

Solid Wastes (Landfills)

EPA Subcategory Number 63



NPS
DELAWARE

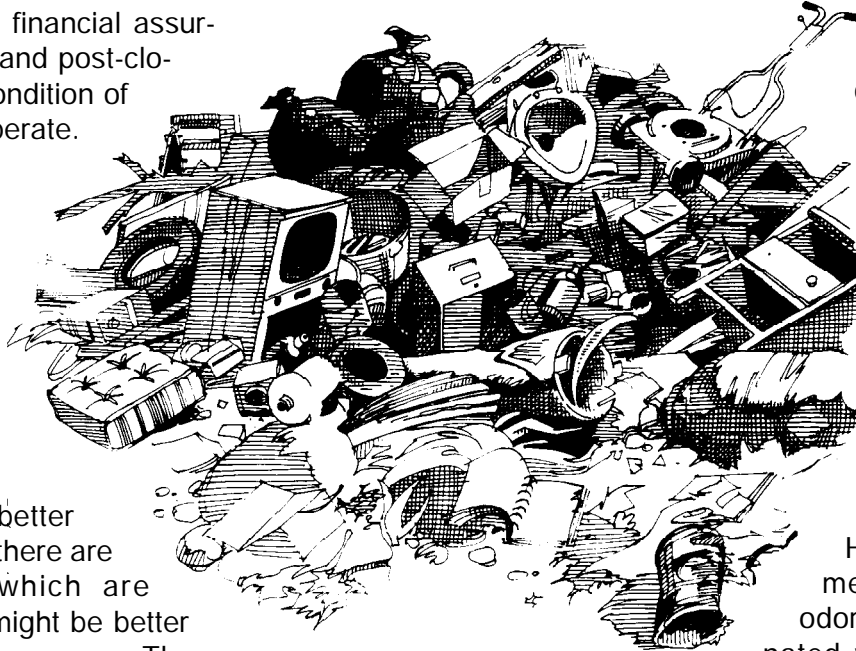
INTRODUCTION

Most Solid Waste in Delaware is disposed of in landfills. There are only two types of landfills currently permitted: sanitary landfills (also known as municipal solid waste landfills) and industrial landfills (which include all types of non-hazardous solid waste except municipal waste). All of the (three) sanitary landfills are owned and operated by the Delaware Solid Waste Authority (DSWA). Much of the residential waste produced in New Castle County is transported to an out-of-state waste-to-energy plant. Each of the industrial landfills is privately owned and permitted to accept only specific types of waste. Only one industrial landfill operates commercially (as a disposal site for construction and demolition wastes). All the others are operated by industries as a means of disposal of specific waste types generated at the facility. All of these landfills (sanitary and industrial) must comply with rigid standards on siting, design, operation, management, monitoring, closure and post-closure care, in accordance with regulations and permits issued by the Solid Waste Management Branch. The owners must provide financial assurance for closure and post-closure care as a condition of their permits to operate.

Despite the stringent requirements and inspections of permitted landfills in Delaware, there are some wastes which are not landfilled, which could be better managed. Also, there are some wastes which are landfilled which might be better managed in other ways. These wastes have the potential for causing significant adverse impacts on Delaware's environment and may pose threats to human health or safety. For that reason, this category #63 has been changed from "landfills" to "solid wastes" so that a better understanding of the waste management concerns and the signifi-

cantly broad universe of solid wastes can be examined and appropriate actions determined.

Increasing the amount of waste diverted from the landfills could save expensive landfill space (prolonging the operating period of the landfills) as well as conserving energy and resources if the waste is reused or recycled. A voluntary recycling program, consisting of more than 100 drop off centers, has been operated by the DSWA since 1991. Although the total amount of recycling of the municipal solid waste stream was estimated at about 20% in 1997, only about 3% of the total waste stream was captured at the voluntary drop-off centers. (Most of the recycling is done in the private commercial sector where economic efficiency provides the chief incentive.) Therefore, enhancements will be necessary to increase recycling rates for residential waste. These would likely include a requirement for mandatory recycling and the provision of curbside recyclables collection by waste haulers.



Some types of waste could be diverted from the landfills. Many states have banned yard waste from landfills. Although decomposition of yard wastes in landfills contribute significantly to the strength of landfill leachates and production of landfill gas, such material can be aerobically decomposed in composting operations.

However, proper management is required to prevent odors and release of contaminated water from the site. Yard

waste comprises about 15% of the annual municipal solid waste stream. Bans on yard waste from landfills typically results in the diversion of about half of such material.



