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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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PERFORMANCE AND PERMITTING STANDARDS IN 3004(B), PROHIBITION OF THE PLACEMENT OF HAZARDOUS WASTE IN SALT DOMES

SUBJECT: Performance and Permitting Standards Relating to Section 3004(b), the Prohibition of the Placement of Hazardous Waste in Salt Domes.

FROM: Marcia Williams, Director
Office of Solid Waste (WH-526B)

TO: Allyn M. Davis, Director
Air and Waste Management Division (6AW)

This is in response to your June 27, 1985, memorandum concerning a permit application from the United Resource Recover, Inc. (URR) of the Texas Department of Water Resources (TDWR) that involves the injection, through a well, of hazardous waste into a salt dome.

Section 3004(b) of the Resources Conservation and Recovery Act (RCRA) contains strict controls on the placement of hazardous waste in underground formations (i.e., salt dome formations, salt bed formations, underground mines and caves). The requirements of Section 3004(b) that are applicable to the URR proposal depend on whether the hazardous waste falls into one or two categories.

Section 3004(b)(1) states that the placement of noncontainerized (or bulk) liquid hazardous waste into underground formations of these types is prohibited until: (1) the Environmental Protection Agency (EPA) has determined, after notice and opportunity for hearings on the record in the affected areas, that such placement is protective of human health and the environment; (2) EPA has promulgated performance and permitting standards for such facilities under Subtitle C; and (3) a RCRA permit has been issued for the facility. Section 3004(b)(2) states that the placement of containerized liquid hazardous waste and all nonliquid hazardous waste in

these underground formations is prohibited until a RCRA permit has been issued for the facility. Congress intended the term "placement" to cover all types of hazardous waste handling, including the use of salt domes for disposal, temporary storage or as treatment chambers. See 129 Congressional Record 98139 (daily ed. Oct. 6, 1983) (section-by-section analysis of Breaux amendment); *id.* at H8141 (statement of Rep. Forsythe).

Therefore, the determination of whether the wastes the URR proposes to inject into salt dome caverns are either liquid or nonliquid is of critical importance. We believe that Congress intended the term "liquid" in Section 3004(b)(1) to include both liquids and free liquids. Based on the legislative history regarding the term "placement" cited above, we interpret the prohibition on liquids to extend to wastes that are liquids when placed into a salt dome for further treatment, including solidification.

The legislative history of Section 3004 indicates that Congress intended EPA to develop a uniform definition of "liquid" and to prescribe a test for liquids and free liquids that is applicable regardless of the method of placement of hazardous waste. See S. Rep. No. 284, 98th Cong., 2d Sess. 22 (1983); 129 Congressional Record H8139 (daily ed. Oct. 6, 1983) (section-by-section analysis of Breaux amendment); *id.* at H8141 (statement of Rep. Forsythe).

On April 30, 1985, we published a final rule including a methodology for determining the presence of free liquids in hazardous wastes. This methodology is known as the paint filter liquids test (Method 9095). The preamble to the April 30, 1985, rule identified several uses for the paint filter test within the Federal hazardous waste regulatory program. Although the use of the paint filter test for determining the presence of noncontainerized or bulk liquid hazardous waste for the purpose of compliance with Section 3004(b) was not referred to in that preamble, based on the language and legislative history of Section 3004, we believe that the paint filter test is entirely appropriate for this purpose and recommend its use.

Therefore, we believe that any noncontainerized or bulk hazardous waste that does not pass the paint filter test (i.e., it is a liquid due to the presence of free liquids) is prohibited by Section 3004(b)(1) from being placed in a salt dome cavern. This prohibition is in effect until EPA; (1) has determined, following notice and hearings, that such placement is protective of human health and the environment, (2) has issued performance and permitting standards for such facilities, and (3) has issued a permit.

For hazardous wastes other than noncontainerized or bulk liquid hazardous wastes (as determined using the paint filter test), Section 3004(b)(2) allows placement in a salt dome or other underground formation provided that a RCRA permit has been issued. With reference to the URR proposal, the waste stream must pass the paint filter test at the point just prior to its being injected underground.

At present, EPA has permitting rules for underground injection wells (Part 144) that can potentially be used for permitting the injection of certain hazardous wastes into salt dome caverns that are below all underground resources of drinking water (USDW). An Underground Injection Control (UIC) Program permit, under Part 144, for a Class I underground injection well is considered to be a RCRA permit by rule, provided the conditions of 40 CFR §270.60 (which was amended on July 15, 1985) are met. However, the underground injection rules apply only to the injection of "fluids." A fluid is defined in Part 144 as "any material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state." Therefore, for the purpose of permitting the placement of fluid, non-liquid, hazardous wastes in salt dome caverns below all USDWs, the UIC regulations can potentially be used at this time. Under EPA regulations (40 CFR §144.13), and under Section 7010 of RCRA, injection of hazardous waste into or above a USDW is prohibited. Thus, any salt dome into which hazardous waste is injected must underline the lowermost USDW.

Currently, it is not clear whether the Agency has permitting regulations that are fully applicable to the placement of nonfluid or containerized liquid hazardous wastes in salt domes or other underground formations. However, we are currently developing rules that will create a new Subpart X

of Part 264 that could be used for permitting practices, other than underground injection, that involve the placement of hazardous waste in any form in salt domes and other underground formations. We expect to promulgate the Subpart X regulations in the fall of 1986.

In summary, EPA, and States that are authorized to issue Class I UIC permits, are able to proceed with consideration of permit applications for the placement of only fluid, nonliquid, hazardous wastes via injection wells into salt domes and other underground formations. Therefore, if URR intends to inject only fluid, nonliquid, hazardous wastes, then TDWR is authorized to issue a UIC permit that also meets the requirements of §270.60. The UIC permit will address the facility from the well head down, including the injection zone. Of course, a RCRA permit is required for any surface hazardous waste management units, such as tanks or a container storage area, at the facility.

I hope that this information has answered your questions on this matter.