



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

June 7, 2001

Mr. Ken Chin
Central Artery/Tunnel Project
185 Kneeland St.
Boston, MA 02111

re: Central Artery/Tunnel (CA/T) Project
Applicability of Land Disposal Restrictions (LDRs) to De-characterized Toxicity
Characteristic (TC) Soil

Dear Mr. Chin:

This letter is in response to a letter of transmittal from your office which was addressed to Ken Rota, Chief of the RCRA Enforcement Unit at EPA Region 1 on April 11, 2001. The purpose of the transmittal letter was to request confirmation from EPA Region 1 that the interpretations contained in an attached letter from Camp Dresser & McKee (CDM), Inc. to yourself, dated April 10, 2001, regarding the handling of lead contaminated soil at the Central Artery/Tunnel Project (the "Project"), are accurate. Specifically, whether LDRs would apply to soil that is treated "in-situ" and "ex-situ".

The current practice at the Project has been to apply the MAECTITE treatment process to soil that is hazardous for the characteristic of lead in order to "decharacterize" the soil. This treatment is performed "ex-situ", and, as a result, RCRA generator and LDR requirements apply. The Project is currently seeking approval from the MADEP to perform treatment of the soil "in-situ". During this process questions have arisen regarding the applicability of the RCRA regulations to in-situ treatment. As is noted in the April 10 letter, EPA Region 1 issued an interpretation regarding the applicability of RCRA to soils treated "in-situ" and "ex-situ" in a letter dated December 22, 1997, to Peter M. Zuk of the CA/T Project. EPA's position has not changed since that time: if a hazardous waste is not generated, as when soil is treated in-situ within an area of contamination ("AOC"), then LDRs do not apply. However, when a hazardous waste is generated by excavation of soil with a hazardous characteristic which is then treated ex-situ, LDRs do apply.

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One scenario where LDRs would not apply would be where a corrective action management unit (CAMU) is created for the treatment, storage or disposal of remediation waste. EPA has developed particular RCRA requirements to encourage management of remediation waste under the CAMU rule (see 40 CFR §264.552). However, the rule would only apply to a site where the remediation waste, in this case treated soil, is placed in a CAMU which would be subject to site specific disposal controls. This approach does not appear to be applicable to the Project.

One point that is mentioned in the CDM letter which was not addressed in the December 22, 1997 EPA letter is that when additional treatment to achieve universal treatment standards (UTS) is necessary, for soil which was treated ex-situ, that the additional treatment may be performed outside of the area of contamination (AOC), but must be completed prior to the soil's final off-site disposal or reuse. Please note that this additional treatment if performed outside of the initial site of generation can only be done under the requirements of a RCRA permit. The treatment that is performed "ex-situ" in tanks and containers but within the AOC is considered by EPA to be treatment being done by a generator in tanks and containers at the initial site of generation, and, therefore, would not require a permit. However, any additional treatment that may be required, i.e. to meet LDRs, would need to occur at a permitted treatment, storage or disposal facility (TSDF).

The CA/T project may want to consider making a hazardous waste determination of any excavated soil prior to performing treatment ex-situ to determine the actual regulatory status of the soil. For a situation where it is determined that the soil is not a hazardous waste, initial treatment would not be necessary and LDRs would not apply since a hazardous waste has not been generated. However, if a determination is not made and it is assumed that all soil being treated ex-situ is hazardous, LDRs would apply.

Please note that individual state regulations may be both more stringent and broader in scope than the EPA regulations. Since Massachusetts is authorized for the base RCRA program, which includes hazardous waste determinations, generator and permitting requirements, you should contact the State regarding its views on the above issue.

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If you have any questions regarding this letter please contact Sharon Leitch of the Hazardous Waste Unit at (617)918-1647.

