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U.S. ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
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REPLY TO  
ATTN OF: HW-112

H.E. McGuire  
Manager  
Waste Management Program  
Westinghouse Hanford Company  
Mail Stop R2-41  
Richland, Washington 99352

Re: Request for Waiver of Double Liner and Leachate Collection System Requirements - Denial

Dear Mr. McGuire:

You are probably aware that Hanford personnel have been informed verbally that the liner system exemption requests for the Non-Radioactive Dangerous Waste Landfill (NRDWL) and the Low-Level Burial Grounds (LLBG) have been denied. The Environmental Protection Agency (EPA) wished to send the written denial as part of the Notices of Deficiency that the Department of Ecology (Ecology) will prepare for these units, so that the units could be brought up to compliance with all hazardous/dangerous waste standards at one time. Because issuance of the Notices of Deficiency has now been scheduled for later this year, we have decided to issue this formal denial now.

The formal denial, with a full explanation, is enclosed. The result of the denial is that all new landfill cells, replacement landfill units, and lateral expansions of the NRDWL and LLBG must meet the minimum technology requirements of Section 3004(o) of the Hazardous and Solid Waste Amendments of 1984 (HSWA). "New units, replacements, and lateral expansions" are those that first received waste after November 8, 1984, and also received waste after May 8, 1985. In order to demonstrate their intent to meet the requirements of Section 3004(o), Westinghouse and the Department of Energy (USDOE) must submit the following items by June 1, 1988:

- (1) Lists and maps of all LLBG and NRDWL cells that received hazardous waste after November 19, 1980, or mixed waste after November 23, 1987. Clearly delineate all new units, replacements, and lateral expansions as defined above.

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- (2) A schedule for bringing all new units, replacements, and lateral expansions into compliance with the minimum technology requirements (MTR). The rate at which MTR liners are installed should reflect the rate of usage of the landfills, so that every effort is made to quickly install MTR liners at the new units, replacements, and lateral expansions that are receiving the most wastes. Please note that nothing in this letter precludes Westinghouse and the USDOE from proposing an alternate liner design under Section 3004(o)(2) of HSWA.

The retrievable storage units (RSU) are classified as mixed waste land disposal units. Therefore, they are subject to the same minimum technology requirements that apply to the LLBG. By June 1, 1988, Westinghouse and the USDOE must submit similar lists, maps, and compliance schedules for the RSU as are required for the LLBG (see above).

At this time, I would like to bring the minimum technology requirements and loss of interim status provisions for surface impoundments to your attention also. A summary of these requirements for both hazardous and mixed waste surface impoundments is enclosed. At present, surface impoundments that are undergoing closure may continue to receive non-hazardous wastes. Once litigation regarding this issue (Union Carbide vs. EPA) has been settled, we should be able to specify when closing impoundments at Hanford must cease receiving non-hazardous wastes.

If you or your staff have questions about the minimum technology requirements, please contact Janet O'Hara at FTS 399-8581.

Sincerely,

*Randall F. Smith*

*for* Charles Findley, Director  
Hazardous Waste Division

Enclosures

cc: R. Stanley, Ecology  
M. Anthony, USDOE

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USDOE Hanford Liner Waiver Denial

Liner System Exemption Request 40 CFR 270.21(b)(1), 40 CFR 264.301(d)

The requests for waivers of the double liner and leachate collection system requirements for the Nonradioactive Dangerous Waste Landfill (NRDWL) and the Low-level Burial Grounds (LLBG) are denied because they do not meet the requirements stated in 40 CFR 264.301(d). Section 264.301(d) states that "alternative design and operating practices, together with location characteristics, must prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as [minimum technology] liners and leachate collection systems."

In evaluating the waiver requests the objectives of the liner and leachate collection system were considered. These objectives, as stated in "Guidance on Implementation of the Minimum Technological Requirements" (EPA/530-SW-85-012), are: (1) to maximize the removal of leachate containing hazardous constituents during the active life and through the post-closure monitoring period, and (2) in combination with the final cover system, to minimize the escape of hazardous constituents from the unit in the long-term future.

