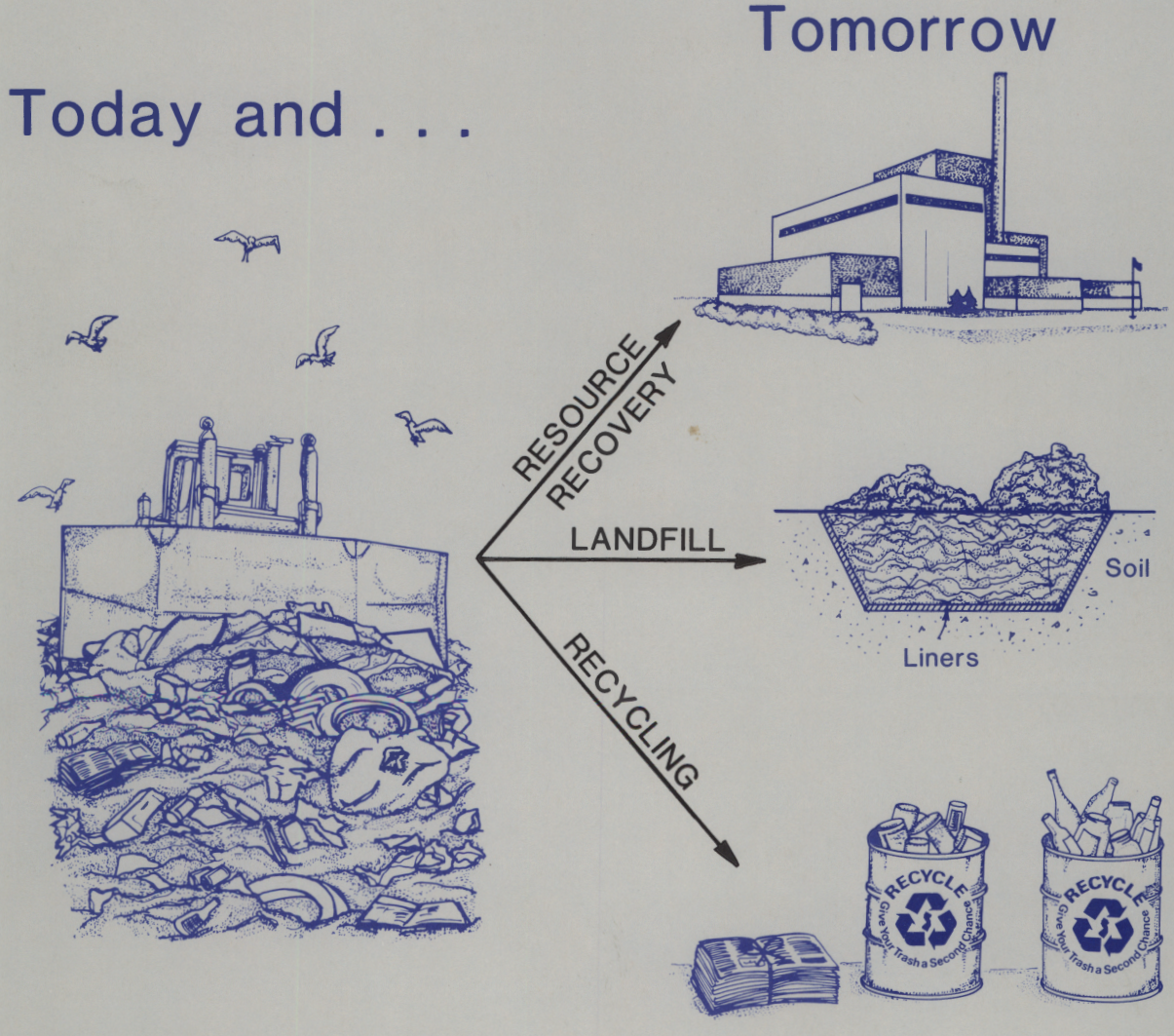
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STATE OF NEW JERSEY
COUNTY AND MUNICIPAL GOVERNMENT
STUDY COMMISSION
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SOLID WASTE MANAGEMENT IN NEW JERSEY



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State of New Jersey
County and Municipal
Government
Study Commission

SOLID WASTE MANAGEMENT IN NEW JERSEY

Prepared for the Commission
by
New Jersey First Incorporated

November 1987

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TO HIS EXCELLENCY GOVERNOR THOMAS H. KEAN AND HONORABLE MEMBERS OF THE SENATE AND GENERAL ASSEMBLY:

The County and Municipal Government Study Commission is pleased to submit its thirty-seventh report, *Solid Waste Management In New Jersey.*

Landfill space in New Jersey is declining at a precipitous pace. Due to this short-fall of capacity, New Jersey's out-of-state disposal will have expanded from 11% to 39% by early 1988. Simultaneously, Pennsylvania is actively pursuing policy changes which will prevent other states from utilizing its remaining landfill space. Thus, there is a need to address New Jersey's solid waste crisis and to resolve its waste disposal problems both for the long-term and short-term.

In examining the current situation, it was determined that a three part strategy is needed for waste disposal. This strategy would be comprised of: resource recovery, handling 50% of the State's waste; recycling, providing for a 25% reduction of waste; and landfilling, for the remaining 10% ash residue emanating from resource recovery facilities and 15% bulky waste. Utilization of resource recovery facilities is the primary component of the long-term solution, however, the Commission concludes that transfer stations are the most viable short-term solution that is available.

The process of planning and siting county facilities has been a long and difficult one. Currently, however, 19 of the 21 counties have sited at least one type of solid waste facility in their county plan. The immediate problem which counties must now contend with is the construction of both transfer stations (as a short-term solution) and resource recovery facilities (to resolve the long-term disposal issue). In order for this process to proceed smoothly, there is a need for cooperation between the State and the counties in a number of areas. These areas include the submittal and approval of an Environmental Impact Statement, engineering designs, and all other aspects of the solid waste management process that are relevant to the issue now at hand, the construction of the county sited facilities.

The majority of the counties are moving ahead in the planning and implementation of their solid waste plans. However, in those instances where a county is not progressing as it should, the report recommends that the Commissioner of the Department of Environmental Protection be made the planner and implementor of last resort for solid waste disposal facilities.

A further recommendation of major import requests that *Chapter 326* (the *Solid Waste Management Act*) be amended to give the Commissioner the additional power to certify failure of implementation of a county plan, and to then take such steps as may be necessary to implement the plan in a timely manner with the county incurring all costs. The Commissioner would assume these powers subsequent to a declaration by the Governor. The purpose of this recommendation is to protect those counties who have fulfilled their solid waste requirements from being infringed upon by those counties that haven't.

A third recommendation calls for both the Governor and the Commissioner of the Department of Environmental Protection to be granted emergency powers in order to resolve a short-term disposal crisis. These powers would enable the Commissioner to waive full permitting requirements, issue emergency waste redirection orders and reopen old landfills.

A final recommendation that is of major significance states that there should be a greater commitment of State and county resources, in terms of staff and program support, in order to expedite review procedures. At the State level, project managers should serve as the primary impetus for the expedition of the permit review process.

It is the hope of the Commission that the recommendations contained within this report will form the basis for the appropriate legislation to resolve New Jersey's solid waste crisis.

Respectfully submitted by the members of the County and Municipal Government Study Commission.

/s/ Carmen A. Orechio, Chairman
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ACKNOWLEDGEMENTS

The Commission would like to thank the consultants of New Jersey First, Richard Sullivan and William Schluter, for preparing this thorough report on solid waste management. Extensive efforts were made by the consultants to gain first-hand insight on this issue by interviewing individuals in all 21 counties who were involved in solid waste management. Those persons contacted at the county level include: solid waste coordinators, freeholders, county counsels, planning officials, utilities authority directors, and recycling coordinators. In addition to this, various other parties were interviewed including: operating personnel, planners, regulators, attorneys, environmentalists, legislators, representatives of the private solid waste industry, local officials, the Department of Environmental Protection, as well as other State personnel, and staff of the Pennsylvania Department of Environmental Resources.

In addition to the above mentioned individuals, the Commission would like to acknowledge Richard T. Dewling, Commissioner of the Department of Environmental Protection; and Donald A. Deieso, Assistant Commissioner for Environmental Management and Control, who participated in several meetings with various Commission members and who also attended a number of Commission meetings which provided for fruitful discussions on solid waste.

The Commission also wishes to thank Guy E. Millard, Executive Director, New Jersey Association of Counties; and Linda Spalinski, Assistant Executive Director, New Jersey Association of Counties, for providing insight on the county perspective.

Others who have provided ongoing help in the preparation of this report include various members of the staff of the Department of Environmental Protection. The expertise of the following individuals has contributed substantially to the refining of this report: Michael DeBonis, Director of the Division of Solid Waste Management; Joseph Wiley, Deputy Director, Division of Solid Waste Management; Bart Carhart, Chief of the Bureau of Solid Waste and Resource Recovery Financing, Division of Solid Waste Management; Gary Sondermeyer, Chief of the Bureau of Solid Waste and Resource Recovery Planning, Division of Solid Waste Management; and Rhea Weinberg Brekke, Acting Chief of the Bureau of Administration and Policy Planning, Division of Solid Waste Management.

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Finally, the Commission would like to acknowledge the contribution made in the initial stages of the formation of this report by a former Commission staff member, Stanley C. Slachetka. Also, a special thanks to Arlene K. Wilkinson for her work typing the many drafts of this report, as well as related memos and correspondence. Without her patience, support and skill, this report would not have been possible.

The Commission is grateful to all of the aforementioned individuals for their contributions to this report. Through their combined efforts we have been able to produce a timely report that addresses one of the most vital issues of our time.

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EXECUTIVE SUMMARY

INTRODUCTION

New Jersey is presently embroiled in a solid waste crisis. This has resulted from a shortage of landfills without sufficient alternative means of in-state disposal being available.

This report addresses the aforementioned crisis through an analysis of the implementation of *Chapter 326,* the *Solid Waste Management Act,* and subsequent legislation. Recommendations are made for both short-term and long-term solutions to the problem. It is the hope of this Commission that the implementation of its recommendations will provide a means through which the State can come to terms with its solid waste disposal crisis.

Chapter 326, which was the 1975 amendment to the 1970 *Solid Waste Management Act,* provides the basic framework for both State and county management of solid waste. The principal features of *Chapter 326* called for the following:

(1) The establishment of 22 individual planning districts, one for each county and one for the Hackensack Meadowlands.

(2) A requirement that each district develop and adopt a solid waste plan.

(3) The establishment of procedures for adopting the district solid waste plans.

(4) The institution of a review process for approving county plans by the State Department of Environmental Protection.

(5) The creation of State and County Solid Waste Advisory Councils.

(6) The preparation of a State solid waste master plan.

(7) Authorization for the State to prepare a county solid waste plan if the county has not prepared its own or if the State has not approved the county plan.

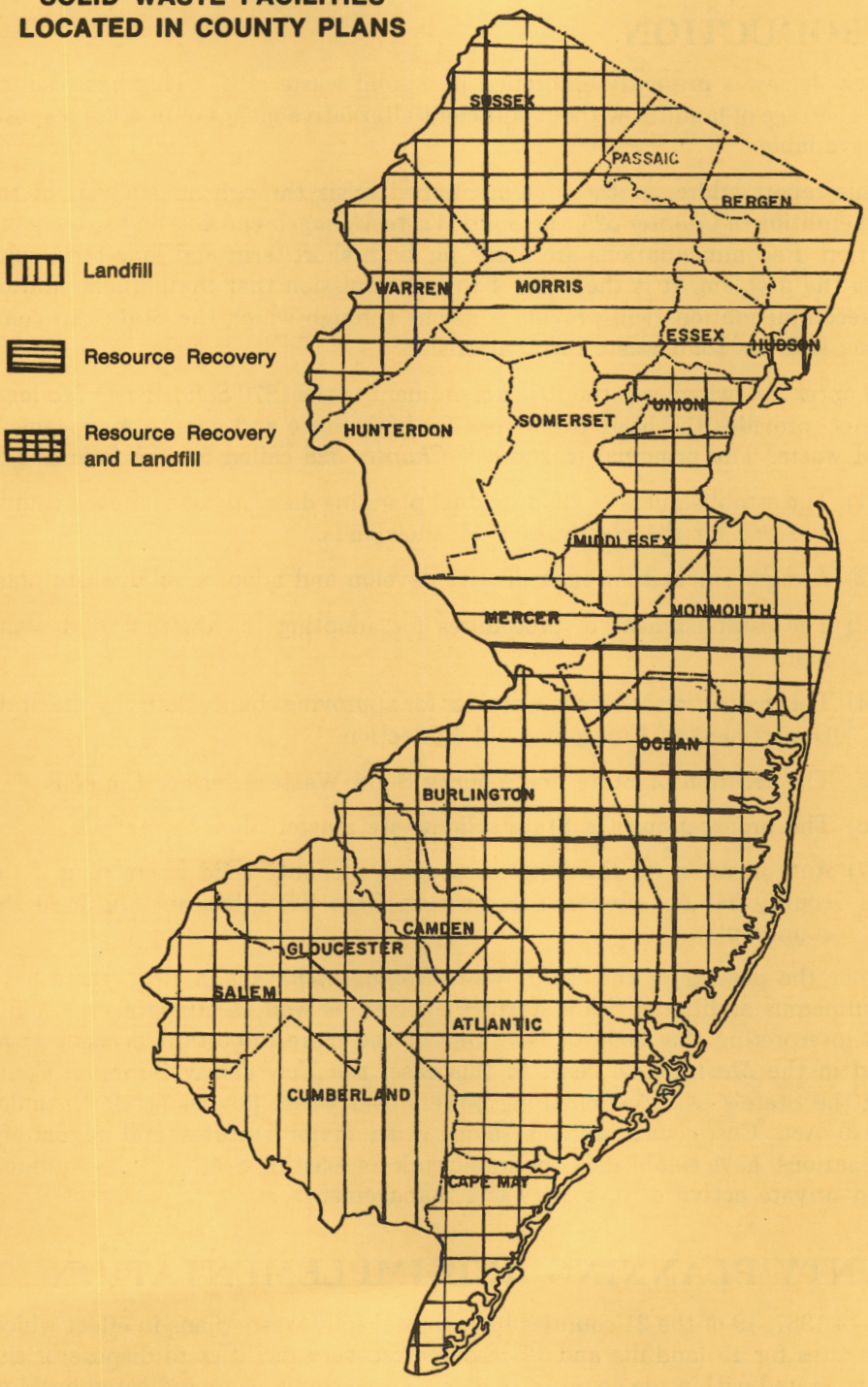
Since the passage of the *Solid Waste Management Act* in 1970, there have been numerous additional State statutes enacted as well as numerous court decisions interpreting this body of law. One of the more important decisions was reached in the *Mastrangelo* case. In this case, the New Jersey Supreme Court upheld the State's essential planning powers over waste flow as set forth under the 1970 Act. Cases such as this, along with major statutes and regulatory promulgations, have established the framework for existing State, county, municipal and private activities in solid waste management.

COUNTY PLANNING AND IMPLEMENTATION

As of 1987, 19 of the 21 counties have formal solid waste plans in effect which include sites for 15 landfills and 19 resource recovery facilities to dispose of the waste generated within the county's borders. These counties are indicated on Map ES-1. It can, therefore, be concluded that there has been substantial progress made by a majority of the counties in the matter of facility siting.

MAP ES-1

SOLID WASTE FACILITIES LOCATED IN COUNTY PLANS



Source: NJDEP.

To date, 300 environmentally unacceptable landfills have been closed through the cooperation of the State and local governments. The 14 largest remaining landfills accepted approximately 95% of New Jersey's waste in 1986. Of these, the four largest will have reached capacity and have closed by 1988. Nevertheless, New Jersey residents continue to generate more than ten million tons of waste per year. Thus, there is an immediate need for the State to reduce the volume of waste produced through the use of increased recycling, and to provide sufficient disposal facilities for the waste that cannot be recycled.

An important aspect of disposal that is addressed under the planning provisions of *Chapter 326* is regional solutions. Such solutions call for interdistrict agreements. With the exception of the agreement of Hunterdon County to send a portion of its waste to Warren County, there are no other cases of voluntary regionalization.

Given that most counties have resolved their siting problems, it is unlikely that there will be a need for regionalization. However, there is the possibility that regional solutions might be needed in the northeast section of the State because of the shortage of available land which is needed for the construction of landfills.

Implementation is the second area addressed in this report in terms of the county solid waste management process. Implementation includes the following steps: permit submittal, site acquisition, contracting with a vendor, financing, final engineering, departmental approval of permits, construction and operation.

Engineering studies are prepared once a site and disposal method have been approved. These studies are submitted to the Department of Environmental Protection along with an Environmental Impact Statement. The statement must be approved in order for the implementation of the solid waste plan to proceed. As a result of delays in the approval process, the Preliminary Environmental and Health Impact Statement was developed. The preliminary statement is not, however, mentioned specifically in the law and is, therefore, likely to become a target of challenge in the courts.

Other aspects of the implementation process such as site acquisition and construction generally can be accomplished without encountering major problems. However, implementation has occasionally been a troublesome process due to the unwillingness of certain counties to execute their solid waste disposal plans. This has been aggravated by the fact that the State does not have the power to force implementation.

At the present time, New Jersey's greatest need is to construct permanent resource recovery facilities and landfills, however, progress has been slow. Currently, only one of the 18 planned resource recovery facilities is under construction. In regard to landfills, nine of the fifteen that have been planned for by the counties are operating or are under construction. In addition to this, 11 of the planned facilities are proceeding through the permitting process, while five counties have not yet submitted the initial permit application for their planned resource recovery facility.

SOLID WASTE FACILITIES SITED IN COUNTY PLANS

County	Landfill	Resource Recovery
Atlantic	Sited (1)	Sited (1)
Bergen	Not Sited	Sited (1)
Burlington	Sited (1)	Sited (1)
Camden	Sited (1)	Sited (2)
Cape May	Sited (1)	Sited (1)
Cumberland	Sited (1)	Not Sited
Essex	Not Sited	Sited (1)
Gloucester	Sited (1)	Sited (1)
Hudson	Sited (1)	Sited (1)
Hunterdon	Not Sited	Not Sited
Mercer	Not Sited	Sited (1)
Middlesex	Sited (1)	Sited (1)
Monmouth	Sited (1)	Sited (1)
Morris	Not Sited	Sited (1)
Ocean	Sited (1)	Sited (1)
Passaic	Not Sited	Sited (1)
Salem	Sited (1)	Sited (1)
Somerset	Not Sited	Not Sited
Sussex	Sited (1)	Sited (1)
Union	Sited (2)	Sited (1)
Warren	Sited (1)	Sited (1)

Source: NJDEP.

STATE PLANNING AND IMPLEMENTATION

The State solid waste management process has been impeded by the inability of the State to force implementation of county plans. Thus, the State needs the power to implement county plans in those instances where a county has chosen to delay or cannot move ahead on its own. Through these actions the State will be protecting those counties that are succeeding in providing solid waste facilities for their citizens.

One of the State's more important roles is its review and approval of permits for waste facilities. However, the Department of Environmental Protection also provides other types of assistance to counties in areas such as planning and technical aid. In the past, however, this assistance has not adequately met the needs of the counties due to the State's lack of sufficient staffing. Thus, there is a need for a greater commitment of the State's resources through the provision of additional staff for the Division of Waste Management. There should also be a similar commitment of resources on the part of the counties. Coinciding with the additional available resources should be the expediting of the permit submittal and approval process by both the counties and the State.

Two areas in which the State's involvement has progressed are financial planning and public information support. The State is working to improve the relationship between itself and the counties in these areas, and it is currently developing a variety of public education programs as part of this process. However, there still remains a need for further efforts to be made on the part of both the State and the counties in order to increase public awareness of solid waste management.

The Board of Public Utilities also plays an important role in the State solid waste management process. Among the Board's responsibilities are the approval of waste flow regulations and the review of proposed contracts with vendors of disposal systems and facilities. However, the Board faces many problems which are similar to those of the Department, in particular, a lack of adequate staffing. Until the problems of staffing and resources are resolved, it is unlikely that the State will be able to fulfill its responsibilities in an efficient and effective manner.

THE SHORT-TERM DISPOSAL CRISIS

The disposal of New Jersey's waste has now reached crisis proportions. Within the next year the State's four largest landfills are due to close without there being any long-term in-state replacement facilities available for use by the counties.

Under *Chapter 326,* counties are required to adopt and implement a ten-year plan for the management and disposal of solid waste. However, the majority of the counties are not in full compliance with this provision thus; counties must now confront the resultant crisis. In order to overcome these problems it is apparent that the State must intervene by means of emergency procedures.

There are four possible options for providing additional disposal capacity to meet the short-term crisis: transfer stations and out-of-state disposal, waste flow redirection to facilities in other counties, reopening old landfills and extending the life of major existing landfills. Of these options, transfer stations and out-of-state disposal provide the best temporary solution. The temporary nature of this solution

can be seen in Pennsylvania's recent initiatives to close their landfills which were accepting New Jersey waste and to prevent other landfills from accepting additional waste that emanates from New Jersey.

The transfer station strategy should be understood to mean the collection of solid waste from a county, the compacting of this waste at the transfer station and the subsequent transporting of the waste in large trucks, to an out-of-state disposal facility. This option, although it is the best overall solution for the short-term, is plagued with a variety of problems. One such problem is that out-of-state disposal rates are not subject to regulation by an agency such as the Board of Public Utilities. Furthermore, there is no mechanism in place for keeping these facilities open in order to assure the provision of a necessary public service. Additional consequences of utilizing the transfer station strategy include high costs per ton for out-of-state disposal and the loss of collection of McEnroe surcharges which are designed to help in funding resource recovery facilities.

Thus, in order that a crisis be averted it is necessary for the State, through the Commissioner of the Department of Environmental Protection, to be actively involved in resolving New Jersey's current waste problems. Although the transfer station strategy is the most viable short-term solution, it is not meant to replace nor slow down the development of resource recovery facilities which provide the best means of achieving the State's long-range solid waste management goals.

CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations that follow are intended to provide resolutions of both long-term problems and the short-term crisis. The Commission believes that it is of vital importance that these actions be taken so as to ensure that the long-term management of solid waste disposal is handled in a timely, efficient and cost-effective manner.

Recommendation A: The Commissioner of the State Department of Environmental Protection should be made the planner and implementor of last resort.

For the most part, the counties have moved ahead in their fulfillment of the requirements of the *Solid Waste Management Act.* Currently, 19 of the 21 counties have sited a solid waste disposal facility in their county plan. However, in those instances where a county has failed in its planning or implementation efforts, the Commissioner of Environmental Protection should assume the role of planner and implementor of last resort for solid waste disposal facilities. Failure of such efforts by a county could render it incapable of providing sufficient means of disposal for its citizens. When the potential for these circumstances arises, this would trigger the use of these extraordinary powers by the Commissioner. The utilization of these powers will then serve to protect those counties that have proceeded ahead in a timely manner by expediting the planning and implementation process in any counties that are unwilling or incapable of fulfilling their solid waste management requirements.

It is also of vital importance that the Commissioner and the counties commit themselves to the timely fulfillment of the solid waste management process. Both the counties and the Commissioner must now make every effort to expedite the permit submittal and approval process. Once the Commissioner approves the permits, the counties can then proceed to construct the needed facilities. The construction of permanent solid waste facilities is required to replace the environmentally unacceptable in-state facilities that are still in use as well as the temporary out-of-state landfills that are being or will be used.

Recommendation B: Upon a declaration by the Governor, the Commissioner should be given the power to implement county solid waste plans.

The Commissioner of Environmental Protection should be given the power to implement a county plan, if that county has failed to do so, through a certification of failure process. The Commissioner would assume these powers subsequent to a declaration by the Governor. Current statutory provisions permit planning, but not implementation, to be conducted by the State on behalf of a county. Certification of failure by the State should serve as a last resort for the purpose of expediting long-term planning and implementation of solid waste disposal facilities.

Upon certifying failure within a county, the State shall have power to:

(1) Contract for studies and professional services on behalf of a county.

(2) Site a county solid waste disposal facility.

(3) Prepare all necessary environmental and health impact statements, engineering designs and permit documents.

(4) Acquire property as a site for a solid waste disposal facility (including the ability to condemn property).

(5) Contract for procurement and financing of county solid waste facilities.

(6) Manage a solid waste facility or system.

(7) Collect revenues for waste disposal at a county solid waste facility.

(8) Utilize all funding for solid waste planning and projects which the county would be eligible to receive for the project.

(9) Charge a county under failure for any costs which are incurred.

Use of the State's existing powers, as well as the aforementioned new powers, should be done in a cooperative manner with the county. Furthermore, the explicit punitive damages contained in Assembly Bill 3892 should be replaced with alternative mechanisms designed to encourage every county to proceed in the construction of the necessary solid waste facilities.

There are three additional recommendations associated with a certification of failure by the Commissioner:

(1) When a county solid waste plan has been amended by the State, the law should be changed to allow an appeal in Superior Court in a timely manner.

(2) Planning and implementation actions by the State should be undertaken by a section in the Division of Solid Waste Management which is separate from the personnel who will be passing judgement on the technical aspects of such actions at a later time.

(3) If a county agrees to the State's recommended actions and commits itself to a binding compliance and financial repayment schedule, the Commissioner of Environmental Protection should be obligated to return primary planning and implementation power to the county.

Recommendation C: Both the Governor and the Commissioner should be granted emergency powers to resolve a short-term disposal crisis.

The Commission concludes that transfer stations, in conjunction with out-of-state disposal, are the most viable short-term solution. However, out-of-state disposal must not be viewed as a permanent solution. Pennsylvania, which may soon be accepting as much as 69% of New Jersey's waste, could decide at any time that it no longer wishes to be used as New Jersey's dumping ground. Thus, in order to deal with a potential emergency situation, there is a need for the following powers involving summary actions:

(1) Declaration of a State of Solid Waste Emergency by the Governor.

(2) Upon the Declaration of a State of Emergency by the Governor, the State Department of Environmental Protection should be granted powers to waive full permitting requirements.

(3) Upon the Declaration of a State of Emergency, the State Department of Environmental Protection should be given the power to reopen old landfills and to issue emergency solid waste redirection orders.

This state of emergency should be based on a determination by the Commissioner of Environmental Protection that there is an impending short fall of disposal capacity in one or more counties which is unlikely to be met by planning initiatives or programs of the county.

Recommendation D: There should be a greater commitment of State and county resources, in terms of staff and program support, in order to expedite review procedures.

There is a need for the development of expedited review procedures for plan amendments, permit applications, minor technical submissions and routine matters. A means of accomplishing this would be to provide additional staff for the Division of Solid Waste Management. Through additional staffing, more effort could be devoted to the enforcement of waste flow rules, the developing of support capability on procurement matters (here the Department should be empowered to prequalify vendors) and the provision of more generic engineering data to the counties.

There also exists a need for a greater commitment of county resources, in conjunction with those of the State. This need can be met through additional

staffing or through the hiring of consultants. These additional resources will enable a county to implement all aspects of the solid waste management process in a timely manner.

An additional recommendation for greater staff support and capability which would be supplied by the State is as follows:

(1) **The State Department of Environmental Protection should assign project managers to assist with various implementation activities for major disposal facilities.**

These individuals would aid in the expediting of the permitting process as well as other technical reviews conducted by the Division of Solid Waste Management. They would also provide coordination with outside agencies such as the Army Corps of Engineers, the Hackensack Meadowlands Development Commission and other regulatory bodies.

A further extension of the fulfillment of the need for greater support capability by the State would involve contracting with private engineering firms. These firms would review the technical aspects of applications for disposal facilities thereby reducing the generally lengthly permit and Environmental Impact Statement approval process.

Recommendation E: Efforts should be made by both the State and the counties to increase public awareness of solid waste management.

The Department of Environmental Protection, in conjunction with the counties, should work towards providing a greater public awareness and understanding regarding the proposed solutions to New Jersey's solid waste problems. In the past, such efforts have been fairly limited in scope. Today, greater attempts are now being made to reach to the public through conferences, seminars and exhibits. However, educating New Jersey's citizens requires the ongoing commitment of both the State and the counties.

Recommendation F: There should be an expedition of the solid waste process by the Board of Public Utilities.

The Board of Public Utilities should further commit itself to expediting the solid waste process, particularly under emergency circumstances. This could be accomplished through a combination of increased staffing along with a greater effort by the Board to facilitate all aspects of solid waste management within its domain.

Recommendation G: The State Department of Environmental Protection should encourage the development of a regional ash landfill in northeastern New Jersey.

The disposal of ash and bulky waste in the northeastern section of New Jersey is a difficult problem to contend with due to the high population density and the shortage of land. Thus, a policy should be adopted in the regulations which would provide for the use of a regional landfill for this part of the State.

In those instances where a county has not sited an ash landfill, the State would certify failure and implement this facility using the procedures in Recommendation B. Substantial host community and host county benefits should be utilized at the selected site. The State should also offer a greater proportion of any available grant or loan funds for the financing of this facility.

Recommendation H: The definitions of solid waste facilities should be revised.

Currently, there is a great deal of ambiguity in the terms used to define the various types of solid waste facilities. As a result of this, it is unclear as to what requirements and regulations apply to a specific facility and what benefits a facility is entitled to. Thus, the definitions for solid waste facilities should be revised.

Recommendation I: Municipal control of collection services should be encouraged.

By providing its own collection or contracting with a private hauler, a municipality will be afforded a better quality of service with greater control over waste flow. These types of services should replace the other existing method of collection whereby a property owner or renter contracts with a hauler on an individual basis. In 1986, private collection services were utilized by 25% of the municipalities, while municipal service accounted for 33% and municipal contract for 42% of the municipalities.

Recommendation J: Technical amendments should be made to* Chapter 326 *to improve the efficiency of the solid waste implementation process.

In order to improve upon the efficiency of the process of implementing solid waste disposal facilities, the following three amendments should be made to *Chapter 326:*

(1) Acknowledge and validate the procedure involving Preliminary Environmental and Health Impact Statements.

(2) Incorporate the provisions of the *Mastrangelo* court decision into the law.

(3) Encourage counties to include a plan component which covers alternative disposal arrangements for short-term, emergency situations.

FINANCING

The financing of New Jersey's solid waste disposal facilities is a costly process. It is estimated that capital costs for the construction of needed resource recovery and landfill facilities will run as high as $3 billion. Furthermore, total solid waste disposal and collection costs (including capital costs and operation and maintenance costs) are estimated to be approximately $712 million a year. Although these amounts may seem exceedingly high, over the long-term, in-state disposal will prove to be less costly and much more reliable than out-of-state disposal.

