D36. MONITORING AND INSPECTION OF LOW-LEVEL RADIOACTIVE WASTE STORED AT NUCLEAR POWER PLANTS

Regulation require that nuclear power plants with low-level radioactive waste in long-term storage have a monitoring and inspection program in place to ensure that the waste containers remain intact and do not corrode or otherwise deteriorate.

Delays in constructing regional facilities in the U.S. for low-level waste (LLW) disposal means that nuclear power plants may be storing LLW for many years. Though long-term storage was not anticipated when plants were designed, they will now have a waste container monitoring and inspection (M&I) program available as needed.

EPRI organized an advisory committee to review existing regulations and their interpretation, identify the different facilities and equipment used for waste storage, and examine current monitoring and inspection practices. The committee's task was to develop consensus recommendations for LLW M&I that met the letter and intent of regulations, while accommodating both the wide variations in the wastes and the ways those wastes are handled and stored.

On the basis of its assessment of regulations, current plant practices, and the various of waste storage facility designs and configurations, the advisory committee:

1) Recommends that 5% of the steel containers in storage be inspected each quarter.
2) Recommends that 10% of the high-integrity containers in storage be inspected annually.
3) Has developed criteria for visual indications of waste container corrosion, deterioration, internal gas pressurization, and handling damage.
4) Suggests that monitoring and inspection requirements can be met by a combination of visual inspection, liquid detection and analysis, and gas detection and analysis.

For more, "Monioring and Inspection of Low-Level Radioactive Waste Stored at Nuclear Power Plants," EPRI TR-105785, Final Report, December 1995.