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U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE • PUBLIC HEALTH SERVICE • JANUARY 1969

STATE/INTERSTATE SOLID WASTE PLANNING GRANTS AND AGENCIES

CONSUMER PROTECTION AND ENVIRONMENTAL HEALTH SERVICE

PROGRESS ABSTRACTS

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U.S. BUREAU OF SOLID WASTE MANAGEMENT

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STATE / INTERSTATE SOLID WASTE
PLANNING GRANTS

PROGRESS ABSTRACTS, JANUARY 1969

Compiled by

Daniel D. Swavely and Lee F. Hultgren

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Consumer Protection and Environmental Health Service
Environmental Control Administration
Bureau of Solid Waste Management
Rockville, Maryland
1969

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STATE/INTERSTATE SOLID WASTE
PLANNING GRANTS

PROGRESS ABSTRACTS, JANUARY 1983

Compiled by
Daniel D. Shroyer and Lee F. Hultgren

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
Division of Field Epidemiology
Atlanta, Georgia 30333

Public Health Service Publication No. 1913

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INTRODUCTION

The communities of this nation face the awesome task of providing for the sanitary disposal of over one billion pounds of solid wastes collected every day. The effectiveness of their efforts is determined to a large degree by the amount of planning that takes place. Urbanization has increased the need to plan for solution of solid waste problems on local, regional, and statewide bases. Where solid waste problems are restricted exclusively to a community, local planning must be applied. Proper regional planning will assure that effective solid waste management transcends local boundaries. Logically, it remains the State's responsibility to develop a State solid waste management plan which encourages, guides, and accommodates local and regional solid waste planning efforts.

Prior to 1960, few States had operating solid waste programs. Congress, recognizing this deficiency, included under the Solid Waste Disposal Act of 1965 the provision of grants to State and interstate agencies for up to 50 percent of the cost of developing solid waste plans. These grants are available to the particular State or interstate organization which has been designated or established as the sole agency for this environmental concern. The first of these planning grants, administered by the Bureau of Solid Waste Management, was awarded on June 1,

1966, the most recent grant being given on June 1, 1968. To date, 38 States, the District of Columbia, Puerto Rico, and 3 interstate agencies are the recipients of planning grants under the Solid Waste Disposal Act.

The prime objective of the State and interstate grant is to foster comprehensive statewide programs in planning for the handling and disposal of solid wastes. In developing their plan, the grantees consider such factors as population growth, urban and metropolitan development, land use planning, water pollution control, air pollution control, regional disposal programs and the management of solid wastes in general. In addition, it was recognized in the Act that adequate planning cannot proceed without the provision of reliable data and information on current solid waste practices. Accordingly, in an effort to ensure uniform reporting, the Solid Wastes Program developed a set of survey forms, a manual of instructions for conducting the survey, and sample replies for completing the forms. These items were furnished to each State in order to facilitate the acquisition and recording of the required information.

The solid waste planning grant recipients report their progress to the Solid Wastes Program annually during their grant period, usually three years. The present volume is a compilation of abstracts developed from these progress reports and other material in the Program files. The publication reflects progress made by each State up to July 1, 1968. Each State or interstate agency has reviewed the abstracts for accuracy.

Because of differences in the dates of initial grant award, and because of the varying degree of responsibility for solid waste management exercised by individual States, these abstracts reflect a broad

spectrum of progress and accomplishments. The abstracts clearly show at least one common element; that the first effort of each grantee has been to survey solid waste practices and problems within their jurisdictions. However, progress in certain other areas has also been recorded. The grantees have actively promoted legislation and the appropriate administrative regulations for more effective control of solid waste activities. They have provided training for agency staffs involved with solid wastes and have coordinated their programs with those of other related State, regional, and local planning units. All of these efforts are, of course, directed toward the formulation of comprehensive solid waste management plans.

This compilation of abstracts should not be interpreted as a guide to State solid waste planning. Some of the tasks and accomplishments reported in the abstracts are of a nonplanning nature. Although not supported by Federal Planning Grant funds, these types of activities were nevertheless included in the abstracts so that the total functions and objectives of the State solid waste agency are presented. This indicates that these corollary activities are often a desirable implementation to planning. This publication, therefore, is intended only to serve as an information document.

--ANTON J. MUHICH
Chief, Systems Operations Planning
Bureau of Solid Waste Management

PROGRESS ABSTRACTS

January 1969

ARKANSAS

The Arkansas Pollution Control Commission received a three-year Solid Waste Disposal Planning Grant on October 1, 1967.

Personnel. The Arkansas Pollution Control Commission has acquired one full-time engineer and one full-time technician for their solid waste planning project.

Solid Waste Survey. Arkansas is using the forms developed by the Public Health Service to complete the State survey. These forms will be used to survey 48 communities with a population of 4,000 and above. Due to delays in hiring personnel, the survey did not begin until February 1968. Seven Standard Metropolitan Statistical Areas will be surveyed completely. The remaining 68 counties will also be surveyed.

Coordination. The State's solid waste and air pollution programs are working together in an effort to encourage municipalities to discontinue burning practices which contribute heavily to the air pollution problem. Cities are encouraged to investigate the possibility of using the sanitary landfill method of disposal.

Soil and water table maps have been obtained from the Soil Conservation Service and the U.S. Geological Survey to assist in the planning and location of sanitary landfill sites. A report will be made on all officially designated disposal sites in the State.

Public Information. Presentation of the film, "The Third Pollution," and dissemination of material dealing with the solid waste problem are activities undertaken to inform the people of Arkansas of the solid waste problem and its difficulty of control without adequate planning.

CALIFORNIA

The California State Department of Public Health received a three-year Solid Waste Disposal Planning Grant on June 1, 1966.

Personnel. The California solid waste planning staff includes four full-time professional employees: three sanitary engineers, and a public health sanitarian.

Solid Waste Survey. Utilizing forms developed by the State, which are similar to the Public Health Service forms, California completed its solid waste survey in February 1968. Personnel in every county, incorporated city, special district having a solid waste program, and related State agency were personally interviewed by the staff to obtain available data on solid waste management. This resulted in an accumulation of over 15,000 pages of data, which were electronically processed, and form the basic data bank for planning State solid waste management programs. The State is currently conducting a survey on industrial waste from major processing and manufacturing industries, as well as the analyses of agricultural wastes.

A major report summarizing the current status of solid waste management in California has been prepared.* This report was released in the Autumn of 1968. Although evaluation of data is not yet complete, the following are five distinct areas of deficiency in the California solid waste management system: (1) extremely fragmented authority and lack of

cooperation; (2) inadequate planning--only 7 of the 58 counties in California have developed any form of a county-wide master plan for solid waste disposal and five of these have been adopted; (3) inadequate standards--over 75 percent of all disposal sites inspected are classified as open burning dumps; less than 5 percent of the sites in California were classified as acceptable sanitary landfills; and 45 of the 58 counties had no standards whatsoever to control the disposal of refuse; (4) poorly developed technology for solid waste handling; (5) lack of adequate financing--most of the local agencies surveyed were found to be financially unable to undertake the planning and construction programs necessary for proper solid waste disposal.

Solid Waste Legislation and Regulations. The existing statutes in California dealing with solid wastes are very limited. Three bills were introduced in the last session of the State Legislature concerning environmental control. These bills would require the State Department of Health to conduct solid waste management studies.

The Assembly Committee on Natural Resources, Planning, and Public Works began a long-term in-depth probe of the solid waste disposal problem throughout California. The Committee will seek to ascertain the dimensions of the problems and formulate a comprehensive State policy and program for the orderly long-term management of solid wastes.

Coordination. In addition to coordinating the California solid wastes program with all related State and local agencies, the Department of Health set up a revised Solid Waste Advisory Committee in January

1968. This Committee represents the expertise and interest of various agencies and organizations involved in solid wastes. It will assist the Department in the development of the State planning program, as well as in matters of policy and other solid waste aspects.