Capital costs for disposal facilities are currently primarily being met by the sale of bonds which will be paid for by service charges levied on solid waste collectors. In the past, private equity contributions also aided in meeting these costs. However, as a result of the *1986 Tax Reform Act,* there will be a major depletion of this type of funding which will lead to increased county financing and operation of solid waste facilities.

In those instances where the solid waste collector is a municipality, or under contract to a municipality, solid waste collection and disposal costs are usually paid for by the local property tax. However, when the solid waste collector is a private party, then the solid waste collection and disposal costs are paid for by a service charge to the generator.

There are several specific recommendations regarding the financing of solid waste disposal which should be implemented as follows:

Recommendation A: Surcharges should apply to transfer station waste.

The surcharges now paid on all waste disposed of in the State should continue to apply to all waste leaving the State that is first processed at a transfer station. The resultant funding, from both in-state and out-of-state disposal, should be dedicated for the same purpose.

The previously mentioned surcharges should include the following: Solid Waste Services Tax, Resource Recovery Investment Tax, and landfill closure taxes. In the case of transfer stations, the surcharges should also include importation and host municipality taxes, if applicable.

Recommendation B: Host community benefits should be clarified.

It should be clearly stated in the law that host community benefits can be paid for transfer stations, that these benefits not be limited to a $1 per ton basis and that they do not have to be utilized exclusively for solid waste purposes.

Recommendation C: Municipalities should be able to charge waste generator fees and to authorize private hauler billing.

Legislation should clearly state that any municipality may charge solid waste generators for all collection and disposal costs through the imposition of a solid waste fee. Furthermore, municipalities should have the option of authorizing a private hauler with whom they have contracted to bill the resident directly for all solid waste costs.

Recommendation D: Loans should be administered by the Department of Environmental Protection.

Special loans which are made available for resource recovery plants should be administered by the Department of Environmental Protection in accordance with approved county solid waste plans.

RECYCLING

Recycling is one of the major components of the State's three-tier solid waste management strategy. This strategy calls for 50% of the waste stream to be disposed of by resource recovery, 25% to be disposed of by landfilling and the remaining 25% to be recycled.

Recycling can lead to substantial savings for the consumer. However, potential problems remain with regard to marketing these materials.

On April 20, 1987, the most comprehensive piece of recycling legislation to date was passed, the *Mandatory Recycling Act.* This Act makes each county's recycling subject to the solid waste management planning process of *Chapter 326.*

The Commission believes that the enactment of mandatory recycling is an important first step in reducing the volume of waste which must be disposed of. However, ensuring the enforcement aspects of mandatory recycling is a difficult process, thus, it should be the subject of an ongoing review. The *Mandatory Recycling Act* should, however, be given ample opportunity to become operative before any changes or refinements are made.

OTHER ISSUES

There are other important issues to be dealt with regarding solid waste. One such issue is landfill closure. This is an area of major concern due to the present lack of sufficient funding to provide for the proper closure of landfills.

Recommendation A: Long-range funding policies for the closure of terminated landfills should be developed.

Currently, the full extent of closure costs are not known. However, once this data becomes available the Department of Environmental Protection, the Legislature and the Executive Branch should develop a long range funding policy proposal which addresses the aforementioned issue.

A second area of importance in the solid waste process is sludge management. In 1977, *Chapter 326* was amended, making sludge disposal subject to the solid waste planning process. In addition to this, sludge is subject to the Board of Public Utilities regulations under certain conditions.

At the present time, an extensive set of proposed sludge regulations is being developed and may be adopted by the end of 1987. These regulations will differ from the solid waste regulatory system of *Chapter 326* in many ways.

The Commission does not make any recommendations that the contemplated system for managing and planning sludge disposal be changed. However, it should be noted by the Legislature that once the counties have entered the sludge planning process, it will be much more difficult to reverse this procedure by having the State assume more direct responsibility.

Recommendation B: There should be continued research and development of waste reduction options.

There are numerous programs which can be used to reduce the amount of waste generated, including biodegradable packaging and conversion of incinerator ash. In addition to this, investigation into tax revenue initiatives, as well as other types of ongoing research efforts, could result in further waste avoidance and reduction.

Recommendation C: A Waste Reduction and Utilization Policy Commission should be established.

This Commission would provide policy direction and planning and would consider issues similar to those described above. In addition, this Commission would provide for a consolidation of functions now performed by other commissions and agencies. Through such a commission, much needed attention could be given to an issue of vital importance, the reduction and utilization of solid waste.



New Jersey's landfill space is rapidly being depleted without the availability of sufficient in-state disposal alternatives. (Photo courtesy of Marvin Ross/Department of Environmental Protection.)

CHAPTER I

INTRODUCTION

"The State is rapidly approaching a critical stage in solid waste disposal, as existing landfill facilities, the only presently feasible disposal method, are nearing maximum capacity and will not be capable of handling projected waste loads." This statement was made in September, 1972 when the New Jersey County and Municipal Government Study Commission published its report: *Solid Waste: A Coordinated Approach.* Although improved disposal technology is closer to reality in 1987, it can be said with a greater sense of urgency that the State has now reached a critical stage in solid waste disposal.

- By 1988, landfill disposal capacity in much of New Jersey will be virtually nonexistent.[1]
- Resource recovery facilities, with the capacities to handle *substantial* portions of the State's solid waste generation, are at least four years away from start-up.
- The exportation of garbage from New Jersey faces an uncertain future because of increasing costs, decreasing landfill capacities, and the commencement of more intense "protectionism" by importing states.
- Many New Jersey counties have failed to meet State requirements in planning and implementing solid waste disposal programs.[2]

PROJECT PURPOSE

Against this backdrop, the Commission determined that a study was needed to ascertain the extent of solid waste problems in New Jersey, the reasons for these problems, and the initiatives necessary to resolve the solid waste disposal crisis. This study is a current evaluation of the effectiveness of *Chapter 326* and subsequent legislation in dealing with the management of solid waste disposal.[3] *Chapter 326* embodies the concept of solid waste management in New Jersey as carried out by a plan drawn and implemented by individual counties, but approved and enforced by the State's Department of Environmental Protection. The questions now being asked are: how well has this approach worked and what are the main impediments to future progress?

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[1]Several counties will have existing capacity or will have new facilities coming on-line in 1988. However, the total disposal capacity provided by these facilities will meet only a small percentage of the State's needs.

[2]There have been occasions, in the past, where the comprehensiveness and timeliness of support by the State has not enabled counties to meet their planning and implementation requirements.

[3]Known as *"Chapter 326"*, the official title of the law is: *"Solid Waste Management Act"*. P.L. 1970, c.39; N.J.S.A. 13:1E-1 et seq. amended by P.L. 1975, c.326. This law was a consequence, in part, of the Commission's 1972 study.

A question of even greater importance is: what will have to be done differently in the State of New Jersey, in both the governmental and private sectors, for solid waste disposal to be managed efficiently and in the public interest? Also, what assurances can be given that the necessary steps will be taken to prevent further delay?

CURRENT PROBLEMS AND PRIMARY ISSUES

In 1975, the Legislature made a conscious decision to assign the responsibility for planning and implementing solid waste disposal to 22 solid waste districts. These districts consist of 21 individual counties plus the jurisdiction of the Hackensack Meadowlands Development Commission.[4] The principal components for implementing solid waste disposal are:

- selection of disposal technology,
- siting of disposal facilities,
- approval of permit application by the Department of Environmental Protection,
- proceeding with facility design, financing, construction, and
- operation of facility.

In its role, the State was assigned the responsibility of approving county solid waste plans as well as performing the regulatory function of inspection, approval of new solid waste facilities, issuing permits and passing judgment on myriad technical requirements. The State also was required to prepare and adopt a Statewide Solid Waste Management Plan as an aid to counties on policy matters and interdistrict cooperation. This plan was adopted in 1982. Prior to this date only solid waste guidelines existed which had come about with the enactment of *Chapter 326* in 1975. These guidelines were used as the basis for the formulation of the Statewide Solid Waste Management Plan.

During the course of this study, it has been amply demonstrated that one of the major problems of county government over the past decade, in terms of time and administrative energies, has been the effort to manage solid waste disposal. The political manifestations of this process have been manifold.

At the State level, the problems have also been profound. Solid waste management by the Department of Environmental Protection can be divided into two categories: first, the technical work required to assure that environmental standards are met, and second, the materials handling problems associated with approval of waste flows and county disposal activities.

During much of the time the statute has been in effect, solid waste management at the State level has not appeared to receive the recognition or public attention commensurate with the urgency of the problem. Instead more attention and energies, particularly in recent years, seem to have focused on critical issues

[4]The term county, or counties, will be used throughout this report to signify a district, or districts, and shall be understood to include the Hackensack Meadowlands Development Commission unless stated otherwise.

of an emergency nature concerning hazardous waste sites, removal of radon contaminated soil, groundwater pollution and dangerous air emission. *Nevertheless, this study has convinced the Commission that management of solid waste disposal will be one of the major environmental programs in the State of New Jersey for the next five to ten years in terms of effort, resources and attention needed.*

The New Jersey State Department of Environmental Protection is following a threefold strategy for solid waste disposal.[5] The first segment of this strategy calls for "the maximum practicable use of resource recovery" for the medium to long term. Next, it is advocated that environmentally secure landfills be operated as part of a county's solid waste disposal strategy, either in conjunction with a resource recovery facility or, as contemplated in a few counties, as a principal disposal mode. Finally, recycling to the maximum extent possible is a goal required of every county.

This three part strategy is reflected in the proportionate share of the waste stream which the New Jersey State Department of Environmental Protection has nominally identified with each disposal mode. Resource recovery should account for 50% of the waste stream, recycling should reduce the volume of the waste stream by about 25%, and landfilling should be used for the remaining 25%. The landfilling portion is further divided into 10% (of the total waste stream) ash residue from the resource recovery facility and 15% (of the total waste stream) non-processable materials such as building debris and large metal non-recyclable items.

The fundamental solid waste disposal problem in New Jersey is that extensive landfill closures are occurring while disposal facilities are not being built and disposal programs to accommodate the growing waste flows are not being implemented as rapidly as needed to avert a very real solid waste crisis.

For purposes of organizing this study into logical and related areas of analysis, the following headings have been selected: "County Planning and Implementation", "State Planning and Implementation", "The Short-Term Disposal Crisis", "Conclusions and Recommendations", "Financing", "Recycling" and "Other Issues". A brief overview of the seven chapters is as follows:

1. ***County Planning and Implementation***

   Progress in the county solid waste management process has been difficult. However, as of late 1987, 19 of the 21 counties have now sited an in-county solid waste facility in their solid waste plans.

   This chapter will examine both planning and implementation at the county level. Planning by the counties can be divided into four functional areas: siting, regional solutions, management structures and selection of technology. Implementation includes the following steps: site acquisition, contracting with a vendor, financing, final engineering, construction and operation. The cooperation of the counties and the State is needed in both areas if New Jersey is to continue to move ahead in the fulfillment of its solid waste management needs.

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[5]*Draft Update: Solid Waste Management Plan 1985-2000,* New Jersey State Department of Environmental Protection, Division of Waste Management (July 15, 1985), p. 12. (Hereinafter referred to as *Draft Update.*)

2. ***State Planning and Implementation***

The State, through the Department of Environmental Protection, provides numerous types of assistance to the counties in the area of planning. In the past, however, this assistance has not always adequately met the needs of the counties. This is largely a result of the State's lack of sufficient staffing.

The Department's effectiveness in terms of implementation powers will also be discussed in this chapter. These powers have been impeded by the State's inability to force counties to directly implement their solid waste disposal plans when they have failed to do so on their own.

Two areas in which the State's involvement has progressed are financial planning and public information support. The State is working to improve the relationship between itself and the counties in these areas. Currently, the Department is developing a variety of public education programs as part of this process. These and other aspects of State planning and implementation will be examined in Chapter V.

3. ***The Short-Term Disposal Crisis***

New Jersey is presently facing a solid waste crisis. Within the next year the State's four largest remaining landfills will all have closed without there being sufficient alternative in-state disposal facilities available.

There are four possible options to deal with the short-term crisis, they are: transfer stations and out-of-state disposal, waste flow redirection, reopening old landfills and extending the life of the four major landfills. Of these options, transfer stations and out-of-state disposal provide the best temporary solution.

This chapter emphasizes the importance of continuing to develop in-state disposal facilities. Although the transfer station strategy can resolve the State's short-term crisis it should not be thought of as a permanent solution.

4. ***Conclusions and Recommendations***

In this chapter numerous recommendations are made which address both the short-term crisis and long-term problems. Particular attention is paid to the granting of additional powers to the Commissioner of the Department of Environmental Protection in order to ensure that all counties fulfill their solid waste responsibilities. Finally, conclusions will be drawn based on the discussions in the previous chapters.

5. ***Financing***

Progress cannot be made in addressing solid waste disposal if adequate financing and financial mechanisms are not in place. Thus, this chapter will examine the areas of capital, operations and maintenance, and collection financing.

Capital financing refers to the payment of costs for major physical facilities over a long period of time, generally through the issuance of bonds. In some cases, capital financing is augmented by contributions of equity capital and receipt of government grants.

The *Tax Reform Act of 1986* will have a major impact on the cost of capital financing as well as the institutional arrangements for owning and operating large solid waste facilities. Substantial amounts of capital will have to be raised in the next decade for resource recovery plants, landfills, recycling facilities, and transfer stations. In addition to this, the financing of closure plans for more than 300 previously terminated landfills represents another significant capital requirement.

The discussion that follows on operations and maintenance will focus on service charges for solid waste disposal facilities. Such service charges can include a variety of surcharges intended to support programs such as: recycling, host community benefits, solid waste planning, and resource recovery subsidization. However, the cost of supporting such programs has increased dramatically in the last several years, and the end for these increases is not in sight.

Finally, in Chapter VIII the two primary methods of financing waste collection will be evaluated. Furthermore, the potential benefits for the homeowner of a new system of charging for collection on a per bag of waste basis will be assessed.

6. ***Recycling***

Recycling is a high visibility issue in New Jersey. Furthermore, recycling has always been an integral component of the State's solid waste disposal strategy. The statutory definition of recycling emphasizes its fundamental relationship with solid waste management:

> Recycling means any process by which materials which would otherwise become solid waste are collected, separated or processed and returned to the economic mainstream in the form of raw materials or products.[6]

Simply stated, when more material is recycled, less material in the form of waste has to be disposed of at capital intense resource recovery or landfill facilities.

There are some who promote "recycle-topia", a concept which suggests that virtually all waste can be recycled and there is no need for resource recovery plants. Also, there are advocates of mass burning who disparage recycling. A great majority, however, accept the fundamental role of resource recovery, while at the same time recognize that maximum recycling should be the major determinant of the size of mass burning facilities for the remaining waste stream. These issues will be examined and findings will be presented in the chapter on recycling.

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[6]N.J.S.A. 13:1E-94, i.

Recycling has a significant impact on solid waste disposal costs. The sale of recyclables in secondary markets provides some cost offset for local government. More important, this process will reduce the high cost of the use of the alternatives of resource recovery and landfilling.

Many municipalities, and some counties, have operated recycling programs in New Jersey for decades. This method of "disposal" has a high degree of public acceptability as evidenced by the unanimous passage of mandatory recycling legislation in the State Legislature, both in the Assembly and Senate, which occurred earlier this year. Nevertheless, there are elements of recycling that require further attention and may not be greeted with public enthusiasm. Among these elements are: plastics recovery, regional tire processing and composting. Chapter IX will present the Commission's findings, analysis and conclusions on recycling.

7. ***Other Issues***

There are other disposal programs and issues that impact on solid waste management in New Jersey. These issues cannot be logically categorized under the aforementioned headings and therefore will be addressed in a separate chapter. Among the major topics to be addressed are: sludge management, waste reduction, and interdepartmental coordination at the State level. The diversity of issues and programs associated with solid waste points up the difficulties in managing this vast area.

SCOPE

Indeed, the process of solid waste disposal is multi-faceted. Data generated by the various systems and programs is very extensive, particularly in the State of New Jersey which is so densely populated and contains 567 municipal jurisdictions.

This study is not an encyclopedic exercise which maximizes the collection and analysis of data nor is it an engineering evaluation of the technology of various waste disposal modes. Rather, this is a study utilizing a generalistic approach to the management of solid waste disposal. *The emphasis here is on policy analysis and understanding, followed by recommendations designed to make the system work for the people of New Jersey.*

It is recognized that solid waste disposal is a "moving target" with conditions, processes and responses changing from day to day. Bearing this in mind, the Commission has limited the study to approximately one year in duration with the expectation that conclusions and recommendations will be both timely and sensitive to future variations in this field. During the study, it was essential to capture the pulse of solid waste disposal with extensive field interviews (see page 8).

Some observers argue that the existing statutes and regulations provide ample capability for handling the problem. If this is the case, then why haven't more county solid waste plans been implemented? *Again, the focus of this study is to answer this perplexing question and to make recommendations to ensure implementation.*

The Commission is also mindful that any suggestions for major changes in policy and procedure could be counterproductive. There are those at the planning level who would use such suggestions as a rationale for doing nothing in anticipation of changes. Notwithstanding this constraint, the Commission has given consideration to a full range of possible alternatives, from major policy revisions, to mid-course corrections, to fine tuning, to no change. Implementability of the recommendations is the primary concern.

FORM AND METHODOLOGY

A brief review of the methods used for gathering data and making judgments on various solid waste issues will be helpful in understanding this report.

1. ***Review of Legal Framework***

New Jersey statutes from 1970 to the present were thoroughly reviewed as to their effects on solid waste disposal.[7] These statutes produced regulations which have also been carefully studied. As a result of State law and regulations being relatively new in the area of solid waste, various court decisions and opinions have formed a basic part of our analysis. A detailed summary of the statutory law, regulations and case law is presented in Chapter II.

2. ***Collection of Factual Information***

There are many sources of solid waste data which have been researched and studied as part of this report. The Division of Solid Waste Management, New Jersey Department of Environmental Protection, has provided much of the information. This was supplemented by data from the counties and an examination of major engineering studies. Due to the nature of this report, a detailed compilation of all of the research data and records review is not indicated. The more relevant information regarding solid waste generation, disposal capacities, waste flows, collection practices and recycling facts is included in Chapter III. The status of each of the county plans is also shown in Chapter IV.

Particular note is made of many other reports that have recently been produced in New Jersey on the subject of solid waste disposal. These reports include: the *White Paper,* by the Department of the Public Advocate, July 1984; *Solving the Garbage Disposal Crisis in New Jersey,* by the New Jersey Alliance for Action, July 1986; *Utility Regulation of the Waste Hauling Industry,* by the New Jersey Chapter of the National Solid Wastes Management Association, March 1986; *Smoothing the Road to Resource Recovery,* by The Partnership for New Jersey, January 1986; and others.

Of particular importance as a basic document for this study is the *Solid Waste Management Plan Draft Update: 1985-2000* by the State Department of Environmental Protection, Division of Waste Management, July 15, 1985.

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[7]The first New Jersey statutes providing a role for State and county government in the solid waste process were enacted in 1970. Statutes providing a municipal role go back to 1917.

An additional vital source of information for this report is the *Responsiveness Summary* which was adopted June 30, 1986.

3. ***"Outreach Program"***

One of the basic ingredients of this study has been the "Outreach Program". This program entailed extensive interviewing and contacts with operating personnel, planners, regulators, attorneys, environmentalists, legislators, local officials, Department of Environmental Protection staff, other State personnel and staff of the Pennsylvania Department of Environmental Resources. Meetings have been held with all 21 counties. In many instances, there have been three or four separate meetings in a single county with persons having different responsibilities in the process including: the solid waste coordinator, freeholders, county counsel, planning officials, utilities authority director and recycling coordinator. These interviews have brought to this study first-hand insights and suggestions.

The success of the solid waste disposal process depends on the cooperation and economic well-being of the private sector. This study has attempted to include all interests. Those in the private sector who have been contacted include: haulers, engineering firms, trade associations, firms involved in secondary markets, investment bankers, and resource recovery vendors.

The research effort also involved meeting with the New Jersey Solid Waste Advisory Council. In addition to this, the research process involved attendance and participation in seminars, presentations and other forums addressing the issue of solid waste including the County Solid Waste Coordinator Conferences and the New Jersey Recycling Forum.

4. ***Findings, Analysis, Conclusions and Recommendations***

A summary of significant views and positions obtained in the "Outreach Program" will be presented in the chapters on "County Planning and Implementation", "State Planning and Implementation", "The Short-Term Disposal Crisis", "Conclusions and Recommendations", "Financing", "Recycling" and "Other Issues" (Chapters IV through X). Commission recommendations will conclude Chapters VIII through X while the report's major recommendations can be found in Chapter VII.

In closing, Chapter I has focused on providing a description of the purpose of this study along with outlining the seven-part approach that will be taken in this report. These seven chapters will be supported by background information dealing with "Statutory Framework and History", in Chapter II, and "Solid Waste Generation and Disposal", in Chapter III.

CHAPTER II

STATUTORY FRAMEWORK AND HISTORY

In this chapter we will examine the statutory framework concerned with the management of solid waste. Furthermore, a discussion of case law will describe the Courts' position on solid waste issues.

Prior to 1970, New Jersey's solid waste was managed by the private sector and by municipal government. Landfills, numbering in the hundreds, were owned and operated by private entrepreneurs or by municipalities. These facilities were regulated, with respect to sanitary conditions, by local boards of health. The State Department of Health had the power to enforce sanitation requirements if the local board failed to do so.

Collection of solid waste was conducted in three ways: by municipal departments, by municipal contract with private haulers, or by contract between a solid waste generator (homeowner or commercial and industrial establishments) and private hauler. In the past, virtually all solid waste went to landfills.[1] Most of the larger landfills were owned and operated by private parties. Furthermore, there was no economic regulation over any aspect of collection and disposal.

Meanwhile, the Department of Health developed and published a State solid waste management plan which recommended, in part, establishment of solid waste districts coterminous with county boundaries and the development of management plans for each district. The 1972 report of the County and Municipal Government Study Commission reemphasized the same recommendations. These recommendations were among the provisions adopted in the *1975 Solid Waste Management Act.*

THE 1970 STATUTES

A review of the solid waste industry by the New Jersey State Commission on Investigation, culminating in 1969, found extensive corruption and monopolistic practices. As a result, the *Solid Waste Utility Control Act* was passed in 1970 (N.J.S.A 48:13A-1). This law gave the Public Utility Commission (subsequently changed in name to the Board of Public Utilities) economic regulatory powers over the solid waste collection, hauling and disposal industries. The major provisions of this act included:

- the regulation and approval of rates,
- the regulation and approval of contracts between local governments and solid waste utilities,
- the granting of franchise areas for collection and disposal,

[1]Before 1970 there were some trash incinerators operated by apartment houses, supermarkets and a few municipalities.

- the issuance of Certificates of Public Convenience to haulers and facilities and
- a requirement of minimum qualifications and performance bonds for those involved in solid waste activities.

As a companion measure, considered to be of less significance at the time, the Legislature passed the *Solid Waste Management Act* (N.J.S.A. 13:1E et seq.) in 1970. This law established primary State regulatory powers over disposal facilities in the newly created Department of Environmental Protection. The State was given enforcement power over the design and operation of disposal facilities as well as the requirement to assist in developing regional solid waste disposal plans. Finally, the Advisory Council on Solid Waste Management, an adjunct for studying solid waste problems and making recommendations, was created.

A third act was also passed in 1970. This act was entitled the *County Solid Waste Disposal Financing Law.* The purpose of this law was to provide counties the power to construct and operate disposal facilities. Shortly after its passage, the powers provided by this law were utilized by Monmouth County. Bergen County, however, had a solid waste facility in operation much earlier than the enactment date of this statute.

CHAPTER 326

The substance of the present *Solid Waste Management Act* was contained in the 1975 amendment to the 1970 law. This amendment is known as *Chapter 326.*[2]

By 1975, solid waste disposal capacity had become a serious State problem. In its report of September 1972, the County and Municipal Government Study Commission detailed the urgency of the problem and recommended various statutory changes. It was evident that the State law enacted in 1970 was not sufficiently specific and comprehensive to resolve this issue.

After deliberating as to where to place ultimate responsibility for solid waste management, *the Legislature chose to give primary planning and implementation functions for solid waste disposal to the counties.* The State Department of Environmental Protection would supervise and approve county plans in accordance with broad objectives and require their execution. Moreover, the State would continue to issue permits for and review the environmental aspects of proposed disposal facilities. The principal features of *Chapter 326* provide for the following:

1. Establish 22 individual planning districts, one for each county and one for the Hackensack Meadowlands. Each district must appoint a solid waste coordinator.
2. Require each district to develop and adopt a solid waste plan which, among its provisions, shall contain:
   - a plan for the ensuing 10 years,

[2]This amendment carries the citation: P.L. 1975, *Chapter 326.* Some refer to this as the *1976 Amendment* because the official adoption date of *Chapter 326* was February 23, 1976.

- data on current and projected solid waste generation in the district,
- a designated agency of county government with the responsibility for implementation,
- the strategy (mode) of solid waste disposal for the district,
- a plan identifying sites of existing and proposed facilities,
- transportation routes and costs, waste flows,
- management systems and procedures and
- a financial plan.

3. Establish a procedure for adopting, after due process, the district solid waste plan. Included in the procedures are:
   - consultation with the Solid Waste Advisory Council,
   - holding a public hearing,
   - approval of the plan by the Board of Chosen Freeholders,
   - submission of the plan to the State Department of Environmental Protection and
   - allowing time for judicial review of the adopted plan.
4. Institute a review process for approving county plans by the State Department of Environmental Protection. This process allows for approval, modification or rejection within 150 days. Modification is subject to subsequent review conditions.
5. Create a county Solid Waste Advisory Council consisting of mayors, representatives of the private collection and disposal industry and environmentalists. The Solid Waste Advisory Council is to be consulted in the development and implementation of a county solid waste plan.
6. Prepare a State solid waste master plan which provides guidance for counties and incorporates county waste flow data.
7. Have the State prepare a county solid waste plan if the county has not prepared its own or if the State has not approved it.

Chapter 326 specifically states that the strategy section of a county solid waste plan "shall include the maximum practicable use of resource recovery procedures".[3] Furthermore, the definition of resource recovery includes recycling materials for reuse as well as energy production. Additional features of *Chapter 326* relating to shortcomings in the planning and implementation process will be discussed in Chapters IV and V of this report.

RECYCLING

In New Jersey, recycling has been recognized as an integral part of solid waste management. It has also been recognized, however, that recycling is difficult to get started and sustain in most communities unless the process is subsidized.

[3]N.J.S.A. 13:1E-21, b(2).

Accordingly, P.L. 1981, c.278 was passed providing for a tax of $.12 per cubic yard of waste (equal to $.40 per ton) to be collected at all New Jersey landfills.[4] This tax was designed to fund programs and capital expenditures which would stimulate recycling. The Office of Recycling, transferred in 1986 from the Department of Energy to the State Department of Environmental Protection, administers the State's responsibilities in recycling.

On April 20, 1987 recycling was mandated by law in New Jersey.[5] This new statute will result in a more comprehensive and formal recycling element added to county solid waste planning. In addition, municipalities will be required to have basic recycling programs coincide with the county plan. Source separation of specified recyclable materials will have to be included in municipal plans. Furthermore, the new law increases the recycling tax collected at landfills to $1.50 per ton, and the funding programs are expanded accordingly.

The mandatory recycling legislation also recognizes that efforts must be made to remove greater portions of potentially recyclable materials from the waste stream—such as plastic bottles and tires. The resultant savings in reduced disposal costs will be substantial. Thus, the law requires that each county adopt programs which, in two years, will achieve the goal of recycling 25% of the waste stream.

SANITARY LANDFILL CLOSURE ACT

In the 1970s, scores of landfills were "terminated"; a small number were properly covered and closed, many were discontinued, while others were abandoned. Two basic reasons caused the termination of so many landfills: first, the increases in waste generation, including out-of-state waste, filled the existing landfills to capacity; and second, more stringent environmental requirements and public protest discouraged continued operation in many cases.

In 1981, the *Sanitary Landfill Closure and Contingency Fund Act* was passed to address this growing problem.[6] This Act attempted to provide funding for proper closure and post-closure maintenance of landfills. A State tax or surcharge of $.15 per cubic yard was imposed on all solid waste disposed at New Jersey landfills. The proceeds of this tax, estimated to be $8 million annually, were intended to give the State the financial resources to administer the proper closure of landfills as well as providing compensation in damage suits against these landfills.

A second part of this Act required the owners/operators of landfills to place an additional $.30 per cubic yard of solid waste disposed at a facility in an escrow account. The purpose of the escrow account is to cover the costs of closure in accordance with environmental standards. In addition to this Act, the *McEnroe Act of 1985* (see pages 13-16) provided funding through the Resource Recovery Investment Tax for counties, in certain instances, to pay for the closure of terminated landfills.

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[4]N.J.S.A. 13:1E-92 et seq.
[5]P.L. 1987, c.102; N.J.S.A. 13:1E-1 et seq.
[6]P.L. 1981, c.306; N.J.S.A. 13:1E-100 et seq.

An important step taken by the Legislature was the inclusion of the concept of strict liability for closed landfills. This means that owners and past disposers are fully liable for any claims against the landfill regardless of the degree of fault attributable to that owner or any single user.

Finally, the Legislature passed a law in late 1985 establishing the Sanitary Landfill Closure and Rate Relief Fund. The purpose of this fund is to provide grants and low interest loans to local governmental units to assist in financing the proper closure of terminated landfills.[7] The law provides incentives to encourage the development of sound closure plans by landfill owners and operators. This "fund" is financed by legislative appropriations and applies to any landfill closure in the State. The only appropriation from this fund to date has been $8 million which went to resolve a specific problem in Burlington County.

McENROE ACT OF 1985

The most significant revision of the *Solid Waste Management Act,* as embodied in the provisions of *Chapter 326,* took place in February of 1985 with the passage of the *McEnroe Act.*[8] A series of pressures created the need for this legislation. The effect of these pressures was to impede the implementation of solid waste plans and facilities in the following respects:

- Siting problems had become very severe; there were inadequate incentives to make it attractive for a municipality to host a solid waste disposal facility.
- Resource recovery technology would involve high costs in the form of tipping fees. This meant that a county would experience major "rate shock" when converting from the relatively lower cost landfill disposal modes to a mass burning resource recovery plant.
- It was believed to be difficult to interest private vendors in undertaking the ownership, financing, construction, operation and maintenance of costly resource recovery facilities, under "full-service" contracts with local governments.[9] The necessity for public bidding as well as the Board of Public Utilities jurisdiction over disposal rates provided the main hindrance. Meanwhile, the solid waste disposal situation was becoming even more critical with very little landfill capacity remaining in New Jersey.

