

The federal regulations which were promulgated to implement RCRA (40 CFR 256) requires that state plans address a wide range of solid waste categories, and the full scope of solid waste management activities. The breadth of these plans is consistent with that of the term "solid waste", as that term includes nearly every waste liquid, sludge and solid generated by human activities.

The following goals were set for the State's solid waste management program when this planning effort was initiated:

- 1) To establish a system for the cradle-to-grave management of Controlled Hazardous Substances (CHS).
- 2) To encourage recycling, resource recovery and the beneficial uses of sludge from municipal wastewater treatment plants.
- 3) To ensure the disposal, in an environmentally sound manner, of all solid wastes which are not amenable to recycling or resource recovery.
- 4) To ensure that adequate systems exist to satisfy the State's solid waste management needs for at least the next five years.
- 5) To minimize duplicative and overlapping efforts, by coordinating State solid waste management programs with related activities at the local and federal levels of government.
- 6) To encourage, and cooperate with, regional solid waste management initiatives.

- 7) To encourage and provide for public interest, involvement and input in solid waste management programs.

The objectives of this plan, the first overall State plan since 1970, are:

- 1) to provide an overview of solid waste programs within the State,
- 2) To assess the need for revisions and additions necessary to move toward program goals during the planning period,
- 3) To set forth a general strategy to implement these revisions and additions.

The Plan was developed on concert with a number of federal, State and local agencies and relevant federal statutes. This plan will be updated at least every three years.

DESCRIPTION OF MARYLAND

The State of Maryland is located in the Mid-Atlantic region of the United States. The State has a population of 4,216,446 (1980) and an area of 10,577 square miles. The major land uses are agriculture and forestry, each account for more than forty percent of the State total.

Maryland has three geologic provinces, each with several divisions. The Atlantic Coastal Plain Province extends from the Atlantic Ocean to the "fall line" in central Maryland. The Piedmont Province covers central Maryland to the Blue Ridge Mountains in western Frederick County. The Appalachian Province

covers the rest of the State. The soils of Maryland vary widely in texture, permeability and fertility.

Drainage from most of the State flows either directly, or indirectly, into the Cheasapeake Bay. There is also drainage to the Atlantic Ocean, and a small amount to the Ohio River.

Maryland's climate is as varied as its physiographic features. The State has a continental type of climate with four well-defined seasons. The average annual temperature ranges from 48 to 58° F, the average annual precipitation from 36" to 48".

Maryland has more than two million persons employed in a wide range of commercial and industrial activities. The State has well-developed air travel, rail, highway and port systems.

EXISTING AND PROJECTED CONDITIONS

Solid waste management in Maryland involves all levels of government, and the private sector. Because of the wide range of solid waste categories, and management activities, it is difficult to generalize about the roles of the public and private sectors. However, it can be generally said that local and county governments are involved in the collection and disposal of municipal solid wastes, State government in regulating, planning and resource recovery, and the private sector in the management of commercial and industrial wastes. State law specifically assigns responsibility for comprehensive planning to the 24 Maryland Counties. Several regional agencies are also involved in these programs. In addition, the Maryland General Assembly created the Hazardous Waste Facilities Siting Board to address

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the difficult problem of siting, the Maryland Environmental Service to encourage reductions in the disposal of wastes to the environment and to develop and run waste management facilities, and the Northeast Maryland Waste Disposal Authority to address the solid waste management problems of the Baltimore area.

The State's plan addresses nine categories of solid waste. A description of each, and estimates of present generation, are given below.

- 1) Hazardous Wastes are termed "controlled hazardous substances" (CHS) under Maryland statute. Generators shipped 210,258 tons off-site during calendar year 1983.
- 2) Residential Commercial and Institutional solid wastes are often collectively termed "municipal" wastes. The annual generation of these wastes is estimated to have been 3.46 million tons in 1980, and to be 3.61 million tons by 1990.
- 3) Wastewater Treatment Sludge results from the treatment of domestic sewage. During 1982, the 450 treatment plants in Maryland generated about 522,909 wet tons of sludge.
- 4) Pollution Control Residuals are wastes captured by air pollution and water pollution control devices. The former accounted for approximately 7.3 million tons of residuals in 1981; data for the latter are not available.
- 5) Industrial Wastes include non-hazardous residuals from nearly 3,000 manufacturing firms in the State. There is a scarcity of generation data for this waste category. A review of planning documents for the five jurisdictions

which include 65 percent of the State's manufacturing firms, found an estimated total 1980 generation of 872,483 tons of solids and 87 million gallons of liquids.

6) Mining Wastes are fragments of rock, low grade ore and "spent" ore generated during mining operations. Only one mine in Maryland generates a substantial quantity of wastes that finds its way to a disposal facility. However, there are wastewater impoundments at many mining sites.