Related Activities. Special studies were conducted in regard to fly control activities. Surveillance and technical consultation were rendered to local agencies concerning solid waste management activities. Additional special studies on solid wastes are also under contract to other State agencies.

One of the side effects of the statewide field inventory has been a generation of interest concerning solid wastes at the local government level. In the conduct of the field survey, the staff has repeatedly been requested to appear before the Boards of Supervisors and City Councils to appraise the solid waste problems and developments within their jurisdiction. In many instances, the staff has been asked to lend technical assistance to local agencies in evaluating or developing solid waste plans and programs. Two county reports were prepared during the initial two years of grant activities. These reports stimulated considerable action by the two counties' Boards of Supervisors.

*California State Department of Public Health. Status of solid waste management in California; California solid waste planning study. v. 1. Interim report. Sept. 1968. 178 p., appendices.

COLORADO

The Colorado Department of Health received a three-year Solid Waste Disposal Planning Grant on June 1, 1966.

Personnel. The Colorado Department of Health has three professional employees serving in full-time capacity on this planning grant, and all are public health engineers. In addition, there are ten professional employees working from 10 to 20 percent of their time on the project.

Solid Waste Survey. Colorado is using the forms developed by the Public Health Service in conducting their statewide survey of solid waste disposal practices. The Community Description Reports are being completed for all incorporated communities with a population of 5,000 or more, based on the 1960 census. All of the 29 communities in Colorado in this population group have been surveyed.

The Land Disposal Site Investigation Report is being completed for all designated land disposal sites within Colorado. To date, 300 of approximately 310 site investigation reports have been completed. One-half of the total number of disposal sites in the State are located in counties containing one or more municipalities having a population of 5,000 or over. All of the Facility Investigation Reports have been completed.

Solid Waste Legislation and Regulations. Legislation authorizing the county commissioners to issue "Certificates of Designation" to public

and private agencies operating disposal sites was adopted by the 1967 General Assembly of the State of Colorado. Municipalities can condemn land for disposal sites and can designate specific sites for disposal of the municipality's refuse. This legislation also requires the Department of Health to promulgate rules and regulations relating to the public health aspects involved in the storage and disposal of solid wastes as well as standards for the operation and maintenance of disposal facilities.

In November 1967, the Colorado State Board of Health adopted rules and regulations pertaining to public health aspects involved in the storage and disposal of solid wastes and standards for the operation and maintenance of public dumps, landfills, compost plants, and similar sites and facilities. The effective date of this legislation was January 1, 1968, with full compliance being required by July 1, 1968. The Senate Joint Resolution No. 42 of the 1967 Session provided for a legislation council to conduct a study on refuse disposal, including the wrecking and disposal of automobile body hulks.

Coordination. The Colorado Department of Health and local health departments, in cooperation with the Colorado Municipal League and the Board of County Commissioners, served as a resource of personnel in drafting the recently adopted State legislation. The Colorado Department of Health in cooperation with various county planning commissions and district health departments conducted a solid waste disposal seminar in

October 1967. A conference on refuse disposal was held in May 1968, at the University of Colorado in Boulder. Eight different agencies cooperated in the development of this conference. These types of interagency coordination are expected to continue throughout the duration of the project and into the future.

Training. The pamphlet entitled Sanitary Landfill Bulletin has been completed and distributed to municipalities and operating personnel to serve as a guide in converting present disposal operations into sanitary landfill operations. Operating personnel, both public and private, have been instructed in these measures at the disposal sites.

Public Information. Information on the existing disposal practices and required revisions to obtain compliance with legislation, has been presented at public meetings, town councils, county commissions, institutions of higher learning, professional groups, and interested civic organizations.

Related Activities. The Colorado Department of Health is maintaining a central source of reference materials and publications pertaining to the various methods of collection and disposal of solid wastes. Pertinent information regarding laws, rules, and regulations is transmitted on a regular basis to county commissioners, municipal officials, and private concerns operating disposal sites.

CONNECTICUT

The Connecticut State Department of Health received a three-year Solid Waste Disposal Planning Grant on June 1, 1966.

Personnel. The full-time staff of the Solid Wastes Section of the Environmental Health Services Division consists of a Chief, two sanitary chemists, a senior sanitarian, an air pollution engineer, and two stenographers. The Division is also recruiting for a senior sanitarian and another air pollution engineer. In addition to this, five senior sanitarians devote half their time and a public information officer devotes one-fourth of his time to the project.

Solid Waste Survey. The three Public Health Service questionnaires have been filled out for all cities and towns within the State, regardless of population. These forms were completed by sanitarians working in the Solid Wastes Section and by senior engineering students from the University of Connecticut who work part time. Additional data, including complaints about municipal disposal operations, was also collected during quarterly inspections of private and municipal refuse disposal areas and public incinerators.

Solid Waste Legislation and Regulations. The responsibilities of the State Department of Health have been expanded by an amendment to an existing statute entitled "Disposal of Sewage and Refuse." In addition, a special act was passed which requires the Connecticut State Department

KENTUCKY

The Kentucky State Department of Health received a three-year Solid Waste Disposal Planning Grant on June 1, 1966.

Personnel. The Kentucky Solid Waste Program is presently a four-man operation: a Program Director, public health representative, and two sanitary engineers.

Solid Waste Survey. Survey work has included all communities over 5,000 population, 75 percent of the counties, and 100 percent of the Kentucky Standard Metropolitan Statistical Areas. Excess planning grant funds from the first grant-year were used for a service contract with the Institute of Industrial Research at the University of Louisville to collect data as a base for completing the survey work.

Land investigation forms have been completed for all 234 refuse disposal sites being operated as open dumps or sanitary landfills in the State. In addition, 26 facility investigation forms have been completed.

Solid Waste Legislation and Regulations. An act relating to the regulation and control of solid waste disposal and solid waste disposal sites and facilities became effective June 13, 1968, as the Solid Wastes Law. The Kentucky State Board of Health has adopted rules and regulations of general application to accomplish the purposes of this law. A public hearing was conducted by the State Solid Waste Program on the proposed regulations called for in the law, prior to their

submittal to the Kentucky State Board of Health for approval. Regulations for industrial and agricultural solid wastes are also included under this law.

In related legislative activities, the Kentucky Air Pollution Control Commission has recently adopted a regulation which prohibits open burning.

Coordination. Coordination has been maintained between the State Solid Wastes Program and the Division of Community Planning and Development, city-county planning and zoning commissions, regional planning commissions, and regional planning councils of the Kentucky Development Committee.

City, county, and other governmental agencies and industries have been assisted with operational problems and the development of adequate and acceptable solid waste programs.

Training. A one-day solid waste orientation course was conducted for public health personnel and other public officials in four different areas of the State. Twenty-eight counties were invited to these four separate one-day courses. Additional courses are planned.

Public Information. Through this phase of the program, various civic groups, professional organizations, and public officials were made aware of solid waste disposal problems and the benefits of a solid waste management program. Radio, magazines, and newspapers have also been used as informative communications media.

Solid Waste Management Plan. The initial steps to establish a State plan for coordinating local and regional solid waste disposal planning have begun. Thirty planning regions have been delineated throughout the State.

LOUISIANA

The Louisiana State Department of Health received a two-year Solid Waste Disposal Planning Grant on September 1, 1966. A third year renewal has extended the project through August 1969.

Personnel. The Louisiana solid waste unit is staffed by six full-time professionals, with 11 others serving on a part-time basis.

Solid Waste Survey. The Louisiana solid waste survey is very nearly completed. All communities with a 1960 census of 3,500 or more have been surveyed. The State is now in the process of completing the survey for the smaller communities. The survey of small areas is about 25 percent complete, and all community surveys completed account for 80 percent of the total state population. The land disposal sites and facilities are being surveyed along with their associated communities.

The survey is being conducted on a parish basis. When all surveys within the parish have been completed, a report is prepared and submitted to local authorities giving broad recommendations and containing other pertinent information.