In amending the *Solid Waste Management Act,* the *McEnroe Act* declared more affirmatively that resource recovery should be the basis of the solid waste disposal strategy in New Jersey. The legislative findings in the preamble to the law state:

> The Legislature therefore declares that it is the public policy of the State of New Jersey to provide a framework for the implementation of an

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[7]P.L. 1985, c.368; N.J.S.A. 13:1E-169 et seq.

[8]P.L. 1985, c.38; N.J.S.A. 13:1E-136 et seq. This is known as the *McEnroe Act* because is was sponsored by Assemblyman Harry McEnroe of Essex County.

[9]"Full-service" contracts with private vendors is a desirable form of "privatization" wherein private sector corporations assume the financing and major risk obligations, as well as enjoying the profit making potential, for these capital intensive facilities.

efficient solid waste disposal and resource recovery strategy which facilitates the orderly development of resource recovery facilities while protecting the public health, safety, and welfare, all as hereinafter provided.[10]

In early 1985, landfill disposal already involved taxes, or surcharges, for recycling and for landfill closure. The *McEnroe Act* added four more of these taxes on landfill disposal (see Table II-1). However, these taxes will not be charged on disposal at resource recovery plants or when ash residue from resource recovery facilities is disposed at a landfill. The taxes comprising the *McEnroe Act* are:

TABLE II-1
McENROE ACT TAXES

	Initial Charge Per Ton	Final Charge Per Ton	Year Increases Expire
Solid Waste Services Tax[1]	$0.50	—	—
Resource Recovery Investment Tax	$1.00	$10.00	1996
Solid Waste Importation Tax	$1.00	$18.00	1995
Host Municipality Benefits	$1.00	—	—

[1]The annual increases for these taxes is as follows: Solid Waste Services Tax—$0.05; Resource Recovery Investment Tax—$1.00; and Solid Waste Importation Tax—$4.00 (1988), $2.00 (1989-1995).

1. ***Solid Waste Services Tax***

A charge of $.50 per ton, increased by $.05 annually, is imposed at all landfills. The proceeds of the Solid Waste Services Tax are estimated to be $5 million per year, and are administered by the State Department of Environmental Protection. Counties must specify planning and implementation programs in their applications for apportionment of these funds. Each county is entitled to the funds represented by the amount of solid waste they generate, after allowing no less than 2% of the total statewide receipts in any year as a minimum for each county.

An important provision of the Solid Waste Services Tax is that New Jersey's Department of Environmental Protection has the power to disqualify a county from receiving its Services Tax proceeds for one of several reasons: the State Department of Environmental Protection may deny these funds upon "finding that the county has not made a good faith effort toward

[10]N.J.S.A. 13:1E-136.

identifying sufficient available, suitable sites for solid waste facilities within the county, or negotiating interdistrict agreements, to provide for the disposal needs of the county".[11] The tax proceeds thus forfeited would be put back into the State fund and reallocated among the other counties.

2. ***Resource Recovery Investment Tax***

This charge, which starts at the rate of $1 per ton of waste disposed in a county, can be increased as a result of special studies, done by a county, which identify exactly how the proceeds will be used to subsidize the expected high resource recovery rates. Among the acceptable subsidization programs are:

- reduction in resource recovery tipping fees,
- construction of new, state-of-the-art landfills for disposal of resource recovery by-pass waste and ash residue,
- construction of new, state-of-the-art landfills for all of a county's solid waste, if in accordance with the approved plan, and
- financing the closure of terminated landfills (see pages 12-13).

If there is no application by a county for greater increases under the above programs, the Resource Recovery Investment Tax will increase automatically at the rate of $1 per year. The maximum of this tax rate is set at $10 per ton, with expiration on January 1, 1996. Counties should have completed their plans for increases in the Resource Recovery Investment Tax by February 4 of 1987.

As in the case of the Solid Waste Services Tax, New Jersey State Department of Environmental Protection has the power to withhold the Resource Recovery Investment Tax from a county upon the finding of failure by that county in planning for the use of funds from the tax. In this instance, the Department can do the planning and spend the funds in the county's stead. This tax is an entitlement to be held in accounts under county control with interest on unused portions accruing to the county.

3. ***Solid Waste Importation Tax***

Disposers of solid waste originating outside of the county must pay a tax at the landfill of $1 per ton, increased to $4 per ton in 1988 and $2 per ton annually thereafter. The Solid Waste Importation Tax will reach $18 per ton in 1995, the year before its expiration. This tax is added to the Resource Recovery Investment Tax to create a fund from which disbursements are administered in a consolidated manner.

4. ***Host Municipality Benefits***

A resource recovery facility and a new landfill may provide the host municipality with the proceeds of a surcharge of at least $1 per ton of solid waste which is disposed of at that facility. Additional subsidies to the host

[11]N.J.S.A. 13:1E-152.

municipality can also be made.[12] These surcharges are paid directly from the owner/operator of the facility to the municipality.

The *McEnroe Act* also addressed problems which were encountered by local governments in contracting with private vendors. If certain specified procedures are observed in negotiating and awarding a contract for solid waste facilities, the provisions of public bidding can be waived. However, public hearings are included in the "due process" provisions where public bidding is waived.

The three State government departments involved in reviewing and approving private vendor contracts are the State Department of Environmental Protection, the Division of Local Government Services in the Department of Community Affairs and the Board of Public Utilities. In addition, the Division of Rate Counsel of the Department of Public Advocate participates in the review process.

The Board of Public Utilities, after approving a contract between a local government agency and a private solid waste facility, exercises no more jurisdiction over the rates and rate setting procedures (unless requested by all parties). Nevertheless, it is believed that the Board of Public Utilities has certain residual jurisdiction over economic factors by virtue of its powers to issue a Certificate of Public Convenience and Necessity and to award a franchise area.

OTHER LAWS

1. ***Hazardous Waste***

   In 1976, a law was passed which prohibited the disposal of hazardous waste substances at landfill facilities in New Jersey.[13] However, in cases where a landfill had been made environmentally secure, hazardous substances could be disposed under prescribed conditions.

2. ***Sludge Disposal***

   The disposal of sludge was brought under the solid waste planning statutory provisions in 1977. This amendment encouraged composting and land application of sludge.[14] As a result of sludge management being encompassed in these statutory provisions, it was now subject to the jurisdiction of the Board of Public Utilities. Finally, the law required promulgation of a statewide sludge management plan which has not yet been adopted.

3. ***1980 and 1985 Bond Acts***

   The voters of the State approved the $50 million *Natural Resources Bond Act* in 1980. These funds were available for capital purposes on resource recovery projects in the form of grants or loans. However, almost none of the monies have been used.

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[12]Some persons believe that such additional subsidies are subject to Board of Public Utilities review and approval.

[13]P.L. 1976, c.99; N.J.S.A. 13:E-38 et seq.

[14]P.L. 1977, c.328; N.J.S.A. 13:1E-43 et seq.

In 1985, Environmental Trust Bonds in the amount of $85 million were approved by the voters. Also approved was the consolidation of the $50 million from the Natural Resources Bond issued with this $85 million. The Legislature added another $33 million for capital funds by way of appropriation, making a total of $168 million in this "pool" of funds for solid waste facilities.

All of these monies are available as low interest or interest free loans to local government agencies for both resource recovery and new landfill facilities. To date; $70.5 million from this fund has been lent, interest free, to Essex ($48 million), Bergen ($15 million) and Camden ($7.5 million) Counties.

4. ***Clean Communities Act***

In 1985, an anti-littering law was added to the basic recycling statute.[15] This law imposed a tax on manufacturers and large wholesalers of certain litter generating packages and products. The tax amounts to 3/100ths of 1% of the value of the product, and proceeds go to the Clean Communities Account. In December of 1986, subsequent legislation (A-2262) became law. A-2262 provided for disbursements of the funds from this account to municipalities and counties in accordance with the quantity of housing units and is administered by the Office of Recycling. It is important to note that the *Clean Communities Act* also prohibits the sale in New Jersey of beverage containers with detachable metal opening tabs and certain plastic holders used as part of the packaging of six-packs.

5. ***A-901 Disclosure Act***

In order to inspire greater public confidence in the waste hauling and disposal industry, the Legislature passed a bill (in 1983) requiring full disclosure of background data on all persons connected with a solid waste disposal firm.[16] The New Jersey Department of Law and Public Safety then reviews the data and makes additional background checks. Persons and firms with criminal records and other deficiencies in their backgrounds can be denied licensure. The regulations promulgated as a result of this law are entitled: "Solid and Hazardous Waste Licensing and Revocation—Disclosure Statements and Integrity Review". This law is still in effect even though a court decision narrowed the scope of information that could be used in the integrity review.[17]

6. ***Other Laws to be Noted***

- *Scales Act,* P.L. 1983, c.93; N.J.S.A. 13:1E-117 et seq.
- *Incinerator Authorities Law,* P.L. 1948, c.348; N.J.S.A. 40:-66A et seq.

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[15]P.L. 1985, c.533; N.J.S.A. 13:1E-92 et seq.

[16]P.L. 1983, c.393; N.J.S.A. 13:1E-126 et seq. A-901 refers to the bill sponsored by then Assemblyman Lesniak which produced this law.

[17]*Trade Waste Management Assoc. Inc., v. Hughey,* C.A.3 (N.J.) 1985, 780 F. 2d 221.

- *County Solid Waste Disposal Financing Law,* P.L. 1970, c.242; N.J.S.A. 40:66A-31.1 et seq.
- *New Jersey Pollution Control Financing Law,* P.L. 1973, c.376; N.J.S.A. 40:37C-1 et seq.

REGULATIONS

There are extensive volumes of regulations covering the area of solid waste. Among the principal regulations listed in the New Jersey Administrative Code are the following: General Provisions, Disposal, Collection and Haulage, Fees, Rules of Practice and Procedure and Interdistrict and Intradistrict Solid Waste Flow (N.J.A.C. 7:26-6.7). In addition to this, there are several chapters covering broader aspects of solid waste.

The function of regulations is to specify the intent of the law as provided in statutes and thus establish guidelines for individuals to follow. However, due to constantly changing conditions, adopted regulations on solid waste have not always kept pace with administrative initiatives introduced by the State Department of Environmental Protection. An example of this problem exists in regard to planning and disposal activities related to solid waste management which have had to rely on draft regulations for an extended period of time. It was May of 1986 when these draft regulations were published as proposed regulations.[18] In June of 1987, these regulations were adopted.

Another area in which there have been major delays in the adoption of regulations is sludge disposal. Sludge disposal in New Jersey has operated without a statewide master plan for the last 6 years. Such a master plan is currently being promulgated, and will serve as the regulatory framework when adopted.

Sludge, by statutory definition, is a solid waste. The 1977 law requires that sludge disposal be part of county solid waste plans. Yet because there has been no State sludge management plan on which to base sludge disposal regulations, the Department of Environmental Protection has allowed county plans to omit consideration of sludge.

SIGNIFICANT COURT DECISIONS

Since the passage of both the *Solid Waste Management Act* in 1970, as amended in 1975, and the *Solid Waste Utility Control Act of 1970,* there have been numerous court decisions interpreting these and other related State laws. A review of the major cases is helpful in understanding policy and jurisdiction over solid waste disposal matters.

1. ***City of Philadelphia v. New Jersey***

   Due to growing shortages in landfill capacity, a law was passed in 1973 prohibiting disposal of waste from out-of-state at New Jersey landfills (P.L. 1973, c.363). This law was overturned as a result of a challenge in the Federal Courts by the City of Philadelphia in a decision declaring that New Jersey

[18]Planning, disposal and landfill regulations; N.J.A.C. 7:26-1 et seq.

could not prohibit the importation of solid waste from other states on a discriminatory basis. The prohibiting of the disposal of Pennsylvania's waste in New Jersey was declared a direct violation of the Commerce Clause of the United States Constitution (*City of Philadelphia et al. v. New Jersey et al.,* 437 U.S. 617 (1978)).

With the passage of *Chapter 326* in 1975, New Jersey established a planning structure and system of standards which would allow disposal of solid waste at facilities which were part of a county solid waste plan *without discriminating against the generator because of geographical location.* Thereafter, Philadelphia was barred from disposing its garbage at the Kinsley landfill in Gloucester County. The Court upheld this exclusion of Philadelphia because it was non-discriminatory and because Philadelphia was not without alternatives (see *Glassboro et al. v. Gloucester County Board of Chosen Freeholders et al.,* 199 N.J. Super. 91 (App. Div. 1985)).

2. ***A. A. Mastrangelo, Inc. v. Commissioner of the Department of Environmental Protection***

One of the most important cases on solid waste planning, known as the *Mastrangelo* case, was decided in 1982. Several waste hauling and disposal firms had challenged the power of the State, through the Department of Environmental Protection, to impose interdistrict waste flow orders. It was the purpose of these orders to direct the flow of waste from certain areas of generation to specific disposal sites located in the same or another solid waste district. The State Department of Environmental Protection had promulgated the waste flow orders under its presumed power to plan for the efficient disposal of solid waste.

The New Jersey Supreme Court upheld the State's essential planning powers over waste flow as set forth under the *Solid Waste Management Act.* However, the Court did make the distinction that waste flow powers were to be exercised jointly by the State Department of Environmental Protection and the Board of Public Utilities. More specifically, the State Department of Environmental Protection could direct interdistrict waste flow, but only the Board of Public Utilities could specify the sites for intradistrict and interdistrict waste flow orders. This distinction was made because the Board of Public Utilities had been given the power over economic regulation of solid waste disposal (*A. A. Mastrangelo, Inc. v. Commissioner of the Department of Environmental Protection,* 90 N.J. 666 (1982)).

The impact of the *Mastrangelo* decision can be seen in a subsequent case wherein the State redirected waste flow from the City of Elizabeth away from a landfill in the Hackensack Meadowlands to an alternative site for the purpose of prolonging disposal capacity at the Hackensack landfill. The estimated additional cost of this redirection could be as much as $1.1 million. The Court upheld the power of the State Department of Environmental Protection and the the Board of Public Utilities, acting jointly, to carry out this waste flow order (*The City of Elizabeth v. State of New Jersey Department of Environmental Protection and Board of Public Utilities,* 198 N.J. Super. 41 (App. Div. 1984)).

3. ***Combustion Equipment Associates***

In this court case on solid waste planning, it was ruled that under the *Solid Waste Management Act,* the State Department of Environmental Protection is to establish a statewide plan for solid waste management and county agencies are to establish regional plans. Furthermore, the Court held that the Department has authority to monitor the county agencies and to fill any gaps caused by a county's inaction for non-compliance with the Department's statewide scheme.

In this case, the Court ruled that the Department of Environmental Protection could approve and issue a permit for a solid waste facility before the county in which that facility was located (Essex) finalized its solid waste plan. Once approved by the State, the county would have to include that facility as part of its plan (*In re Application Combustion Equipment Associates, Inc.,* 169 N.J. Super. 305 (App. Div. 1979)).

4. ***Chester Township v. State Department of Environmental Protection***

This case involved local planning powers, and was decided in favor of the Department of Environmental Protection over the Township of Chester (Morris County) after the Department had granted approval to a private disposal facility for the construction of an access road. This gave the Department of Environmental Protection preemption power over the municipal planning ordinance and process (*Chester Township v. Department of Environmental Protection of the State of New Jersey,* 181 N.J. Super. 445 (App. Div. 1981)).

5. ***Township of Florence v. Burlington County Board of Chosen Freeholders***

The most substantive and comprehensive challenge to *Chapter 326* was made by the Township of Florence and other plaintiffs, including the Landfill and Development Company, against the Board of Chosen Freeholders of Burlington County, New Jersey Department of Environmental Protection and the City of Philadelphia. On March 10, 1983, Judge Haines ruled in favor of Burlington County, and upheld the fundamental process of *Chapter 326.* In passing judgment on the fundamental question of siting a solid waste disposal facility, in this case a landfill, Judge Haines in an unpublished opinion stated:

> The statutory scheme [of *Chapter 326*] requires only that the location of the facility be fixed by the Freeholders, acting on a rational basis, when they adopt a plan. . . . The County was not required to choose the best possible site. It was not required to exhaust every avenue of inquiry. . . . It was not required to agree with the information, expert opinions, engineering reports or opposing arguments of interested objectors. Its only obligation was to be rational in its decisions.[19]

[19]*Township of Florence v. The Board of Chosen Freeholders of the County of Burlington et al.,* Superior Court, (Law Division), Burlington County, Docket Number L-70135, L-70141 and L-69464, unpublished decision, March 10, 1983.

Judge Haines affirmed that the Freeholders have the power and responsibility to make siting decisions and they must scrupulously follow every step of the planning process as outlined in the Solid Waste Management Act. The environmental and technological evaluations are within the province of the State Department of Environmental Protection.

It is interesting to note that part of the challenge in this case concerned the matter of Burlington County contracting for waste from the City of Philadelphia. The Court reaffirmed that out-of-state waste must not be treated in a discriminatory manner but that it is subject to the New Jersey solid waste disposal planning process.

6. ***New Jersey Board of Public Utilities***

This waste flow redirection case upheld the power of the Department of Environmental Protection and the Board of Public Utilities to direct the flow of solid waste in Cape May County to a specific landfill. The purpose of this redirection was to generate additional revenues at the specified Cape May landfill to finance required environmental improvements prior to its closure. The waste flow redirection had been challenged by the landfill owner from whom the waste stream was diverted (*In re New Jersey Board of Public Utilities, New Jersey State Department of Environmental Protection,* 200 N.J. Super. 544 (App. Div. 1985)).

7. ***Glassboro v. Gloucester County Board of Chosen Freeholders***

This case is important for two reasons the first being that Judge DeSimone issued an order directing waste flows in southwestern New Jersey for an interim period of time before closing a major landfill. Secondly, the order by DeSimone, as upheld by the Appellate Division of the New Jersey Superior Court, required that the City of Philadelphia cease disposing solid waste at this landfill.

The privately operated Kinsley landfill, located in Gloucester County, was nearing its limit from an environmental and engineering standpoint. Furthermore, solid waste disposal capacity had reached a critical point in this region, a condition which would be exacerbated if Philadelphia and other "outside" areas were allowed to continue disposing at this site. Judge DeSimone's order in November 1984 is paraphrased as follows:

- Gloucester, Salem and Camden Counties could continue using Kinsley, but these counties must develop and open their own landfills within one year.
- The Kinsley facility would have to close when a certain physical capacity was reached, anticipated for November 1985.
- No more solid waste could be accepted from Philadelphia and other Pennsylvania communities; also, "other out-of-district . . . solid waste not subject to interdistrict agreement" was barred. Salem and Camden, however, had interdistrict agreements with the "host" district of Gloucester.

- All municipalities in the three counties would have to maximize recycling programs.

In its written opinion, the Appellate Court upheld Judge DeSimone's order excluding solid waste from Philadelphia because of emergency conditions in the tri-county area served by Kinsley. In so doing, the right of the solid waste district to exclude out-of-district (tri-county area) as well as out-of-state solid waste in a nondiscriminatory manner was upheld. The court stated, in part:

> We must stress that the order of Judge DeSimone in effect forecloses use of the landfill by both in-state and out-of-state users beyond the tri-county area. This order does not bar Philadelphia's trash simply because of its Pennsylvania origin but because of its origin outside the emergency-affected tri-county, southern New Jersey area. Waste originating from Atlantic City, Trenton, Newark or the State of Delaware, or any other source outside of the tri-county area was banned.[20]

8. ***South Harrison v. Gloucester County Board of Chosen Freeholders***

This was a case in which the landfill site selected by the Gloucester County Board of Chosen Freeholders was challenged. Except for procedural errors made by Gloucester County which were later rectified, the Court upheld the role of the County Freeholders in selecting the landfill site with the following statement:

> By way of summary, the Court points out that the true test by which the actions of the Board of Freeholders must be judged is not whether it picks the best site, certainly not whether the Court agrees with its selection of a site, or whether it should consider any other site. The issue is whether or not the Board of Freeholders abused its discretion in its amendment to its solid waste plan. . . .[21]

9. ***Department of Environmental Protection v. Middlesex County Board of Chosen Freeholders***

In a rather unusual move, the Department of Environmental Protection filed suit against seven counties. These counties had failed to adopt solid waste management plans which included disposal sites for either landfills and/or resource recovery facilities.

Judge Skillman, of the Superior Court, ruled that the Department of Environmental Protection could not enter suit against the counties to force them to adopt plans. The rationale for this decision was that the Department of Environmental Protection has sufficient authorization under the *Solid*

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[20]*Glassboro v. Gloucester County Board of Chosen Freeholders,* 199 N.J. Super. at 91.

[21]*Township Committee of South Harrison v. Board of Chosen Freeholders of the County of Gloucester,* Superior Court (Law Division), Gloucester County, Docket Number L-07550-85PW and L-09532-85PW, unpublished decision, August 15, 1985. Also, 210 N.J. Super. 370 (App. Div. 1986).

Waste Management Act to adopt plans, or portions thereof, on behalf of the counties which have failed to do so.

The question remains, once a siting decision has been incorporated into a county plan, by action of the county or the Department of Environmental Protection, what power does the State have to see that this decision is implemented? Judge Skillman observes:

> The Act also indicates that the responsibility for implementing an approved plan rests exclusively with the planning districts . . . the Act provides that the district 'shall proceed . . . to implement' the plan. However, it [the Act] is silent with respect to the mechanism for enforcement if a district fails to comply with its obligations under an approved plan. The Act contains no express authorization for the State Department of Environmental Protection either to assume responsibility itself for implementing a plan or to compel a district to fulfill its obligations under a plan. The question is whether this leaves the State Department of Environmental Protection without any power to enforce compliance with an approved plan.[22]

Judge Skillman then examines other general powers of the State Department of Environmental Protection to force implementation of an adopted district solid waste plan. In this regard, he concludes that *the State Department of Environmental Protection has injunctive powers to accomplish this purpose.* In his written opinion, Judge Skillman states:

> N.J.S.A. 13:1E-9 should be construed to authorize the State Department of Environmental Protection to seek a mandatory injunction compelling a district to comply with its own approved solid waste plan.
>
> There are various provisions of the *Solid Waste Management Act* which provide further support for the conclusion that the State Department of Environmental Protection may resort to the courts to enforce the provisions of an approved plan. . . [U]nless it [the State Department of Environmental Protection] can seek an injunction to compel a district to establish a resource recovery facility which an approved plan obligates it to establish, the State Department of Environmental Protection would be in the anomolous position of being able to order a district to take action but lacking the power to enforce the order if it is disobeyed. To avoid such consequences, it is appropriate to read N.J.S.A. 13:1E-9 to confer authority upon the State Department of Environmental Protection to fulfill its broad statutory mission under the Act by seeking injunctive relief for the enforcement of obligations under an approved plan.[23]

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[22]*State of New Jersey, Department of Environmental Protection v. Middlesex County Board of Chosen Freeholders,* 206 N.J. Super. at 430 (1985).

[23]Ibid., p. 432.

This case concludes that the State Department of Environmental Protection has sufficient administrative remedies to correct the situation where a county fails to plan and implement a program of solid waste disposal. However, the question remains as to whether the injunctive relief referred to by Judge Skillman is sufficient power to compel timely compliance.

FEDERAL LEGISLATION

A major piece of federal legislation that established guidelines for solid waste is the *1976 Resource Conservation and Recovery Act.* In addition to promulgating solid waste guidelines, such as allowing two or more states to enter into agreements for mutual assistance in the management of solid waste, the act regulated the handling of hazardous waste and provided technical and financial assistance to State and local government as well as interstate agencies. However, the federal government has never made funds available for the construction of the needed solid waste facilities.

In the fall of 1986, Congress passed an amendment which would also have a substantial impact on solid waste in New Jersey. As a result of the passage of the Federal Superfund Amendment, a landfill facility was prohibited from locating itself over a specific sole source aquifer in Morris County.[24]

This amendment was sponsored by Congressman Roe who represents portions of Morris County. The effect of the amendment was to prevent the construction of a landfill which was proposed for Rockaway Township, a municipality adjacent to Mr. Roe's congressional district.

This legislation was very specific. The legislation prohibited the disposal of solid waste at, or the location of: "a landfill, surface impoundment, waste pile, injection well or land treatment facility over the unconsolidated quarternary aquifer, or the recharge zone or stream flow source zone of such aquifer, in the Rockaway River basin in New Jersey".[25]

Officials at the Federal Environmental Protection Agency, the Department of Environmental Protection and Morris County agreed that the proposed landfill at site 6-1B in Rockaway Township is now precluded. It is also believed by some that it would be difficult to locate a landfill in other parts of Morris County because of the presence of another sole source aquifer, the Buried Valley Aquifer.

It is not certain whether the Superfund Amendment would apply to a resource recovery facility. New Jersey's Department of Environmental Protection believes that it does not, but agrees that a legal opinion on this issue from the Environmental Protection Agency, presently being sought by Morris County, is necessary for clarification. If it is determined that the amendment also excludes resource recovery facilities then the siting of a transfer station, a materials recovery facility, or a recycling center would also be in jeopardy in this area.

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[24]HR2005; also, see Congressional Quarterly, October 11, 1986, pp. 2533-2541.
[25]Federal Register, January 24, 1984, pp. 2946-2498.

CONCLUSION

In conclusion, this chapter has examined statutory law, case law, regulations and, finally, federal legislation. The focal point in the area of statutory law was *Chapter 326.* This 1976 amendment to the *Solid Waste Management Act* established vital guidelines for the handling of solid waste in New Jersey. A discussion ensued on various other statutes including the *1985 McEnroe Act* which imposed four additional taxes on landfills.

A major portion of Chapter Two was devoted to case law beginning in 1978 with the *City of Philadelphia et al. v. New Jersey et al.,* and ending with the *Township Committee of South Harrison v. Board of Chosen Freeholders of the County of Gloucester* in 1986. The general trend in these cases has been to give precedence to the interests of New Jersey in regard to the control of waste flow (rather than the interests of other states who wish to dispose of waste here). Furthermore, the opinions reached by the Courts have generally upheld the efforts of the State Department of Environmental Protection, the Board of Public Utilities and the Freeholders in their attempts to assist in the carrying out of county solid waste plans in New Jersey. In Chapter III, the analysis of solid waste will be continued through an examination of data with a major emphasis being placed on generation and disposal.



In 1987, Edgeboro landfill was New Jersey's largest landfill accepting more than two million tons of waste which accounted for 26% of the total waste disposed of in this State. (Photo courtesy of Marvin Ross/Department of Environmental Protection.)

CHAPTER III

SOLID WASTE GENERATION AND DISPOSAL

New Jersey is currently sending 24% of the State's waste to out-of-state landfills. Of the waste disposed of within the State, 93% is handled by twelve landfills. This chapter examines the past, present and future trends in the generation and disposal of New Jersey's solid waste.

The most important data for analyzing the status and effectiveness of solid waste management in New Jersey are the generation and disposal figures. These data are generally collected at the disposal facility—the landfill, recycling center or composting facility. For each load, the hauler is required to provide information on the classification of the waste, the volume and the source by municipality and county. Although most large disposal facilities are now required to have weighing scales, not all of them are in compliance, and volumes are given in terms of cubic yards. The conversion factor is one ton equals 3.25 cubic yards.

The accuracy of the generation and disposal figures depends upon the exactness of the driver or worker who fills out the load information. Accuracy is also dependent upon the honesty of these individuals and their superiors. As will be pointed out, aberrations in some of the data are greater than the standard deviation. It is generally acknowledged by solid waste professionals at the county and State levels that considerable improvements can be made in the collection and presentation of accurate data.

The solid waste generation and disposal figures for 1986 are preliminary, but past experience indicated that their accuracy should be reasonably close to the final "audited" figures. Certainly, they are adequate for comparison purposes as used in this report.

SOLID WASTE GENERATION

Solid waste generation and disposal quantities have been relatively stable in New Jersey over the last several years. Table III-1 shows the tons of solid waste generated in each of the 21 counties for 1985 and 1986. The increase is 3.33%, and would have been greater by approximately 2% had it not been for the growth (assumed) of recycling in 1986 as projected on Chart III-2 (see page 39).

In most cases, the year-to-year quantity change of solid waste generated in a county shows little variation. A significant index for each county is the amount of waste generated per capita (in tons). These figures for 1985 and 1986 are also shown on Table III-1. The State average was 1.372 tons per capita in 1985 and 1.424 in 1986, an increase of .052.[1]

One of the most significant statistics in this table is the tons per capita rate of waste generation in Morris County versus the same figure in Middlesex. In both

[1]The 1972 County and Municipal Government Study Commission report estimated that waste generation in New Jersey would be 1.314 tons per capita in 1985.

TABLE III-1
WASTE GENERATION BY COUNTY

County	Est'd Popul'n 7/1/86	1985 Tons Generated	1985 Tons/cap	1986 Tons Generated	1986 Tons/cap
Atlantic	206,300	321,945	1.570	312,391	1.514
Bergen	836,900	1,228,861	1.461	1,306,081	1.560
Burlington	382,500	481,611	1.267	456,035	1.192
Camden	492,900	573,987	1.176	658,798	1.336
Cape May	92,200	146,748	1.620	195,022	2.115
Cumberland	136,500	181,027	1.342	191,881	1.406
Essex	843,900	1,291,250	1.527	1,293,838	1.533
Gloucester	210,700	216,144	1.044	281,096	1.334
Hudson	551,800	742,025	1.335	727,786	1.320
Hunterdon	96,500	127,322	1.372	132,147	1.370
Mercer	322,500	435,884	1.372	452,405	1.403
Middlesex	636,200	1,200,721	1.916	1,249,160	1.963
Monmouth	542,400	803,459	1.513	848,813	1.565
Morris	418,500	337,197	.808	385,572	.921
Ocean	393,600	564,126	1.485	539,090	1.370
Passaic	461,500	501,168	1.087	513,853	1.113
Salem	65,500	91,724	1.407	64,989	.992
Somerset	215,200	255,290	1.214	275,263	1.280
Sussex	122,800	164,091	1.372	160,342	1.306
Union	504,700	595,877	1.176	557,303	1.104
Warren	86,600	116,894	1.372	121,325	1.400
Total	7,620,000	10,377,351	1.372	10,723,191	1.407

Note: The statewide tons per capita for 1985 and 1986 were calculated after eliminating the population and waste generation of those counties shipping to Pennsylvania. The tons per capita for 1985 are based on the population figures for that year (which differ from 1986).

Most of the waste (over 90%) generated in the counties of Hunterdon, Mercer, Sussex and Warren, for both years, is not accounted for on any reports because it is shipped to Pennsylvania. Also, one half the waste generated in Camden County in 1986 went to Pennsylvania. The totals for these five counties for the years indicated were arrived at by taking the Statewide tons per capita figure and applying it to the population of a county which shipped its waste to Pennsylvania.