As stated in the waiver request, the NRDWL and LLBG are designed to not collect or remove any leachate that may be generated in the unit and to not minimize the escape of any hazardous constituents in the leachate. Instead, they were designed so that any liquids in the trenches would drain through the sandy soil, and the waiver requests attempt to show that hazardous constituents will either be absorbed to soil particles or move very slowly to the uppermost aquifer. Such demonstrations do not fulfill the objective of preventing movement of contaminants to the groundwater.

Data from recharge studies done at three different areas on the Hanford facility are presented in support of the argument of long travel times to the aquifer, and a conclusion is made that any contaminants reaching the aquifer would travel for 28-60 years before reaching the Columbia River (although drinking water wells on-site could be contaminated within 18 years). This discussion is not relevant to the waiver request of Section 264.301(d), except, perhaps, to the extent that it describes location characteristics. The other integral factors needed to support the waiver request, i.e. alternative design and operating practices, are not described in the waiver requests at all.

Concerning the design, please note that the legislative record (Senate Report No. 98-284) states that "in making and evaluating [liner waiver] demonstrations ... it is important to keep in mind that liners are a necessary component in a system designed to detect and collect leachate containing hazardous constituents" (emphasis added). The NRDWL and LLBG, as presently designed, have no liner whatsoever, and therefore are not suitable as hazardous or mixed waste landfills.

Operating practices employed at the NRDWL and LLBG are discussed in other sections of the Part B application, e.g. waste analysis sections, run-on control sections. Detailed comments on the deficiencies of these practices will be given in the Notices of Deficiency for these units that the State will

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prepare; in summary, it is evident that operating practices do not preclude the presence of liquids in the NRDWL and LLBG. For instance, no run-on controls are used; there is no effort to remove precipitation that falls into the trenches; absorbents (of unspecified organic content) are added to drums of liquid waste but no testing is done to determine the effectiveness of the absorbents; and no effort is made to stabilize liquid wastes through physical or chemical treatment. Also, it does not appear that any trenches are operated so as to receive only non-liquid wastes, such as lead.

In summary, the requests for waivers of the liner and leachate collection system requirements for the NRDWL and LLBG are denied because they do not demonstrate that an alternative design, operating practices, and location characteristics together prevent the migration of hazardous constituents into the ground water or surface water at least as effectively as a minimum technology liner and leachate collection system.

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# Summary of Minimum Technology and Loss of Interim Status Requirements for Surface Impoundments

	<u>Hazardous Waste</u>	<u>Mixed Waste</u>
New/Replacement/ Lateral Expansions Impoundments	Effective 11/8/84 §3004(o) requires: Comply with MTR upon installation. **Applies to 1324-N	Effective 11/23/87 §3004(o) requires: Comply with MTR upon installation.
Impoundments Existing under Interim Status	§3005(j) requires: Comply with MTR by 11/8/88, or receive exemption under §3005(j) by 11/8/88, or cease receiving hazardous waste by 11/8/88. Submit closure plan by 7/13/88 (180 days prior to closure, which is within 30 days of last taking hazardous waste). Begin closure after closure plan is approved.	§3005(j) requires: Comply with MTR by 11/23/91 (4 yrs. after waste is regulated).
	§3005(e) requires: Certify compliance with gwm and submit permit application or closure plan by 11/8/85.	§3005(e) requires: Certify compliance with gwm and submit permit application or closure plan by 11/23/88 (1 yr. after waste becomes regulated).

MTR = minimum technology requirements  
gwm = groundwater monitoring requirements of 40 CFR 265 Subpart F

NOTE: Closure plans and permit applications submitted in compliance with the requirements above will be reviewed under the schedules agreed to in the Hanford Action Plan, when and if it becomes final.

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