Coordination. A close working relationship with several regional planning groups within the State has been established. Close coordination has been established with such agencies as the State Department of Public Works, Livestock Sanitary Board, Department of Agriculture, and air and water pollution control agencies.

Training. The program's staff has attended three solid waste management training courses in Cincinnati. The staff has also attended conferences relating to solid wastes.

Public Information. Members of the staff have given several lectures to local governing authorities and environmental health personnel on solid waste handling and disposal.

MAINE

The Maine Department of Health and Welfare received a two-year Solid Waste Disposal Planning Grant on June 1, 1966. The funds were not immediately used, however, and the operations were extended to begin on June 1, 1967.

Personnel. The staff of the Division of Sanitary Engineering, which handles the Maine solid waste program, presently consists of one engineer. Three sanitarian positions are not yet filled.

Solid Waste Survey. The State solid waste survey was conducted with Public Health Service forms in all communities with 5,000 population and over, including all Standard Metropolitan Statistical Areas. All disposal sites and disposal facilities are being inventoried, and every city is visited at least once. The survey was completed in 1968.

Solid Waste Legislation and Regulations. The Department is planning to alter and resubmit legislation which was reported out-of-committee last year.

MARYLAND

The Maryland State Department of Health received a three-year Solid Waste Disposal Planning Grant on January 1, 1967.

Personnel. The Maryland State Health Department's Division of Solid Wastes is staffed by three full-time professionals: a Division Chief, public health engineer, and sanitarian. In addition, an engineering consultant is employed by the division three days a week, a sanitarian will be assigned to the division, and a systems engineer will probably be assigned to the division.

Solid Waste Survey. The Maryland statewide community and site survey, employing Public Health Service forms, covers all counties, land disposal sites, and facilities throughout the State. The survey was completed in 1968.

Solid Waste Legislation and Regulations. Maryland's state law delegates broad regulatory powers over the design, construction, and operation of solid waste systems to the Maryland State Department of Health. Under this authority, the State Health Department has adopted regulations which require complete plans and specifications prepared by a registered professional engineer to be submitted to and approved by the State Health Department before any refuse disposal facility is constructed and placed into operation. During the 1968

session of the Maryland Legislature, an amendment to this law was adopted which requires that a public hearing be held by the State Health Department before a permit is issued for the construction of a sanitary landfill. The state laws in this area are now completely adequate.

Coordination. The Maryland Solid Wastes Division staff has conferred with many towns and counties about their refuse handling practices. Close coordination between the Division's planning activities and the progress of the Strip Mine Demonstration Project is being maintained. A special effort is being conducted in two counties to develop methods for systems analysis of refuse handling and disposal in areas where population is concentrated in several communities with relatively sparsely populated areas. A strong effort is being made to encourage counties to develop solid waste management plans, using as a base the data acquired by consulting engineers in formulating the county-wide water and sewerage plans required under Maryland law. Effective May 28, 1968, all operations of refuse disposal facilities where open burning is practiced have been ordered to cease burning, with the exception of those given a grace period because of being in the process of developing acceptable phase-out plans. Where no action by the operating agencies is underway to comply with this requirement, legal action by the Division of Solid Wastes, through the state attorney general's office, is being commenced to force compliance.

Public Information. Representatives of the Division of Solid Wastes have appeared before numerous community and civic associations, beautification groups, women's clubs, junior college adult education seminars, and professional and semiprofessional associations. In addition to direct contact with these groups, a parallel effort to gain newspaper coverage of their activities has been instigated.

General press releases are routinely issued by the Division, and specific releases regarding a particular region of concern are issued when one of their activities involves this region. The press releases on solid wastes were carried in 142 newspapers and broadcasting stations.

A slide series illustrating the design, construction, and operation of sanitary landfills has been developed and is used in conjunction with presentations to interested organizations. In the autumn of 1968, a representative of the State Health Department's Division of Health Education was assigned to work with the Division of Solid Wastes to develop a statewide public information campaign on solid waste legislation and regulations.

Solid Waste Management Plan. A ten-year timetable for the accomplishment of the ultimate goal of the management of all solid waste materials generated in the State of Maryland has been developed. To aid in the implementation of this plan, the Division of Solid Wastes has contracted with a multi-access computer service and communicates directly with the central computer through a teletype installed in the Division's office. In addition to the plan for

normal refuse, separate studies will be made to determine the best systems to handle durable objects, such as junked automobiles, refrigerators, stoves and other bulky items, and hazardous wastes.

MASSACHUSETTS

The Massachusetts Department of Public Health received a three-year Solid Waste Disposal Planning Grant on January 1, 1967. Upon request, the Public Health Service extended the first year of Massachusetts planning grant through December 31, 1968. The necessary state matching funds are not yet available.

MICHIGAN

The Michigan State Department of Public Health received a two-year Solid Waste Disposal Planning Grant on June 1, 1967.

Personnel. The staff of the Michigan solid waste program is headed by the Project Director, who is Chief of the Environmental Health Planning Unit. He spends 25 percent of his time on the project. The Assistant Project Director, a registered sanitarian, spends 100 percent of his time on the project. The part-time services of two public health representatives and personnel of the Environmental Health Section are also utilized. The solid-waste-related duties of 44 field sanitarians in 15 local health departments have been coordinated with the project's activities by the Project Director.

Solid Waste Survey. The State's solid waste data is being collected on forms developed by the Public Health Service. All incorporated communities with a population of 5,000 or more are surveyed using the Community Description Report. The ten Standard Metropolitan Statistical Areas, which include 73 percent of the State's population, are being surveyed. All land disposal sites, excluding promiscuous dumps, and all solid waste reduction or disposal facilities in the State are being surveyed. To date, 33 percent of the communities, 57 percent of the disposal sites, and 80 percent of the reduction facilities have been surveyed.

During the first year of this program, some work has been done toward the development of a process which will establish methods of gathering pertinent data to adequately define the industrial and agricultural solid waste problem.

Solid Waste Legislation and Regulations. Michigan is continuing its efforts to control the disposal of solid wastes through the licensing program under the provisions of Act 87, Public Acts of 1965. During the past year, several amendments to existing and enabling legislation in the field of solid waste have been promoted. One example is an amendment which permits a county Department of Public Works to operate refuse disposal facilities.

Another example of legislative progress is Act 1, Public Acts of 1967, by which the townships may now establish and maintain mixed refuse systems or plants for the collection and disposal of garbage.

Controls have been initiated with respect to junkyards. During the past year, legislation was enacted which gives the Department of State Highways jurisdiction very similar to the Federal control of junkyards located along expressways and federally supported highways.

Coordination. In gathering information for the State solid waste survey, Michigan has worked closely with the Southeast Michigan Council of Governments as well as numerous county planning agencies. In both the enforcement and planning activities of solid wastes over the

past year, coordinated efforts of the Environmental Health Planning Section and the Division of Occupational Health, Air Pollution Control Section, have made significant gains in reducing air pollution from the open burning of refuse and in initiating the needed planning for future waste handling.

During the first year of this grant, staff members have worked closely with the Michigan Association of Supervisors and the Michigan Townships' Association in presenting the solid waste disposal picture and discussing the need for planning at the local level. Through coordination with the Michigan Municipal League, the activity has been carried out with respect to Michigan municipalities.

Cooperation with the Michigan Department of Conservation has been successful in preventing industrial plants from using submerged lands for solid waste disposal. Cooperation with the same agency also included the development of sites on state land for local governmental operations and for their own use in handling solid waste generated at State parks.

Training. Due to the need for consistent and uniform reporting, frequent training sessions with local health department sanitarians were conducted. The program participated on a cost-sharing basis in the training of local health department sanitarians at the National Center for Urban and Industrial Health.

Public Information. The statewide awareness of the solid waste management problem is being developed through a public relations program carried on by individual staff members. Informational releases

to newspapers and other publications, conferences for local officials and official planning agencies, and public speaking engagements to civic service organizations have been conducted. To supplement the presentation in many of the meetings, slides and films have been utilized.