Source: New Jersey Department of Environmental Protection. Population figures are from the New Jersey Department of Labor.

years, the rate of Morris is less than one-half of the rate in Middlesex County. It would be very difficult to attribute this difference to basic differentiations in waste generation patterns. Rather, it is presumed that much of Morris waste going to the Edgeboro landfill in Middlesex County is improperly recorded as being generated in Middlesex (current waste flow rules require all Morris County solid waste, with the exception of recyclables, to go to Edgeboro landfill in Middlesex).[2] If haulers improperly report Morris waste as originating in Middlesex County, the

[2]Several sources have indicated that substantial amounts of Morris County solid waste are disposed at Hackensack Meadowlands landfills (illegally).

haulers do not have to pay the county importation tax as required under the *McEnroe Act.*[3] Also, the less Morris County waste disposed at Edgeboro, the less waste that Morris County will have to accept, under a court agreement, from disposers in Middlesex at a later date. It does not appear that the major difference in per capita solid waste generation between these two counties is a matter of chance or a "fluke".

Even though these data are identified as solid waste generation amounts, it must be noted that they are collected at the disposal facility which, in many cases, is located in another county. Therefore, the accuracy of these numbers depends on the accuracy of each hauler identifying the proper source as well as the exact volume of each load.

SOLID WASTE DISPOSAL AND INTERCOUNTY WASTE FLOWS

All solid waste disposal in New Jersey today is by landfilling. The two most significant features of this disposal mode are:

- the decrease in the number of operating landfills, and
- the concentration of disposal in only a few of the remaining landfills.

Before 1970, there were over 400 operating landfills in New Jersey. By 1977, the number of landfills had been reduced to 310; at the end of 1985 there were only 93 remaining. According to the Department of Environmental Protection:

> Landfill closures have resulted from facilities reaching their approved design capacity and voluntarily closing and from enforcement actions taken by the Department to deal with pollution problems resulting from improper design and/or operation, or lack of capacity.[4]

Of the 93 landfills which are "officially" open, there are 40 which are municipal or governmental facilities. Another 33 landfills are "single purpose" landfills for bulky waste, vegetative waste or dry industrial waste, and the remaining 20 are "general purpose" facilities which receive standard municipal waste.

Table III-2 shows the 14 major "general purpose" landfills in operation during 1986 and the amount of waste disposed at each. In addition to this, Map III-1 indicates the location of these landfills within the counties. These landfills account for 95% of in-state disposal. By the middle of 1987, three of the landfills on Table III-2 (Kinsley, L & D and 1C) had been closed.

The four landfills receiving the most waste in New Jersey accounted for 66% of disposal in 1986. Edgeboro landfill in Middlesex County received 26%, and the next three ranking landfills, all located in the Hackensack Meadowlands District, received the remaining 40% of the waste.

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[3]N.J.S.A. 13:1E-136 et seq.

[4]*Draft Update,* p. 72.

TABLE III-2
LARGEST LANDFILL FACILITIES—1986 DISPOSAL

Rank	Facility Name	County of Location	Tons of Disposal	% of State Disp'l
1	Edgeboro	Middlesex	2,564,366	26.04%
2	HMDC-1C[1]	Hudson	1,597,606	16.22
3	Kingsland	Bergen	1,255,010	12.74
4	HMDC-Balefill	Bergen	1,090,714	11.07
5	Monmouth Cty. Reclamation	Monmouth	846,695	8.60
6	Ocean County LF	Ocean	347,290	3.53
7	Kinsley[1]	Gloucester	281,074	2.85
8	Pinelands Park	Atlantic	270,987	2.75
9	L&D[1]	Burlington	240,108	2.44
10	Pennsauken	Camden	237,498	2.41
11	Cape May MUA	Cape May	195,022	1.98
12	Parklands	Burlington	155,518	1.58
13	Vineland	Cumberland	136,690	1.39
14	South Ocean	Ocean	113,436	1.15
	Total of 14		9,332,014[2]	94.75%
	All other landfills (79)		516,585	5.25
	Grand Total		9,848,599	100.00%

[1]Kinsley and L&D landfills were terminated at the end of 1986. Waste to Kinsley was redirected to Gloucester County Landfill (new), and waste to L&D was redirected to Parklands. HMDC-1C was closed on July 31, 1987. The waste was then sent to Pennsylvania.

[2]This figure includes 299,651 tons from New York. On June 19, 1987, New York was no longer permitted to dispose of its waste at the Edgeboro landfill.

Source: New Jersey Department of Environmental Protection.

The pattern of interdistrict and out-of-state transfers of solid waste into New Jersey, as shown on Table III-3, reflects the importance of these major landfills. Furthermore, Map III-2 indicates the predominant waste flow patterns for 1987. In 1987, there was a significant amount of waste going to Middlesex (Edgeboro) from Union, Morris and Somerset Counties. The other major intercounty flow of waste involved the Hackensack Meadowlands.

With the closing of the Kinsley landfill in Gloucester County, ordered at the end of 1985, there are virtually no intercounty transfers of solid waste other than those described above. This lack of intercounty transfers is substituted with the transfer of waste, by several counties, out-of-state.

With regard to other state's use of New Jersey for disposal, in the past, New York disposed of a considerable amount of its waste in New Jersey (with the majority of waste being sent to Edgeboro). However, as of June 19, 1987, New York waste was no longer permitted to be disposed of at the Edgeboro landfill.

Table III-3 indicates that only 299,684 tons of waste (approximately 3%) disposed of in New Jersey originated from across the Hudson River. However, this amount does not include the waste that was discovered to have been dumped in North Bergen and the Hackensack Meadowlands. From January through August

MAP III-1

NEW JERSEY'S LARGEST LANDFILLS—1986

Ranked By The Amount of Waste Disposed At Each Landfill

1. Edgeboro
2. HMDC-1C
3. Kingsland
4. HMDC-Balefill
5. Monmouth County Recl'n
6. Ocean County
7. Kinsley
8. Pinelands Park
9. L & D
10. Pennsauken
11. Cape May MUA
12. Parklands
13. Vineland
14. South Ocean



COUNTY KEY MAP

Note: Kinsley and L & D were closed by the end of 1986. 1C was closed in 1987. 95% of in-state waste was disposed of at these 14 landfills in 1986.

Source: NJDEP.

TABLE III-3
INTERDISTRICT AND INTERSTATE TRANSFERS OF SOLID WASTE

Sending District or State	Receiving District or State	Tons 1985	Tons 1986
Camden	Gloucester	241,662	22,502
Camden	Pennsylvania	—	329,399
Essex	Bergen	—	12,900
Essex	Hudson	1,285,600	1,279,700
Hudson	Bergen	532,600	520,900
Hunterdon	Pennsylvania	123,071	128,609
Mercer	Pennsylvania	432,967	450,088
Morris	Middlesex	333,997	382,463
New York State	Middlesex (Edgeboro)	174,664	275,700
New York State	Middlesex (ILR)	19,600	—
New York State	Bergen (Balefill)	4,174	6,084
New York State	Hudson (1-C)	10,900	17,900
Passaic	Bergen	499,566	509,271
Salem	Gloucester	3,897	1,054
Somerset	Middlesex	223,894	265,556
Sussex	Pennsylvania	145,517	148,915
Union	Hudson	86,784	84,733
Union	Middlesex	489,967	454,410
Warren	Ocean	2,467	3,189
Warren	Pennsylvania	113,552	117,232

Not included in above figures:

—Transfers of less than 1% of exporting county's generation and minor waste stream of bulky materials.

Source: New Jersey State Department of Environmental Protection.

of 1986, construction debris generated from within New York was illegally disposed of in New Jersey.[5] It is quite probable that additional waste, originating from New York, is continuing to be illegally disposed of in New Jersey.

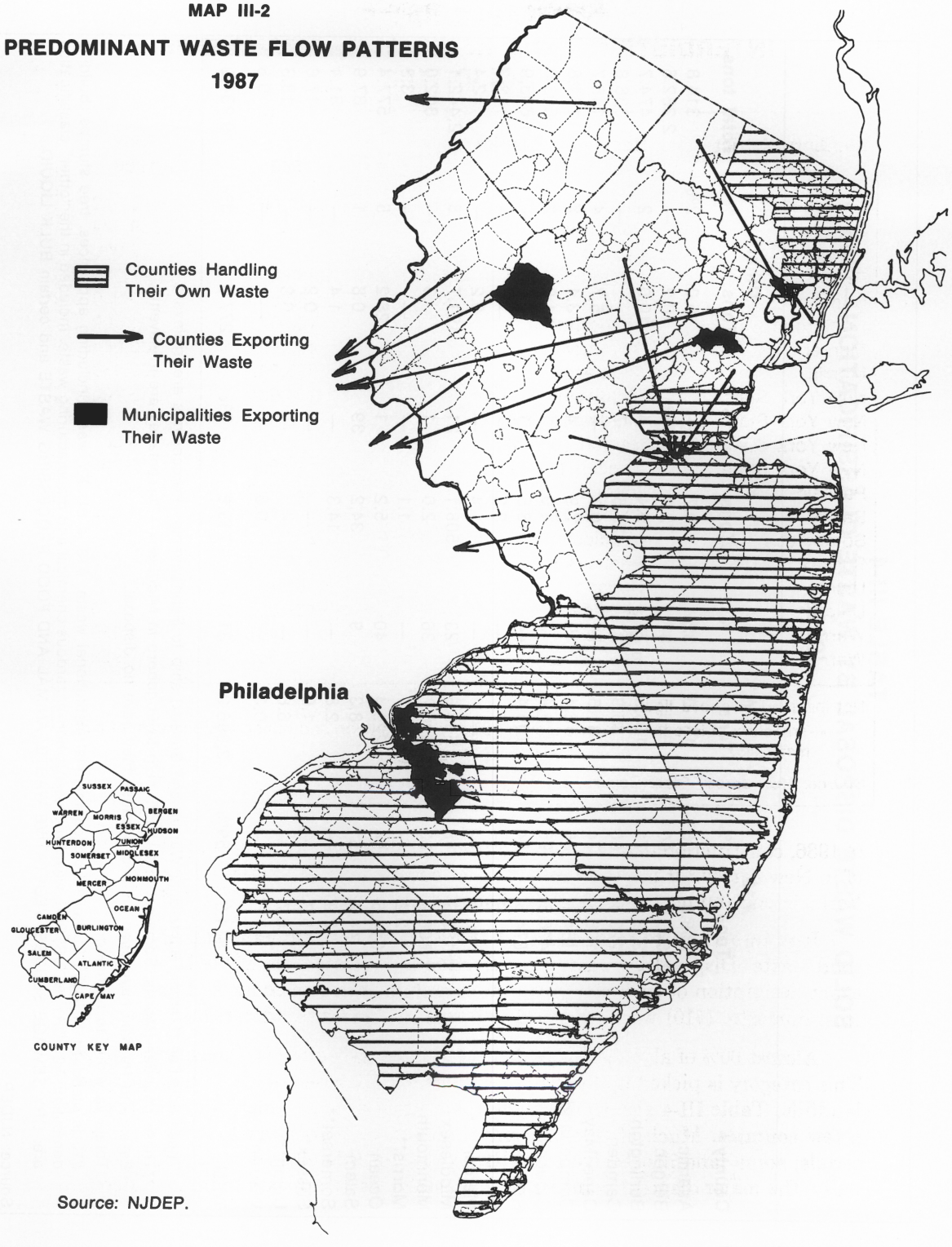
It is important to recognize that there are several different classifications of solid waste. Disposal by waste classification is indicated on Table III-4, and the exact description of each classification is contained in Appendix A. In addition to this, domestic (#10) waste disposal patterns for 1987 are indicated on Map III-3.

Almost 60% of all solid waste disposed of in New Jersey is "household" waste. This category is picked up by regular haulers and disposed of at "general purpose" landfills. Table III-4 also shows higher percentages of #13 bulky waste disposal in a few counties. Much of this concentration can be attributed to demolition materials; some landfills receive considerably less of this classification of waste. Finally, the major disposal point for dry industrial waste appears to be the Edgeboro

[5]Tom Johnson, "Test Finds No Toxins in Jersey—Dumped Debris," *The Star Ledger*, 8 April 1987.

MAP III-2

PREDOMINANT WASTE FLOW PATTERNS
1987



Source: NJDEP.

TABLE III-4
SOLID WASTE DISPOSAL BY WASTE CLASSIFICATION—1985
(000s)

County	#10 Tons	%	#13 Tons	%	#27 Tons	%	Other Tons	%	Total tons
Atlantic	208.2	66%	101.0	32%	0.7	—	5.0	2%	314.8
Bergen	1,363.9	60	836.5	37	72.0	3%	10.2	—	2,282.6
Burlington	338.8	71	106.5	22	19.4	4	10.0	2	474.7
Camden	223.4	66	89.9	27	25.5	7	—	—	338.8
Cape May	108.9	74	31.5	21	0.7	—	5.7	4	146.7
Cumberland	154.1	85	16.4	9	7.9	4	3.4	2	181.8
Gloucester	476.8	95	9.4	2	4.9	1	11.9	2	503.0
Hudson	874.5	54	705.4	44	18.5	1	7.5	—	1,605.9
Hunterdon*	—	—	—	—	3.3	—	—	—	3.3
Mercer*	0.8	—	—	—	1.4	—	0.2	—	2.4
Middlesex	1,182.6	48	559.6	23	508.1	21	191.7	8	2,442.1
Monmouth	508.9	63	290.7	36	2.0	1	.3	—	802.0
Morris**	2.2	—	—	—	1.1	—	—	—	3.3
Ocean	314.6	54	229.4	40	5.2	1	28.2	5	577.4
Salem	44.7	51	8.3	9	34.2	39	0.8	1	87.9
Somerset**	12.9	—	2.8	—	14.3	—	1.4	—	31.4
Sussex*	15.7	—	1.6	—	—	—	0.2	—	17.6
Union**	10.7	—	6.8	—	—	—	0.8	—	18.3
Warren*	—	—	0.3	—	0.5	—	—	—	0.8
Total	5,814.8	59%	2,996.2	31%	719.6	7%	277.3	3%	9,834.9

*These counties (Mercer, Hunterdon, Warren and Sussex) ship to Pennsylvania—Percentages are irrelevant.

**These counties (Morris, Somerset and Union) ship to Edgeboro in Middlesex—Percentages are irrelevant.

Essex and Passaic have been omitted because they have no disposal.

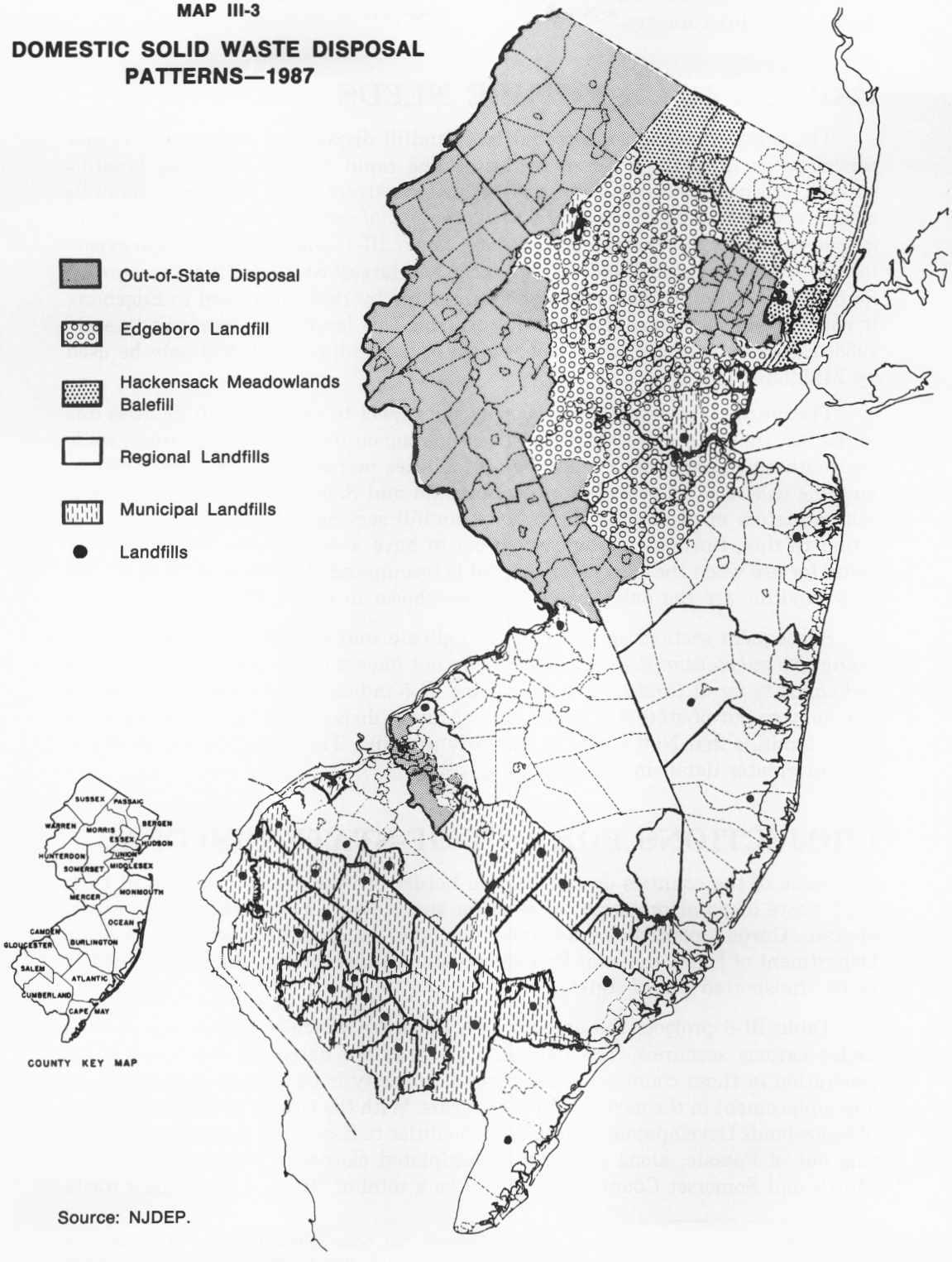
Totals vary due to rounding.

#10 is standard MUNICIPAL household/commercial/institutional waste; #13 is BULKY waste including appliances, tree stumps, building demolition; #27 DRY INDUSTRIAL waste represents non-hazardous chemical and manufacturing waste. Included in the "other" classification are: DRY SEWAGE SLUDGE, VEGETATIVE WASTE, ANIMAL AND FOOD PROCESSING WASTE and certain BULK LIQUID.

Source: NJDEP.

MAP III-3

DOMESTIC SOLID WASTE DISPOSAL PATTERNS—1987



Source: NJDEP.

landfill in Middlesex County, accounting for slightly over 70% of the total State disposal in this category.

CAPACITY FOR FUTURE NEEDS

The previous section illustrated how landfill disposal in New Jersey is now concentrated in about a dozen facilities. The rapid filling of existing landfills without prospects for expansion and without construction of major new landfills clearly shows that *the State will be running out of landfill disposal capacity for its current needs in the immediate future.* Chart III-1, containing the "life expectancies" of major landfills indicates that the four largest State facilities, accounting for 66% of disposal in 1986, will all be terminated by 1988.[6] In regard to Edgeboro, it now appears that once the counties utilizing this landfill are shut out in early 1988, Edgeboro will open up a new section of its landfill which will only be used by Middlesex County.

The northern counties of New Jersey can expect to experience difficulties due to the fact that only a few facilities will be coming on-line in the near future, while the southern counties have a number of facilities preparing to open. New county landfills will soon be available in Cumberland and Salem Counties, and there is contemplation of expanding the private landfill serving Atlantic County. In addition to this, Burlington County expects to have a new county landfill facility ready for use when the Parklands landfill is terminated. The Gloucester and Cape May landfills are the only "new" facilities shown in Chart III-1.

Subsequent sections in this chapter indicate that the *counties which will be losing this substantial disposal capacity do not have plans in place to replace the lost capacity for at least three years.* Table III-5 indicates the proportion of waste that may go out-of-state due to the lack of future disposal facilities to replace the major landfills that New Jersey is currently utilizing. This situation will be examined in greater detail in Chapter VI.

PROJECTIONS FOR OUT-OF-STATE DISPOSAL

Some of the counties on the western border of New Jersey have solved their solid waste disposal problems, at least for the present, by shipping garbage out-of-state. Current plans being advanced for other counties by New Jersey's State Department of Environmental Protection call for substantial additional quantities to be transported out-of-state.

Table III-6 projects the amount of solid waste which would go out-of-state under various scenarios. The data in this table are based on continued waste generation in those counties where disposal capacity is being terminated without any replacement in the next three to four years. With the closing of the Hackensack Meadowlands Development Commission facilities to Essex and the predicted shutting out of Passaic, along with the contemplated closure of Edgeboro to Union, Morris and Somerset Counties, there will be a total of 39.2% of the State's waste

[6]Waste from Essex, Hudson and Bergen Counties had been disposed of at two Hackensack Meadowlands landfills (1-C and the Balefill). However, as of August 1, 1987, 1C was closed to Essex County which then began sending its waste to Pennsylvania.

CHART III-1
LIFE EXPECTANCIES OF MAJOR LANDFILLS—Jan. 1987
(000s omitted)

Landfill and County of Location	Area Served	Tons of Capacity Remaining	Date of Expected Termination	ID # on Map
Edgeboro Middlesex	Somerset, Morris Middlesex, Union	3,200.0	May '87	1
1C Hudson	Essex	1,960.1	Aug '87	2
HMDC Balefill Bergen	Hudson Passaic		Dec. '87	
Kingsland Bergen	Bergen	500.0	May '87	3
Reclamation Ctr. Monmouth County	Monmouth	4,000.0	Jan. '92	4
Parklands Burlington	Burlington	160.0	Sept. '88	5
Ocean County Landfill[A]	Ocean (part)	5,100.0	Jan. '98	6
Gloucester County Landfill[B]	Gloucester	2,120.0	Feb. '97	7
Pinelands Park[C] Atlantic	Atlantic	137.2	Feb. '88	8
Pennsauken[C] Camden	Camden (part)	240.0	Feb. '88	9
Cape May Landfill[D]	Cape May	485.0	Dec. '89	10



A Ocean County Landfill is to receive resource recovery residuals after 1992.

B Gloucester Landfill is new; it opened February 9, 1987.

C The Pinelands Park and Pennsauken landfills show termination in February, 1988. However, it is anticipated that both of these facilities can and will be expanded.

D Cape May Landfill is subject to seasonal fluctuations; it will receive resource recovery residuals beginning in 1990.

Note: Data in this chart relating to **Tons of Capacity Remaining** are the most current available from New Jersey Department of Environmental Protection. As of September 1987, the **Tons of Capacity Remaining** and **Date of Expected Termination** are subject to revision. For example, Edgeboro Landfill is now scheduled to terminate January 1, 1988; disposal of Essex waste at HMDC-1C was terminated July 31, 1987; HMDC-Balefill will be closed to waste from Passaic after December, 1987; and disposal of Bergen waste at Kingsland is expected to terminate on December 31, 1987.

which will have to be transported out-of-state. Furthermore, if Edgeboro and the remaining Meadowland sites close, then the amount of waste sent out-of-state could rise to 69.8%. The possibilities and problems of out-of-state disposal will be further explored in Chapter VI.

TABLE III-5
WASTE FLOWS—1986/1988

	1986	1988
IntraCounty[7]	54%	54%
InterCounty to HMDC	24%	7%
InterCounty to Edgeboro	11%	0%
New Jersey Waste to Pennsylvania	11%	39%
New York Waste to New Jersey	3%	0%

[7]Intracounty is defined as all waste disposed of in the county of origin and here includes Bergen and Middlesex Counties.

TABLE III-6
SOLID WASTE SHIPPED OUT-OF-STATE

Year		Tons Shipped Out of State (000s omitted)	% of New Jersey Solid Waste
1985	(From Table III-1)	815.1	7.6%
1986	(From Table III-1)	1,174.2	11.0%
1987	Add Essex and Passaic	2,981.9	27.8%
1988	Scenario A: Add Morris, Somerset, Union	4,200.1	39.2%
1988	Scenario B: Add Morris, Somerset, Union, Hudson, Bergen, Middlesex	7,483.1	69.8%

Note: Above totals for 1987 and 1988 are based on 1986 generation figures.
1987 figures represent **rate** at **end** of year.

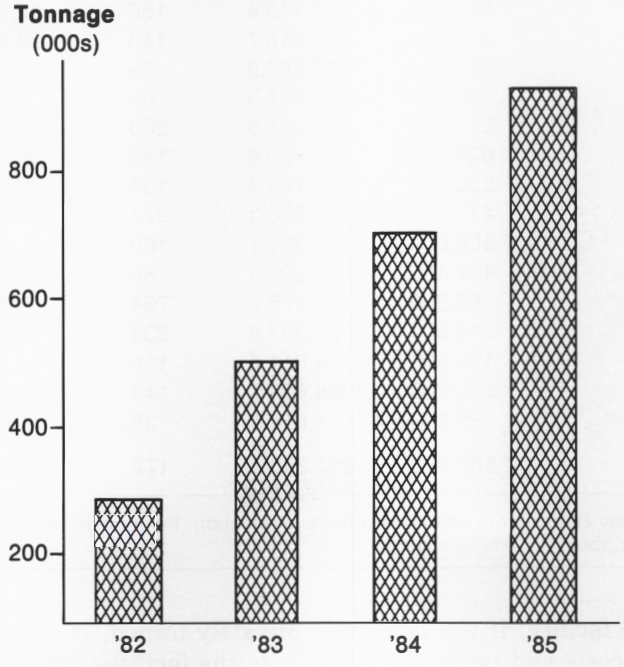
Source: New Jersey Department of Environmental Protection.

RECYCLING FACTS

The amount of materials recycled over the last several years has increased dramatically. Chart III-2 shows 252,390 tons of recyclables in 1982 increasing 3½ times to 889,980 tons three years later in 1985. This trend is expected to continue when totals for 1986 are known during the third quarter of 1987. Of course, the mandatory recycling legislation, which has been adopted, should insure a continuation of this rate of increase. The 889,980 tons of recycled materials in 1985 represents 8.6% of the total waste generated in New Jersey.

CHART III-2
CURRENT RECYCLING TRENDS IN NEW JERSEY

Year	Tonnage Recycled	% Increase Over Prev. Yr.
1982	252,390	
1983	492,099	95.0%
1984	652,343	32.6%
1985	889,980	36.4%



Source: NJDEP, Office of Recycling.

The amount of recycling conducted in each of the counties for 1984 and 1985 appears in Table III-7. Also shown in this table are the pounds per capita of recyclables. The statewide average for 1984 was 172 pounds per person; this figure increased to 234 pounds per person in 1985.

TIPPING FEE DATA

The expression "tipping fee", as applied to the solid waste industry, means the cost per cubic yard or per ton to dispose at a landfill, resource recovery plant or other facility. The tipping fee does not include collection or transportation costs incurred by the private firm or government agency performing these functions. The tipping fee covers the capital cost as well as operating and maintenance expenses

TABLE III-7
RECYCLING TONNAGES: COUNTY TOTALS

County	Estimated Population 1985	1984 Tons	1984 Pounds Per Capita	1985 Tons	1985 Pounds Per Capita
Atlantic	205,100	28,951.4	282	27,321.0	266
Bergen	841,200	67,021.8	158	101,979.6	242
Burlington	380,100	39,162.8	206	33,253.5	174
Camden	488,100	49,361.4	202	70,893.7	290
Cape May	90,600	7,491.5	164	6,956.7	152
Cumberland	134,900	43,036.3	638	47,073.0	696
Essex	845,700	64,175.4	150	97,916.0	230
Gloucester	207,100	14,516.7	140	20,115.6	194
Hudson	555,900	20,282.9	72	73,792.2	264
Hunterdon	92,800	2,937.3	62	6,075.6	130
Mercer	317,700	32,001.8	200	54,455.6	342
Middlesex	626,700	45,950.6	146	69,380.2	220
Monmouth	530,900	35,798.4	134	56,644.4	212
Morris	417,100	57,236.3	274	61,536.9	294
Ocean	380,000	30,526.1	160	40,450.5	212
Passaic	461,400	19,929.4	86	36,461.6	158
Salem	65,200	23,976.7	734	9,278.0	284
Somerset	210,300	25,093.6	238	14,763.5	140
Sussex	119,600	6,611.2	110	10,715.0	178
Union	506,700	36,622.7	144	49,245.4	194
Warren	85,200	1,658.8	38	1,671.6	38
Total	7,562,000	652,343.10	172	889,979.6	234

Source: New Jersey Department of Environmental Protection. Population from New Jersey Department of Labor.

of the disposal facility. If the facility is privately owned, it also includes profit. In addition to costs and profit attributable to the facility, various surcharges are added to arrive at a "gross" tipping fee. Among these surcharges are: the Recycling Tax, the Landfill Closure Tax, the County Environmental Health Tax, and, as provided by the *McEnroe Act:* the Solid Waste Services Tax, the Resource Recovery Investment Tax the Solid Waste Importation Tax and Host Municipality Benefits (see pages 13-16).

It is useful to know the tipping fee charges in various counties. The amounts of these fees vary according to factors such as disposal technology, location of facility and overall disposal plan.

Table III-8 shows approximate tipping fees in those counties where reasonably reliable data are available. *Caution must be used in interpreting these data because of many variables:* some of the landfill fees are "gross", and others are net of surcharges; resource recovery tipping fees, where available, are estimated and low landfill tipping fees are sometimes accompanied by high transportation costs.

Finally, the disposal cost indicated for transfer stations includes: the capital and operating costs of the transfer station; the transportation costs from the transfer station to Pennsylvania and the tipping fees at a Pennsylvania landfill.[7]

Some observations can be made regarding tipping fees. Landfill disposal used to be inexpensive, but this is no longer the case because of the high cost of land, the environmental controls and safeguards which must be a part of the landfill and surcharges. Resource recovery through mass-burning has always been expensive because of the equipment and technology involved. The production of refuse derived fuel and composting also have high costs associated with these processes. On the other hand, the costs of resource recovery may be partially offset by receipts from sale of the energy which is produced.

An out-of-state example of high, unstable tipping fees can be seen in a recent report which stated:

> Philadelphia, crowded out of landfills in neighboring New Jersey, sent four 1000 ton barge loads of trash to a landfill in Oak Ridge, S.C. last spring . . . [Philadelphia], whose dumping fees have run as high as $143 a ton, now pays spot market prices to send its excess trash 98 miles to the Baltimore municipal incinerator.[8]

Despite the conditional nature of many tipping fee numbers in Table III-8, the reader will get an idea of the general range of costs for solid waste disposal, exclusive of collection and hauling to the facility. These numbers can be considered in the context of the average generation of 1.42 tons of solid waste per resident of New Jersey per year; a family of four would generate 5.68 tons.

