. 229 of the Federal Register, page 65874, and became effective federally June 1, 1999. As of this date, Connecticut has not yet evaluated whether Connecticut will adopt the HWIR-Media rule. Also refer to a General Accounting Office report dated October 6, 1997, “Hazardous Waste Remediation Waste Requirements Can Increase the Time and Cost of Cleanups.”

EPA has repeatedly stated that environmental media are not solid waste and therefore cannot be hazardous waste. However, media may *contain* hazardous waste and if so then the media must be managed *as if* the media were hazardous waste. EPA has said that it is up to the individual states to decide the criteria for deciding at what level media contain “listed” (i.e., wastes coded F-, K-, P-, or U-) hazardous waste.

Connecticut has chosen the following criteria to set hazardous waste levels. The Toxicity Characteristic levels (“TC levels”) in Table 1 (“TC Table”) in 40 CFR Part 261.24 were chosen for consistency with existing waste determination and disposal requirements, and because whether a waste exhibits a Toxicity Characteristic must be determined regardless of what concentrations are specified in any contained-in policy.

If a contaminant does not have an established criterion in the TC Table then criteria are calculated using the Connecticut Remediation Standard Regulations’ Industrial/Commercial Direct Exposure Criteria and a multiplier of the GA/GAA Pollutant Mobility Criteria. If a contaminant does not have an established criterion in either the TC Table or the Connecticut Remediation Standard Regulations (“RSR”), then a criterion will need to be established according to the RSR section, “Additional Polluting Substances” and used in the same manner as existing RSR constituents. The applicable contaminants to consider in evaluating contaminated media are limited to those identified in 40 CFR Part 261 Appendix VII as the constituents that caused the waste to be listed.

The Connecticut Remediation Standard Regulations GA/GAA Pollutant Mobility Criteria (“PMC”) were chosen for consistency with the groundwater protection-based purpose of the TC Table. The 100-times factor applied to the GA/GAA PMC and GA Groundwater Protection Criteria was chosen to be consistent with the Regulatory Levels on the TC Table that were originally set by multiplying then-current drinking water standards by 100. This 100-times factor and the Industrial/Commercial Direct Exposure Criteria (“I/C DEC”) were chosen to prevent the levels from undermining the RSR. For example, if the RSR allows a contaminated site to leave soils in place at GB PMC levels and/or at I/C DEC levels (with an Environmental Land Use Restriction) but upon excavation those soils are considered hazardous waste because they exceed the drinking water standard, the GA/GAA PMC, or the Residential Direct Exposure Criteria then the effect is an illogical characterization of the soils as “hazardous.” Such a conclusion compels property owners to remediate beyond the levels considered protective for the site. This inefficiency discourages cleanup and wastes remediation resources.

POLICY EFFECTS

The “contained-in” policy provides a strong incentive to remediate contaminated sites to applicable levels established in the Remediation Standard Regulations. The incentive to remediate pollution stems from the resulting substantially reduced disposal and transportation costs for contaminated media that are not required to be managed in the same manner as hazardous waste. The policy will also simplify the waste handling process by reducing administrative requirements and providing greater consistency with non-RCRA waste handling requirements and practices. This will provide strong motivation to initiate and accelerate remediation of contaminated sites without increasing risks to human health or the environment.

The policy will also provide managers of contaminated sites with greater certainty in characterizing the fate and projecting the cost of removing media from the site after remediation. This predictability will enhance the Remediation Standard Regulations’ usefulness in identifying cleanup endpoints.

We expect that the policy will increase the demand for in-state disposal and treatment of contaminated soil. While increased disposal of contaminated soil raises landfill capacity issues, contaminated soils are often used as daily cover material, which does not affect capacity and reduces the need to purchase material for use as cover. The “contained-in” policy is consistent with the current “special waste disposal authorization” process and is based on criteria designed to be protective in a landfill disposal scenario.

We also expect that demand for in-state treatment services will increase. However, an actual increase in the amount of treated media will likely have to await development of additional treatment capacity and modification of existing treatment permits for consistency with this policy regarding accepting media contaminated with listed waste. The “contained-in” policy is consistent with the limits in current permits for accepting contaminated media that is characteristically hazardous.

Land Disposal Restrictions

Land Disposal Restrictions apply to media determined to contain hazardous waste, but not to media found not to contain hazardous waste. After treatment of media that contained hazardous waste the Land Disposal Restrictions continue to apply to media (i.e., the treatment must achieve treatment standard concentrations, not just non-hazardous concentrations). On May 26, 1998 EPA promulgated land disposal restriction treatment standards specific to contaminated soils as part of the LDR Phase IV Rule. Connecticut expects to adopt this rule by July 2002.

Notable Considerations

This policy directive addresses only the management of contaminated media. It does not address which wastes should be remediated, the remediation standards for contaminated sites (i.e., “how clean is clean enough”), or which remediation technologies should be used.

Note that contaminated media remain subject to at least the following requirements:

- the polluted soil reuse requirements in Section 22a-133k-2(h) of the Connecticut Remediation Standard Regulations;
- the Connecticut Solid Waste Management Regulations;
- the testing, treatment, management, and notification requirements in the Federal Land Disposal Restrictions, 40 CFR Part 268; and
- other states’ contained-in policies if the media are shipped out of state to/through states that do not recognize Connecticut’s policy.

Staff Contact

If you have any questions, please ask:

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CONNECTICUT'S RCRA "CONTAINED-IN" POLICY

CHARACTERIZATION OF CONTAMINATED SOIL AND GROUNDWATER

POLICY RCRA hazardous waste determinations for contaminated soil and groundwater may compare contaminant concentrations with the characterization criteria below. If the concentrations are below these criteria then the soil and groundwater do not need to be managed in Connecticut as RCRA hazardous waste. If the concentrations are above these levels then the soil/water must be treated, stored, transported, and disposed in the same manner as hazardous waste.

