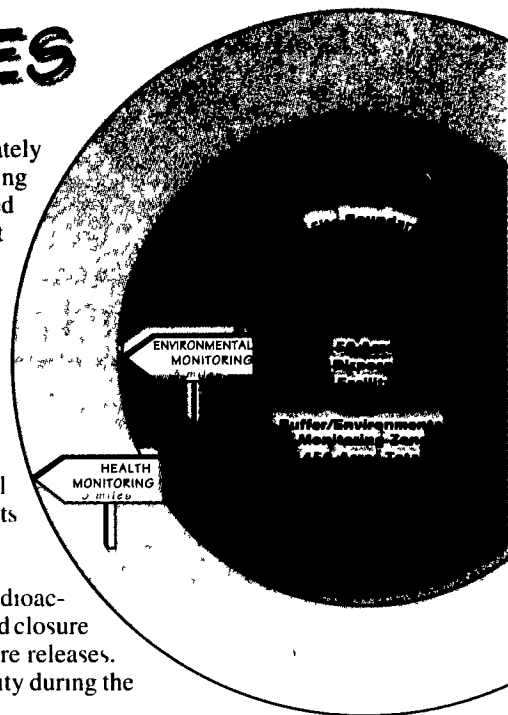


# ADDITIONAL ASSURANCES

Disposal of waste for the 30-year operating period is expected to require approximately 50 acres. The disposal facility will be located within a buffer/environmental monitoring zone of approximately 450 acres. The performance of the facility itself will be checked through the monitoring gallery and through evaluation of a test disposal unit. The test unit's stability and ability to contain the waste will be monitored for the entire disposal period.

Within the 450-acre buffer zone, DER will require the licensee to monitor the environment for the presence of released radioactive materials in samples of air, surface water, sediments, soil, plants, and groundwater. Permanent air and water sampling stations will operate at the site boundary. The environmental monitoring program will extend to areas three miles beyond the site boundary. Beyond that range, to the five-mile point, residents of the host municipality may request a medical evaluation for the presence of radioactivity in their bodies. Full disclosure of the results to those individuals is required.

Before the facility is licensed or constructed, the applicant must measure existing radioactivity to establish the environmental baseline. Monitoring during facility operation and closure will then confirm the safe performance of the disposal facility or indicate if there are releases. Monitoring also provides a basis for determining long-term performance of the facility during the postclosure care period.



## LOCAL CONTROL OF FACILITY OPERATION

It is important that residents near the facility be familiar with the facility's operation and commitment to long-term safety. In addition to the stringent DER regulatory and inspection program, Pennsylvania law provides for direct local control over facility operation. In fact, local inspectors will have the authority to shut down the facility if there is a safety problem.

Waste disposal surcharges will be used to train local inspectors in environmental monitoring. Four full-time, trained on-site inspectors will be employed by the host community and county. Funding for these inspectors will come from the users of the facility. The inspectors will have independent access to all parts of the facility and all records. They will conduct independent monitoring and testing of facility performance. A written agreement between DER and the local and county governments will detail the authority of the local inspectors.

A local Environmental Advisory Council will serve as a monitoring and oversight body, receive all available information about the facility, and be informed of any problems. In addition, the host municipality and the county may each assign a member to DER's Low-Level Waste Advisory Committee to monitor statewide activities and the DER regulatory program. One local representative will also be appointed to the Appalachian States Low-Level Radioactive Waste Commission when the facility site is selected.

## HOW CAN A ZERO RELEASE GOAL BE ACHIEVED?

State law mandates that, as a goal, Pennsylvania's disposal facility must have a radioactive material release capacity of zero. This is known as the zero release goal. The ability to meet the zero release goal is based on regulatory requirements for design, monitoring systems, and facility operations oversight.

### DESIGN AND CONSTRUCTION

The design (see "Facility Design," page 6) and construction of the facility provide the first line of defense to achieve the zero release goal. Specific materials and construction techniques will be used to contain radioactive materials and radioactivity within the disposal units. For example, the disposal unit will be constructed with concrete that must provide both long-term structural stability and containment of radioactivity.

### MONITORING PROGRAMS

The disposal site must have monitoring systems. In the event that something goes wrong and radioactive materials are released from the disposal units, the monitoring systems must have the ability to detect radioactive materials before they reach the disposal site boundary. One monitoring system must be located within the disposal units (see "Facility Design," page 6). In the event the disposal facility fails and water infiltrates the disposal units, this monitoring system will detect the water, any radioactive materials in the water, and the origin of the water before it leaves the disposal facility. Corrective measures can be taken at this point to stop water infiltration, recover the water, and remove any radioactive material that may be in the water.

A second monitoring system (environmental monitoring system) must be located in the buffer/environmental monitoring zone that surrounds the disposal facility (see "Additional Assurances," above). In the event that the disposal facility fails and radioactive materials are not detected by the disposal unit monitoring system, the environmental monitoring system monitors air, soil, and groundwater for radioactive contaminants. This monitoring system must be designed so that contamination can be investigated and removed before it passes the disposal site boundary.

Before the facility is in operation, the applicant will have identified background radiation levels at the site. During disposal facility operations, the licensee must maintain the disposal unit and environmental monitoring systems. After the disposal site is closed, the custodial agency (a state government agency other than DER) is responsible for maintaining these monitoring systems.

### INDEPENDENT LOCAL INSPECTORS

The state law allows the host municipality and county to each hire two full-time, qualified inspectors to perform both independent and joint inspections with DER. These inspectors have the right to inspect any and all of the licensee's records and activities at the site. The inspectors will ensure problems are investigated and necessary corrective actions are taken. For example, the inspectors will independently oversee the licensee's monitoring program. The inspectors have the authority to inspect any aspect of the facility, investigate any problems, and shut down facility operations if there is an immediate threat to health and safety.

## CONTINUOUS MONITORING PROGRAM



Source: Roy F. Weston, Inc.

Keeping groundwater safe is critical. Permanent monitoring wells will be installed in locations on and near the disposal facility to measure for the presence of radionuclides or other contaminants.



Source: Roy F. Weston, Inc.

Regular sampling of surface water in the area surrounding the facility will help ensure that no radioactive material reaches the environment.



Source: Chem-Nuclear Systems, Inc.

Thermoluminescent dosimeters, or TLDs, will measure radiation levels to verify there are no releases above natural background levels.

