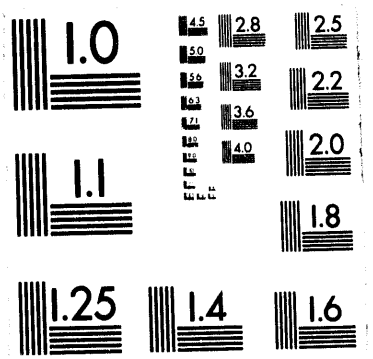
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U.S. Department of Energy
RCRA Information Brief

Office of Environmental Guidance
EH-231-025/0793 (July 1993)

RCRA Corrective Action
Variances from Subpart F Requirements

BACKGROUND:	**Under the Resource Conservation and Recovery Act (RCRA) the ground water protection standards for permitted facilities were promulgated on July 26, 1982 [40 CFR 264 Subpart F]. Subpart F establishes the requirements for a ground water monitoring and response program. These regulations, found in 40 CFR 264.90 to 264.101, address how to identify, monitor, and possibly remediate any leachate plume that reaches the uppermost aquifer below the regulated unit. A regulated unit is defined as a surface impoundment, waste pile, landfill, or land treatment unit that received hazardous waste after July 26, 1982. Such units require a permit under RCRA. The requirements for the design, construction, operation, closure, and, if required, corrective action are specified in the permit and are established through submittal of a permit application to, and review and approval of the application by, the U. S. Environmental Protection Agency (EPA) or an authorized State. As part of the permit application, the owner or operator may seek exemptions from various Subpart F requirements. These exemptions are discussed in this Information Brief, which is one of a series on RCRA corrective action.**
STATUTE:	**RCRA as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA)**
REGULATIONS:	**40 CFR Part 264 Subpart F: Sections 264.90, 264.93, and 264.100-101**
REFERENCE:	**1. "RCRA Ground-Water Monitoring Technical Enforcement Document (TEGD)," EPA (OSWER-9950.1), 1986.** **2. "Guidance on Implementation of the Minimum Technological Requirements of HSWA of 1984, Respecting Liners and Leachate Collection Systems," EPA (EPA 530-SW-85-02), 1985.** **3. "Alternate Concentration Limit Guidance, Part I - ACL Policy and Information Requirements," EPA (OSWER Directive No. 9481.00-6C), 1987.**

Are there exemptions from groundwater monitoring requirements based on special design and operating standards?

Yes, EPA may grant exemptions from Subpart F monitoring requirements to owners or operators with regulated units that comply with certain special design and operating standards. These standards, identified under 40 CFR 264.90(b)(2), require the following:

- ❑ The unit must be an engineered structure and not receive or contain liquid waste or waste containing free liquid.
- ❑ The unit must be designed and operated to exclude liquid precipitation and runon and runoff.
- ❑ The unit must have both inner and outer layers of containment enclosing the waste.
- ❑ The unit must have a leak-detection system built into each containment layer.
- ❑ The owner or operator must operate and maintain the leak detection system for the active life, closure, and post-closure periods.
- ❑ The owner or operator must demonstrate that the unit, to a reasonable degree of certainty, would not allow hazardous constituents to migrate beyond the outer containment layer prior to the end of the post-closure care period.

If these criteria are met and an exemption is granted, no groundwater monitoring would be required for the unit.

What are the exemptions for land treatment facilities from ground-water monitoring requirements?

In addition to being applicable during the active life of the unit, Subpart F ground-water protection requirements are also applicable during the post-closure care period; however, under 40 CFR 264.90(b)(3), land treatment facilities may be exempted from post-closure care. Land treatment facilities are defined in 40 CFR 260.10 as facilities at which hazardous wastes are applied onto or incorporated into the soil surface; such facilities are further defined as disposal facilities if the wastes remain after closure. Land treatment units may be exempted from Subpart F monitoring requirements after closure of the unit if it is demonstrated, in accordance with 40 CFR 264.280(d), that the hazardous constituents in the waste have been effectively treated. In particular, the demonstration needs to show that the level of the hazardous constituent or constituents within the treatment zone does not exceed, by a statistically significant amount, background values for the constituent. Treatment zone is defined in 40 CFR 260.10 as the unsaturated zone of a land treatment unit within which hazardous wastes are degraded, transported, or immobilized. This exemption from ground-water monitoring requirements is only applicable if there is an unsaturated-zone monitoring program meeting the requirements of 40 CFR 264.278, and if it can be demonstrated that no hazardous constituents have migrated below the treatment zone during the active life of the unit.

What is a "no migration" demonstration?