Sincerely,



Marvin Rosenstein, Chief
Chemicals Management Branch

cc: G. Gosbee, Chief, Hazardous Waste Unit, EPA
K. Rota, Chief RCRA Enforcement Unit, EPA
J. Fowley, Atty., ORC-EPA
J. Carrigan, Compliance Assessment Branch, MADEP



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001**

December 22, 1997

Peter M. Zuk, Project Director
Massachusetts Highway Department
Central Artery/Tunnel
One South Station
Boston, MA 02110

re: Central Artery/Tunnel (CA/T) Project
Proposed Treatment Process for Toxicity Characteristic (TC) Soil

Dear Mr. Zuk:

The Hazardous Waste Program Unit of EPA-New England is in receipt of your letter dated December 1, 1997, in which you inform EPA of your intention to implement a process to remove and treat TC-lead contaminated soil from the CA/T Project on a project-wide basis. Implementation of the process is based upon the results of pilot studies performed on 250 cubic yards of TC-lead excavate which successfully demonstrated that all of the TC-lead levels were reduced to levels well below the regulatory limit of 5.0 mg/l. In that letter you state that you intend to treat lead-contaminated soil by applying and mixing a liquid reagent with the TC-soil in order to reduce the leachability of metals by crystal mineralization.

As indicated above, the soil contains lead which may be found at levels that would define it as a hazardous Toxicity Characteristic (TC) waste. The TC rule was promulgated by EPA under the authority of the Hazardous and Solid Waste Amendments (HSWA) and therefore is implemented by EPA in all states until such time that the states become authorized for the rule. The Commonwealth of Massachusetts will be seeking authorization for the TC rule during 1998. The implications of this on your situation would be that if the process is deemed to need a RCRA Part B permit because of the TCLP test, EPA would be the permit issuing authority in states that do not have TC authorization.



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Mr. Ken Chin

April 10, 2001

Page 2

do not apply. As such, there are no requirements to remove the excavated soil from the site within the 90 day storage limit nor to treat any UHCs that may be present to meet the UTS prior to off-site disposal or reuse. The excavated material must only meet the permit requirements of the selected off-site disposal facility.

This distinction between the two approaches regarding the applicability of the LDRs has potentially significant cost ramifications for final material disposal at an off-site location. For example, there have been several instances to date when, following ex situ de-characterization, the concentrations of individual polycyclic aromatic hydrocarbon (PAH) compounds have required additional off-site thermal treatment of the soil in order to meet UTS prior to final disposal. In addition to the increased costs for the additional treatment, this has limited the selection of potential off-site facilities to receive the soil following de-characterization to only those facilities that can provide the required additional treatment. Had the UTS not been applicable, the PAH concentrations would have been within the permit limits for direct off-site disposal at a much wider selection of facilities without additional treatment.

Because of the significant cost impacts to the CA/T Project associated with the above noted regulatory interpretation, we recommend that a copy of this letter be forwarded to the attention of Mr. Ken Rota at EPA Region I with a request for EPA's confirmation that the interpretation is accurate.

Please contact us if you want to discuss this matter further, or require additional information.

Very truly yours,

CAMP DRESSER & McKEE INC.



Richard G. Christian, P.E.
Associate
Deputy Project Director

APPROVED BY:



Bruce R. Conklin, P.E.
Vice President
Project Director

Enclosure

cc: A. Sewall
W. Swanson

Peter M. Zuk
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Subparts AA, BB, and CC. In order to be excluded from the permitting requirements, you need to ensure that all of these requirements are met.

Assuming that you do qualify for the exemption from permitting, you must still meet all applicable generator requirements. In removing any soil which is a hazardous waste, you are considered to be generating a hazardous waste, even if it is then rendered non-hazardous by your treatment. The applicable requirements include obtaining an EPA ID number as the generator of a hazardous waste. 40 C.F.R. § 262.12.

In addition, while the treated soil will be non-hazardous if it does not fail the Toxicity Characteristic, it still must meet all applicable land disposal restrictions (LDR). The current LDR treatment standard for lead for this type of waste is 5.0 mg/l TCLP. As a generator treating wastes subject to LDR, you also will be required to develop and follow a written waste analysis plan pursuant to 40 C.F.R. § 268.7(a)(4).