Solid Waste Management Plan. Copies of plans in process or plans completed by official planning agencies in the State are being obtained. Communications have been established with official planning agencies within the State and with planning consultants engaged in preparing comprehensive community plans. At the present time, solid waste plans prepared by local planning agencies are being reviewed. In areas where local plans for solid waste management are not being developed, considerable effort is being made to promote such planning.

MINNESOTA

The Minnesota Pollution Control Agency received a three-year Solid Waste Disposal Planning Grant on January 1, 1968.

Personnel. The Minnesota planning grant staff includes the services of one full-time public health engineer in addition to a geologist and a clerk-typist. The agency has also acquired the part-time services of an engineer to assist in running the site investigations.

Solid Waste Survey. The survey is collecting data on community description reports for landfill disposal sites in communities with a population of 5,000 or more. This information will provide a basis for the agency to formulate rules, regulations, and standards for legislation and for a State plan.

Coordination. The agency has assisted the local Metropolitan Council in reviewing 68 sites in a seven-county area. This enabled the compilation of data for a comprehensive study of the solid waste situation in the Twin City metropolitan area.

Training. The Chief of the Solid Waste Section, along with the Public Relations Director of the Pollution Control Agency, attended a regional workshop in Omaha, Nebraska.

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The Maine Department of Health and Welfare received a two-year Solid Waste Disposal Planning Grant on June 1, 1966. The funds were not immediately used, however, and the operations were extended to begin on June 1, 1967.

Personnel. The staff of the Division of Sanitary Engineering, which handles the Maine solid waste program, presently consists of one engineer. Three sanitarian positions are not yet filled.

Solid Waste Survey. The State solid waste survey was conducted with Public Health Service forms in all communities with 5,000 population and over, including all Standard Metropolitan Statistical Areas. All disposal sites and disposal facilities are being inventoried, and every city is visited at least once. The survey was completed in 1968.

Solid Waste Legislation and Regulations. The Department is planning to alter and resubmit legislation which was reported out-of-committee last year.

MARYLAND

The Maryland State Department of Health received a three-year Solid Waste Disposal Planning Grant on January 1, 1967.

Personnel. The Maryland State Health Department's Division of Solid Wastes is staffed by three full-time professionals: a Division Chief, public health engineer, and sanitarian. In addition, an engineering consultant is employed by the division three days a week, a sanitarian will be assigned to the division, and a systems engineer will probably be assigned to the division.

Solid Waste Survey. The Maryland statewide community and site survey, employing Public Health Service forms, covers all counties, land disposal sites, and facilities throughout the State. The survey was completed in 1968.

Solid Waste Legislation and Regulations. Maryland's state law delegates broad regulatory powers over the design, construction, and operation of solid waste systems to the Maryland State Department of Health. Under this authority, the State Health Department has adopted regulations which require complete plans and specifications prepared by a registered professional engineer to be submitted to and approved by the State Health Department before any refuse disposal facility is constructed and placed into operation. During the 1968

session of the Maryland Legislature, an amendment to this law was adopted which requires that a public hearing be held by the State Health Department before a permit is issued for the construction of a sanitary landfill. The state laws in this area are now completely adequate.

Coordination. The Maryland Solid Wastes Division staff has conferred with many towns and counties about their refuse handling practices. Close coordination between the Division's planning activities and the progress of the Strip Mine Demonstration Project is being maintained. A special effort is being conducted in two counties to develop methods for systems analysis of refuse handling and disposal in areas where population is concentrated in several communities with relatively sparsely populated areas. A strong effort is being made to encourage counties to develop solid waste management plans, using as a base the data acquired by consulting engineers in formulating the county-wide water and sewerage plans required under Maryland law. Effective May 28, 1968, all operations of refuse disposal facilities where open burning is practiced have been ordered to cease burning, with the exception of those given a grace period because of being in the process of developing acceptable phase-out plans. Where no action by the operating agencies is underway to comply with this requirement, legal action by the Division of Solid Wastes, through the state attorney general's office, is being commenced to force compliance.

Public Information. Representatives of the Division of Solid Wastes have appeared before numerous community and civic associations, beautification groups, women's clubs, junior college adult education seminars, and professional and semiprofessional associations. In addition to direct contact with these groups, a parallel effort to gain newspaper coverage of their activities has been instigated.

General press releases are routinely issued by the Division, and specific releases regarding a particular region of concern are issued when one of their activities involves this region. The press releases on solid wastes were carried in 142 newspapers and broadcasting stations.

A slide series illustrating the design, construction, and operation of sanitary landfills has been developed and is used in conjunction with presentations to interested organizations. In the autumn of 1968, a representative of the State Health Department's Division of Health Education was assigned to work with the Division of Solid Wastes to develop a statewide public information campaign on solid waste legislation and regulations.

Solid Waste Management Plan. A ten-year timetable for the accomplishment of the ultimate goal of the management of all solid waste materials generated in the State of Maryland has been developed. To aid in the implementation of this plan, the Division of Solid Wastes has contracted with a multi-access computer service and communicates directly with the central computer through a teletype installed in the Division's office. In addition to the plan for

normal refuse, separate studies will be made to determine the best systems to handle durable objects, such as junked automobiles, refrigerators, stoves and other bulky items, and hazardous wastes.

MASSACHUSETTS

The Massachusetts Department of Public Health received a three-year Solid Waste Disposal Planning Grant on January 1, 1967. Upon request, the Public Health Service extended the first year of Massachusetts planning grant through December 31, 1968. The necessary state matching funds are not yet available.

MICHIGAN

The Michigan State Department of Public Health received a two-year Solid Waste Disposal Planning Grant on June 1, 1967.

Personnel. The staff of the Michigan solid waste program is headed by the Project Director, who is Chief of the Environmental Health Planning Unit. He spends 25 percent of his time on the project. The Assistant Project Director, a registered sanitarian, spends 100 percent of his time on the project. The part-time services of two public health representatives and personnel of the Environmental Health Section are also utilized. The solid-waste-related duties of 44 field sanitarians in 15 local health departments have been coordinated with the project's activities by the Project Director.

Solid Waste Survey. The State's solid waste data is being collected on forms developed by the Public Health Service. All incorporated communities with a population of 5,000 or more are surveyed using the Community Description Report. The ten Standard Metropolitan Statistical Areas, which include 73 percent of the State's population, are being surveyed. All land disposal sites, excluding promiscuous dumps, and all solid waste reduction or disposal facilities in the State are being surveyed. To date, 33 percent of the communities, 57 percent of the disposal sites, and 80 percent of the reduction facilities have been surveyed.

During the first year of this program, some work has been done toward the development of a process which will establish methods of gathering pertinent data to adequately define the industrial and agricultural solid waste problem.

Solid Waste Legislation and Regulations. Michigan is continuing its efforts to control the disposal of solid wastes through the licensing program under the provisions of Act 87, Public Acts of 1965. During the past year, several amendments to existing and enabling legislation in the field of solid waste have been promoted. One example is an amendment which permits a county Department of Public Works to operate refuse disposal facilities.

Another example of legislative progress is Act 1, Public Acts of 1967, by which the townships may now establish and maintain mixed refuse systems or plants for the collection and disposal of garbage.

Controls have been initiated with respect to junkyards. During the past year, legislation was enacted which gives the Department of State Highways jurisdiction very similar to the Federal control of junkyards located along expressways and federally supported highways.

Coordination. In gathering information for the State solid waste survey, Michigan has worked closely with the Southeast Michigan Council of Governments as well as numerous county planning agencies. In both the enforcement and planning activities of solid wastes over the

past year, coordinated efforts of the Environmental Health Planning Section and the Division of Occupational Health, Air Pollution Control Section, have made significant gains in reducing air pollution from the open burning of refuse and in initiating the needed planning for future waste handling.

During the first year of this grant, staff members have worked closely with the Michigan Association of Supervisors and the Michigan Townships' Association in presenting the solid waste disposal picture and discussing the need for planning at the local level. Through coordination with the Michigan Municipal League, the activity has been carried out with respect to Michigan municipalities.

