UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

Mr. William Jones, P.E.
President
Encapco, L.P.
Post Office Box 2223
Dublin, California 94568

Dear Mr. Jones:

This letter is in response to information submitted by your company, Encapco, L.P.; your request for a review of the regulatory status of Encapco's process under the Resource Conservation and Recovery Act (RCRA) hazardous waste regulations; and, most recently, several discussions between you and Charlotte Mooney, of my staff. I sincerely apologize for the delay in responding to your request, there clearly was a break down in communication among the various agencies and offices reviewing the information you provided.

This letter provides a general overview of how Encapco's process fits under the federal RCRA hazardous waste regulations. For several reasons, the details of any application at a particular site will depend on the specifics of the situation and should be discussed with the appropriate state (or, if the state is not authorized to implement the program, the appropriate EPA regional office). First, as you know, the RCRA hazardous waste program is largely implemented by authorized states. In authorized states, the state hazardous waste regulations are in effect in lieu of the federal regulations. Such state hazardous waste regulations may be different than the federal regulations, but must be at least as stringent as the federal regulations. In addition, states may have additional requirements under other programs, such as requirements for use of treated soils in construction.

Second, the details of a particular application may affect the regulatory status. For example, specifics such as the hazardous waste classification of the particular soils used in the process, as well as the type of end-use planned could alter some of the applicable requirements. Thus, to determine the applicable requirements for any particular application you should refer to the appropriate state's hazardous waste regulations and communicate directly with the state's environmental agency to determine its authorization status and to discuss the specifics of the case. As you know, this is the process you followed in Florida.

In addition to the information provided in this letter, enclosed please find a guidance document that you may find useful, entitled Management of Remediation Waste Under RCRA (EPA 530-F-98-026, October 1998). This document discusses, from a federal perspective, several of the issues you have raised to us, and also addresses a broader range of questions that may arise as you develop applications for your process.

The information you provided to us includes a description of Encapco's cold-mixed asphalt emulsion technology known as $_2$RM.™ The written materials explain that this technology uses specialized emulsions to stabilize organic or inorganic contaminants in contaminated soils and that the process results in a material called "emulsified treated base" (ETB). The materials you provided indicate that ETB can be used as an engineered construction material in applications such as granular subbase, base, and emulsion treated base for road construction projects. Other uses mentioned include general fill, backfill, nonexpansive fill, rammed soils, structural backfill, landfill capping, and erosion control capping.

To evaluate the applicable requirements under the federal RCRA hazardous waste regulations for any particular remediation project, it first must be determined whether the contaminated soils to be processed are subject to management under the hazardous waste regulations. This will depend on several factors, such as the material that contaminated the soils and/or the characteristics of the contaminated soil.

If the soils must be managed as hazardous waste, Parts 260 - 270 of Title 40 of the Code of Federal Regulations (CFR) describe the relevant requirements. For example, at the remediation site, once you generate such contaminated soils, they must be managed in compliance with the hazardous waste generator regulations of 40 CFR Part 262, including technical standards for accumulation units and general requirements such as labeling, recordkeeping, personnel training, preparedness and prevention, and contingency planning. Assuming the soils are to be treated using the $_2$RM™ cold-mix process on-site at the remediation location (and no combustion processes are used), under the federal regulations you could conduct this treatment under the accumulation provisions of 40 CFR 262.34. You might also be able to conduct such treatment under the recycling provisions of 40 CFR 261.6(c), if the process were determined to be legitimate recycling based on the specific input materials, the process, and the specific end use. You should discuss this option with the appropriate regulating agency.

In any case, requirements applicable to the resulting ETB product itself would depend on the planned end-use, as well as the classification of the contaminated soil inputs. For example, when hazardous wastes are used to produce products that are applied to or placed on the land (e.g., used to produce aggregate for road construction), the products are considered to be "used in a manner constituting disposal" and must be managed following the provisions of Subpart C of 40 CFR part 266. (See 40 CFR 261.2(c)(1)). One option under this subpart is an exemption from regulation for hazardous waste products produced for the general public's use that have undergone a chemical reaction in the course of producing the products so as to become inseparable by physical means. (We have said in the past that asphalt and concrete meet this condition (50 FR 646)). Products exempted under this provision must also meet the applicable Land Disposal Restrictions (LDR) treatment standards in Subpart D of 40 CFR part 268 for each hazardous waste that they contain and the recordkeeping requirements of 40 CFR

268.7(b)(6).

Another option might be available if only characteristic wastes are used to produce the ETB (see 40 CFR 261.3(d)(1)). If you treat the ETB such that it no longer exhibits any characteristics, the requirements for hazardous wastes "used in a manner constituting disposal" would not apply to the resulting "de-characterized" material. The Land Disposal Restrictions of 40 CFR part 268, however, would continue to apply. Under the LDRs, you must ensure that the material meets the universal treatment standards of 40 CFR 268.48 for all underlying hazardous constituents found in the original characteristic waste (or wastes) (see 40 CFR 268.2(i)). You must also comply with the documentation requirements of 40 CFR 268.7(b)(6), and any treatment you use must not violate the dilution prohibition of 40 CFR 268.3. Finally, note that you may also have to comply with state solid waste management programs or other requirements for use of such materials.

A final option for the ETB might be to work with the regulating agency to assess the possibility of an agency determination that the soils (i.e., environmental media) no longer contain hazardous wastes and may be managed outside of the hazardous waste regulatory program. This might be appropriate in cases where the ETB is, for example, to be used on site as fill and thus would not meet the "produced for the general public's use" provision of 40 CFR 266.20. The specifics of how you might utilize this option are discussed more fully in the enclosed guidance document, in the section entitled "Regulations and Policies that Apply to Contaminated Media Only" (page 9).

I hope this information is useful to you in pursuing the use of Encapco's process at remediation sites. If you have any further questions, please contact Charlotte Mooney, of my staff, at 703-308-7025. Thank you for your interest in improved hazardous waste management and in protecting the environment.

Sincerely,

Elizabeth A. Cotsworth, Director
Office of Solid Waste

Enclosure

cc: Jim LeVine, LFR LeVine-Fricke
Sandre Swanson, Chief of Staff, Congresswoman Barbara Lee
EPA Regional Waste Program Directors