

The USEPA's Landfill Research and Regulatory Strategy

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The priorities and initiatives of the Environmental Protection Agency's landfill research and regulatory program over the next five years will be described. This includes municipal solid waste landfills as well as abandoned hazardous waste landfills.

Regarding municipals solid waste landfills, EPA received extensive comments during the November 1999 review of the Federal Landfill Criteria (Landfill regulations 40CFR258) . The majority of the comments that were received during this review suggested a reevaluation of the design and operation of landfills from the "dry tomb" concept to one that uses moisture to accelerate decomposition. Since this time, the Agency has been examining the regulatory framework and undertaking research to evaluate the effectiveness of this approach.

The original intent of the Subtitle D Criteria was to design and operate landfills so that moisture would be kept out through an impermeable cap and liquids would be removed at the bottom liner through a leachate collection system. EPA is now conducting research and considering revisions to the RCRA Subtitle D municipal landfill requirements in order to support more widespread application of bioreactor landfills and other emerging and promising technologies. The overall purpose for the anticipated regulatory changes is to allow more flexibility while, at the same time, protecting human health and the environment.

For abandoned hazardous waste landfills, research is focusing in two areas: the long-term integrity and cost-effectiveness of caps and improved methods for predicting short- and long-term performance of containment systems. Research is being conducted on alternative cover designs and characterizing the emissions from landfills. This research supports the risk management decisions for Superfund sites as well as re-development under Brownfields initiatives.

This research will show that new technologies such as bioreactors, new liner materials, covers, and monitoring methods may provide the key for deriving short and long-term environmental, regulatory, economic and societal benefits regarding waste disposal.