REGISTERED HAULERS AND VEHICLES

There is a very large and active private hauling industry serving the state of New Jersey. As of February 1987, a total of 4,914 transporting companies and 15,036 hauling vehicles were registered in the State, an average of 3.06 vehicles per company. In New Jersey's 21 counties, as of January 1986, there were 214 companies which owned 11 or more disposal trucks. Current law requires the registration of all solid waste hauling vehicles. Companies which operate these vehicles on a "for hire" basis are subject to registration and approval under the *901 Disclosure Act* (see page 17). The hauling companies and vehicles registered by county are shown in Table III-9. Vehicles owned by municipalities are included in these figures, and each municipality is shown as one "company".

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[7]Because of these variables and changing patterns of pricing, it is suggested that Table III-8 be used to understand *general magnitude* of disposal costs.

[8]Ken Francking, "Waste: A Looming National Crisis," a UPI news story on a conference of the Conservation Law Foundation of New England, *The Trenton Times,* 7 December 1986.

TABLE III-8
COUNTY TIPPING FEES

County	Disposal Facility Type[1]	Existing or Proposed	Tipping Fee (per ton)	Net Fee or Gross	Description and Remarks
Atlantic	LF	Ex	$28.88	Gross	Includes approx. $5.31 surcharges.
Bergen	LF	Ex	$22.40	Gross	HMDC; includes $5.31/ton surcharges.
Burlington	LF	Ex	$36.90	Gross	Includes approx. $5.35 surcharges.
	Spec. SW Complex	Prop	$28.37	Gross	The proposed complex will have facilities for LF, composting and producing RDF. Expected cost 1998—$36.10/ton.
Camden	RR	Prop	$50-$70	Net	Present average cost is $43.52/ton, including surcharges, at Pennsauken and Winslow LFs and transporting to PA. Cost is $32/ton if recycling is included.
Cape May	LF	Ex	$33.70	Gross	
Cumberland	LF	Prop	$38.90	Gross	For 1988; includes $6.58 surcharges.
Essex	LF	Ex	$22.40	Gross	HMDC; includes $5.31/ton surcharges.
	RR	Prop	$50-$60	Net	Includes est'd cost for ash disposal.
	TS	Prop	$80-$90	Net	Early estimates.
Gloucester	LF	Ex	$47.04	Gross	For #10 munic. waste; includes $7.12/ton surcharges. When Kinsley LF was operational, tipping fee was $24.60/ton gross.
Hudson	LF	Ex	$22.40	Gross	HMDC; includes $5.31 surcharges.
Hunterdon	TS	Ex	$40.00	Net	For compacted solid waste. Hunterdon rec'd a bid from PA firm for $54.38/ton @ 200 tpd starting 1990.

Mercer	RR	Prop	$30-$40	Net	Est. based on 1500 tpd facility, 1985-86 calculations after deducting receipts for energy sales.
Middlesex	LF	Ex	$15.20	Gross	This is fee at Edgeboro; includes $4.44 surcharges.
Monmouth	LF	Ex	$19.50	Gross	Includes surcharges of $6/ton.
Morris	LF	Ex	$16.20	Gross	This is fee at Edgeboro, Middlesex County.
	TS	Prop	$90.00	Net	Estimated.
Ocean	LF	Ex	$28.70	Gross	At major LF facility. Includes approx. $5.30/ton surcharges. (Converted from $8.835/cu. yd.)
Passaic	LF	Ex	$22.40	Gross	HMDC; includes $5.31/ton surcharges.
	TS	Prop	$90.00	Net	This fee is estimated; about 1/3rd to be paid by bonds for "future capacity".
Salem	LF	Prop	$44-$50	Gross	
Somerset	LF	Ex	$16.20	Gross	This is fee at Edgeboro in Middlesex County.
	TS	Prop	$88.00	Net	Estimated.
Sussex	LF	Prop	$37.50	Gross	Fee could be $5 more if DEP has additional requirements.
	RR	Prop	$65.00	Net	Preliminary estimate.
Union	LF	Ex	$16.20	Gross	This is fee at Edgeboro, Middlesex County.
Warren	RR	Prop	$40.00	Net	Note: each ton of solid waste delivered to the RR burner will be charged $26 additional for the LF cost of the *residuals* which this ton will produce.
	LF	Prop	$26.00	Net	

[1]LF refers to Landfill; RR refers to Resource Recovery/Mass Burner; TS refers to Transfer Station; RDF refers to Refuse Derived Fuel; tpd refers to tons per day.

Note: When cost data was supplied per cu. yd., a multiplier of $3.25 was used to convert to tons.

TABLE III-9
REGISTERED HAULING COMPANIES AND VEHICLES

County	Number of Companies	Number of Vehicles
Atlantic	155	432
Bergen	358	1,210
Burlington	247	703
Camden	216	577
Cape May	211	553
Cumberland	150	351
Essex	341	1,241
Gloucester	123	371
Hudson	234	976
Hunterdon	57	116
Mercer	110	1,240
Middlesex	499	1,564
Monmouth	785	1,747
Morris	140	453
Ocean	501	1,134
Passaic	124	422
Salem	29	90
Somerset	148	371
Sussex	34	108
Union	240	657
Warren	17	65
Out-of-State	195	835
Total	4,914	15,036

Source: Division of Solid Waste Management, NJDEP.

MUNICIPAL WASTE COLLECTION PATTERNS

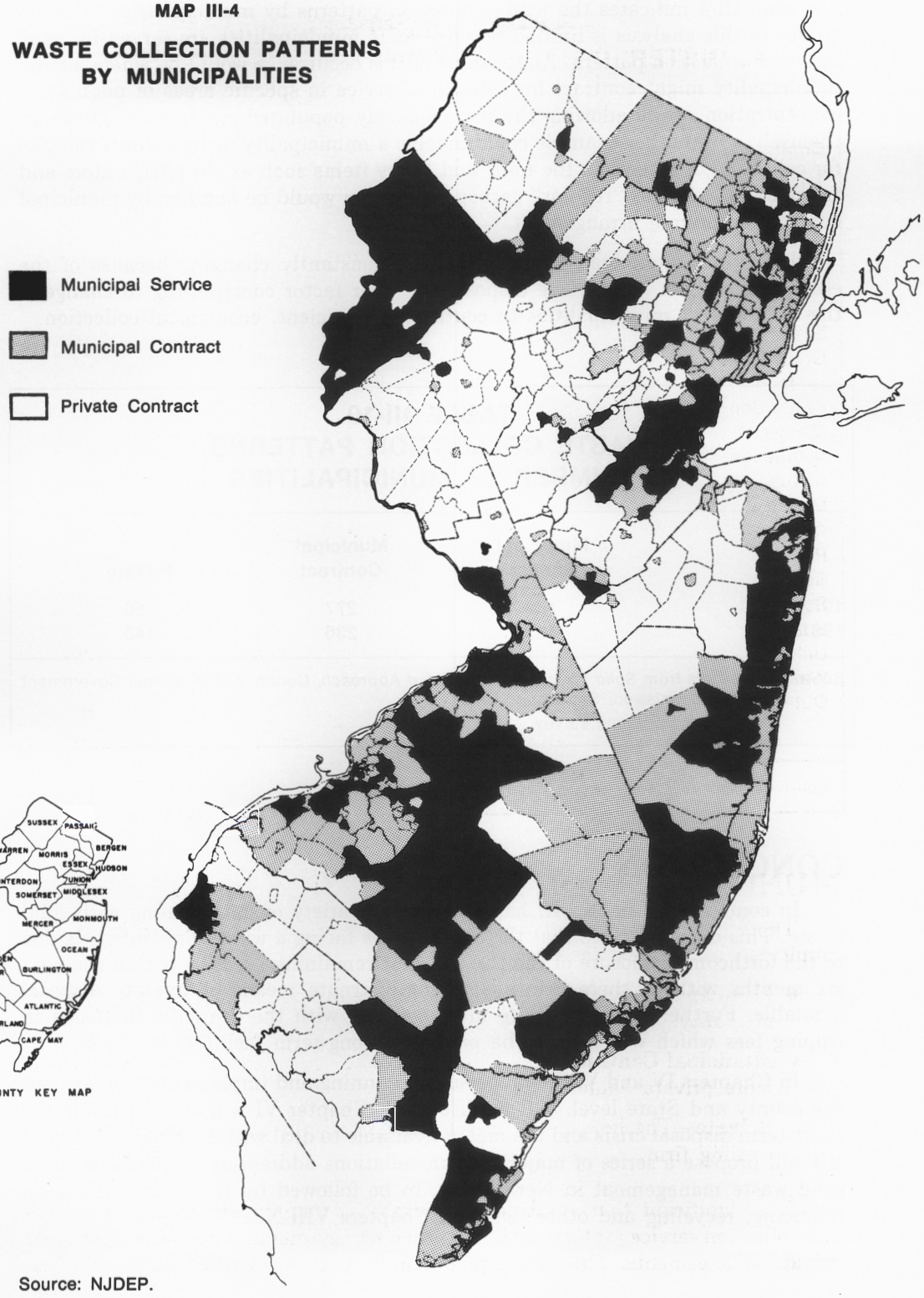
There are three different types of waste collection systems used by the 567 municipalities in New Jersey:

- **Municipal Service**—Hauling vehicles are owned and operated by the municipality.
- **Municipal Contract**—The municipality contracts for collection with one or more private haulers.
- **Private**—The homeowner or business makes private arrangements with a hauling firm.

It is significant that a substantial number of municipalities do not provide any collection service for their residents; each homeowner and business must make private arrangements. This is the predominate pattern in rural municipalities.

MAP III-4

WASTE COLLECTION PATTERNS BY MUNICIPALITIES



Source: NJDEP.

Map III-4 indicates the waste collection patterns by municipalities. The accuracy of this analysis is limited because some municipalities are served by more than one collection pattern. An example of this occurrence would be where a rural municipality might contract for collection service in specific areas of population concentration, while allowing the more sparsely populated residents to "fend for themselves". Another example could involve a municipality using its own vehicles for collection of leaves (in the Fall) and bulky items such as old refrigerators and tree stumps, whereas "regular" garbage collection would be handled by municipal contract or private arrangement.

Individual municipal arrangements are constantly changing because of the escalating costs of solid waste disposal. Another factor contributing to change is the difficulty of municipalities to contract for efficient, economical collection.

TABLE III-10
WASTE COLLECTION PATTERNS
NUMBER OF MUNICIPALITIES

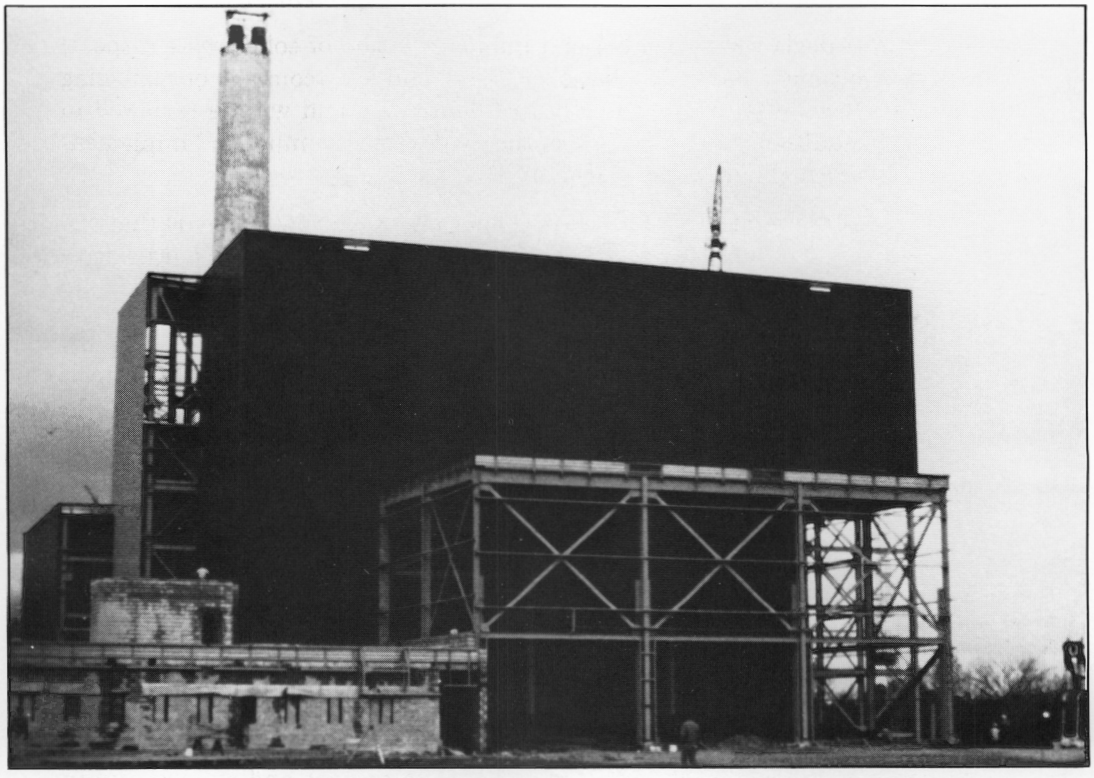
	Municipal Service	Municipal Contract	Private
1972	130	277	160
1987	188	236	143

Source: 1972 Data from *Solid Waste: A Coordinated Approach,* County and Municipal Government Study Commission, September 1972.
1987 Data from field survey.

CONCLUSION

In conclusion, Chapter III has examined a variety of data dealing with solid waste. This data indicates that the State is now facing a waste disposal crisis due to the forthcoming closure of the three largest remaining landfills within the next six months without there being sufficient alternate means of in-state disposal available. Furthermore, the State must contend with the dramatic increases in tipping fees which will have to be paid until long-term facilities are built.

In Chapters IV and V, the processes of planning and implementation, at both the county and State level, will be discussed. Chapter VI will then examine the short-term disposal crisis and the means available to deal with it. Finally, Chapter VII will propose a series of major recommendations addressing various aspects of solid waste management in New Jersey, to be followed by recommendations on financing, recycling and other issues in Chapters VIII-X.



Warren County's resource recovery facility will be the first such operating facility in the State. It is expected to begin accepting waste in the Spring of 1988. (Photo courtesy of Marvin Ross/Department of Environmental Protection.)

CHAPTER IV

COUNTY PLANNING AND IMPLEMENTATION

The previous three chapters constitute the background for defining the critical management issues regarding solid waste disposal. Of central importance here is the *Chapter 326* amendment to the *Solid Waste Management Act.*

Chapter 326 deals with planning and implementation of solid waste disposal programs at the county level. The basic successes and shortcomings of managing solid waste in New Jersey relate directly to *Chapter 326* and will be reviewed in this chapter. In addition, the basic steps of the solid waste planning and implementation process are highlighted in Appendix B.

A fundamental premise of solid waste management in New Jersey is that the process functions on a county-by-county basis. This premise is based on a legislative finding and declaration of policy in the *Solid Waste Management Act:*

> The Legislature finds . . . that the management of solid waste in New Jersey consists largely of piecemeal, uncoordinated activities developed to meet the immediate needs of local governments with little regard for regional planning and coordination . . . and that . . . the solid waste planning and management process is adversely affected by the absence of area-wide structures. . . .
>
> The Legislature, therefore, declares that it is the policy of this State to . . . designate each county . . . and the Hackensack Meadowlands District as a Solid Waste Management District, and provide each county [and the Hackensack Meadowlands Development Commission] with the power, singly or jointly with one or more other counties, to develop and implement a comprehensive solid waste management plan which meets the need of every municipality within each such county. . . .[1]

The decision to make each county a solid waste district and to give county government fundamental management powers was a conscious statement of policy by the Legislature when the *Solid Waste Management Act* was amended in 1975. As reported by this Commission in 1972, counties were the most logical regional unit within which solid waste should be managed. This position had been taken earlier in a report by the New Jersey Department of Health, the agency of state government responsible at that time for solid waste.[2]

There have been proponents of managing solid waste on a regional or "wasteshed" basis without regard to county boundaries. Such an approach made sense with respect to economies of collection and disposal. However, the political and administrative strengths and traditions of counties as regional government prevailed when *Chapter 326* was enacted.

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[1]N.J.S.A. 13:1E-2, a & b.

[2]*Solid Waste: A Coordinated Approach,* Report by the County and Municipal Government Study Commission (September 1972), pp. 46-47 and xxi.

The counties have had 11 years to plan and implement solid waste disposal programs. Based on the small number of county disposal programs that have been fully implemented, the results of the *Solid Waste Management Act (Chapter 326)* can only be viewed as marginally successful. Since the counties were given primary jurisdiction over planning and managing this function, many observers are quick to fault the ability of the counties to perform competently in this area. Nevertheless, this study has found that virtually all counties have competent staffs and well organized consultant teams, however, the need for additional staffing persists in order for counties to act in a timely manner.

In recent months, there has been substantial progress in planning and implementation and in facility siting. As of late 1987, 19 of the 21 counties have formal solid waste plans in effect which include an in-county site for the disposal of a majority of the county's waste. The status of each county is indicated in Appendices C and D. In addition, Map IV-1 and Table IV-1 point out the location of solid waste facilities that have been sited in county plans.

It should be kept in mind that certain milestones which appear to have been achieved in these appendices are merely a reflection of the Department of Environmental Protection's official record; as a practical matter, they may not be implementable. Thus, the reader should exercise care in drawing conclusions from this data.

Presently, there are two counties where plans for a major disposal facility have not included a site. These counties are as follows:

- Somerset County had adopted a plan which officially designated a quarry in Bridgewater Township as the site for a county balefill facility, and this site had been approved by the Department of Environmental Protection. However, in August of 1987, Somerset's Board of Chosen Freeholders voted, for a second time, to remove this site from their plan. Currently, Somerset's waste is being transported to Edgeboro landfill (which is due to close in early 1988). In addition to preparing for the implementation of its transfer station plan, Somerset is also investigating a resource recovery site as well as a replacement site for the Bridgewater Township balefill.

- Hunterdon County has not sited a landfill or resource recovery facility, but it does have a transfer station which it sited, constructed and now operates. Hunterdon is currently negotiating a contract with a Pennsylvania resource recovery facility to dispose of its waste for up to 20 years. Beginning on December 1, 1988, Hunterdon will begin transporting at least one-third of its solid waste to Warren County's resource recovery facility with which it has a contract.

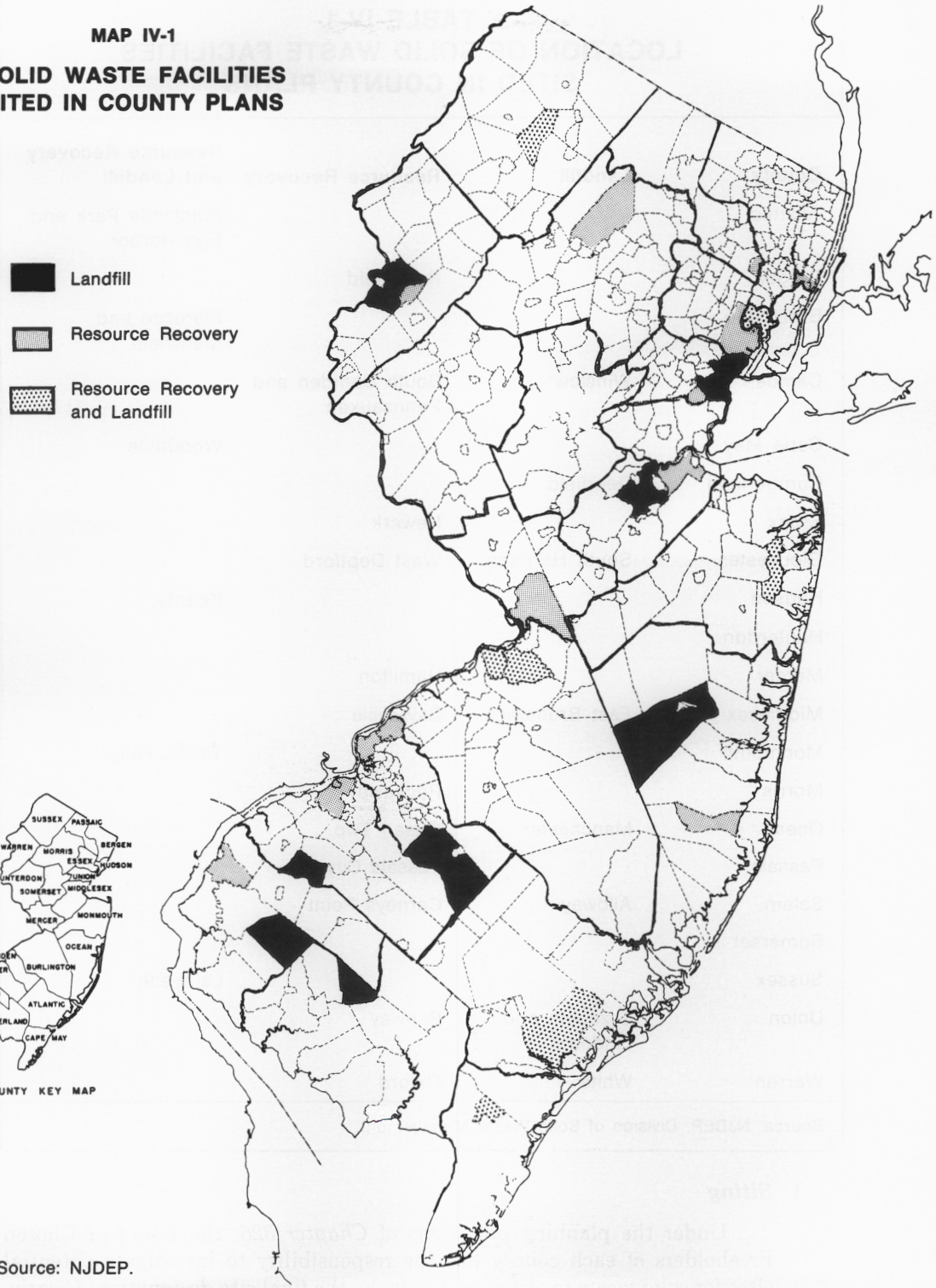
Other than the above exceptions, all counties in the State have taken major and decisive siting actions for the disposal of solid waste.

PLANNING ACTIVITIES

For purposes of analysis, planning by the counties can be divided into four functional areas: siting, regional solutions, management structures and selection of technology.

MAP IV-1

SOLID WASTE FACILITIES SITED IN COUNTY PLANS



Source: NJDEP.

TABLE IV-1
LOCATION OF SOLID WASTE FACILITIES SITED IN COUNTY PLANS

County	Landfill	Resource Recovery	Resource Recovery and Landfill
Atlantic			Pinelands Park and Egg Harbor
Bergen		Ridgefield	
Burlington			Florence and Mansfield
Camden	Winslow	South Camden and Pennsauken	
Cape May			Woodbine
Cumberland	Deerfield		
Essex		Newark	
Gloucester	South Harrison	West Deptford	
Hudson			Kearny
Hunterdon			
Mercer		Hamilton	
Middlesex	East Brunswick	Sayreville	
Monmouth			Tinton Falls
Morris		Rockaway	
Ocean	Manchester	Ocean Twp.	
Passaic		Passaic City	
Salem	Alloway	Carneys Point	
Somerset			
Sussex			Lafayette
Union	Elizabeth and Linden	Rahway	
Warren	White	Oxford	

Source: NJDEP, Division of Solid Waste Management.

1. ***Siting***

Under the planning provisions of *Chapter 326,* the Board of Chosen Freeholders of each county has the responsibility to investigate potential sites for solid waste facilities and to make the final site designation. *Clearly, the siting function is the most difficult of all planning tasks contained in the Solid Waste Management Act.* The simple truth is that people do not

want a disposal facility, whether it be a mass-burner or a landfill, located in their neighborhood or community. The specter of smoke, odors, polluted water supplies, fleets of garbage trucks, and windblown refuse convinces much of the public that there has to be a different location for garbage disposal. Citizens have become very emotional and adamant on this issue.

If anyone ever doubted the sensitivity of elected Freeholders to the view of constituents, they need only observe the hard work, pressures and frustrations that these officials endure in attempting to establish an acceptable site.

After considerable deliberation, most Freeholder Boards have picked at least one major facility site. However, a number of additional major siting actions will have to be taken in the near future. These involve residual landfills in most of the northeastern counties as well as a few initial and/or revised siting decisions for major facilities.

Under *Chapter 326,* every county solid waste plan must include:

> A site plan, which shall include all existing solid waste facilities . . . and sufficient additional available suitable sites to provide solid waste facilities to treat and dispose of the actual and projected amounts of solid waste. . . .[3]

One part of the initial phase of the siting process involves public participation. Each county must have a Solid Waste Advisory Council appointed by the Board of Chosen Freeholders and consisting of representatives from municipalities, the solid waste "industry" and environmentalists. The purpose of the Solid Waste Advisory Council is to provide a forum for county government to receive input and other assistance. The Solid Waste Advisory Council also has the statutory responsibility of reviewing county solid waste plan amendments.

Public hearings are also an integral part of the solid waste planning process. Both the solid waste plan and individual amendments are subject to public hearing and consideration prior to final adoption by the Board of Chosen Freeholders (after consultation with the Solid Waste Advisory Council). This public process allows for the timely challenge of a solid waste plan or amendment in Superior Court within 30 days after adoption by the Freeholders.

One Appellate Court ruling involved a major solid waste facility in Sussex County. In upholding the Sussex County plan, the Court said that there was no obligation to evaluate alternate sites as long as the process was observed and the basis of the decision was rational.[4]

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[3]N.J.S.A. 13:1E-21b(3).

[4]Lafayette Township, and three citizens, challenged Sussex County and the State Department of Environmental Protection on a 177 acre landfill site. The Appellate Court stated that "the DEP acted thoroughly, comprehensively and reasonably in its review of the County's application" and that the State Department of Environmental Protection had not "acted arbitrarily, unreasonably, or in excess of its powers and perogatives". The Court determined that there was no obligation to examine other sites, and that the State Department of Environmental Protection acted properly in approving the County's Preliminary Environmental Impact Statement. Superior Court, (Appellate Division), Docket Number A-4696-85T8, unpublished decision, January 16, 1987 (Judges Pressler, Baime and Ashby).

The intent of *Chapter 326,* as interpreted by the Courts, is that siting decisions by counties are not exclusively technical decisions; a certain degree of subjectivity is permissible. Although some might argue against the entry of "subjective criteria" into the decision-making process, it is recognized that the type of balance which the courts have confirmed allows the system to work. If siting decisions were based exclusively on technical criteria, it is hard to imagine that any decisions would go unchallenged.

Each county establishes its ground rules for making siting decisions by adopting its own siting criteria. This is usually done in conjunction with engineering consultants who will review potential locations for landfills and resource recovery facilities. The criteria used by each county are important in upholding the rationality of the selection.

A suggestion has been made by some that the State establish specific siting criteria to apply to all solid waste disposal facilities. This issue will be analyzed in the next Chapter.

In contrast, the proposed Pennsylvania legislation for solid waste management takes a slightly different approach with respect to the approval powers in siting. Like New Jersey, the Pennsylvania legislation contemplates planning by counties and incorporates municipal involvement. In order for a county's solid waste plan to be acceptable, however, at least 50% of the municipalities representing at least 50% of the population of the county must approve a facility site.[5]

In the early years of *Chapter 326,* very little progress was made in the siting of major facilities or in the selection of disposal technology. Many studies that were conducted on facilities and sites provided warning signals to the County Freeholders on the difficulties in making these planning decisions. Although counties were required to have developed and formulated their solid waste management plans by July 1, 1977, few of them actually had bona fide plans approved and in place until the early 1980s.

With the closure of many landfill facilities in New Jersey, the urgency of selecting new sites became more intense. Some counties worked aggressively to resolve their solid waste management problems; others were more passive, allowing events such as landfill closure, waste redirection and legal action by others to determine their solid waste policy. Aware of the public distaste for landfills and mass-burning, many counties took extensive precautions in trying to avoid the inevitable criticism. One county delegated an advisory role to its Utilities Authority with the responsibility of investigating and ranking potential disposal sites. Another county selected two locations for a proposed resource recovery facility, and requested that the Department of Environmental Protection choose between them, however, the Department declined.

In addition to the aforementioned efforts, some counties changed site priorities and standards, usually as a result of public reaction to "potential" sites that appeared on a list. Other counties have made siting decisions only to find out later that they were incapable of implementing these decisions.

[5]S-1211 was introduced on 6/23/86.

Some concern has been expressed over the sequence of adopting a county solid waste site and preparing the Environmental Impact Statement for the site. According to *Chapter 326,* County Freeholders are required to hold public hearings on a proposed site, and then vote to adopt that site in their plan. Once the site is adopted, the county must prepare and submit a Preliminary Environmental and Health Impact Statement on the site to the State Department of Environmental Protection. However, many of the issues associated with a site cannot be adequately reviewed at the public hearing because the impact of these issues is not known until the Preliminary Environmental and Health Impact Statement has been completed. There have been instances where some counties have started environmental studies before the public hearing so that more answers are known at the time that a site is selected. Objections have been raised to this latter procedure on the basis that the county will become "overcommitted" to a proposed site because it has spent substantial sums of money for the Preliminary Environmental and Health Impact Statement. This appears to be a "Catch-22" situation where maximum public participation is the best strategy to avoid adverse consequences.

Another facet of *Chapter 326* provides a mechanism for a county to "certify failure" in its attempt to site a solid waste facility or to make an interdistrict agreement. However, no counties have actually certified failure, although several entered into discussions with the Department of Environmental Protection regarding the prospects of such action. Certification of failure, when accepted by the Department, transfers the site selection process to the Department.

The claim has been made by some that there are counties which absolutely do not have feasible solid waste disposal sites within their boundaries. Virtually all counties interviewed during this study reject this position with respect to resource recovery facilities. However, there were several counties whose officials honestly believe that there are no suitable sites within their jurisdictions. The reasons most often given for this belief are dense population and unfavorable geology. Even if it could be proven that there is no available landfill site in a county, there are still options available for disposal of residuals: transporting out-of-state or development of interdistrict landfill arrangements.

2. ***Regional Solutions***

Regional solutions for the management of solid waste disposal require interdistrict agreements. Several neighboring counties might agree to have one disposal facility serve all of them. Another option entails two or more counties agreeing to have a landfill located in one county and a resource recovery facility in another county, with both facilities serving the participating counties. Such arrangements make good sense because of economies of scale and transportation efficiencies. The optimum method for providing a public service such as the collection and disposal of solid waste could be based on population concentrations, or waste-sheds, but population concentrations do not respect county boundaries. For purposes of planning and

administration, however, county boundaries are appropriate. This is the system that has been adopted in New Jersey.