Cooperation with the Michigan Department of Conservation has been successful in preventing industrial plants from using submerged lands for solid waste disposal. Cooperation with the same agency also included the development of sites on state land for local governmental operations and for their own use in handling solid waste generated at State parks.

Training. Due to the need for consistent and uniform reporting, frequent training sessions with local health department sanitarians were conducted. The program participated on a cost-sharing basis in the training of local health department sanitarians at the National Center for Urban and Industrial Health.

Public Information. The statewide awareness of the solid waste management problem is being developed through a public relations program carried on by individual staff members. Informational releases

to newspapers and other publications, conferences for local officials and official planning agencies, and public speaking engagements to civic service organizations have been conducted. To supplement the presentation in many of the meetings, slides and films have been utilized.

Solid Waste Management Plan. Copies of plans in process or plans completed by official planning agencies in the State are being obtained. Communications have been established with official planning agencies within the State and with planning consultants engaged in preparing comprehensive community plans. At the present time, solid waste plans prepared by local planning agencies are being reviewed. In areas where local plans for solid waste management are not being developed, considerable effort is being made to promote such planning.

MINNESOTA

The Minnesota Pollution Control Agency received a three-year Solid Waste Disposal Planning Grant on January 1, 1968.

Personnel. The Minnesota planning grant staff includes the services of one full-time public health engineer in addition to a geologist and a clerk-typist. The agency has also acquired the part-time services of an engineer to assist in running the site investigations.

Solid Waste Survey. The survey is collecting data on community description reports for landfill disposal sites in communities with a population of 5,000 or more. This information will provide a basis for the agency to formulate rules, regulations, and standards for legislation and for a State plan.

Coordination. The agency has assisted the local Metropolitan Council in reviewing 68 sites in a seven-county area. This enabled the compilation of data for a comprehensive study of the solid waste situation in the Twin City metropolitan area.

Training. The Chief of the Solid Waste Section, along with the Public Relations Director of the Pollution Control Agency, attended a regional workshop in Omaha, Nebraska.

MISSOURI

The Missouri Division of Health received a three-year Solid Waste Disposal Planning Grant on June 1, 1968.

Personnel. The Missouri planning grant will be staffed by a full-time engineer, a full-time sanitarian, and other part-time professional employees.

MONTANA

The Montana State Department of Health received a three-year Solid Waste Disposal Planning Grant on June 1, 1967.

Personnel. The Montana Solid Waste Unit is staffed by two full-time professional employees, a project coordinator, a sanitarian, and the part-time assistance of six other professional personnel.

Solid Waste Survey. To date, all communities of 500 population or over and two Standard Metropolitan Statistical Areas, encompassing the entire counties of Cascade and Yellowstone, have been surveyed. Some significant communities smaller than 500 have also been surveyed. All land disposal sites were surveyed with the communities.

Coordination. The coordination of this program with other State and local agencies has consisted of working closely with the Federal demonstration grant project in Cascade County, as well as working with such agencies as the Highway Department, Fish and Game Department, State Forest Service, and U.S. Forest Service for more uniform solid waste control. Considerable work has been done with various counties and municipalities in an attempt to improve the general solid waste disposal practices.

Public Information. Efforts in this area have been made to inform the public of the laws and regulations controlling solid waste

disposal areas and the public health reasons for this control. A slide series is being developed that will assist various individuals and agencies to understand the correct operation of a sanitary landfill. Public meetings have been attended.

NEBRASKA--IOWA INTERSTATE

The Omaha - Council Bluffs Metropolitan Area Planning Agency received a one-year Solid Waste Disposal Planning Grant on June 1, 1968. Organizational procedures and contractual arrangements were completed in 1968.

NEW JERSEY

The New Jersey State Department of Health received a two-year Solid Waste Disposal Planning Grant on June 1, 1966. The State is presently operating through an extension that became effective on June 1, 1968.

Personnel. The staff of the State Solid Waste Disposal Program includes the full-time efforts of nine professional and three clerical personnel.

Solid Waste Survey. All 567 communities in the State have been surveyed. Each area was evaluated on the basis of current solid waste disposal practices and problems. The data was collected on forms developed by the Public Health Service.

New rating forms have been developed for field inspection of all landfills. These forms will provide information unobtainable through the State survey. All information which is gathered can be cardpunched for data processing.

Solid Waste Legislation and Regulations. The State program has completed a study to enable a thorough understanding of the existing ordinance conditions through which local solid waste management must perform in the State. A review of these ordinances indicated that municipal levels of government have not made their solid waste management problems known at the state level. Based on this inadequacy,

several pieces of legislation were introduced to aid in the long-term relief of community-oriented solid waste problems.

Coordination. Coordination has been achieved with the State Department of Agriculture through a task force formed to determine the magnitude of the solid waste problem as it relates to crop, animal, and poultry wastes. Coordination with the State Highway Department includes specifications which require the nuisance-free disposal of tree and leaf materials resulting from road-clearing programs. The Department of Law and Public Safety continues to advise in the legal enforcement of current statutes and reviews the legislative efforts of the State program.

Coordination with the Department of Air and Water Pollution Control resulted in 1,768 separate actions against "open burning" as they related to solid waste disposal.

The Department of Community Affairs, the urban planning arm of the State government, has held meetings in all sections of the State, and a solid waste panel has been a part of each meeting. A solid waste section has been established within this Department to direct community solid waste problems to the State Solid Waste Disposal Program for planning and technical solutions.

Public Information. A program of public information and education was initiated to promote and ensure understanding of governmental solid waste management activities.

Related Activities. A contract was entered into with a professional planning organization to undertake a county waste generation, collection,

transportation, and disposal study for a highly urbanized county in the State. State financial assistance was given to seven entities of municipal government for the purpose of planning solid waste management systems.

NEW MEXICO

The New Mexico Health and Social Services Department received a three-year Solid Waste Disposal Planning Grant on October 1, 1967.

Personnel. The staff of the New Mexico solid waste activity includes the work of two full-time professional employees, a public health engineer, and a sanitarian. In addition, the staff includes the part-time work of 46 field sanitarians, the Chief of the General Sanitation Section, and the Division Director of the Environmental Services Division.

Solid Waste Survey. The State solid waste survey has been completed using the Public Health Service forms. The survey covered all communities, counties, land disposal sites, and facilities in the State. Surveys for agricultural and recreational solid waste disposal practices have been initiated.

A weighing program for four selected New Mexico communities is also well under way. Each selected city will be weighing over a one-year period so that per capita weights can be determined.

Solid Waste Legislation and Regulations. All New Mexico State laws pertaining to solid waste disposal have been reviewed, and a copy of these laws was placed in the New Mexico solid waste program files. Further, a book of recommended solid waste disposal standards has been developed and distributed to all cities, health officers, and sanitarians working in the State.

In an effort to prevent indiscriminate disposal of solid waste in any watercourse, members of the solid waste unit have appeared before the New Mexico Water Quality Control Commission to get a regulation adopted which prohibits the dumping of any materials into watercourses. They were successful in this endeavor. A draft of statutes covering solid waste disposal has been referred to the Legal Division of the Health and Social Services Department for review. Regulations and standards have been drafted in support.

Coordination. The New Mexico Solid Waste Disposal Advisory Committee was appointed at an organizational meeting held in March 1968. At that time, each of the agencies represented discussed their views on solid waste disposal problems in New Mexico.

Cooperation has been secured from the Bureau of Land Management and the State Land Office by which public lands are made available to communities of New Mexico for solid waste disposal. Operating recommendations of the Health and Social Services Department are incorporated into these transferrals. Coordination and assistance was rendered as requested in systems planning for a regional solid waste plan encompassing Albuquerque and three counties along the Rio Grande.