7) Agricultural Wastes result from the production of crops and animals. The generation of livestock manures, the most significant sub-category of agricultural waste from an environmental standpoint, was estimated at 4.25 million wet tons in 1981.

8) Water Treatment Sludge is generated by approximately 500 plants in Maryland, but little generation data are available.

9) Septic Tank Pumpings (Septage) include sludge, liquids and scum generated during the periodic maintenance of on-site sewerage systems. Based on an estimated 250,000 septic tanks in Maryland, that annual generation of these wastes would be about 62.5 million gallons.

10) Vehicle Tires are not included in the categories of solid wastes includes under 40 CFR 256. However, they pose special problems for the solid waste manager and merit consideration in any plan. It is estimated that, during 1982, Class A vehicles generated 33,445 tons of tires.

Solid waste management involves several activities which, together, result in the movement of wastes from the points of generation to the points of disposal. A brief description of each activity, as it relates to Maryland, follows:

- 1) Source Separation, setting aside recyclable wastes at the source of generation, resulted in the recycling of more than 200,000 tons of materials in 1983,
- 2) Storage methods for solid waste vary with each category of waste. The storage of municipal wastes is regulated by local governments.
- 3) Collection and transportation of solid wastes is, variously, the responsibility of local governments and the generator. About 80 percent of Maryland's population has "door-to-door" collection of wastes. Eighteen counties provide at least some collection service.
- 4) Transfer involves the consolidation of several small loads. This extra waste handling step may be required to reduce overall waste hauling costs. At present, there are six transfer stations in operation in Maryland.
- 5) Processing and Treatment include a number of processes which change the physical form or chemical composition of wastes. Processing and treatment facilities in Maryland include incinerators, resource recovery facilities, sludge composting and one hazardous waste treatment facility.

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- 6) Resource Conservation and Recovery has been actively encouraged by the State for more than a decade. Existing programs include office paper and waste oil recycling, and waste-to-energy projects.
 - 7) Disposal of many types of solid wastes has, traditionally, been on the land. There are approximately 50 "municipal" sanitary landfills in the State. Most wastewater treatment plant sludge, and much of the septage, are applied to the land. A combination of methods is used for other waste types.

In the past three years, the State has enacted two laws which establish mechanisms to provide financial support for the development of disposal facilities.

ASSESSMENT OF PROGRAM NEEDS

An assessment of Maryland's solid waste program needs, resulted in the following conclusions:

- 1) Responsibilities and authorities for solid waste activities in the State are well defined.
- 2) The State has adequate legal authority to implement the requirements of RCRA.
- 3) All levels of government in the State have been very active in the areas of resource conservation and recovery. However, there is no overall policy and strategy to guide these activities.

- 4) Waste generation data are available for some waste types. For most waste types, however, data are either incomplete or absent.
- 5) Storage of certain waste categories is regulated, others are not regulated at all.
- 6) Future needs for waste processing/treatment have not been determined.
- 7) Eight of Maryland's 24 counties will require additional disposal capacity for "municipal" wastes within five years.
- 8) Disposal needs for other waste categories have not been established.
- 9) Better coordination is needed between agencies with solid waste management authorities and responsibilities.

MARYLAND'S SOLID WASTE MANAGEMENT PROGRAM

The State of Maryland's solid waste efforts for the next five years will consist principally of refining and improving existing programs. This course has been chosen for two reasons. First, the foundation of a comprehensive solid waste management system exists in the State's present network of laws, responsibilities and relationships.

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SUMMARY STATE OF MARYLAND

SOLID WASTE MANAGEMENT PLAN

1985 - 1989

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INTRODUCTION

In accordance with the mandate of the Resource Conservation and Recovery Act (RCRA), the State of Maryland has prepared a five-year solid waste management plan. RCRA requires that, at a minimum, the plan must:

- 1) Identify the responsibilities of State, local and regional authorities in plan development, implementation and coordination;
- 2) Prohibit the establishment of new open dumps, and provide for the closing or upgrading of existing open dumps;
- 3) Provide for the disposal of solid wastes in an environmentally sound manner;
- 4) Provide for the establishment of State regulatory powers necessary to implement the plan;
- 5) Ensure that no State or local law prohibits long-term contracts for the supply of solid waste to resource recovery facilities.

Second, it appears that no significant levels of federal or State funding will be available. Federal funding of planning activities related to non-hazardous solid wastes was terminated in September, 1981, and State support allows only program maintenance, not expansion.

Program refinements and improvements over the next three years (i.e. until the first Plan update) will include:

- 1) The development of a work scope and funding estimate for an effort to improve the quality of solid waste generation data;
- 2) The upgrading of existing planning programs by promulgating comprehensive planning regulations;
- 3) The development of a State policy on the management of waste tires;
- 4) Consideration of the need for a State policy and strategy on resource conservation and recovery;
- 5) The development of a plan to improve inter-agency program coordination.