INTRODUCTION ()

The collection and recycling of waste office paper could also be improved. Attempts to improve the recycling of paper from state offices are on-going. One of the greatest barriers to improved recycling performance is the development of markets for recycled products. Attempts are also being made to enhance markets for recyclables by expressing a preference for the purchase and use of recycled products. Continued outreach to waste generators is needed to encourage recycling and reuse of waste materials.

Delaware may be the only state without a program to manage scrap tires. Although illegal disposal of tires has largely diminished as tire retailers are utilizing haulers (consistent with programs in surrounding states) for proper disposal of old tires, some tire piles continue to grow and illegal disposal of old tires along highways and in waterways still poses a nuisance. The development of a program to eliminate the piles of scrap tires and dispose of tires recovered by voluntary clean-ups of beaches and waterways is still needed.

Landclearing debris and some construction wastes were routinely buried on sites of residential construction between the late 1960s and late 1980s. Thousands of buried debris pits occur in the yards of residences, especially in New Castle County. (Such waste was typically open-burned in the lower counties until an unequivocal prohibition on burial of such material was adopted in 1988.) This buried debris produces methane gas as it decomposes in the ground—creating the potential for explosive concentrations of gas in basements. Settlement of the land surface occurs as the buried debris decomposes, creating drainage problems and posing the potential for injuries due to collapse. Hundreds of buried debris pits were excavated during the 1990s pursuant to appeals to build-



ers, enforcement actions, environmental remediation programs, and initiatives by homeowners. The remaining pits pose the aforementioned hazards and stigmas to property values. Efforts continue to find adequate, fair and cost-effective solutions to this problem.



Illegal open dumping of wastes is a nagging problem in Delaware. Such wastes litters roadsides, Canal easement areas, powerline easements, forest and pulp wood lands, park lands, and generally anywhere a person can have a feeling of comfort that they will not get caught. These waste piles may attract vermin, create odor problems, pose fire hazards, and in some cases could have the potential ground water impact. However, the biggest problem is aesthetic and the erosion of concern about stewardship for the environment. Littered, run-down properties become magnets for other types of illegal or illicit activities, presenting problems for the local residents. The clean up of such litter often founders on the cost of proper disposal of the waste. Funding of a citizens incentive program (covering waste tipping fees in exchange for "sweat equity" in cleaning up the wastes) would help to eliminate some of these problems and ease the social dilemmas they foster.

Milestones for Implementation:

WORK ACTIVITIES	LEAD IMPLEMENTATION AND COOPERATING AGENCIES	TARGET DATE FOR COMPLETION	FUNDING SOURCES
Develop a program that will prevent illegal dumping of scrap tires and properly dispose of the estimated 2 million scrap tires in storage piles and illegal dumps in Delaware	DNREC - Solid Waste, DSWA, DOT, Dept. of Corrections, landowners	1999 - 2002	Unknown
Develop a program to provide remedies for land clearing and construction debris buried in pits on residential lots	DNREC - Solid Waste, Delaware Home Builders, local governments, General Assembly	1999 - 2000	General Funds and sources to be identified
Administer permit programs for waste disposal, waste (resource) recovery, waste transfer and waste transportation, including monitoring and corrective action for problems.	DNREC - Solid Waste	On-going	General Funds and Fees
Support and enhance the reuse/ recycling of waste material (such as ash, reground asphalt, concrete, yard waste, appliances, tires, metals, paper, cardboard, plastics, waste oil, etc.) to reduce the amount of wastes going into landfills and illegal dumps by outreach to industries, contractors, etc.	DNREC - Solid Waste, DSWA, Haulers, DeIDOT, Delaware Contractors Assoc., and General Assembly	On-going	Unknown
Provide a means to assist landowners in the removal and proper disposal of waste which has been illegally dumped on their property.	DNREC - Solid Waste, EPO's, landowners, Haulers, Dept. of Corrections, volunteers	1999 - 2001	Penalty funds, NPS 319, other sources

Milestones for Implementation:

WORK ACTIVITIES	LEAD IMPLEMENTATION AND COOPERATING AGENCIES	TARGET DATE FOR COMPLETION	FUNDING SOURCES
Develop informational/educational brochures relating to the proper management of household waste, yard waste, tires, and recycleable materials.	DNREC - Solid Waste, Pollution Prevention, and DSWA	On-going	Unknown
Continue the program to make available composting units for residential waste on an economically attractive basis and provide information on the benefits and methods of composting residential waste to homeowners.	DNREC - Solid Waste, Pollution Prevention	On-going	Fees/NPS 319