Many connected with solid waste management seemed to agree with the concept of regionalization. In fact, in the past, pronouncements have been made at high levels in State government to the effect that "New Jersey only needs eight or nine resource recovery plants". Statements such as this could produce the unfortunate result where some counties relax in their efforts to implement resource recovery while waiting to see if there will be a regional facility which they can join.

Although the concept of regional facilities has been the source of considerable discussion, the consensus among county solid waste operating personnel is that it will never happen, at least with respect to resource recovery. There have, however, been several attempts to achieve regional solutions. Camden County has shown a willingness to consider accepting garbage from its southern neighbor, Gloucester County, for the Camden resource recovery facility. The suspected quid pro quo is that Camden might want to use the new Gloucester landfill for disposal of its non-burnable bypass and ash residue materials. Gloucester, however, was unwilling to agree to such use of its landfill.

A second example of regionalism involves Hunterdon and Warren Counties who for many months were working on a joint resource recovery proposal. Although joint participation in such a facility was abandoned, a contract has recently been concluded whereby Hunterdon will provide solid waste for about 25% of the capacity of Warren County's proposed mass-burner. *This is the only successful example of voluntary regionalization in the State.*

The two most notable cases of "involuntary" regionalization are the Edgeboro landfill in Middlesex County and several landfills located in the Hackensack Meadowlands. Cumberland and Cape May Counties have also had lengthly discussions on a joint resource recovery facility located in and operated by Cape May. These talks broke down in mid-1986 when Cumberland concluded that the proposed tipping fees of $60 per ton was prohibitive. In another instance, a central New Jersey county opposed the permit for land application of sludge generated in a neighboring county because the "sending" county would not discuss reciprocal disposal possibilities.

A view expressed in Morris County seems to represent the attitude of most counties regarding regional facilities. For years, Morris residents had to endure many problems associated with its status as a major "importing" solid waste county. Sharkey's Dump as well as Combe Fill North and Combe Fill South received waste from several northeastern counties. Disposal at these landfills has been terminated, and Morris County takes the position, with good justification, that it does not want again to be a garbage "importing" county.

A further example of the protective nature of counties towards the use of their landfills by other counties can be seen in the southern part of the State. Here, five counties had agreed to meet to discuss mutual problems

and concerns regarding solid waste disposal. However, before any county could be a "full participant" in discussion, it had to agree that it would have its own landfill facility.

Despite the parochialism of counties with respect to controlling their own disposal facilities, it does appear that there is a slight possibility for the development of a regional ash landfill in the densely populated northeastern part of New Jersey. Every county solid waste plan must include an element for landfilling because, even if all solid waste is directed to a mass-burner, there is ash residue which must be disposed of through landfilling. In addition, there are certain non-burnable or "by-pass" materials which have to be landfilled.

Several of the northeastern counties expressed the opinion that the process of siting a residual landfill will be even more difficult than the experience in siting resource recovery facilities. Of course, disposal of residue is possible by out-of-state shipment, but at considerable cost. With appropriate financial incentives and a skillful site selection process, which includes public participation, it might be possible to implement a regional ash disposal facility in this area of the State.[6]

In summary, all of the legal and administrative mechanisms are available for the planning and implementation of regional facilities. In fact, the recently enacted *McEnroe* law provides monetary benefits to a county which "imports" solid waste from another county.[7] Nevertheless, the political facts-of-life under the *Chapter 326* system offer little hope of counties reaching a consensus on joint disposal plans.

3. *Management Structures*

The planning provisions of *Chapter 326* require each county to indicate the management agency in county government which will have the responsibility for implementing the solid waste disposal plan.[8] This function has been performed routinely by the 21 counties and the Hackensack Meadowlands Commission.

The agencies selected by the various counties are shown in Table IV-2. Camden is the only county with two proposed resource recovery facilities within its county borders. One facility located in the City of Camden will be managed by the Solid Waste Department of Camden County; the other unit is a regional facility located in Pennsauken and will be under the aegis of the Pennsauken Solid Waste Management Authority. Half of the counties (ten) have chosen to retain solid waste management powers with a county department under the direct supervision of the Board of Chosen Freeholders.

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[6]There are certain elements found in the ash from resource recovery facilities which have led some to believe that this material should be classified as hazardous. The Environmental Protection Agency is studying this matter at the present time. If the ash residue should be defined as hazardous, under the terms of the federal RCRA program, then these materials must be disposed of in secured landfills meeting RCRA requirements. This will greatly increase disposal costs.

[7]P.L. 1985, c.38; N.J.S.A. 13:1E-136 et seq.

[8]N.J.S.A. 13:1E-21b(1).

TABLE IV-2
COUNTY SOLID WASTE IMPLEMENTING AGENCIES

County	Solid Waste Implementing Agency	Remarks
Atlantic	County Utilities Authority	County Planning Department manages planning aspects.
Bergen	County Utilities Authority	
Burlington	County Department	
Camden	County Department	For South Camden Resource Recovery facility.
Camden	Pennsauken Solid Waste Management Authority	For Pennsauken Resource Recovery facility.
Cape May	County Municipal Utilities Authority	
Cumberland	County Improvement Authority	
Essex	County Department	
Gloucester	County Improvement Authority	County Planning Department provided services during initial period.
Hudson	County Improvement Authority	
Hunterdon	County Department	County Utilities Authority manages the transfer station.
Mercer	County Improvement Authority	
Middlesex	County Utilities Authority	The County Department is responsible for planning and implementation of recycling.
Monmouth	County Department	
Morris	County Department	
Ocean	County Department	
Passaic	County Utilities Authority	
Salem	County Utilities Authority	The Authority is now taking on staff to perform this function.
Somerset	County Department	
Sussex	County Department	To be transferred to the Sussex County Utilities Authority in the future.
Union	County Utilities Authority	
Warren	County Department	

Source: Field Survey.

The remaining counties have selected a county authority as the implementing agency.

An advantage of a county authority, according to one source, is that this agency in his county is not under Civil Service. Accordingly, the authority has greater flexibility in establishing salary ranges which are appropriate for the professional skills required in the relatively new field of solid waste engineering and management. Several other sources indicated that the authority form was helpful in deflecting some of the public concern for siting decisions away from the County Board of Chosen Freeholders.

4. ***Selection of Technology***

Under *Chapter 326,* each county shall prepare a plan which includes "a statement of the solid waste disposal strategy to be applied in the solid waste management county, which strategy shall include the maximum practicable use of resource recovery procedures".[9] A "disposal strategy" refers to the selection of the method for disposing of solid waste, whether by resource recovery, landfill or other process.[10]

Much effort has been expended by many solid waste counties in research and planning studies to determine the appropriate disposal technology. A few of the counties have selected mass-burning without substantial deliberation.

In the context as presented, resource recovery means mass-burning. The State Department of Environmental Protection has identified the proportionate breakdown of the waste stream for a county utilizing a mass-burning, resource recovery system. The composition of the waste stream would be:

- 25% **recycling,**
- 50% reduction by **mass-burning** and
- 25% **landfilling** of ash and by-pass materials.

Selection of technology is not an exact science and siting options have become intertwined with this process. A few counties started on a course of examining resource recovery and, before completion, have changed to a landfill "strategy".

The State has a policy supporting resource recovery as a fundamental disposal option. The position taken by the Department of Environmental Protection is stated in the law. In addition to this, it is restated by the Department in the 1985 *Solid Waste Management Plan Draft Update* that "this technology [resource recovery] has been utilized in Europe for decades, and, in the opinion of the Department, offers the best hope as a large scale alternative to landfilling".[11]

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[9]N.J.S.A. 13:1E-21B(2).

[10]Other processes, which have less support in New Jersey, include composting, production of refuse derived fuel and integrated combinations of several technologies. Refuse derived fuel involves the compacting of major combustible portions of the waste stream (household garbage, plastics and scrap paper) into small pellets which can be stored, transported and burned as fuel later or at other sites.

[11]*Draft Update,* p. 136.

Most of the counties have opted for mass-burning resource recovery facilities to dispose of a major portion of their solid waste. This is the case in the populous counties of Bergen, Camden, Essex, Hudson, Mercer, Middlesex, Passaic and Union. A few of the counties are pursuing a non-resource recovery "strategy" and will be relying on landfills, transfer stations and other methods. Burlington County, for example, is planning an elaborate solid waste disposal center utilizing landfilling, composting, production of refuse derived fuel and materials recovery. Monmouth County, which for a long time planned on having a mass-burning resource recovery facility, amended its plan in November of 1986 to include resource recovery at a specific site but without defining the resource recovery technology to be used. The plan states the determination will be made at a later date after the efficacy of comprehensive county recycling is evaluated. It should be noted that immediately prior to this plan amendment, there was expression of considerable public opposition in Monmouth County to mass-burning.

The selection of a disposal strategy lacks public enthusiasm regardless of the mode. Observations made during this study lead to the conclusion that landfills are even less popular than mass-burning facilities. Nevertheless, every county solid waste plan must include landfilling for the ultimate disposal of ash from resource recovery plants as well as for bulky waste such as automobiles, furniture and building demolition materials.

Recently there has been an upgrading of engineering requirements for landfills whereby special liner materials, leachate collection systems and gas venting apparatus are required to be installed. Regardless of these improvements, there is still general and widespread opposition to the concept of burying garbage due to concern over the possible threat of groundwater contamination.

The sizing of disposal facilities can be considered a part of the technology selection process. Sizing is crucial in the development of mass-burning facilities, whereas it is not as significant a consideration with landfills. The natural inclination in our industralized society is to build an oversized resource recovery facility in order to provide for future expansion of demand and to realize economies of scale. The reverse though is actually coming to be the case in New Jersey, and with good reason. The strong recycling ethic in this State has convinced most county solid waste planners that oversized mass-burners will inhibit recycling efforts. An example of this concern involves the original size of the proposed Essex County mass-burner. The capacity of the proposed mass-burner was reduced to 2,250 tons per day after a study revealed that the County could reduce its waste stream an additional 15% through intensive recycling.

Two of the smaller counties are planning mass-burners which appear to contradict the "lean" approach to the sizing of these facilities. Warren County is in the final stages of developing a 400 ton per day burner which will have sufficient capacity to accept 100 tons per day from Hunterdon County. A former recycling coordinator of Warren expressed concern that the 400 ton size would actually encourage more burning and less recycling.

A second county acting contrary to the lean approach is Salem. Plans for the Salem resource recovery unit contemplate enough capacity to dispose of tree stumps through burning whereas, other counties dispose of stumps by chipping and/or landfilling.

Disposal technology not only involves choices of disposal methods, but also involves choices of particular disposal equipment. Thus, mass-burners vary according to vendor. Each mass-burner will have operational differences in terms of cost, ability to meet environmental standards and compatibility with energy generation.

One comment voiced by many county solid waste planning personnel has been that there is considerable duplication of effort by the 21 counties in the selection of disposal technology. Consulting engineers in each county have had to study the basis of mass-burning, landfilling, composting, refuse derived fuel and other disposal technologies. Time, effort, and money could have been saved if generic data on the various technologies were gathered and presented to the counties by the State in the form of written reports and seminars.

In summary, New Jersey's three-part strategy of waste disposal, through the technologies of recycling, landfilling and mass-burning, is generally accepted in the county planning process. Recycling, with its various components (source separation, collection, processing and marketing), offers a variety of options. Likewise, landfilling has several variations according to the materials for disposal: ash residue, bulky waste (demolition and mass-burning bypass items), vegetation and "regular" municipal solid waste. In addition to this, there are the processes of composting and refuse derived fuel. The options under mass-burning, however, are limited to the "hardware" offered by vendors, all of which involve the single process of combustion to produce energy. There are some choices with respect to the energy "sub-option" such as the production of electricity or heat.

The problem areas described above cover the major planning activities in the management of solid waste disposal at the county level. *Chapter 326* contains many additional requirements and standards which must be contained in a county solid waste plan. These additional elements include an inventory of facilities, a site plan map, an analysis of solid waste sources, waste flows and other data.[12] Consultation with municipalities is also built into the process. Finally, a solid waste coordinator must be designated for each of the State's 22 districts.

IMPLEMENTATION

Implementation of a solid waste disposal plan by a county occurs after a plan or plan amendment has been approved by the Department of Environmental Protection. Often, however, it is *hard to distinguish* when a county is *planning and* when it is *implementing*. If implementation of an element of a plan becomes

[12] *Waste flows* refers to the movement from the point of generation to the designated disposal facility and any special transportation considerations for various types of solid waste. Waste flows are both intradistrict and interdistrict (see page 80).

impossible, additional planning has to be done and approved before "alternative" implementation can proceed.

By the same token, the distinction between county initiatives and State initiatives in both implementation and planning are not always clear. It is useful to review these subject areas from both the county and State perspectives. Implementation of each of the following steps of a county plan represents a more serious commitment to the completion of a facility. These steps include site acquisition, contracting with a vendor, financing, final engineering, construction and operation.

Field work undertaken in this study indicated that there are a few counties which have adopted solid waste disposal plans and plan amendments, but have not become serious about implementation. Furthermore, some county plans are deficient in providing short-term disposal capacity through landfilling, interdistrict agreements and shipping out-of-state. Yet these same counties do not appear to be as active in pursuing a resolution to the disposal issue as they might be. Some observers attribute this attitude to the fact that the State and the Courts have resolved such matters in the past.

New Jersey's Department of Environmental Protection estimates that it requires 36 months from the time an affirmative siting decision has been made for a new landfill, to the time the facility is operational.[13] This same requirement for a resource recovery facility is 60 months.

1. ***Engineering Studies***

After approval of the site and disposal technology, the county must commission its engineers to undertake comprehensive studies for submission to the Department of Environmental Protection. Also, for every solid waste facility, an Environmental and Health Impact Statement must be prepared and submitted. Furthermore, for every solid waste facility, design and engineering data must be submitted which, after review and approval by the Department of Environmental Protection, will qualify the facility for a permit. Up to 27 copies of these technical submissions are reviewed by various agencies in the Department after delivery to the engineering section of the Division of Solid Waste Management.

Counties have the management, financial and engineering capabilities to make these submissions in accordance with the statute and regulations. It does become complicated, however, when plans for facilities change and when technical standards applied by the State are not consistent. The matter of consistency in standards is a concern of many counties; this is often a problem with a new complex government program and a set of State regulations which have still not been fully promulated.

One southern county was particularly upset with its application for a new landfill when, several months after submission, the State made changes in the application standards. This action caused the county to undertake major revisions, conduct a new hearing, delay the landfill for six months and rebid the construction contract. As a result of the rescheduling of the bidding, the county claims that it was unable to get as attractive responses;

[13]*Draft Update,* p. 2.

the additional cost to the county, attributable only to the timing of the bid, was estimated at $1 million.

Looking at the case of Bergen County, it is expected that there will be delays in receiving final approvals for the proposed resource recovery facility because of the involvement of the Army Corps of Engineers. The Bergen resource recovery unit is planned for an area which has wetlands under the jurisdiction of this federal agency. The Army Corps will not do its review until after the Department of Environmental Protection approves the facility. The Army Corps has actually requested that Bergen County establish its residual landfill site before beginning the review. The rationale for this position is that Bergen is likely to locate a residual landfill in an area which also involves wetlands. The Army Corps does not want to address the wetlands issue on a piece meal basis.

A significant problem arising from the Department of Environmental Protection's review of an Environmental and Health Impact Statement is that other major components of the disposal facility cannot proceed until this statement has been approved. These major components include final design, site acquisition, procurement and financing. Delays, as well as the various complications resulting from a rejected Environmental and Health Impact Statement, have caused the counties and the State to adopt a hybrid process; the Preliminary Environmental and Health Impact Statement. The *Solid Waste Management Plan Draft Update,* of July 1985, recognized the Preliminary Environmental and Health Impact Statement process when it was amended by public comment in June of 1986. The *Draft Update* states:

> In order to obtain a permit for construction and operation pursuant to N.J.S.A. 13:1E-6 [of a solid waste facility], final design drawings . . . engineering reports [and a final Environmental and Health Impact Statement] are required.
>
> Property acquisition cannot take place until the Department has granted approval [of a Preliminary Environmental Impact Statement pursuant to section 26] . . . of the *Solid Waste Management Act.*[14]

It is interesting to note that section 26 of the *Solid Waste Management Act* refers only to an Environmental Impact Statement; no mention is made of the word "preliminary".

The Preliminary Environmental and Health Impact Statement is helpful in promptly implementing solid waste projects. However, because of the absence of a specific reference to Preliminary Environmental and Health Impact Statement in the law, it is likely to become a frequent target of challenge in the courts. This happened in Bergen County where the Borough of Ridgefield filed suit against the Bergen County Utilities Authority. The basis for the suit was that the Bergen County Utilities Authority had only received Preliminary Environmental and Health Impact Statement approval in advance of site acquisition. Ridgefield claimed that the Preliminary En-

[14]*Draft Update,* p. 61.

vironmental and Health Impact Statement did not have the proper statutory basis, but the Court ruled otherwise.[15]

A recent Superior Court case, involving the proposed solid waste facility in Sussex County, addressed the Preliminary Environmental and Health Impact Statement issue. Ruling in favor of the County and the State Department of Environmental Protection, the Court validated the Preliminary Environmental and Health Impact Statement process, stating:

> We see nothing in the statutes which prohibits the Commissioner from 'staging' the project by requiring approval of a preliminary environmental impact statement alone as a condition for acquisition and financing and then requiring a final statement, including design and engineering details, as a condition of construction and operation. Indeed, the statute speaks to environmental impact statements in the plural. . . .[16]

2. ***Site Acquisition***

The actual *acquisition* of sites for solid waste facilities has been *accomplished in most counties without major problems.* Counties have obtained the land for proposed facilities despite efforts to block such action based on local zoning ordinances.[17] However, public anger vented at the site selection hearings during the planning process is often repeated when the county actually acquires the site.

It is understandable that counties do not want to purchase land for a site which will subsequently be rejected in the Environmental Impact Statement. This was the position of Morris County when it resisted efforts by New Jersey's Department of Environmental Protection to purchase property for a landfill in Rockaway Township after the Department had done a "very preliminary" Environmental Impact Statement. However, Morris County finally acquiesced and undertook the financing to purchase the land. Ironically, it was an act of Congress in October 1986 which subsequently denied a landfill at this site because of the sole source aquifer issue.[18] The Freeholder Director of Morris County commented that the actions by the New Jersey Congressman who sponsored the bill (which excluded certain disposal facilities from being sited on land over a specific sole source aquifer) "are precedent-setting and should tell all New Jersey counties they may be attempting to go through a process that is a waste of time and money if somebody has a friend in the upper levels of government".[19]

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[15]Michael Rozansky, "Ridgefield Sues Over Incinerator," *The Star Ledger,* 30 December 1986.

[16]Superior Court, (Appellate Division), Docket Number A-4696-85T8, unpublished decision, January 16, 1987 (Judges Pressler, Baime and Ashbey).

[17]The *Chester Township v. State Department of Environmental Protection* case ruled that the State has the power to override local zoning ordinances on the siting of solid waste facilities (see p. 20).

[18]HR 2005.

[19]Ken Robinson and Bill Gannon, "Morris Landfill Scuttled," *The Star Ledger,* 18 October 1986.

3. ***Construction***

The actual building of a resource recovery plant or landfill facility in accordance with a county solid waste plan presents few major impediments. There are many reputable corporations with good qualifications for designing, building and operating mass-burning plants. These are the vendors who are asked by the county solid waste agency to make a complete submission in response to the county's *Request for Proposal* for disposing of a certain daily quantity of solid waste at a site which has already been selected.[20] These corporations also have the financial resources which, when combined with the public financing mechanisms available in New Jersey, give them the capability to undertake projects which have a capital cost of as much as several hundred million dollars.

Prior to passage of the *McEnroe Act,* the New Jersey public bidding laws made it difficult for vendors to submit proposals on a specific disposal facility and service.[21] Substantial sums of money have to be spent to prepare all of the technical and financial data contained in the proposal, with considerable competition for the same project, and there is a relatively small chance of receiving the award. Moreover, the differing technologies and the degree to which each technology meets the requirements of a certain county cannot be determined solely by the lowest dollar bid. The McEnroe bill, which came into effect in early 1985, establishes a procedure for a county solid waste agency to negotiate a contract of up to 40 years with a private vendor for the "financing, engineering, construction, operation and maintenance of a resource system".[22] The process for a negotiated contract includes public notice, hearings, standardized procedures and a specific time schedule. The proposed contract is subject to review by four departments of New Jersey government: Environmental Protection; Community Affairs—Division of Local Government Services; the Board of Public Utilities; and the Public Advocate—Division of Rate Counsel. Although the system is cumbersome and time consuming, it has resulted in proposals which are more responsive to the needs of the counties.

The construction of new landfills, along with landfill expansions, is being carried out in accordance with rigorous environmental standards. Landfill operation is a relatively simple technology which has been established over many years. Also, the capital cost of landfills is only a small percentage of their resource recovery counterparts. Many of the new and proposed landfills in New Jersey will be owned by government agencies. The process of designing, building and financing landfills is managed under standard contracting procedures by the county solid waste agencies.

4. ***Types of Facilities***

Implementation of solid waste plans must closely adhere to the existing statute and regulations. At times, this has proved to be inordinately costly and time-consuming because of the awkwardness in applying certain defi-

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[20]The "short lists" of vendors who have prequalified for final evaluation in current county *Request for Proposal* programs indicate participation by highly competent and resourceful firms.

[21]P.L. 1985, c.38.

[22]N.J.S.A. 13:1E-153 et seq., statement by Senate Energy and Environment Committee, part III.

nitional standards to facilities and processes. The definitions appear in the *Solid Waste Management Act* and its amendments, including the *McEnroe Act.* Definitions are also found in the regulations and in the *Mandatory Recycling Act* (see Appendix E). Several examples of definitional differences follow:

- A **solid waste facility** qualifies as a facility to which waste flow regulations apply. Waste flow regulations represent requirements that certain categories of solid waste be transported to specific disposal facilities. Since a solid waste facility excludes recycling, waste flow regulations do not apply to recyclable materials. There is divided opinion as to whether this exemption is good or bad.

- **Transfer stations** are included in the definition of a solid waste facility. This means that transfer stations are subject to the same permitting and Environmental Impact Statement requirements as a new landfill or resource recovery plant. However, there are transfer stations which are very limited or "benign" in their scope, and should, by all logic, be excluded from the same rigorous scrutiny and review as a major disposal facility. An example of this are the transfer stations owned and operated by a single collector or hauler which receive, compact and reship municipal waste from collectors or haulers.

- A **recycling facility** (recycling center) is defined as a facility which collects and processes solid waste into marketable materials. The recycling facility does not have the same permitting, Environmental Impact Statement and public hearing requirements as a solid waste facility. However, the recycling facility does not enjoy the benefit of being eligible for the negotiated procurement process under the *McEnroe Act.*[23]

- A **resource recovery facility,** under the McEnroe definition, is a mass-burner, composting facility, producer of refuse derived fuel or a recycling facility. As interpreted by the State Department of Environmental Protection, all of these types of units are eligible to receive funding from McEnroe surcharges.

- A **materials recovery facility,** as defined in proposed regulations, is a solid waste facility, such as a transfer station, where waste materials undergo separation and further processing.[24] Even though a materials processing facility can produce waste for recycling, it is "officially" a solid waste facility with respect to permitting and its Environmental Impact Statement.

The definitions and procedures applying to each facility are complicated and create uncertainty. Thus, it is difficult to implement solid waste plans in the most timely and efficient manner.

The preceding discussion addressed the several phases of implementing solid waste plans at the county level. One troublesome aspect regarding counties has been their willingness to proceed with implementation. Many

[23]A recent court decision by Judge Haines of Burlington County further qualified the functions and requirements applicable to a recycling facility. (See footnote, Table VII-1, p. 110).

[24]N.J.S.A. 7:26-1.4.

counties in New Jersey have been forthright in executing their solid waste disposal plans. There have been a few instances, however, where counties have not implemented in a timely fashion for reasons such as changes in policy and inability to agree on details of implementation. Whatever the cause, the result has been serious stalemates, and *the State has not had the ability to force implementation.*

One such stalemate occurred in Mercer County. In late 1982, the Board of Chosen Freeholders approved a resource recovery site in the City of Trenton. Subsequently, however, the Board could not agree on measures to implement the project at that site, and proceeded to investigate alternative locations. There was intense public and political pressure from groups in Trenton opposing the plan. The Mercer County Executive and his administrative staff worked diligently to implement the site, but the Board of Chosen Freeholders was never able to obtain enough votes to carry out the necessary steps. Eventually, the matter was resolved by selecting another site adjoining Hamilton Township. Nevertheless, the stalemate lasted four years.

Without question, there have been delays in other counties resulting from Freeholder inaction. It is difficult to assess whether these delays are "intentional" or justifiable. Frequently, additional studies which are needed to answer further questions regarding a potential site lead to delays.

CONCLUSION

In conclusion, it can be stated that *Chapter 326* has provided counties with the primary responsibility for managing the complex area of solid waste. The State, however, also plays a vital role in this process. The various aspects of State involvement in the planning and implementation of solid waste management will be the topic of Chapter V.

CHAPTER V

STATE PLANNING AND IMPLEMENTATION

When solid waste disposal in New Jersey loomed as a crisis in the early 1970s, this Commission recommended that the: "State assume the primary responsibility for the comprehensive, coordinated and continued planning and development of disposal facilities".[1]

The Commission's 1972 report presented a detailed list of activities which would be necessary to plan and implement solid waste disposal sites. Most of these activities were later incorporated into *Chapter 326.*

In this same report a particularly noteworthy statement by the Commission, because of subsequent events, was:

> That in the absence of local initiative and in view of decreasing opportunities for acquiring suitable processing and disposal sites, State government must ultimately assume the responsibility for ensuring an efficient, on-going process of solid waste collection, treatment and disposal.

THE STATE'S ROLE AS PLANNER AND IMPLEMENTOR

There is still considerable debate in the solid waste management community of New Jersey regarding the balance of power between the State and the County. *The analyses conducted in this study conclude that the State does have the power to force counties to plan, but it does not have the power to force counties to directly implement such plans.*

Clearly, if a county certifies failure in its planning, the Department of Environmental Protection can do the planning in its stead (including facility siting). Even if a county does not certify failure, the State can modify and amend the plan by its own initiative. The best example of this process is seen in the "transfer station strategy" being implemented by the Department in four counties. There are two sections in *Chapter 326* which specifically give the Department planning powers if the counties have not fulfilled this responsibility:

> Unless the commissioner shall have extended the time for the development and formulation of a solid waste management plan . . . and unless a certification of failure shall have been received by the commissioner . . . the department shall have the power to develop, formulate and, pursuant to the procedures herein contained, adopt and promulgate a solid waste management plan for any such solid waste management district.[2]

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[1] *Solid Waste: A Coordinated Approach,* p. 32.

[2] N.J.S.A. 13:1E-23a.

The second section of *Chapter 326,* addressing the issue of planning power, states:

> [In the absence of a valid county solid waste plan] the department shall have the power to develop and formulate a solid waste management plan in its entirety for any such solid waste management district, either including therein or excluding therefrom any part or parts of such plan as may have been adopted by the Board of Chosen Freeholders. . . .[3]

The Department of Environmental Protection has not always shared the view that it has ultimate planning power. As the Public Advocate observed in relation to planning and siting problems in Mercer County: "[the] State Department of Environmental Protection's Division of Solid Waste Management . . . [stated] that the Department lacks decision-making powers in local cases and that counties must decide on their own sites and technologies".[4]

This study finds that New Jersey has been in the difficult "Catch-22" position with respect to forcing the planning and implementation of county solid waste disposal. It is of little value for the Department of Environmental Protection to be able to plan without the parallel power to implement such plans. It appears that the Department pursued the policy of using all possible means to get counties to do their own planning rather than have the State do it.

Given its lack of implementation powers, the Department has taken the position that:

> Since the state has not been provided with the implementation powers to allow it to construct new facilities, and since the Department of Environmental Protection is primarily an environmental regulatory agency, it is most appropriate that the districts, in their role as regional governments, address the necessary balancing between the needs for public and private land use which is inherent in the siting of waste management facilities.[5]

When the 1985 Solid Waste Management Plan went to public hearing, the following comment was made: "[W]hen local governments are not willing to site and develop needed facilities, the state should have a mechanism to step in and ensure that facilities are sited and developed".[6] The State's response to this was, in part:

> While New Jersey lacks the authority of some states . . . to site, develop and operate solid waste disposal facilities, it has administrative . . . [power] to amend county solid waste management plans when they are found to be deficient. *Further amendment of the New Jersey Solid Waste Management Act will be necessary to provide the state with additional siting and implementation authority.* [emphasis supplied].[7]

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[3]N.J.S.A. 13:1E-23i.

[4]*White Paper,* Report by the Department of the Public Advocate (July 1984), pp. 22-23.

[5]*Draft Update,* p. 12.

[6]*New Jersey State Solid Waste Management Plan Update Responsiveness Summary,* New Jersey State Department of Environmental Protection, Division of Solid Waste Management (June 30, 1986), p. 18. (Hereinafter referred to as *Responsiveness Summary.*)

[7]Ibid.

One of the strategies used by New Jersey's Department of Environmental Protection to require counties to take planning and implementation actions for solid waste disposal has been the *consent order.* This process represents a negotiated settlement between the Department and the county. A consent order, signed by both parties, lists the steps to be taken and an appropriate schedule. The alternative, in addition to amending the county plan by State initiative, is for the Department to seek a judicial remedy. Counties want to avoid litigation and the costs and delays which would result from this. In a few instances, court orders have been entered into among the Department, the county and the court. Enforcement action is more readily available in an agreement governed by a court order than by a consent order. A current example is Essex County which was under a court order to terminate its use of the Hackensack Meadowlands Development Commission landfill in Kearny by July 31, 1987.

Without question, the use of consent orders and court orders has helped to keep the process moving. This procedure, however, is cumbersome and time-consuming. Furthermore, such actions would not be necessary if the counties were fulfilling their responsibilities, or if the Department did the planning for those counties in default.