Training. The engineer in charge of the State solid waste program attended a course, Sanitary Landfill--Principals of Design and Operation, at the National Center for Urban and Industrial Health in Cincinnati. Another staff member attended a course in Elements

of Solid Waste Management. Five schools on solid waste disposal practices for sanitarians and municipal employees were held in various parts of the State in May. Films ("The Third Pollution" and "Decent Burial") are being used extensively to acquaint health, municipal, and county officials with solid waste disposal problems and practices.

Public Information. The engineer for the solid waste program appeared on the Albuquerque TV Educational Channel to present a half-hour program on solid waste disposal, which was taped for showing over three other stations in New Mexico and Texas. Meetings have been held with the Division of Indian Health and Bureau of Indian Affairs in an effort to coordinate solid waste disposal practices on Indian lands with the rest of New Mexico.

A number of meetings have been held with city and county commissions and health officials relative to proper planning for future landfill sites. Particular success has been achieved in the Silver City area, where funds have been budgeted for a new sanitary landfill to serve not only Silver City but a new city being built by Phelps-Dodge. The solid waste unit has prepared and distributed a pictorial description on the proper operation of sanitary landfills.

NEW YORK

The New York State Department of Health received a three-year Solid Waste Disposal Planning Grant on June 1, 1966.

Personnel. The Bureau of Solid Wastes Engineering and Community Environmental Health consists of the Office of the Director, the Solid Wastes Engineering Section, and the Solid Wastes Planning Grant Section. Personnel in the Office of the Director include a principal sanitary engineer, a principal urban planner, an administrative assistant, and a vacant position for senior public information specialist. The Solid Wastes Engineering Section includes an associate sanitary engineer, a senior sanitary engineer, an assistant soils engineer, an assistant sanitary engineer, and a junior engineer. The Solid Wastes Planning Grant Section includes an associate sanitary engineer and two senior sanitary engineers.

Office of the Director

Coordination. Several meetings have been held with other State departments and agencies for the purpose of coordinating activities related to solid waste management in determining what State lands are available for solid waste disposal. In addition, representatives from three of the largest industries within the United States attended a meeting related to research and packaging methods.

The Bureau of Solid Wastes Engineering and Community Environmental Health had representation on both the steering committee and technical advisory committee of the Regional--Interstate Solid Wastes Management project for the Delaware Water Gap National Recreation Area. In addition, the New York Regional Plan Association has invited Department representation to meetings dealing with long-range planning for solid waste management in the New Jersey, New York, and Connecticut metropolitan area.

The field offices of the State and local health departments have increased their participation in field activities related to the solid wastes program, especially activities involving investigation and enforcement. Local public health engineers have been active in reviewing and approving landfill sites which are proposed by municipalities as required by the State sanitary code. The Bureau staff cooperates with the Hudson River Valley Commission in matters concerning the location of solid waste disposal facilities within two miles on either side of the Hudson River.

Cooperation has also been extended to the State Office of Planning Coordination, which has requested assistance from the Bureau to supply solid waste inventory data to 13 counties which are included in the Appalachian Region. The New York State Pure Waters Authority Act became law in May 1967 and provides for a public benefit corporation for planning, financing, constructing, maintaining, and operating

sewage treatment works and solid waste disposal facilities. Municipalities may contract with the Authority for the planning and construction of needed facilities. Staff members of the Pure Waters Authority and the Bureau of Solid Wastes Engineering and Community Environmental Health are in frequent contact and are primarily concerned with the development of operative solid waste disposal projects. As the relationship between the two agencies continue, efforts are made to eliminate duplication of activities in order to optimize accomplishments.

The Bureau has also worked very closely with the Division of Air Resources to investigate open burning at refuse disposal sites. The Bureau has cooperated with staff from the Bureau of Radiological Health in the development of regulations relating to ground burial operation for the disposal of radioactive materials at a nuclear fuel disposal site.

Training. A publication entitled Sanitary Landfill--Planning, Design, and Operation is in its final editing phase. This booklet will assist in meeting the needs of local officials in both the planning and operational phases of sanitary landfill disposal.

Public Information. Numerous speaking engagements have been made to various civic and professional organizations throughout the State. Staff of the Bureau contributed lectures and participated in seminars on solid waste management at local educational institutions. Many conferences

have been held with municipal officials throughout the State to improve solid waste management practices. News releases have been prepared on timely subjects throughout the year, such as enforcement activities or the approval of contracts for comprehensive solid waste planning studies.

Solid Wastes Engineering Section

Solid Waste Survey. This Section has initiated an inventory on data collection forms which were developed by the Bureau but require identical information as the Public Health Service forms. In this inventory all facilities and land disposal sites are being surveyed. Community description reports are being completed for all municipalities with a population of 5,000 or more. Data are being collected by local health units, consulting engineers, and personnel within the Section. Community description forms are 70 percent complete, land disposal forms are 83 percent complete, and facility investigation reports are 95 percent complete. Inventory work was completed in 1968. Evaluation of data obtained from the inventory survey has been initiated.

Solid Waste Legislation and Regulations. Primary consideration has been given to revising a section of the State Sanitary Code to provide more effective control for solid waste management activities within the State.

Last year more than 3,000 inspections were made of approximately 1,100 refuse disposal areas within the State. The purpose of these inspections was to evaluate the accuracy of existing operations and to promote improvements. To supplement the inspections almost 600 conferences were held with municipal officials to make recommendations and discuss means of overcoming local problems and provide for the proper operation of disposal sites. Enforcement activities have also increased and a number of referrals are being readied for prosecution.

Consideration is being given to establishing an advisory committee of qualified individuals to develop standards for incinerator facilities.

Training. Supervisory staff members of the Bureau have attended solid waste management courses conducted by the Bureau of Solid Waste Management in Cincinnati. Training courses for local public health personnel and municipal officials were prepared for presentation in 1968. The Bureau staff also presents lectures on storage, collection, and disposal of solid wastes at courses for new public health sanitarians during their ten-week training program.

Solid Wastes Planning Grant Section

Related Activities. A major activity of this Section is the implementation of the State's Comprehensive Solid Wastes Planning Grant program which authorized 100 percent state funding of comprehensive solid waste studies conducted by qualified professional engineers. Thus far, the Bureau has received applications for 32 of the 57 counties within the State, plus the City of New York, for the funding of solid

waste studies through this legislation. Two major purposes are accomplished in comprehensive solid waste studies carried out under this program. First, the municipalities are provided with a comprehensive plan for both short-range and long-range solid waste management. Second, since major alternative solutions must be developed in the study, the economies of each solution can be readily compared. In this way, the savings produced by regional and area-wide projects provide an effective countermeasure to a resistance normally encountered on the part of local officials to joint projects.

Bureau staff members have attended numerous meetings held in conjunction with five approved Federal demonstration grant projects. An additional fifteen demonstration grant projects have been proposed.

Solid Waste Management Plan. There is a continuing program of expansion and revision to the State plan as new Bureau activities are undertaken. The Bureau intends to develop this plan into what will be the final planning document.

Related Activities. Initial steps have been taken to establish a research unit of the Environmental Health Services, and it is expected that some in-house research projects will be initiated. The Bureau staff has also reviewed fiscal data in order to determine the economic aspects of existing municipal solid waste management practices. A summary report will be available soon.

The Bureau has received and fulfilled a number of requests from local health units for technical information and advice. In many

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Office of the Director

Coordination. Several meetings have been held with other State departments and agencies for the purpose of coordinating activities related to solid waste management in determining what State lands are available for solid waste disposal. In addition, representatives from three of the largest industries within the United States attended a meeting related to research and packaging methods.

The Bureau of Solid Wastes Engineering and Community Environmental Health had representation on both the steering committee and technical advisory committee of the Regional--Interstate Solid Wastes Management project for the Delaware Water Gap National Recreation Area. In addition, the New York Regional Plan Association has invited Department representation to meetings dealing with long-range planning for solid waste management in the New Jersey, New York, and Connecticut metropolitan area.