Although an EPA permit will not be required for the treatment process if you meet the requirements stated above, you are reminded that individual state regulations may be both more stringent and broader in scope than the EPA regulations. Therefore, you will need to contact the state for a determination regarding its views on the regulatory status of the treatment process. Since Massachusetts is authorized for the base RCRA program, which includes sections 261, 262, and 264 of 40 CFR, it maintains the authority to make more stringent determinations regarding exclusions.

In summary we believe for reasons previously discussed that an EPA hazardous waste permit will not be required for the above activity under Scenario 2 if you meet the requirements discussed above. However, the Massachusetts Highway Department will be subject to federal generator requirements, including LDR requirements, and also should contact the MADEP to determine if there are provisions that are more stringent or broader in scope than EPA's.

... In response to two general treatment scenarios are proposed to implement previously defined treatment process. These scenarios have been interpreted by environmental consultants to the CA/T project as being exempt from the RCRA permitting process. The scenarios are as follows: Scenario 1- "Treatment of Confirmed TC-Soil In Situ" proposes to apply the liquid reagent to in-situ soil that exceeds or potentially exceeds the regulatory limit for TC-lead. The reagent will be applied to treat the soil in lifts of 18" to 24" deep. As indicated in the letter, the treatment process occurs almost instantaneously upon application of the reagent and, therefore, when the treated soil is excavated it is no longer considered a RCRA hazardous waste. This treatment scenario, as indicated above, is considered to not need a RCRA permit. EPA agrees with this interpretation since no hazardous waste is being generated under this scenario. Additionally, as indicated in the letter the handling and storage of any treated stockpiled-soil will be done in accordance with the November 1993 Compliance Plan approved by DEP within the AOC ("area of contamination"); Scenario 2- "Treatment of TC-Soil in Tanks and/or Containers" proposes to treat the excavated TC-soil within the identified AOC by applying the reagent to the soil as it is being placed in watertight containers. The treated soil will be stored in the same manner as indicated under Scenario 1. As mentioned previously, this treatment scenario as proposed is considered not to need a RCRA permit. EPA, again, agrees with this interpretation, assuming that the requirements discussed below are met. However, since a hazardous waste is being generated certain generator requirements must in any event be met.

The exclusion from permitting which may apply to your process is found in 40 CFR § 264.1, which states that the requirements of Part 264 - Standards for owners and operators of hazardous waste TSDFs, do not apply to:

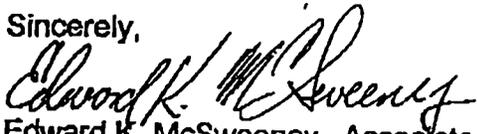
A generator accumulating waste on-site in compliance with 40 CFR § 262.34. In connection with such accumulation, the EPA also has determined that permits are not required for generators treating their hazardous wastes in the generators' tanks or containers in conformance with the requirements of § 262.34 and Subparts I or J of Part 265. See 51 Fed. Reg. at 10168 (March 24, 1986), and 40 C.F.R. § 268.7(a)(4).

In order to qualify for this exemption from the permitting requirement, the waste must be treated by the generator and stored for no more than 90 days. In addition, the waste must be treated within tanks or containers as defined in 40 C.F.R. § 260.10. Finally, all parts of your system involved in storing and treating the waste must meet the requirements of 40 C.F.R. § 262.34 and 40 C.F.R. Part 265, Subparts I or J, and

Peter M. Zuk
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December 22, 1997

If you have any questions regarding this or any other issue, please do not hesitate to contact Gary Gosbee, Chief, Hazardous Waste Program Unit at (617) 565-3725. You may also contact Sharon Leitch, of his staff, at (617)565-4879.

Sincerely,



Edward K. McSweeney, Associate Director
Waste Policy

cc: G. Gosbee, Chief, Hazardous Waste Program Unit, EPA
K. Rota, Acting Chief RCRA Enforcement Unit, EPA
J. Fowley, Atty., ORC-EPA
J. Miller, Chief, Waste Branch, MADEP
J. Carrigan, Compliance Assessment Branch, MADEP
J. Duclos, Supervisor, Hazardous Waste Compliance Section, NHDES
D. Sattler, Supervisor, WEED, CTDEP
L. Hellested, Supervising Engineer, RIDEM
S. Ladner, Supervisor, Bureau of Remediation & Waste Management, MEDEP
P. Marshall, Chief, Hazardous Materials Management Division, VTDEC

CDM Camp Dresser & McKee Inc.