The case of the *State Department of Environmental Protection v. Middlesex County,* as decided by Judge Skillman, noted that the Commissioner of the Department of Environmental Protection wrote letters to Middlesex and 14 other counties. In these letters, the Commissioner set forth the alleged inadequacies of the county plans and demanded that they enter into consent orders with the Department of Environmental Protection and thus, when the counties refused to accede to these demands, this suit was filed.[8]

In ruling that the Department of Environmental Protection could not sue the counties for failure to adopt solid waste plans when the State has the power to intercede and adopt such plans on behalf of the counties, Judge Skillman said:

> Nothing in the *[Solid Waste Management] Act* suggests that the Legislature contemplated time-consuming litigation as an alternative to the State Department of Environmental Protection's exercise of its own regulatory powers when a county is unwilling or unable to develop a satisfactory plan.[9]

While Judge Skillman declared that the Department of Environmental Protection has no power to implement a county solid waste plan if that county fails to do so, he ruled that there are ample general powers that have been given to the Department "to seek a mandatory injunction compelling a county to comply with its own approved solid waste plan". Despite this ruling, in June of 1985, New Jersey's Department of Environmental Protection has not sought to force implementation through this means.

The planning and implementation provisions of the *Solid Waste Management Act* have remained essentially the same since they were signed into law in early 1976. Various court cases have, however, defined the intent of this Act. A minor amendment in 1983 establishes a limit of 6 months for the review by the Depart-

[8]*State Department of Environmental Protection v. Middlesex County, Supra.*, p. 22.
[9]Ibid, 206 N.J. Super. at 428.

ment of Environmental Protection of an application for a solid waste disposal facility. This amendment also requires a public hearing within 45 days after granting tentative approval for a new solid waste facility.

ASSISTANCE TO COUNTIES

Although *Chapter 326* gives primary responsibility for the planning and implementation of solid waste disposal to the counties, the State has a myriad of technical functions to perform. New Jersey's Department of Environmental Protection supervises much of the work done by counties, reviews this work when it is submitted as a county plan, as technical data for permit and Environmental Impact Statement applications and provides general technical aid in response to inquiries from the counties.

An overriding issue heard from most county solid waste agencies during the course of this study has been the inability of the Department of Environmental Protection to supply the technical help on solid waste problems in the manner and degree that counties would like. Common complaints have been: "We don't know what the State's requirements are—We can never get a response from the State on a timely basis—Why can't the State insulate us from some of the criticism that we face on siting and implementation decisions—Why do the standards, regulations and procedures keep changing"?

A primary problem facing the State is that it lacks the personnel and resources commensurate with the demands of these programs. There is a need not only for a larger staff, but also for staff who will meet the professional qualifications required by the high levels of engineering and administrative proficiency. The present staff works very hard but cannot stay abreast of the increasing work load and constant crises.

Prior to 1986, solid waste and hazardous waste were managed by the Division of Waste Management in the Department of Environmental Protection. However, in mid-1986, these functions were reorganized, and solid waste management was given divisional status under the direction of the Assistant Commissioner for Environmental Management and Control. The other divisions under this Assistant Commissioner are Environmental Quality (air) and Water Resources. This is a beneficial change which establishes a specific focus on solid waste, with a commensurate improvement in both management capabilities and program efficiency.

1. ***Planning***

   Planning within the Division of Solid Waste Management is handled by a separate bureau. Generally, one planner is assigned to review and assist the planning efforts of several counties. When plan amendments are made, 23 copies must be distributed among State agencies for review. If the Department of Environmental Protection is to do more planning because of failure by the counties to do so, as in the case of transfer stations, additional qualified planners will be required.

   As with any new program, changes in the planning process are required from time to time. One example of these necessary changes occurred in September 1986 when all counties were advised that they would have to

apply for a consistency determination under the State's Water Quality Management Plans. This action was necessary because major solid waste facilities are dischargers of wastewater.

It is assumed that the planning of solid waste facilities will eventually become more routinized and systemized (as is the case with planning for wastewater facilities). An observation by one county solid waste coordinator was that planning by the State Department of Environmental Protection becomes more "efficient" when the State is providing capital funds for facilities. Under such conditions, the State demands accountability. This has been the case for many years in the planning of wastewater treatment facilities.

2. ***Technical Assistance***

Within the Division of Solid Waste Management it is the Solid Waste Management Regulation section that is concerned with the engineering aspects in permitting and the reviewing of Environmental and Health Impact Statements. Generally, within this section, one lead engineer is assigned to major disposal projects, and continues in this assignment until the project is completed.

The backlog of projects under consideration by the Division of Solid Waste Management causes the agency to take the maximum time allowed for review and approval. This time period, 150 days, applies to engineering submissions as well as plan amendments. Many county officials have voiced the opinion that review time should be reduced, particularly with respect to minor matters.

Any government program is difficult to follow if there is regulatory uncertainty. Clearly, this has been true with respect to engineering and planning of solid waste facilities. For many months, the system operated under "draft" regulations which were supplanted by proposed regulations in May of 1986. Final regulations have not been adopted. "Formal" regulations for sludge management have not been in place for six years. A complaint about the lack of landfill regulations registered at the hearing for the *Solid Waste Management Plan Draft Update* produced the following response by the Department of Environmental Protection:

> The lack of promulgated regulations are not cause to prevent siting or design decisions regarding solid waste disposal facilities. The draft regulations have been made available to the counties and their consultants throughout the feasibility, siting, design and construction processes. . . . Although the guidelines and the draft regulations are not in themselves enforceable regulations, they aid in establishing enforceable permit conditions on a case-by-case basis for each solid waste facility. The Department has a history of developing permit conditions to reflect the rapidly changing state-of-the-art. With this approach, these technological advances in the design, construction and operation of solid waste facilities can be rapidly incorporated into a permit condition.[10]

[10]*Responsiveness Summary*, p. 27.

The above comment is, however, of little comfort when one wants to make engineering judgments on established standards.

It has been pointed out that county solid waste coordinators would like more generic data supplied to them by the Department of Environmental Protection on facilities and disposal processes (see page 61). This situation was particularly applicable to the early years under *Chapter 326.* The Department did, however, publish the "General Criteria for Siting Solid Waste Disposal Facilities" in September of 1983 with respect to landfills.

There has been considerable controversy as to whether the Department of Environmental Protection should establish specific siting criteria for resource recovery facilities, applicable to all counties. The Department of Public Advocate favors such criteria.[11] The policy of the Department is that individual counties should establish their own siting criteria *because conditions in each of the counties are different.*

The issue of State siting criteria has come up frequently during the course of this study. The following statement by the Department of Environmental Protection explains its position:

> Under the *Solid Waste Management Act,* counties (and the Hackensack Meadowlands Development Commission) are given the authority and responsibility for siting new disposal facilities. Historical concerns expressed by many local and county governments indicated that facility *siting* has a substantial land use planning impact. Local/regional governments, such as counties, are in the best position to balance local concerns over land use with regional facility requirements. The above philosophy was dominant at the time the New Jersey *Solid Waste Management Act* amendments were promulgated in 1975. These amendments placed the responsibility for facility siting at the county level.
>
> Siting of waste facilities has environmental consequences as well. The Department has and will attempt to familiarize county and local decision-makers and the public with the types of issues which will be scrutinized during both the state's planning approval process and the facility permitting process. In this way, officials can incorporate obvious 'fatal flaw' characteristics as well as less rigid 'suitability' criteria into their selection processes. This approach will enable county officials to avoid choosing sites which require extraordinary (or impossible) engineering approaches or which are clearly unable to be permitted.
>
> It is important, however, that the Department maintain the legislatively established distinction between siting and permitting. The promulgation of statewide siting criteria to be applied by each county is not contemplated at the present time.[12]

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[11] *White Paper,* pp. 8 and 59.
[12] *Responsiveness Summary,* p. 25.

One finding of this study is that some counties would prefer to share the responsibility with the State for the siting of solid waste disposal facilities. This would be easier to accomplish if the State promulgated specific and comprehensive siting criteria as this would result in some degree of sharing in the decision-making process.

The view has been expressed that statewide siting criteria might inspire additional legal challenges given that there would be more standards for the county to meet. Existing court decisions give Freeholders broad latitude in picking a site even if it is not the "best possible site" as long as the process is rational and all procedural steps have been observed (see pages 20-22).

An example of the problems associated with State mandated criteria was explained by the Bergen County Utilities Authority. This agency, as a matter of policy, objects to requirements such as: no resource recovery facility shall be built within 2,000 feet of a school or hospital. This type of standard has been the subject of many legislative bills, and if enacted, would be the same as imposing a statewide siting criteria. The Bergen County representatives make the point that a 2,000 foot buffer zone might make sense in a rural county, but it would be unreasonable for urban areas.

The argument against statewide standards presumes that each county is in a better position to make its own land use decisions, with the help of its residents. Also, it recognizes that siting is not a precise science. Under existing conditions, each county develops its own basic criteria against which proposed sites are judged.

3. ***Financial Planning***

The Bureau of Solid Waste and Resource Recovery Financing within the Division of Solid Waste Management has the responsibility of managing financial aid programs. Over $168 million of State bond money has been made available for loans for the construction of solid waste facilities (see page 17). In addition, there are presently seven taxes (or surcharges) collected at landfills and turned over to the State for use in various county solid waste programs. Planning grants from general State appropriations are directed to the counties through this Bureau.

The management of solid waste financial aid programs has become reasonably efficient. This, however, was not always the case. It took almost 21 months to promulgate procedures and regulations under which counties could apply for their share of McEnroe surcharges. The deadline for filing applications was 24 months after the *McEnroe Act* became law.

4. ***Public Information Support***

Individual counties have faulted New Jersey's Department of Environmental Protection for not developing a better informational climate for solid waste disposal under *Chapter 326.* Department officials have conceded that in the past a partnership did not exist between the State and the counties to provide such information. However, the Department is working to change this through the development of a variety of public education

programs. One such effort has been the regional conference series sponsored by the Department. This "Outreach Program", which addressed solid waste, along with other environmental issues, was directed towards mayors and freeholders. In addition to this, the Department has also been involved in setting up a display which was exhibited at the New Jersey State Fair. The most well attended public information symposium to date is the Environmental Exposition sponsored twice a year by the Department and the Hackensack Meadowlands Development Commission. The number of people that this symposium reaches out to has been growing each year. These programs are just a sample of the greater commitment that is now being made by the Department of Environmental Protection to educate the public on the issue of solid waste.

Another step to be taken to improve the image of solid waste disposal, and in particular, mass-burning, would be increased involvement by the State in presenting this technology in a favorable light through informational releases and additional seminars. If resource recovery is "policy" in New Jersey, it seems reasonable for the State to answer incorrect, inflammatory and irresponsible statements made in opposition to this technology. Many county solid waste officials have, in the past, felt virtually abandoned by the State when they have had to defend a particular resource recovery technology against claims made by angry citizen groups. The same situation exists with regard to landfills. The State, in conjunction with the counties, should seek to dispel misinformation about state-of-the-art landfills and residual landfilling. New Jersey's Department of Environmental Protection has stated:

> The Department will, upon request and to the extent permitted by statute and its resources, provide expert technical information and testimony to districts . . . [including] testimony at public hearings and meetings. . . . In cases where the Department has reviewed and approved a district plan amendment including a facility site and issued a permit to construct the facility, it will provide testimony regarding its support for the project, where appropriate.[13]

Many counties feel that the full extent of this commitment has not been forthcoming.

In summary, the State solid waste program effort has not always met the needs of the counties in terms of technical and general assistance. The 1986 reorganization establishing the Division of Solid Waste Management is an important step in the right direction, but present insufficient levels of staffing and resources continue to hamper the State's role.

STATE LONG-TERM PLAN

The *Solid Waste Management Act* requires the State Department of Environmental Protection to formulate and develop an overall statewide plan for the

[13]*Draft Update*, p. 134.

management of solid waste disposal. This plan is intended to be a guide for the individual counties. In the Act, the Legislature declared its policy to:

> Establish a meaningful and responsible role for the State in the solution of solid waste problems . . . not only to regulate and supervise all solid waste collection and disposal facilities and operations . . . but also to develop through a statewide solid waste management plan objectives, criteria and procedures to assure the orderly preparation and evaluation of the solid waste management plans developed by every solid waste management district. . . .[14]

It is important to note that this policy has required the State to establish its overall plan before the county plans. The Act requires that the statewide plan be updated at least every two years.

In the *Mastrangelo* court case, the State Department of Environmental Protection was charged by the plaintiffs with having an inadequate state wide plan.[15] The Court held that the plan was inadequate at that time (1982), and directed the Department to reduce the statewide plan to an identifiable and manageable document within 30 days (of the *Mastrangelo* decision).

An "improved" plan was published shortly thereafter, and a comprehensive update was issued July 15, 1985. It is interesting to note that there was still criticism of the Statewide *Solid Waste Management Plan Draft Update* from county sources. This criticism was expressed during the comment period on the *Draft Update,* and declared that the State Plan was offering "no assistance to counties in the development of their county plans . . . (and) in advocating disposal technologies and offering guidance to those counties facing a disposal crisis". In responding, New Jersey's Department of Environmental Protection said:

> The Department strongly disagrees with this statement. The *[D]raft Update* contains a clear expression of policy regarding the role of the state and the county in administering the *Solid Waste Management Act.* In addition, the *Update* contains important information on waste disposal capacities, status of individual county plans, technology assessment, costs and implementation mechanisms. . . . There appears to be a basic misconception in this comment [by county sources] that the state is responsible for developing plans and policies. The counties have the primary responsibility to develop and implement plans within the statutory regulatory frame work of New Jersey environmental laws.[16]

The analysis undertaken in this study finds that the Statewide Solid Waste Management Plan (as represented by the current Draft Update) does, indeed, fulfill the statutory requirement for the State to have an overall solid waste disposal plan. It is also important to note (as pointed out in the State's response quoted above) that the primary responsibility for planning resides at the county level, and that the State plan should not be a substitute for county plans.

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[14]N.J.S.A. 13:1E-2b(6).

[15]*A. A. Mastrangelo, Inc. v. Commissioner of the Department of Environmental Protection, Supra.,* p. 19.

[16]*Responsiveness Summary,* p. 22.

LANDFILL ENFORCEMENT AND CLOSURE POLICY

Most operating landfills in the State have been closed. Furthermore, several of the major landfills accepting solid waste are scheduled for closing within a few months. With the exception of several counties where landfill capacity still exists and/or where new landfills are being brought on line, the solid waste disposal crisis can be attributed to the State's policy of closing landfills without alternative disposal options being available.

Although some observers use this argument to criticize the State, the events of the last 16 years indicate that the criticism is not valid.

- *Landfills have had to be closed* because of threats to the environment and public health as a result of improper engineering safeguards.
- The State Department of Environmental Protection has "extended" the life of major landfills whenever possible even though it is questionable whether these landfills meet minimum standards.
- The *Solid Waste Management Act of 1970* and the 1975 amendments have provided more than ten years for counties to develop alternative disposal facilities.

ENCOURAGEMENT OF REGIONAL AND INTERDISTRICT REMEDIES

Policy included in the *Solid Waste Management Act* clearly encourages regional or interdistrict waste flows as solutions to solid waste disposal. Yet, the Legislature gave ultimate planning and implementation powers to counties in recognition of the "home rule" tradition in New Jersey.

Under *Chapter 326,* individual counties have a mechanism for developing their own interdistrict solutions. If the counties fail, the State can do the planning in their stead. However, the State has been reluctant to force interdistrict solutions on unwilling counties. Such a policy would have the adverse effect of punishing counties which, because they have done a good job in solid waste planning, have excess disposal capacity available. Counties which have fallen behind in fulfilling their solid waste management responsibilities, on the other hand, would be rewarded by having waste exported to out-of-county disposal sites.[17]

However, not all potential interdistrict disposal arrangements apply to disparate county planning situations. There have been instances where neighboring counties, both in need of disposal capacity, have both been negligent in their planning. In other words, a joint disposal facility in either county would not represent "punishment" for responsible planning. Yet, the State has not taken the initiative to impose a regional solution.

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[17]The policy of the State Department of Environmental Protection, as stated in the *Solid Waste Management Plan Draft Update,* is ". . . to ensure that those counties which have successfully faced the siting issue are not penalized for their acceptance of this burden by shouldering the additional burden of receiving wastes from counties which have not faced the siting issue" (p. 7).

Virtually all counties, at one time or another, have discussed possible regional strategies with their neighbors, but with little success. As a general policy, the State has not forced interdistrict disposal arrangements on unwilling counties. Presently, there are two major receivers of interdistrict waste flows, the Edgeboro landfill in Middlesex County and disposal facilities in the Hackensack Meadowlands. However, the interdistrict arrangements in both of these cases have resulted from a combination of historical precedent and waste flow orders arising out of court actions. These arrangements have not evolved from State planning initiatives.

The Edgeboro landfill, in Middlesex County, has had a long history of accepting waste not only from New Jersey counties but also from New York City. With regard to interdistrict disposal, Somerset County and many communities in Morris County have historically transported their solid waste to the major landfills in Middlesex. Two of these landfills, ILR and Gobal, have closed in recent years leaving only the Edgeboro facility open. When the Hamms landfill in Sussex County was closed to out-of-county sources several years ago, the displaced solid waste was redirected. The remaining Morris County municipalities were ordered to use Edgeboro under an Administrative Consent Order between the State Department of Environmental Protection and Morris County.[18] With respect to Union County, an earlier "crisis" in the Meadowlands forced the State to also redirect most of Union's solid waste to Middlesex County.

These "involuntary" redirections of waste flow to Middlesex County threaten the long-term disposal capacity of that county. Furthermore, these activities have caused Middlesex County to take action in Federal court in an effort to end the importation of solid waste.[19]

The Act establishing the Hackensack Meadowlands Development Commission in 1968 gave powers to that agency over regional planning matters. The jurisdiction of the Hackensack Meadowlands Development Commission includes parts of Bergen and Hudson Counties, comprising portions of 14 municipalities. A major objective of the 1968 Act, creating the Hackensack Meadowlands Development Commission, was to guarantee northeastern municipalities, then sending waste for disposal at Meadowlands sites, the right to continue to do so.

Due to the disposal of solid waste exceeding the capacity of the Meadowlands District to accept it on an environmentally sound basis, the present policy of the Hackensack Meadowlands Development Commission is to end garbage dumping in the area under its jurisdiction. Capacity at the facility used by Hudson County will no longer exist by March of 1988. The other counties (Bergen, Essex and Passaic) are under various court orders to terminate disposal by the end of 1987. In all cases, the parties to these court actions include, the Department of Environmental Protection, the Hackensack Meadowlands Development Commission and the individual county.[20]

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[18]A provision of this order stipulates that Morris County will have to receive an "equal" amount of waste that would ordinarily go to Edgeboro from non-Middlesex sources, after Morris has its own disposal facility.

[19]*Middlesex County v. Environmental Protection Agency, the State Department of Environmental Protection et al.*, Civil Action No. 86-126, United States District Court (3rd Circuit), October 1986.

[20]Most of the disposal in the Meadowlands has resulted from "historical waste flows". However, when Hamm's landfill in Sussex County closed, garbage from the northern tier of Passaic County was redirected to the Meadowlands facility already accepting solid waste from the rest of Passaic. This waste redirection was similar to the redirection of Morris County waste to Edgeboro.

There are a few other interdistrict waste flow orders in effect in New Jersey at the present time, but these are of minor consequence. One such order which directs solid waste from northwestern New Jersey to the Ocean County landfill is ineffectual because these areas are also allowed to dispose in Pennsylvania, an alternative which is cheaper.

Counties are usually unwilling to participate in interdistrict disposal arrangements, and the State is reluctant to force such action. Therefore, it is very unlikely that the approach of having only eight or nine major resource recovery plants and a similar number of large landfills will prevail. The counties have already sited 19 resource recovery plants (two in Camden County) and 15 landfills (two in Union County) as part of their ongoing planning efforts.

As was pointed out earlier, a regional ash landfill serving northeastern counties would make good sense (see pages 55-57). Accordingly, New Jersey's Department of Environmental Protection undertook a study to identify (and "encourage") a regional residual landfill.[21] This report analyzed 204 potential sites, reducing the number to 19 "candidate" sites. Without question, several of the finalists would have served the area well as a regional landfill but, nothing has happened through either county or State initiative.[22] Furthermore, because of the present policy and statutory framework, a regional landfill is not likely to be realized.

WASTE FLOW REGULATION AND COMPLIANCE

An essential element of the planning process under *Chapter 326* is the promulgation of waste flows. These waste flows are included in the county plans submitted to the State Department of Environmental Protection. Disposal facilities are identified for accepting the various classifications of solid waste generated in each of the municipalities. In accordance with the *Mastrangelo* court decision, the State Department of Environmental Protection reviews and approves the interdistrict considerations of waste flows, and the New Jersey Board of Utilities reviews and approves waste flows with respect to the specific disposal facility.[23] Upon completion of this process, the approved waste flows are then executed.

The directing of solid waste to individual facilities, in conformance with existing regulations, is vital for efficient solid waste disposal. It is also important in ensuring the economic viability of a disposal facility.

The enforcement of waste flow orders continues to be a major problem due to the staggering number of trucks which must be monitored (4,000 to 5,000 per day). Haulers, most of whom operate in the private sector, must observe waste flow rules when they transport a certain type of solid waste from a municipality to the

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[21]The *Dresner Report* of 1984.

[22]New Jersey's Department of Environmental Protection commented on the *Dresner Report* in its 1986 *Responsiveness Summary* as follows: "As an example of the State Department of Environmental Protection's involvement in this issue as a party to the Essex County-State Department of Environmental Protection-Hackensack Meadowlands Development Commission Judicial Consent Agreement (which provides for Essex County disposal privileges at Hackensack Meadowlands Development Commission facilities until July 31, 1987), the State Department of Environmental Protection agreed to fund an independent consultant to identify and rank suitable residual landfill sites in the counties of Bergen, Essex, Hudson and Passaic. The results of this study were submitted to the counties but they failed to act collectively or individually on selecting a site" (p. 30).



The enforcement of waste flow orders is a major problem because of the need to monitor 4,000 to 5,000 trucks per day. (Photo courtesy of Marvin Ross/Department of Environmental Protection.)

designated disposal facility. However, haulers will often have routes which cross municipal and county lines; different geographical points of origin frequently mean different disposal destinations. It has been very difficult to enforce reporting by haulers of the proper origin of solid waste.

Another problem arises even if all solid waste in one load is destined for a single disposal facility. Assume, for example, that a hauler picks up in a single truckload solid waste from sources in both Somerset and Middlesex Counties. Waste flow orders require him to take this load to the Edgeboro landfill located in East Brunswick Township, Middlesex County. However, garbage from sources in Somerset are subject to an importation surcharge payable to Middlesex County as well as a host community fee payable to East Brunswick. Garbage from other towns in Middlesex County is subject to the host municipality fee but not the importation charge. The hauler in this example must identify the number of tons of waste from Somerset and the number of tons from other Middlesex municipalities when dumping takes place at Edgeboro. The payment of the proper amounts of such a "split load" are required by law. If the hauler improperly reports that all of the waste is from sources in Middlesex County, he "saves" the importation surcharge either for himself or for his Somerset County customers (if he is not apprehended for violating the waste flow orders).

When the State Department of Environmental Protection managed solid waste as part of its Division of Waste Management, enforcement for both hazardous and solid waste operated out of the same Bureau. With the reorganization in 1986, solid waste enforcement has become a separate unit, thus making it easier to manage activities involving waste flow verification. New programs are currently being developed to address the enforcement problem including a more detailed origin and destination form, a sticker system for boxes, stricter enforcement through license revocation for repeat violators and increased field inspection. However, presently there are only eight solid waste enforcement officers for the entire State, and a substantial part of the work load involves landfill inspections. It is extremely difficult with this limited staff to oversee thousands of hauler vehicles to be sure that proper disposal facilities are being used and that solid waste origin is clearly identified for payment of surcharges. Incentives for haulers not to comply with waste flow rules is great in terms of collection economies and tipping surcharge avoidance. To be effective, enforcement must be rigorous enough to constitute a real threat to violators.

THE PRIVATE SECTOR

Traditionally, most New Jersey solid waste collection and disposal has been handled by the private sector. The private sector remains dominant in hauling and, prospectively, in resource recovery. Thus, it is important that private participants are recognized as "full partners" in solid waste management.

Data in Chapter III indicating the number of collectors and haulers, as well as privately owned vehicles, operating in New Jersey affirm that this industry is well positioned to continue its major role in the solid waste collection process.

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[23]*A. A. Mastrangelo, Inc. v. Commissioner of the Department of Environmental Protection, Supra.*, p. 19.

Larger firms seem to be increasing their share of hauling activities. This trend reflects general economic patterns in this country in which technological requirements and financial capacities have become more complex. In the near future, a greater number of vehicles, or vehicles of a larger size, will be required to transport solid waste to distant disposal sites out-of-state. Traveling time will be greater; there will be fewer "round trips" per day.

Some of the larger collectors and haulers are involved in other aspects of solid waste disposal. These firms have started to plan, develop and operate transfer stations for sorting our recyclable materials, consolidating loads, composting and general economies of operation. The operation of these transfer stations will now commence within relatively short periods of time as a result of the May 5, 1987 adoption of an emergency mechanism by the Department. On this date, the Department of Environmental Protection authorized the expediting of the permitting process through the attainment of a Certificate of Imminent Peril (which would allow counties to construct transfer stations). However, prior to being issued this certificate, counties would be required to complete a streamlined version of the Environmental and Health Impact Statement.

Data in Chapter III also went on to show the drastic reduction of operating landfills in New Jersey since 1970. Of the major facilities remaining open, most are privately owned. The trend in new landfill development, pursuant to the county solid waste plans, is in the direction of county ownership and operation. Private ownership is not as attractive as it was in the past because of greater capital requirements as well as pollution liability.[24] The few remaining large private landfills, such as Edgeboro in Middlesex and Ocean County Landfill, have the financial resources necessary to install the required environmental improvements.

Resource recovery facilities which are being planned and designed in the various counties are essentially private. These units require considerable capital and until recently have enjoyed tax exempt capital financing (see Chapter VIII). There are a number of vendors of mass-burning systems which have the technological and financial capacities to continue to meet New Jersey's resource recovery needs under private ownership. However, because of changes in the Federal Tax Code, it is likely that county government will participate to a greater degree in the financing of these facilities.

BOARD OF PUBLIC UTILITIES JURISDICTION IN SOLID WASTE MANAGEMENT

When the management of solid waste was brought under State jurisdiction in 1970, the *Solid Waste Utility Control Act* was passed giving regulatory powers over the economic aspects of solid waste disposal to the New Jersey Board of Public Utilities.[25] Under this Act, the Board of Public Utilities has power to:

(1) Regulate rates charged by haulers and disposal facilities.

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[24]Capital costs for new landfill facilities are now estimated at approximately $300,000 per acre in New Jersey, according to James C. Anderson, President of the JCA Associates solid waste engineering firm.

[25]N.J.S.A. 48:13A-1.

(2) Review and adjust contracts between local governments and solid waste utilities to ensure that rates are not excessive.

(3) Review and approve waste flow rules.

(4) Designate specific franchise areas for collection and disposal.

(5) Issue (and revoke) Certificates of Public Convenience and Necessity to haulers and facilities.

(6) Require qualification and performance standards for solid waste utilities.

(7) Review and approve vendor service contracts for resource recovery facilities (under the *1985 McEnroe Act*).[26]

The power to review and approve waste flow rules (as discussed earlier in this chapter) is supplemented by the power of the Board of Public Utilities to designate specific geographical franchise areas for an individual disposal facility. This power is important in capital financing.

The powers to issue Certificates of Public Convenience and Necessity and to require qualification and performance standards represent necessary responsibilities. Providing the Board of Public Utilities with these powers insures that the public receives the services that the regulated utilities are obliged to supply.

The power to review and approve vendor contracts for the construction and/or operation of resource recovery facilities is a recent improvement. This allocation of power permits counties to negotiate for resource recovery facilities under prescribed conditions rather than undergo the disadvantages of competitive bidding.

The remainder of this section will focus on the power of the Board of Public Utilities to regulate collection and disposal rates of the solid waste industry and, to a lesser degree, the power of the Board of Public Utilities to review and adjust contracts between local governments and solid waste utilities. These can be considered the basic economic regulatory powers over the private sector involved in solid waste disposal.[27]

The fundamental mission of a utility regulatory agency is to insure that a service or commodity is supplied to a group of consumers on a consistent, guaranteed basis and that the rates therefore are reasonable. The regulatory agency should ensure rates are structured to generate sufficient cash and reserves for meeting future capital requirements. In exchange for accepting these regulatory proscriptions, the utility is generally granted a monopoly over the provision of services or a commodity in a franchise area. The traditional type of regulated utility has a product or commodity which is delivered to consumers directly (as in the case of water, natural gas, electric and telephone service). It would be inefficient, costly

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[26]N.J.S.A. 13:1E-136.

[27]It should be noted that the New Jersey State Commission of Investigation is presently conducting an investigation of the economic aspects of solid waste disposal. This Commission will be making its report in 1987.

The purpose of this analysis by the County and Municipal Government Study Commission is to describe the role of the Board of Public Utilities over the operations of solid waste disposal in New Jersey. Emphasis will be upon the impact of the Board of Public Utilities, directly and indirectly, on the *effective and efficient management of solid waste disposal.*

and against the public interest to allow duplication of facilities and market competition for this type of product or service.

However, the private collectors and haulers which serve the solid waste industry in New Jersey are different from the traditional regulated utilities. They provide a service which does not involve a connection with the consumer. Collectors and haulers normally compete with each other in the same solid waste markets and with the same tariff rates. They have not been granted a monopoly in the form of a franchise yet, they are compelled to provide a service which meets certain standards.

The area of most controversy for the Board of Public Utilities is the setting of rates and tariffs for collectors and haulers. The large hauling firms, which typically are divisions of national corporations, complain that rate review cases are expensive, time-consuming and often ineffective. If a new rate is applied for, it will often take nine months to be approved or denied. Furthermore, there is no retroactive application of the new rate. The cost for lawyers and special consultants is substantial; the private hauler pays a "fee" of at least $1500 for the participation of the Public Advocate in the process. *The fact that New Jersey is the only state where there is utility regulation of hauling rates adds to the unpopularity of this requirement.*

There appears to be vigorous competition among the larger haulers for collection and disposal of solid waste from commercial establishments. Although rates are regulated, the hauler does not have a franchise or monopoly. As a result of this, competition sometimes takes unusual forms. One possibility would be where the rates in a particular county are based on the use of a drop-off container of five cubic yards in size. The hauler can only charge the waste generator for five cubic yards per pickup. However, if the hauler ostensibly has no five cubic yard containers available and must leave an eight cubic yard container at a site, the result will be that the generator will fill up the entire eight yards and the hauler will only charge for five yards of removal. Another possibility might entail the hauler making more frequent pickups because of the nature of his collection route. This often favors one hauler over another even though the rates per cubic yard or per ton are the same. These and other considerations are important factors when a hauler makes a long-term contract with a municipality.

