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MINIMUM TECHNOLOGICAL REQUIREMENTS WAIVER PETITION SECTION
3004(0)(2) (SHELL OIL)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

APR 28 1988

MEMORANDUM

SUBJECT: Review of Shell Oil's Wood River Manufacturing
Complex - Minimum Technological Requirements
Waiver Petition, Section 3004(o)(2)

FROM: James Michael, Chief
Land Disposal PAT Section (WH-563)

TO: Kevin J. Moss
RCRA Permitting Branch, IL Unit
Region V

In response to your March 18, 1988 memorandum, the land Disposal Permit Assistance Team (PAT) has completed its review of the petition submitted by Shell Oil for its Wood River Manufacturing Complex for a modification of the minimum technological requirements (MTR) under Section 3004(o)(2) of RCRA.

Our review indicates that the alternative design and operating practices as presented by Shell Oil, together with location characteristics will not prevent the migration of hazardous constituents into the ground water or surface water as effectively as the double liner and leachate collection system outlined in Section 3004(o)(1)(A)(i) of RCRA.

Shell Oil has argued that the impoundment for which it is seeking the waiver is situated within a larger, engineered ground-water management system beneath the entire Wood River Manufacturing Complex that prevents the migration of contaminants beyond the property boundary. Essentially the engineered system consists of an on-site well field that creates a cone of depression to contain and collect any hydrocarbon product losses and soluble contaminants emanating from the

bottom of the impoundment. The waiver petition attempts to provide a detailed description of the ground-water flow pattern and demonstrate that the well field will indeed provide effective containment.

Section 3004(o)(2) authorizes a waiver of the double liner and leachate collection system requirements only upon a demonstration that a proposed alternative will "prevent the migration of any hazardous constituent into the ground water or surface water" at least as effectively as a double liner and leachate collection system. Shell Oil's proposal, however, specifically allows migration of hazardous constituents into the ground water. The term "ground water" in Section 3004(o)(2) is not qualified by the phrase "beyond the property boundary". Nor is there any evidence of Congressional intent that the term "ground water" means only ground water beyond the property boundary. Surely if Congress had intended such a test for waivers of the double liner and leachate collection system requirement, it would have stated so clearly. To the contrary, in amending Section 3004 of RCRA, Congress devised a threefold scheme to ensure protection of human health and the environment for hazardous waste treatment, storage and disposal activities.

The first "line of defense" is the requirement of a liner and leachate collection system to prevent the escape of hazardous constituents from landfills or surface impoundments. The second "line of defense" is the requirement for ground-water monitoring to detect any failure of such containment device. The third "line of defense" is the requirement to take corrective action to clean up any problems resulting from such failure. Containment with collection and removal of leachate within the unit to prevent leakage to ground water, as the intended purpose of the liner and leachate collection system requirement, is supported both by the language of Section 3004(o)(2) in authorizing waivers of such requirements only for methods equally effective at preventing migration to ground water, and by the language of Section 3004(o)(5)(B). That section provides that the liner requirements of Section 3004(o)(1)(A)(i) can be satisfied pending issuance of regulations by construction of a liner system" . . .to prevent the migration of any constituent through such liner. . ." Any system, therefore, that only controls constituent migration after it enters ground water cannot meet the equivalency test of Section 3004(o)(2).

The situation outlined by Shell Oil in its petition fully allows migration of hazardous constituents to the ground water beneath the unit and therefore does not prevent the migration of hazardous constituents "into the ground water." Moreover, because migration of hazardous constituents freely occurs with respect to such ground water, the Shell Oil control scenario cannot be "as effective as" a double liner and leachate collection system in preventing migration to the ground water.

We are, therefore, unable to conclude that the proposed alternative would be as effective as the liner and leachate collection system requirement in preventing migration of hazardous constituents into the ground water. Should you have questions regarding the content of our response please contact Chris Rhyne at FTS 382-4692.

cc Bruce Weddle
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