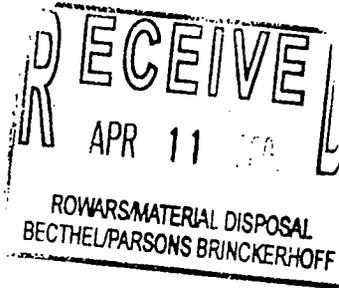
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April 10, 2001

LO-CAT-01-26G-0221

Mr. Ken Chin
Authorized Representative
CA/T Project
Bechtel/Parsons Brinckerhoff
185 Kneeland Street
Boston, MA 02111



Subject: Central Artery (I-93)/Tunnel (I-90) Project
Contract 97159-M026G
Construction Contract C25A4 – In situ De-characterization of TCLP-Lead Soil

Dear Mr. Chin:

For several years, the CA/T Project has been using the MAECTITE treatment process to de-characterize TCLP-lead soil prior to off-site disposal. To date, the treatment has all been performed ex situ by application of the treatment solution to the excavated soil as it is placed into lined truck beds or roll-off containers. There is currently a plan to also conduct the treatment in situ subject to MDEP approval, and an in situ pilot test needed to obtain that approval was recently proposed in CDM letter LO-CAT-01-26G-0210.

During the recent discussions regarding the proposed in situ application of the de-characterization process, some questions have been raised regarding regulatory differences pertaining to the ex situ and the in situ approaches. Based on our understanding of the applicable RCRA regulations, as well as information presented in the December 22, 1997 EPA Region I letter (copy attached) regarding the on-site de-characterization process, we believe the basic regulatory difference is as follows:

- Ex situ treatment - Because the soil when initially excavated is untreated, a RCRA characteristic hazardous waste is generated when the soil is removed from the ground. As a result, all applicable RCRA generator requirements and land disposal restrictions (LDRs) apply. The LDRs include requirements to achieve the universal treatment standards (UTS) for all underlying hazardous constituents (UHCs) prior to final off-site disposal or reuse of the soil. Additional treatment to achieve the UTS for all UHCs above the applicable standards may be performed outside the area of contamination (AOC), but must be completed prior to the soil's final off-site disposal or reuse.
- In situ treatment - Because the TCLP-lead characteristic is eliminated prior to excavation of the soil, RCRA hazardous waste is never generated in this approach. The soil is removed from the ground. The material when excavated is not a characteristic hazardous waste, and RCRA generator and LDR requirements do not apply.



Central Artery/Tunnel
 185 Kneeland Street
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 Telephone: (617) 951-6000

**LETTER OF
 TRANSMITTAL**

DATE: 11-APR-2001
 COMM NO.: T-2001-00623L
 FILE NO(S): EN-9.3.87
CL-1.2

TO: Ken Rota, mail code SER
 Chief of RCRA Enforcement Unit
 US Environmental Protection Agency
 One Congress Street
 Boston, MA 02203

KEYFILE NO. -
 RE: In-situ De-characterization of TCLP-Lead Soil

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DESCRIPTION
 Letter, LO-CAT-01-26G-0221, from Camp Dresser & McKee, Inc.
 to Ken Chin of Bechtel/Parsons Brinckerhoff
 Subject: In-situ De-characterization of TCLP-Lead Soil

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REMARKS:

Enclosed please find the above letter prepared by Camp Dresser & McKee, Inc. (CDM) requesting confirmation from EPA Region I regarding applicability of Land Ban Restriction on soil that has been de-characterized using an in-situ treatment process. If you have any questions on this matter, please call Ken Chin at (617) 951-6486.

CC: Steve Lipman, MADEP

COPY TO:

IF ENCLOSURE(S) ARE NOT AS NOTED, PLEASE NOTIFY US IMMEDIATELY.
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