4.7.4 Detection and Monitoring Requirements

Detection and monitoring procedures must be developed to ensure protection of human health and the environment. Location of the site, design of the unit, quantity of wastes to be treated in the unit, and hydrogeologic characteristic at the site are some of the factors that must be evaluated to determine whether surface water or ground-water monitoring is required at the unit, both during the operating life of the unit and, for Subpart X disposal units, during

post-closure care. For example, ground water monitoring is less likely to be required if one or more of the following applies: (1) containment structures will be used and waste residues will not be in contact with the ground surface, (2) precipitation that collects in the unit will be collected and disposed of regularly, (3) the unit is equipped with a leak detection system, (4) the unit is inspected regularly, (5) the ground water table is deep, (6) the composition of the soils beneath the unit will not facilitate leaching of contaminants through the soil into the ground water, or (7) the unit is located in a low rainfall area where evaporation significantly exceeds precipitation. Conversely, ground-water monitoring is more likely to be required if (1) the unit is not equipped with secondary containment structures, (2) wastes contain free liquids, or (3) the ground water table is shallow.

If the environmental assessment indicates that ground-water monitoring will be required at the unit, the ground-water detection and monitoring programs described in Chapter 5.0 must be implemented. Ground-water monitoring wells should be located at a sufficient distance from the OB/OD unit to prevent damage to them as a result of burning or detonation of waste. The list of monitoring parameters must be developed carefully to reflect the chemical composition of the wastes treated in the unit and their decomposition products, as discussed in Chapter 5.0.

If the environmental assessment indicates that there is a risk of soil contamination, the Subpart X permit application also should include plans for periodic monitoring of the soils beneath and in the vicinity of the unit. If there is a risk of soil contamination, the Subpart X permit application must include a contingency plan to close the unit as a landfill in the event the unit cannot be clean-closed by removal of all contaminated soils from the unit and nearby areas. If the unit will be closed as a landfill, the Subpart X permit application also must include a description of procedures for post-closure care, including post-closure ground-water monitoring in accordance with the closure and post-closure requirements set forth in Part 264 Subpart G.