PURPOSE To simplify the management of non-hazardous contaminated soil and groundwater and to encourage remediation of contaminated sites.

APPLICABILITY This policy applies to contaminated soil and groundwater managed in Connecticut. It does not establish cleanup criteria. When contaminant concentrations are below the levels described in this policy, but are greater than applicable Connecticut Remediation Standard Regulations ("RSR") criteria, then the soil and groundwater must be handled as non-hazardous contaminated soil and groundwater subject to applicable RSR polluted soil reuse requirements and to Connecticut solid waste requirements.

CONTAMINANT	SOIL CHARACTERIZATION CRITERIA	GROUNDWATER CHARACTERIZATION CRITERIA
CHARACTERISTICALLY HAZARDOUS WASTE "D codes"	Non-hazardous if below levels in Toxicity Characteristic Table in 40 CFR 261.24 ("TC Table") ¹	Non-hazardous if below levels in Toxicity Characteristic Table in 40 CFR 261.24 ("TC Table")
LISTED HAZARDOUS WASTE "F,K,P,U codes" <i>See 40 CFR 261.33 for "P" & "U"</i> <i>See 40 CFR 261 Appendix VII to identify constituents for which "F" & "K" wastes are listed.</i>	Non-hazardous if below the lower of A and B: (A) Industrial/Commercial Direct Exposure Criteria in RSR ² and ----- [choose one method from B]: (B) either TC Table ¹ or 100 x GA Pollutant Mobility Criteria in RSR ³ or 100 x Groundwater Protection Criteria in RSR ⁴	Non-hazardous if below 100 x GA Groundwater Protection Criteria in RSR

1. via Toxicity Characteristic Leachate Procedure ("TCLP") 2. via mass analysis 3. via mass analysis or leachate analysis

4. via leachate procedure (eg: TCLP or Synthetic Precipitation Leachate Procedure ["SPLP"])



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"CONTAINED-IN-POLICY" REFERENCES				
Date	Document Name	EPA FaxBack #	EPA Policy or Document Reference	Comments
10/14/98	Management of Remediation Waste Under RCRA	---	EPA530-F-98-026	Guidance memo summarizing RCRA regulations and policies
11/30/98	Hazardous Remediation Waste Management Requirements	---	63 FR 65874--65947	Federal Register: federal regulations: "HWIR-Media" Final Rule
05/26/98	Land Disposal Restrictions Phase IV...Treatment Standards for Hazardous Soils	---	63 FR 28556--28736	Federal Register: federal regulations: "LDR-Ph.IV" Final Rule
04/29/96	Requirements for Management of Hazardous Contaminated Media	---	61 FR 18780--18864	Federal Register: proposed regulations: "HWIR-Media" Proposed Rule
01/08/97	Use of Site-Specific Land Disposal Memo	14078	US EPA	LDR treatability variances appropriate for soil
03/00/96	Hotline Q & A	13779	9551.1996(02)	LDR; 268.40 treatment standards; 268.48 UTS
02/27/96	Letter to Mr. Nebrich, Waste Tech. Serv	14045	9551.1996(01)	Contained-in levels set by State or EPA program
09/15/95	Clarification of the RCRA Contained-In Policy [Letter to Mr. Wright, Monsanto Co.]	11948	9441.1995(32)	State authority for contained-in policy; LDR
02/17/95	P and U Listed Wastes Memo	13732	9444.1995(01)	Contained-in policy applies to P&U listed wastes
10/06/94	Letter to Mr. Humphrey, Envirosafe Serv of OH	13705	9551.1994(01)	Mixtures of debris & non-debris
07/15/93	Letter to Dr. Skoularikis, Loureiro		EPA New England	Okay to treat soil in <90 days; debris rule
10/15/92	Letter to Mr. Warren, C,S,P, S & C	13568	9441.1992(34)	Contained-in levels set by State
06/11/92	Letter to Mr. Green, Piper & Marbury	11671	9441.1992(16)	Okay to redeposit soil from utility trenches
08/05/91	Letter to Mr. Gillingham, Franklin		EPA New England	Characterizing soil when contaminant source unknown
03/26/91	Contained-In Policy [Letter to Mr. Ely, VA DWM]	11593	9441.1991(04)	Contained-in policy applies to all media; upheld in court
05/00/90	Hotline Monthly Report Question	13373	9441.1990(13b)	Manage groundwater containing hazardous waste as hazardous waste; reuse of groundwater
05/00/90	Hotline Monthly Report Question	13372	9441.1990(13c)	P&U lists don't apply to used materials; hazardous waste if characteristic
05/20/92	Federal Register discussion	---	57 FR 21450, 21453	Federal Register reference
06/19/89	Letter to Mr. Jorling, NYSDEC	11434	9441.1989(30)	Media not solid wastes; decontaminated not hazardous
01/24/89	Status of Contaminated Groundwater and Limitations of Disposal Memo	11393	US EPA	Okay to reuse treated groundwater below contained-in levels
08/17/88	Federal Register discussion	---	53 FR 31138,42,48	Federal Register reference
11/20/86 11/13/86	RCRA Status of Contaminated GW Memo	12783 11195	9441.1986(86) 9441.1986(83)	Groundwater is not solid waste; can contain hazardous waste

Notes: EPA FaxBack Number (202) 651-2060. Instructions available through EPA RCRA Hotline (800) 424-9346.
EPA Policy Numbers refer to the EPA Permit Policy Compendium, available through www.epa.gov/rcraonline.