The field offices of the State and local health departments have increased their participation in field activities related to the solid wastes program, especially activities involving investigation and enforcement. Local public health engineers have been active in reviewing and approving landfill sites which are proposed by municipalities as required by the State sanitary code. The Bureau staff cooperates with the Hudson River Valley Commission in matters concerning the location of solid waste disposal facilities within two miles on either side of the Hudson River.

Cooperation has also been extended to the State Office of Planning Coordination, which has requested assistance from the Bureau to supply solid waste inventory data to 13 counties which are included in the Appalachian Region. The New York State Pure Waters Authority Act became law in May 1967 and provides for a public benefit corporation for planning, financing, constructing, maintaining, and operating

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Training. A publication entitled Sanitary Landfill--Planning, Design, and Operation is in its final editing phase. This booklet will assist in meeting the needs of local officials in both the planning and operational phases of sanitary landfill disposal.

Public Information. Numerous speaking engagements have been made to various civic and professional organizations throughout the State. Staff of the Bureau contributed lectures and participated in seminars on solid waste management at local educational institutions. Many conferences

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Solid Wastes Engineering Section

Solid Waste Survey. This Section has initiated an inventory on data collection forms which were developed by the Bureau but require identical information as the Public Health Service forms. In this inventory all facilities and land disposal sites are being surveyed. Community description reports are being completed for all municipalities with a population of 5,000 or more. Data are being collected by local health units, consulting engineers, and personnel within the Section. Community description forms are 70 percent complete, land disposal forms are 83 percent complete, and facility investigation reports are 95 percent complete. Inventory work was completed in 1968. Evaluation of data obtained from the inventory survey has been initiated.

Solid Waste Legislation and Regulations. Primary consideration has been given to revising a section of the State Sanitary Code to provide more effective control for solid waste management activities within the State.

Last year more than 3,000 inspections were made of approximately 1,100 refuse disposal areas within the State. The purpose of these inspections was to evaluate the accuracy of existing operations and to promote improvements. To supplement the inspections almost 600 conferences were held with municipal officials to make recommendations and discuss means of overcoming local problems and provide for the proper operation of disposal sites. Enforcement activities have also increased and a number of referrals are being readied for prosecution.

Consideration is being given to establishing an advisory committee of qualified individuals to develop standards for incinerator facilities.

Training. Supervisory staff members of the Bureau have attended solid waste management courses conducted by the Bureau of Solid Waste Management in Cincinnati. Training courses for local public health personnel and municipal officials were prepared for presentation in 1968. The Bureau staff also presents lectures on storage, collection, and disposal of solid wastes at courses for new public health sanitarians during their ten-week training program.

Solid Wastes Planning Grant Section

Related Activities. A major activity of this Section is the implementation of the State's Comprehensive Solid Wastes Planning Grant program which authorized 100 percent state funding of comprehensive solid waste studies conducted by qualified professional engineers. Thus far, the Bureau has received applications for 32 of the 57 counties within the State, plus the City of New York, for the funding of solid

waste studies through this legislation. Two major purposes are accomplished in comprehensive solid waste studies carried out under this program. First, the municipalities are provided with a comprehensive plan for both short-range and long-range solid waste management. Second, since major alternative solutions must be developed in the study, the economies of each solution can be readily compared. In this way, the savings produced by regional and area-wide projects provide an effective countermeasure to a resistance normally encountered on the part of local officials to joint projects.

Bureau staff members have attended numerous meetings held in conjunction with five approved Federal demonstration grant projects. An additional fifteen demonstration grant projects have been proposed.

Solid Waste Management Plan. There is a continuing program of expansion and revision to the State plan as new Bureau activities are undertaken. The Bureau intends to develop this plan into what will be the final planning document.

Related Activities. Initial steps have been taken to establish a research unit of the Environmental Health Services, and it is expected that some in-house research projects will be initiated. The Bureau staff has also reviewed fiscal data in order to determine the economic aspects of existing municipal solid waste management practices. A summary report will be available soon.

The Bureau has received and fulfilled a number of requests from local health units for technical information and advice. In many

Coordination. Efforts have been made to coordinate State survey and planning activities with those of other agencies. Numerous contacts have been made with local governmental units and civic and professional organizations. Close cooperation and coordination is also maintained between the staff in the State air and water pollution control authorities through mutual efforts of submitting new legislation to deal with problems of improper solid waste handling and disposal.

Contacts have also been made with individual county committees to develop suitable plans for solid waste disposal programs. All plans adopted in this manner will have to be evaluated when the State plan is drawn up. Meetings were held with interested parties during April and May of 1968, relative to a possible Federal demonstration grant.

Training. Staff training was accomplished through the use of available publications and staff-level conferences plus the added training received by on-the-job experience in the field. Staff members also attended several training courses conducted by the Public Health Service Solid Waste Management Branch training staff in Cincinnati. Field trips were made to observe new procedures in various phases of solid waste handling and disposal; one to Raleigh, North Carolina, to observe computer research and another to Sonoco Products Company, Hartsville, South Carolina, to investigate new uses for certain solid wastes.

SOUTH DAKOTA

The South Dakota State Department of Health received a three-year Solid Waste Disposal Planning Grant on June 1, 1968.

Personnel. A full-time sanitarian has been employed as Project Director. The project also plans to employ a variety of part-time personnel including public health engineers, scientists, and local and field sanitarians.

TENNESSEE

The Tennessee Department of Public Health received a three-year Solid Waste Disposal Planning Grant on January 1, 1967.

Personnel. The Tennessee solid wastes planning unit is staffed by two full-time sanitary engineers. The program is supervised by the Director of the Environmental Sanitation Service, who devotes 20 percent of his time to this function. A third engineer is currently obtaining a master's degree and upon completion of this schooling will rejoin the program.

Solid Waste Survey. The State is completing its survey using the forms developed by Public Health Service. A community description report is being prepared for each of the 306 incorporated places and 95 counties, exclusive of the incorporated communities contained therein. Forms are also being completed for each land disposal site and each facility in the State.

Coordination. When the State solid waste survey is complete, representatives of the State air pollution, stream pollution, and planning agencies will be drawn together with solid waste personnel to form an advisory committee which will guide the development of statewide solid waste planning. Preliminary meetings have already been held.

Similar meetings and discussions have been held with representatives of other interested and related activities including the University of Tennessee Agricultural Extension Service, the Soil Conservation Service, the Tennessee Municipal League, the Municipal Technical Advisory Service, and various in-service training groups of local health departments.

Training. To assist in developing staff competency, both engineer attended the course "Elements of Solid Waste Management" conducted by the Public Health Service Solid Waste Management Branch training program. These men participated in a meeting with other representatives of the active States within Public Health Service Region IV and were briefed with regard to the interpretation and use of survey data collection forms. One of the engineers also attended the course "Solid Waste Handling Techniques--Field Evaluation" conducted by the Solid Waste Management Branch training program at Cincinnati.

Public Information. Much attention has been given to public education as an essential part of public acceptance of solid waste regulations. The staff engineers have made themselves available to speak about solid waste problems at public gatherings. Such talks have been given to civic and other organizations. The film "The Third Pollution" has been used frequently in this connection. In addition, a radio program and an educational TV program have been made on the topic of solid waste disposal. Every opportunity is taken to publicize improvement programs carried out by local government in the area of solid wastes.

Related Activities. While carrying out the prime responsibility for completing the survey, an effort has been made to inform some progressive local governments of the availability of Federal demonstration and study and investigation grant funds. The staff has followed with interest the progress being made at the Joint Public Health Service--Tennessee Valley Authority experimental composting plant in Johnson City, Tennessee. One of the section's engineers participated in a recent Public Health Service study concerning the collection system, which provides refuse for this operation.

TENNESSEE--GEORGIA INTERSTATE

The Chattanooga Area Regional Council of Governments received an 18-month Solid Waste Disposal Planning Grant on June 1, 1968.

Personnel. The project is to be staffed by a full-time Project Director. The services of a consultant will also be employed.

TEXAS

The Texas State Department of Health received a three-year Solid Waste Disposal Planning Grant on January 1, 1967.

