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RCRA/Superfund/OUST Hotline Monthly Report Question

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Groundwater Monitoring

1. A 274 acre interim status landfill has 20 downgradient groundwater monitoring wells. Contamination has been detected in five of the wells. For the last five years the remaining 15 wells have shown no contamination. In the facility's Part B application, must the compliance monitoring or corrective action program be applied to all 20 wells or just the five wells which show contamination?

If, after thorough site-specific review of interim status compliance, it has been determined that all 20 assessment program wells are necessary to properly detect and characterize any plumes of contamination which may come from the facility, the compliance monitoring program must be carried out at all of the 20 wells which are at the point of compliance, not just those wells that have shown contamination (§264.98(h)(2)). However, the way the question is worded gives some doubt that the existing wells comply with interim status assessment requirements. Usually more wells will be needed after detection to determine rate and extent of migration (§265.93(d)(4)(i)). It is unlikely that five wells will fully characterize a five-year-old plume of contamination from a 274 acre site. Wells may be needed in the vicinity of each of the five wells now showing contamination to demonstrate that the highest concentrations are detected, and to establish the plume boundaries and the rates of migration. Additionally, it must be shown that the failure to detect contamination in the remaining 15 wells is not a false negative.

Information including additional analytes from the 20 wells should be fully evaluated and, based on this analysis, a monitoring array should be designed.

In general, the same high standards for the number and location of wells apply to both interim status and permitted facilities implementing groundwater monitoring programs. Interim status standards include requirements for detection and assessment programs. Permitting standards include requirements for detection,

compliance, and corrective action programs. Both detection programs are essentially the same. Data gathered from the interim status assessment program should be sufficient for characterizing the plans for the plans of fulfilling Part B application requirements. However, there is no interim status equivalent to compliance monitoring under Part 264. In a compliance monitoring permit, wells must be located at the intersection of any plume and the point of compliance; both the periphery and the point of highest concentration within that plume must be monitored.

Finally, both applicants and permit writers should weigh the opportunity to improve the monitoring system under the permit against the need for maintaining data continuity. Upgrading to teflon wells, installing new wells at plume centers, and other improvements may need to be phased in over several sampling cycles to establish correlations between old data and new data.