EPA can grant an exemption from Subpart F ground-water monitoring requirements under 40 CFR 264.90(b)(4) if an owner or operator can demonstrate that there is no potential for migration of liquid from the regulated unit to the uppermost aquifer during the active life, closure, and post-closure care periods. This exclusion is intended for units located in hydrogeologic settings that prevent leachate migration to ground water.

In general, EPA has taken a conservative approach when evaluating these waiver demonstrations and requires that the owner or operator base any predictions on conservative assumptions that maximize the rate of liquid migration. In addition, this demonstration must be certified by a qualified geologist or geotechnical engineer.

How can waste piles be exempted from ground-water monitoring requirements?

Waste piles that comply with the requirements of 40 CFR 264.250(c) can be exempted under 40 CFR 264.90(b)(5) from Subpart F monitoring requirements. The waste pile must be located inside or under structures that protect it from precipitation, run-on, and wind dispersal. Also, the waste pile must not receive any free liquids and should not generate leachate or run-off through decomposition or other reactions.

What is the post-closure exemption for situations where the unit is clean-closed?

The regulations under 40 CFR 264.90(c)(1) allow a unit to be exempted from Subpart F monitoring requirements if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated when the unit is closed. In general, this exemption should only be considered by facilities at which ground-water contamination has never been detected.

When are Appendix VIII constituents excluded from the Subpart F requirements?

After determining that a particular Appendix VIII hazardous waste constituent is not present in the waste being managed, or that the Appendix VIII constituent does not present a hazard to human health or the environment if released, the EPA or authorized State can exclude the constituent from the list of constituents specified in the permit which are subject to groundwater monitoring.

There are 19 factors that EPA or the authorized State will consider in excluding Appendix VIII constituents. These factors are listed in 40 CFR 264.93(b), and involve a determination of potential adverse effects on the quality of groundwater and hydraulically connected surface water by considering the physical and chemical characteristics of the waste in the regulated unit and its potential for migration, the hydrogeological characteristics of the facility and surrounding land, current and future uses of the water, health risks, and potential damage to crops, vegetation, and wildlife.

What are alternate concentration levels?

The three standards used when setting ground-water protection levels for individual constituents are:

- background values,
- maximum contaminant levels (MCLs), and
- alternate concentration limits (ACLs).

Background values of a contaminant are usually established through evaluation of constituent concentration in upgradient wells at the unit. The MCLs are the National Primary Drinking Water Standards established under the Safe Drinking Water Act and are listed in Table 1 of 40 CFR 264.94. The Regional Administrator may establish an ACL for a hazardous constituent based on constituent and site-specific factors if it is determined that the constituent will not pose a substantial present or potential hazard to human health or the environment. The 19 factors that the Regional Administrator will consider are listed in 40 CFR 264.94(b). The ACLs are granted through the permit process under 40 CFR 264 and 40 CFR 270; however, to date, few ACLs have been approved.

What are "minimum technology requirements" and how do you obtain a waiver from them?

Sections 3004(o) and 3015 of RCRA require owners or operators of new units, lateral expansions, and replacements of existing units at hazardous waste landfills and surface impoundments to have them be double lined and have a leachate collection system in place. In addition, new and lateral expansions and replacements of existing units at interim status waste piles must meet the requirements for single liners and leachate collection systems.

RCRA Sections 3004(o)(2) and (3) provide EPA with the authority to waive the double liner requirement in two situations. In the first case, a waiver may be granted if the owner or operator demonstrates that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents into the ground water or surface water at least as effectively as would a double liner and leachate collection system. In the second case, a waiver would apply to monofills receiving only wastes from foundry furnace emission controls or from metal casting molding sands that are not hazardous wastes. In both cases, exemptions from Subpart F ground-water monitoring requirements are often also pursued.

How does a facility obtain a waiver or exemption from Subpart F requirements?

A facility has several options for submission of the waiver demonstration or documentation for the particular exemption. A facility may submit a waiver or exemption demonstration prior to the Part B permit application as a stand-alone document. Alternatively, the facility may submit a waiver or exemption as part of the Part B permit application. In other instances, the facility may submit these documents as part of a Class 2 or 3 permit modification. These documents are submitted to the EPA Administrator or the authorized State for review and subsequent approval or denial.

Questions of policy or questions requiring policy decisions will not be addressed in EH-231 Information Briefs unless that policy has already been established through appropriate documentation. Please refer any questions concerning the material covered in this Information Brief to Jerry Coalgate, RCRA/CERCLA Division, EH-231, (202) 586-6075.

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