Personnel. The Texas solid waste planning grant staff includes a Project Director who is an engineer, two full-time sanitarians, and two additional sanitarians on a part-time basis. It is not planned to use consultants.

Solid Waste Survey. The State solid waste planning staff has surveyed approximately three-fourths of the State's population including 13 Standard Metropolitan Statistical Areas. The accumulated data are being analyzed to define criteria which will be utilized in the formation of the State plan.

Coordination. Meetings have been held with various regional planning groups regarding the development of a regional solid waste plan for their respective areas. The solid waste staff is also providing technical assistance to local and regional groups throughout the State.

UTAH

The Utah State Department of Health received a three-year Solid Waste Disposal Planning Grant on September 1, 1967.

Personnel. The Utah solid waste disposal planning project is headed by the Assistant Director of the Bureau of Disease Prevention and Environmental Control Services, who is assisted by one full-time solid waste consultant, hired on April 1, 1968. In addition, there are seven professional personnel who spend 10 percent of their time on the project. Due to difficulties in staffing, the activities of this project have been very limited.

Solid Waste Survey. The State solid waste survey is underway, but completion is not expected for sometime.

VIRGINIA

The Virginia State Health Department received a three-year Solid Waste Disposal Planning Grant on September 1, 1966.

Personnel. The Virginia solid waste planning grant staff includes the services of two full-time professional personnel, an engineer and a field consultant. In addition, two field consultants devote 80 per-cent of their time to the project and a planning director devotes one-third of his time to the study. The services of various local san-itararians and a statistician are also utilized.

Solid Waste Survey. The State solid waste unit has completed the survey using Public Health Service forms. Annual reports, as required by resolution of the State Board of Health, are being received from each city, town, and county in the State. These reports describe existing refuse disposal operations and plans for the next ten years.

Solid Waste Legislation and Regulations. Model local ordinances relating to the storage, collection, and disposal of refuse have been prepared and recommended for local adoption where applicable. Tentative statewide regulations have also been prepared; steps for their adoption, however, are not proposed at this time. It is felt that such regula-tions should await the time when they can be reasonably enforced.

Coordination. Meetings have been held with several regional plan-ning commissions, and commitments have been made for the State to survey

and prepare a plan for several areas on a regional basis. Meetings of a national scope have been attended, and personnel from the project have participated in numerous local meetings. The Virginia State Legislature has established an advisory committee to study the State's solid waste problem and prepare a report for the next biennium session of the Legislature in 1970. This group is expected to point the direction in which the State should proceed in the solid waste field.

Training. Several hours of on-the-job instruction have been given where field work was conducted. Considerable time was spent in training personnel for the solid waste project.

Public Information. Much time was spent in planning and developing the State's bimonthly publication Solid Waste Notes. This newsletter contains pertinent information and is mailed to local public officials, health department personnel, legislators, and others who may or should be interested in its content. The first issue was published in September 1967.

Solid Waste Management Plan. Suggested 20-year solid waste disposal plans have been prepared and submitted for several local jurisdictions.

WASHINGTON

The Washington State Department of Health received a two-year Solid Waste Disposal Planning Grant on September 1, 1966.

Personnel. The project is headed by a full-time sanitarian assisted by summer student employees, part-time district engineers, and clerical help. The solid waste unit is actively recruiting for three additional professional positions.

Solid Waste Survey. The State solid waste survey has been completed using Public Health Service forms. To date, 218 incorporated communities, 34 of the State's counties, 340 land disposal sites, 11 transfer stations, 13 hog-feeding operations, and one incinerator have been surveyed. The analysis of the data is not yet complete.

Solid Waste Legislation and Regulations. Further drafts of the proposed Rules and Regulations on Solid Wastes have been developed. No action has yet been taken on these. Although a variety of statutes affecting solid wastes have been recently passed, existing State solid waste legislation is still somewhat inadequate.

Coordination. The program is coordinated by a seven-member Solid Wastes Advisory Committee appointed by the Governor. A large part of the Committee's time has been devoted to a familiarization of the solid waste disposal problem.

Working relations have been established with the Water Pollution Control Commission and the Department of Natural Resources. The program has also been coordinated with the Refuse Removal Association, as well as other important State agencies. The State has provided assistance in the development of one county solid waste plan and in developments in six other counties, which have plans in various stages of development. The Department has been working with the three Federal demonstration grant projects at King County, Tacoma, and Monroe.

Training. The staff has attended two training sessions in Cincinnati and participated in training for the sanitarians and for the State Chapter of the American Public Works Association. The staff has participated in the annual meetings of the Association of Washington Cities and the County Commissioners' Association.

Public Information. In addition to national publicity, there have been many statewide news releases. Many brochures and other informational materials have been distributed, and the Health Department has been providing assistance to local communities as questions arise.

WEST VIRGINIA

The West Virginia State Department of Health received a three-year Solid Waste Disposal Planning Grant on June 1, 1966.

Personnel. The West Virginia solid wastes planning grant activity has a staff of four full-time professional personnel. These consist of a Director, two health program representatives, and a public health educator.

Solid Waste Survey. The West Virginia survey began in August 1966 when the first field-man was hired. The survey covers all cities, towns, and some unincorporated places, with the county serving as the community or unit. Utilizing Public Health Service forms, the survey was completed in May 1968.

In addition to the data gathered on the Public Health Service forms, additional reporting forms were used. These reports consisted of a short narrative on each town describing the system of collection and disposal and listing the places not served; a table which described the condition of dumps and equipment used; a table showing quantities of wastes generated, with a forecast to 1980 of area needed for sanitary landfill; and tables showing such other wastes as the number and locations of junk yards and abandoned autos. The final part of this report is a county road map on which the location of physical data is shown by code. Routes of private collectors in rural areas are also shown on this map.

Solid Waste Legislation and Regulations. Several bills were introduced into the last State legislative session. One of these, which the solid waste unit supported, provided for county commissioners to set up garbage collection and disposal sites. This bill failed to pass. Several bills allowing certain county commissioners the authority to spend surplus funds for waste disposal purposes were passed. With the passage of the solid waste regulations setting basic standards for incinerators and incineration, the West Virginia solid waste unit requires plans to be submitted for each installation. These are reviewed by the Department for compliance with regulations and then forwarded to the air pollution unit for acceptance before a permit is issued. The Department also responds to complaints concerning dumps throughout the State.

Coordination. Through the efforts of the solid wastes planning activity, a grant was obtained for a special study and development of a plan for solid waste disposal in the Appalachian Regional Health Demonstration Area in Southern West Virginia.

Similarly, the activity assisted the Regional Development Authority of Kanawha County in obtaining a Public Health Service grant to develop an individual solid wastes disposal plan for the county. This county has unusual disposal problems due to its population density, chemical manufacturing plants, and a metropolitan area of 14 separate towns and cities.

Training. All three professional personnel attended the Solid Waste Management Branch training courses "The Elements of Solid Waste

Management" and "Sanitary Landfill--Design and Operation." One staff member attended the "Incinerator Design and Operation" course. The solid wastes staff provides instruction in solid waste disposal during the training of newly hired sanitarians.

Public Information. Members of the staff have made informational presentations, and interest has been created locally. At the Mayor's Meeting, called by the Governor, speeches were given to promote a clean-up, fix-up week, the Rural Health Conference, and the State Health Conference. Other informational activities include informal talks and conferences with various local and county agencies.

Related Activities. A course in solid waste handling at the master's-degree level was initiated in the school year 1967-68 at the West Virginia University. The Department participated in this course. As a project for the class, a community survey was arranged with the local cities.

An interstate--intertown sanitary landfill has been developed between the towns of Westernport and Luke, Maryland, and Piedmont and Keyser, West Virginia. A single landfill, put in operation about August 1, 1968, serves these towns.



WYOMING

The Wyoming Department of Public Health received a one-year Solid Waste Disposal Planning Grant on June 1, 1968.

Personnel. The Division of Sanitary Engineering is experiencing difficulties in assigning a full-time staff member to the project.