There are some who argue that the Board of Public Utilities regulation of rates helps the small hauler because without such rates, the large firms would lower prices in order to eliminate competition. The presumption is that once competition has been eliminated, prices would be raised above their former levels. On the other hand, small hauling firms are handicapped because of their limited resources to apply for rate case review and tariff increases. *It appears that fewer rate cases have been filed than would be normal for the number of collectors and haulers in the industry. The assumption is that many haulers are operating under tariffs contained in their original filings (early 1970s), and that some have even increased their rates without going before the Board of Public Utilities.*

The Rate Counsel of the Public Advocate has worked with the Board of Public Utilities in an effort to reduce the time and complexity in filing for tariff review. When conditions are very simple, an application may be considered under the "expedited rate case" procedure which requires only two months to process. The

evidence is inconclusive at this time as to whether or not this procedure has resulted in participation by larger numbers of haulers.

One line of commentary from several sources has been that the Board of Public Utilities does not have the staff and technical resources to meet the demands of rate regulation in the solid waste collection and disposal field. It is also claimed that the Board of Public Utilities has no guidelines or policy for tariff design.

The lack of direction makes it difficult for the Board of Public Utilities to evaluate accounting practices on which rates must be based. An example of abuse of this system would be where a collector or hauler bid intentionally low on a municipal contract knowing that this business would be offset by lucrative rates in a particular private market. Due to a lack of standards and policy on tariff design, the Board of Public Utilities is hard pressed to correct the inequities of this situation.

It has been asserted that regulation of hauling rates inhibits recycling. The Administrator of the New Jersey Office of Recycling explained that there are 143 municipalities in the State where collection is a matter of private contract (subscription) between the homeowner and the solid waste hauler. Recycling is not encouraged under such arrangements because most of the hauling firms fear that collection of recyclables will result in a deduction from their solid waste tariffs when the materials are sold.[28]

The concept of *rate averaging* has been advanced by some. This concept, in its simplest form, suggests that the State have the same fees charged at all disposal facilities in New Jersey. As the regulator of such a system, the State would collect all fees and pay each individual disposal facility in accordance with its actual cost. Ideally, such a system would work. This system would certainly eliminate the serious problem of enforcing proper payment of tipping fees and surcharges in accordance with the sources of waste flow. *On balance, however, rate averaging appears to be much too complex to adopt and administer under New Jersey's current institutional structure. In addition, rate averaging may not produce the lowest rates achievable for the customer.*

New Jersey's Board of Public Utilities also regulates rates charged by solid waste disposal facilities. This function makes much more sense because these utilities, landfills and future resource recovery plants, have a disposal monopoly in their franchise areas.[29] It is in the public interest to insure that rates are reasonable and that service standards are maintained.[30]

Those who object to the Board of Public Utilities regulation of landfill rates make the point that, in recent years, landfill disposal rates have not risen in proportion to costs. As a result, landfill owners are inhibited from making necessary environmental improvements, and premature closure of some of these facilities has taken place.

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[28]Testimony of Mary T. Sheil before the Assembly Energy and Natural Resources Committee, February 24, 1983.

[29]Legislation has been introduced to limit the Board of Public Utilities review of resource recovery rates to the initial contract only (A-3255).

[30]Since sludge is defined as solid waste, a sludge disposal facility, such as a farm on which sludge is land applied, is subject to the Board of Public Utilities regulation over the rates that are charged.

The Board of Public Utilities also reviews contracts between municipalities and private collectors and haulers. These contracts result from public bidding, therefore, solid waste tariffs do not apply. Actually, it was concern over collusive bidding and nefarious influences in the solid waste industry which led to the *Solid Waste Utility Control Act of 1970.*[31]

Although there seems to be consensus that the Board of Public Utilities jurisdiction in this area is desirable, bidding by municipalities for garbage disposal contracts cannot be characterized as competitive in recent years. In many municipalities only one or a very small number of private collectors submits a bid. In addition, bids can be thrown out on technicalities if the "favored hauler" is not successful. When a contract is rebid, moreover, the prices submitted by potential vendors are known (a condition which does not inspire competition). One example of the problems which still exist with local solid waste disposal contracts was seen in a recent municipal bid which contained 108 different combinations of waste removal (by county, by groups of counties, by number of collections and others). Certainly, no inference should be made that there was anything improper in this bid. Nevertheless, the multiplicity of options illustrates the potential for problems. Furthermore, the Board of Public Utilities review of contracts cannot overcome the inherent defects of the system.

There is general support for the various responsibilities of the Board of Public Utilities which insure that solid waste disposal utilities (including collectors and haulers) are qualified and provide satisfactory service. The power to award a Certificate of Public Convenience and Necessity, the requirement that solid waste utilities be bonded, and the threat of severe penalties are all useful in providing good service.[32] The *A-901 Disclosure Act* also sets rigid standards for individuals participating in the solid waste industry in New Jersey.[33]

Thus, it can be stated that the functions which the Board of Public Utilities performs with respect to planning and administration of solid waste disposal are beneficial. These functions, as described in the previous pages, include: waste flow direction, awarding of franchise areas, review of vendor procurement contracts under the *McEnroe Act,* and review of county solid waste plans and amendments.

CONCLUSION

The role of the Board of Public Utilities, combined with that of the Department of Environmental Protection, is to ensure that proper guidelines and assistance are provided to counties and that regulations are followed. However, these efforts have been hampered in the past as a direct result of insufficient staffing within the Department along with a lack of implementation powers. Only when changes have been brought about in these areas will the State then be equipped to fulfill its role in New Jersey's solid waste management process.

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[31]*Solid Waste: A Coordinated Approach,* p. 48.

[32]Violaters can be given up to three years imprisonment and a fine of not more than $50,000 for a willful violation of provisions of the *Solid Waste Utility Control Act,* (N.J.S.A. 48:13A-12).

[33]N.J.S.A. 13:1E-126 et seq.



The use of transfer stations, such as this one in Hunterdon County, will be the primary method of disposal for much of New Jersey until long-term, in-state facilities become operational. (Photo courtesy of Marvin Ross/Department of Environmental Protection.)

CHAPTER VI

THE SHORT-TERM DISPOSAL CRISIS

Disposal capacity for much of central and northern New Jersey is scheduled to expire in the coming months. The four largest landfills in the State, which accounted for 66% of the State's total disposal capacity in 1986, are scheduled to close by March 1988. It is not expected that replacement resource recovery facilities, new landfills, or expanded landfills will be ready to receive the waste now disposed at those landfills for three or four years.

Some of our counties are now exporting their garbage out-of-state. Others will be utilizing this option upon the completion of the transfer stations now being designed (this is referred to as the *transfer station strategy*). Expeditious implementation will be required to complete the transfer stations prior to the closure of the major landfills.

ADEQUACY OF THE PLANNING PROCESS

Chapter 326 requires that all counties adopt a ten year plan for the management and disposal of solid waste. A strict interpretation of this provision indicates that as of March 3, 1987, only seven counties are in total compliance with the ten year requirement: Burlington, Cape May, Cumberland, Gloucester, Monmouth, Ocean and Salem.[1] The progress that has been made in several other counties would be inadequate to meet the crisis even if the affected counties gave 100% effort in developing solutions, and we have seen in the earlier chapters that the State does not have sufficient powers to overcome the crisis by its own initiative.

It is quite apparent that the State will have to assist in overcoming the expected crisis. For the State to assume such a role, it would need additional powers similar to some of those suggested by Assemblyman Shinn's proposed legislation.[2] In general terms, this legislation would give the State Department of Environmental Protection intervention powers to manage solid waste emergencies in much the same way as it manages water drought emergencies.

Since early Fall of 1986, New Jersey's Department of Environmental Protection has recommended that contingency planning for solid waste disposal be undertaken by the counties. Such plans "should provide estimates of the amount of trash [a county] will generate in the next 5 years, disposal capacity and location . . . and identify the expected shortfall".[3] The Department of Environmental Protection is also suggesting that contingency plans include "unlikely events or emergencies that might trigger disposal problems, such as landfill failures".[4]

The call for "contingency planning" is really a call for the counties to do their "normal" planning as required under the existing statute and regulations. *Chapter*

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[1]Tom Johnson, "The State Department of Environmental Protection Orders Counties to Develop Short Term Waste Plans," *The Star Ledger*, 3 March 1987.

[2]Tom Johnson, "More State Power Urged in Event of Trash Crisis," *The Star Ledger*, 8 February 1987, and Assembly Bill 3892.

[3]"Department Orders Counties."

[4]Ibid.

326 requires a ten year plan, and gives the Department of Environmental Protection the responsibility to see that each plan covers all conditions or contingencies. No additional powers have to be given the Department or the counties for contingency planning. Clearly, however, the impending crisis does not permit sufficient time for "normal" planning and implementation to resolve conditions expected at the end of 1987.

POSSIBLE OPTIONS

Four possible options for providing additional disposal capacity to meet the short-term crisis are presented in this section.

1. ***Transfer Stations and Out-of-State Disposal***

The expression "transfer station strategy" is somewhat of a misnomer because it only implies the transfer of solid waste at a specific facility or station when in fact this term is much broader in meaning. *In its present usage, "transfer station strategy" should be understood to mean the collection of solid waste from a county, the compacting of this waste at the transfer station, and the subsequent transporting of the waste in large trucks, to an out-of-state disposal facility.*

This strategy developed out of the crisis situation in connection with the Edgeboro landfill in Middlesex County. Historical waste flows, as well as court directives, authorized New York City, Morris, Somerset and Union Counties to export their garbage to the Edgeboro landfill, a facility which has been rapidly approaching maximum capacity. It was also apparent that these three counties were not implementing their own in-county solid waste disposal plans in a timely manner. Accordingly, the State Department of Environmental Protection proceeded to prepare plans for these counties to establish transfer stations for the collection of their solid waste and exportation out-of-state.

As part of the transfer station strategy, the Department of Environmental Protection proposes to amend the plans of these counties to include a transfer station and new waste flow rules directing solid waste to the transfer stations. The Department of Environmental Protection retained a consultant to prepare *Requests for Proposals* inviting private bidders to undertake this process in the several counties. The bidder was required to propose and site a facility (or facilities), transport the collected solid waste out-of-state for disposal, and make a binding contract for up to five years with an out-of-state landfill.

The rationale for the transfer station strategy, in the case of these three counties, is to arrange for assured disposal for alleviating the serious capacity situation at Edgeboro. Furthermore, this strategy advances the State policy of not penalizing those counties who have successfully fulfilled solid waste planning requirements and rewarding those who have not.

Another advantage of the transfer station strategy is that, by awarding the contract for the facility and out-of-state disposal to a private entrepreneur, implementation is much more certain. It is believed that the

chosen bidder will have the necessary incentives to successfully implement this strategy.

In addition to Morris, Somerset and Union Counties, New Jersey's Department of Environmental Protection is proceeding with the transfer station strategy for Passaic County. The same disposal option is also being utilized by Essex County on its own initiative. Essex County issued its transfer station *Request for Proposals* in December of 1986, and began operating its two facilities in Newark on August 3, 1987. The same strategy may be necessary for Bergen and Hudson Counties. Map VI-1 indicates the major existing and proposed transfer stations which are either state or locally initiated.

The attainment of sufficient and qualified haulers to implement the transfer station strategy appears to have a good chance for success. Proposals have been competitively bid in all of the counties. *Unfortunately, some of the larger disposal firms have declined to bid for three basic reasons:*

- There would be no contract between the county and vendor.
- The Board of Public Utilities would have jurisdiction over rates.
- The vendor would have to become involved in the unpleasant task of siting.

Despite these objections, the firms which did submit proposals can accept the conditions, and believe that waste flow rules adopted by the State make it unnecessary for there to be a contract between the county and the vendor.[5]

The future acceptance of New Jersey's waste by Pennsylvania, whose landfills are also decreasing in number, seems uncertain at this time. As a result of an October 26th ruling by a Commonwealth Court, New Jersey counties may now be restricted by Pennsylvania's Department of Environmental Resources from utilizing Pennsylvania landfills.[6]

In 1986, the Pennsylvania Legislature was considering a planning and implementation statute which, when effective, would ultimately inhibit the importation of out-of-state waste in much the same manner as New Jersey's *Chapter 326*. This legislation was not enacted and it is uncertain as to its prospects in future years.

In Bucks County, across the Delaware River from central New Jersey, two large solid waste management firms are installing landfill and resource recovery facilities capable of receiving up to 12,000 tons per day from sources

[5]The larger national hauling firms have declined to bid not only because of these stated objections, but also because of potential future liability if out-of-state disposal arrangements "fall apart". These firms contend that the smaller vendors who have bid have "little to lose" if they cannot perform under the terms of the proposal because of unanticipated future problems. The large firms, which are active in many states, will not subject themselves to this risk.

[6]"Essex Trash Imperiled by Pennsy Decision," *The Star Ledger*, 28 October 1987.

MAP VI-1

USE OF THE TRANSFER STATION STRATEGY



State Initiated



Locally Initiated

Proposed or Existing Sites



COUNTY KEY MAP

Source: NJDEP.

within a 100 mile radius.[7] Solid waste firms in western Pennsylvania (where there has been substantial strip mining) are also actively seeking disposal contracts.

Table III-8 shows a range of disposal costs between $80 and $95 per ton for the transfer station strategy. This does not include the cost for collection. Based on 1.42 tons of solid waste generation per capita, the yearly disposal cost for a municipality with a population of 75,000, exclusive of collection, would be approximately $10 million utilizing the transfer station strategy. Up to the present, prospective high costs have not deterred the consideration or implementation of this disposal system.[8]

In response to the "rate shock" of the high transfer station disposal costs, Passaic County officials are considering paying for the landfill in Pennsylvania directly by reserving a specified amount of the landfill's future capacity. This can also be described as "buying air space". Under this proposal, approximately one third of the disposal cost (about $30 per ton) would be paid by Passaic County from the proceeds of a ten or fifteen year bond issue. The "air space" would be contracted and paid for in five years, and the bonds would be repaid in at least ten years from the total county tax base. It is expected that the remaining cost per ton for transfer station disposal would be about $65.

New Jersey has taken the initiative in planning and implementing the transfer station strategy. This has been accomplished by modifications to existing county plans and the issuance of *Request for Proposals.* At this point in time, neither the counties nor the State have certified failure. Although some solid waste managers question the State's legal authority to proceed with the transfer station strategy, there has been no challenge to this process.

Out-of-state disposal through county transfer stations is an option which offers a temporary means of relieving the capacity crisis that New Jersey is now facing. However, there are additional consequences as well as risks. By disposing out-of-state, there is no collection of McEnroe surcharges which are designed to help in funding resource recovery facilities. Furthermore, the statutory host community benefits do not apply to transfer stations.[9]

The economic consequences of out-of-state disposal are obvious, first, in the high costs per ton. Secondly, it should also be noted that much of this cost pays for trucks, tires, fuel, and labor operating over long highway distances and not for improvements required for environmentally sound

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[7]Don Henry III, "Proposed Bucks County Trash Projects Gain Momentum," *The Trenton Times,* 23 February 1987. It should be noted that objections have been raised in New Jersey regarding the siting of disposal facilities close to the Delaware River in Pennsylvania. The objections are based on the potential for contaminating the water supply in the underground aquifer which also extends below the Delaware River and serves western and central New Jersey.

[8]Oyster Bay, New York, spends $21 million per year for disposal of its solid waste in Pennsylvania because it has no local facilities. Although the number of people or households which generate the Oyster Bay solid waste are not known, the figure of $21 million of "exported" waste is significant because of its magnitude. (Ken Franckling, "Waste: A Looming National Crisis," *The Trenton Times,* 7 December 1986).

[9]In Chapter VIII, the Commission recommends that the statutes be changed to allow host community benefits to apply to transfer stations.

disposal facilities. Thirdly, out-of-state landfills are not subject to regulation by an agency such as New Jersey's Board of Public Utilities. This means that disposal costs are regulated only by terms of a private contract, and there is no statutory requirement that disposal facilities must stay in business to provide a public service.

There is also the fundamental policy problem of one sovereign dumping on another. It is highly probable that other states will follow New Jersey's lead and eventually prevent any out-of-state waste from being disposed of within their own State.

Another intangible consideration in evaluating the transfer station strategy is the prospect of counties becoming too comfortable with out-of-state disposal. Despite the high cost of this option, out-of-state disposal may sway county freeholders into believing that they no longer have as serious a solid waste problem with which to contend. This potential problem is exemplified through the recent agreement by the Department of Environmental Protection to permit Hunterdon to dispose of a substantial portion of its waste through a 20 year contract that is being negotiated with a Pennsylvania resource recovery facility. A further example is that of Essex County which began operating its own transfer station on August 3, 1987, as a result of the closure of the Kearny landfill which the county had been utilizing. Essex County's waste is now being disposed of in Pennsylvania. Scenarios, such as these, can lead to a stalling of the impetus for building necessary resource recovery and state-of-the-art landfill facilities in New Jersey.

2. ***Waste Flow Redirection***

A *second disposal option* for those counties which will be running out of landfill space at the end of 1987, is to *redirect* their *waste* to a landfill with excess capacity located in another county. Assuming that the receiving county would be an unwilling partner, it might be necessary to obtain some sort of judicial action to accomplish such a redirection. This was the case when the Hamms landfill in Sussex County was closed, and the Court redirected municipalities in both Morris and Passaic to facilities in other counties. Under emergency circumstances the State would need additional powers, as recommended in Chapter VII, in order to achieve waste redirection on its own initiative.

There are two problems with this disposal option. The first is that the redirection of solid waste to a county which has excess capacity would punish the county which has done a good job in planning and implementation, while rewarding the county which has been lax in fulfilling these responsibilities.[10] Second, the excess landfill capacity which would be made available in the near term in those eight counties which have such capacity would fall short

[10]The State Department of Environmental Protection is opposed to forcing interdistrict waste flows on counties that have fufilled their solid waste planning responsibilities. Commissioner Dewling's letter (February 23, 1987) to all counties explaining the need to develop contingency plans for the short and intermediate term solid waste crisis stated: "The Department will not order solid waste redirection between counties to satisfy the needs of this contingency plan to the detriment of performing counties".

of providing the disposal volume necessary to take care of the expected shortfall of 1988.[11]

Redirection of solid waste to a county which has excess landfill capacity is analogous to the current situation at the Edgeboro landfill in Middlesex County. The pressure on the sending county or counties would be relieved for a short time, but the landfill capacity of the receiving county would be used up at a much earlier date.

3. ***Reopening Old Landfills***

The suggestion has been made that some of the presently closed landfills be reopened on a selective basis to provide disposal capacity for the short-term crisis.[12] One of the major closed landfills in the Hackensack Meadowlands (#1A) was successfully reopened after the completion of engineering and technical improvements.

Some New Jersey landfills have been closed in recent years without having degraded the environment. Other landfills have been closed because of some "minor" environmental problems.

Many of these landfills could be reactivated by constructing an "intermediate" cap on the present surface and by adding leachate collection and monitoring wells. Preliminary analysis by the State Department of Environmental Protection indicates that if 70 selected closed landfills are properly reopened, there would be sufficient property and air space to receive approximately 200 million tons of solid waste. This extra disposal capacity would be more than sufficient to take care of New Jersey's crisis needs. The Department of Environmental Protection estimates that currently there are about 365 terminated landfills in New Jersey.

The proponents of this option point out that a reopened landfill could be collecting surcharges which would help to pay for its subsequent proper closure. Many terminated landfills do not have sufficient funds for remedial measures to achieve proper closure.

The major objection to the reopening of closed landfills is the very strong adverse public reaction which would be created. New Jersey residents generally consider that burying garbage is an environmentally unsound disposal option and is considered even less desirable than mass-burning. Furthermore, since New Jersey environmental policy has required the closure of these landfills, many believe that the public would be up in arms against the contradictory policy of reopening them.

Another disadvantage of this option is that capacity would not be immediately available. Some have estimated that it would require more than a year to rehabilitate a "normal" closed landfill. Also, time must be allowed for the inevitable legal challenges against this strategy.

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[11]The eight counties are: Burlington, Cape May, Cumberland, Gloucester, Monmouth, Ocean, Salem and Atlantic, assuming that the proposed plans for expanding the Atlantic County Pinelands Park landfill are approved and implemented.

[12]This suggestion was carried in a series of newspaper articles by Gordon Bishop, Environmental Reporter for *The Star Ledger*, 5 May 1986.

Finally, the reopening of closed landfills under emergency or "normal" conditions has serious implications with respect to liability. If a private landfill is reopened, it is presumed that the owner will insure against liability (including pollution). However, if a landfill is opened under the auspices of a county, the liability associated with operating such a landfill, including responsibility for dumping prior to closure, might be more than a county can manage. No current proposals have been advanced for resolving this issue. Thus, the question remains as to which party or parties would be held liable: the State, the private owner, the county or some as yet unforeseen mechanism, when a landfill is reopened.

4. ***Extend the Life of Four Major Landfills***

Table III-2 shows that the four largest landfills accounted for 66% of the solid waste disposed of in New Jersey in 1986.[13] Capacity at these facilities will expire by March of 1988. In the case of Essex County, a court order has been implemented closing 1C as of July 31, 1987.

There have been situations in the past where increased landfill capacities have been approved by allowing the addition of more height and land area. Yet action by the Courts and/or the Department of Environmental Protection, to extend the life of each of these landfills, would represent a policy concession to unsound planning and solid waste management. In the case of the three *Hackensack Meadowlands landfills,* engineers on the staff of the Hackensack Meadowlands Development Commission contend that *these facilities cannot accept more solid waste* from a physical and structural standpoint.[14]

ANALYSIS AND CONCLUSION

It is difficult to predict the exact form of the solid waste crisis. If the landfill termination dates are enforced and if counties do not have optional disposal strategies in place, the garbage will pile up at the curb.

A situation such as this would be unfortunate because the likely outcome is that courts will intervene and order the redirection of garbage on the grounds of expediency rather than for sound environmental management reasons. *It is very important that the State provide the necessary leadership, through the Commissioner of the Department of Environmental Protection, to avert a crisis that otherwise can only be resolved by the courts.*

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[13]These landfills are: Edgeboro—Middlesex County, 1C—Hudson County, Kingsland—Bergen County and the Hackensack Meadowlands Development Commission Balefill—Bergen County.

[14]Pressure has already started to build for extending the lives of the Meadowlands landfills. Assemblymen from both Essex and Bergen have testified before the Assembly Select Committee on Solid Waste Disposal that more landfill capacity should be found in the Meadowlands because ". . . it is not fair to penalize the counties (Essex and Bergen) since both have made good faith efforts to solve their disposal problems" (Tom Johnson, "Four Counties Facing Trash Disposal Crisis," *The Star Ledger,* 23 January 1987). Also, see Assembly Bill 3562 (McEnroe) which proposes to extend solid waste disposal in the Meadowlands until December 31, 1990.

There are two considerations which must be given great weight by the State in the development of contingency or crisis planning:

- A temporary, stop-gap disposal strategy should not be allowed to become permanent if it is inconsistent with New Jersey's long-range solid waste management interests. Such a possibility is out-of-state disposal becoming a "comfortable" solution, despite the high cost. Counties utilizing this disposal option should not be allowed to "relax" in their planning and implementation activities. There is an absolute necessity that New Jersey be the master of its own disposal destiny and must ultimately provide in-state disposal for all its waste.
- The momentum for developing resource recovery facilities should be maintained. If there are major delays of projects which are now in the advanced stages, the resulting uncertainty would negatively affect disposal management in general and the financial community in particular.

Thus, it is vital that New Jersey be successful in the management of its solid waste. However, in order for this to occur there must be a continuing effort on the part of both the counties and the State to examine and resolve all aspects of this problem.

Chapter VII, that follows, contains the major recommendations of this report. This chapter will attempt to bring together the analysis of the previous chapters as well as that of the later chapters.

CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

The primary focus of this report is on the planning and implementation aspects of managing solid waste disposal in New Jersey. These elements are the essence of *Chapter 326,* the *Solid Waste Management Act.*

Most of the conclusions and recommendations described herein are "generic" policy recommendations for the *Solid Waste Management Act.* The Commission believes that it is very important to act on these recommendations so that the long-term management of solid waste disposal is handled in an orderly and cost-effective manner. However, it is recognized that the long-term recommendations, even if adopted immediately, would not provide for the timely resolution of the disposal crisis that is now upon us. Accordingly, recommendations identified under Section C are intended to alleviate the short-term crisis through the use of emergency powers.

Recommendation A: The Commissioner of the State Department of Environmental Protection should be made the planner and implementator of last resort.

There should be a clear declaration by the New Jersey Legislature that the Commissioner of New Jersey's Department of Environmental Protection be directed to ensure the construction of the needed transfer stations, landfills and resource recovery facilities in a timely manner and that the Commissioner be the planner and implementor of last resort for solid waste disposal facilities. This power should only be utilized by the Commissioner if all other planning and implementation efforts by a county and the State have failed.

It is imperative that the Commissioner of Environmental Protection give priority to the construction of the needed solid waste facilities. The direct and sustained involvement of the Commissioner and county officials is essential for the processing of engineering permits, the granting of State approvals of Environmental Impact Statements, the acquiring of land and the signing of construction contracts for transfer stations, landfills and resource recovery facilities. Neither departmental personnel nor individuals opposed to the particular site should be allowed to unduly delay the construction of facilities. To protect those counties that are proceeding, the Commissioner should be prepared to exercise the proposed power of planner and implementor of last resort for solid waste facilities in a recalcitrant county.

Proper disposal of solid waste is a critical issue for environmental protection and public health. In too many instances, obstacles to proper solid waste disposal have been allowed to prevail. These impediments have been administrative, technological and political. There must be absolute certainty as to the Commissioner of the Department of Environmental Protection's resolve to see that these problems are overcome. Furthermore, counties which have been lax in fulfilling their solid waste management responsibilities should not be "rewarded" by inaction on the part of the State; to do so would undermine the positive planning and implementation initiatives taken by responsible counties.

The siting of solid waste facilities has been especially troublesome. Very few municipalities (or persons) want a landfill or mass-burner in their backyard. However, if the NIMBY syndrome is carried to its extreme, nothing gets built—nothing gets done.[1] We agree with Governor Kean, who, in addressing the NIMBY issue in his 1987 annual message, declared that ". . . if New Jersey is to move smoothly in the future, we must find some rational procedure for siting these needed facilities".

The Commission believes that the policy of allowing counties primacy in the siting and construction of solid waste facilities should be continued. However, in order to avoid a vacuum in the process, the State should have back-up power to site and implement solid waste plans when an impasse is reached at the county level. This power would be circumscribed by "due process" provisions which are contained in the recommendations that follow.

A key 1985 court case determined that the Department of Environmental Protection has the power to prepare and adopt plans for a county which has failed to do so.[2] The ruling also asserted that *the Department can force implementation of a plan* through general injunctive power under N.J.S.A. 13:10-9, but the State had not relied upon such a strategy of implementation. This study concludes that such injunctive power is not sufficient to achieve effective and timely compliance. Thus, there is a need for additional explicit powers.

If the State is given more specific power to be the planner and implementor of last resort over county solid waste management, it is much more likely that counties will be able to fulfill their responsibilities in the first instance. Given public awareness, many county officials will not want to suffer the indignity of having the State do their job for them. In fact, the National Solid Waste Management Association contends that in most states where this ultimate power resides at the state government level, there are very few instances when county or regional governments fail to develop and execute their own plans.

This recommendation is not unlike the situation which now exists with the New Jersey Department of Health on matters relating to local health services. Under State law, municipal and county boards of health have the responsibility to implement public health programs through their powers to provide services and to pass ordinances.[3] However, should the local government fail to do so, the New Jersey Department of Health has the mandate to step in and implement local health programs at the expense of the local government.

There has been considerable discussion in recent years regarding the lack of progress in developing solid waste disposal arrangements in the various counties. Much of the early debate had questioned the wisdom of *Chapter 326* in giving planning and implementation powers to the counties, particularly with respect to siting.[4]

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[1]NIMBY is the acronym for "not in my backyard". The Commission recognizes, however, that many citizens have very legitimate environmental reasons for objecting to a solid waste facility which might be proposed for their neighborhood. Caution is urged against oversimplification of all citizens complaints as being a NIMBY reaction.

[2]*State of New Jersey, Department of Environmental Protection v. Middlesex County Board of Chosen Freeholders, Supra.*, p. 22.

[3]N.J.S.A. 26:3A2-11.

[4]See Senate Bill 2101 (Van Wagner and Dalton) and Assembly Bill 650 (Frelinghuysen).

The Commission believes that this function should continue to be performed at the county level. The Commission notes that 19 counties have selected a site for the disposal of most of the waste generated in their county. If however, a county does not do its job, New Jersey's Commissioner of the Department of Environmental Protection should intercede *under the same planning and implementation format that is contained in Chapter 326.*

An important issue regarding the balance between State and county powers for planning and implementation is whether the Department of Environmental Protection should establish specific siting criteria to be used by all counties. The Commission agrees with the present position of New Jersey's Department of Environmental Protection. The Department takes the position that *each* individual *county should establish its own specific siting criteria* because the siting process is more directly related to local considerations of land use and institutional acceptability than to statewide generic standards. The statement by the Department in the *State Solid Waste Management Update,* adopted June 30, 1986, presents very persuasive evidence for this position.[5] This, however, does not mean that the Commissioner of Environmental Protection ignores siting criteria established by a county. On the contrary, the Department, in reviewing a county plan, analyzes the criteria used to be sure that they are valid, relevant, "non-discriminatory" and address environmental concerns.

The individual recommendations which follow in Recommendation B are designed to give the State the ability, as the planner and implementor of last resort, to prevent stalemates in each of the counties. To accomplish this, the State would use many of the same mechanisms now available to counties.

Recommendation B: Upon a declaration by the Governor, the Commissioner should be given the power to implement county solid waste plans.

Chapter 326 should be amended to give New Jersey's Commissioner of Environmental Protection the power to certify failure of implementation of a county plan and to take such steps as may be necessary to implement the plan in a timely manner. The Commissioner would assume these powers subsequent to a declaration by the Governor. Furthermore, this power should be available to the Commissioner in addition to the existing power of a county to certify failure.

Under present statutory provisions, the State cannot take decisive action to implement a plan if a county has failed to do so. Although the State can do the planning on behalf of a county by making modifications in existing county plans, this method is indirect and it does not force implementation.

In cases where the Commissioner certifies failure for a county, the affected county should have an opportunity to contest the action and/or present its position at a public hearing within 45 days. It would be the responsibility of the State to document its reasons and findings for certifying such failure.

This recommendation, when combined with additional implementation recommendations that follow, is all the power that the Commissioner needs and should

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[5]See the section on Technical Assistance in Chapter V for additional analysis and the full State Department of Environmental Protection statement.

have to manage solid waste disposal in an effective manner. To give the Commissioner of Environmental Protection greater powers, comparable to those held by the Hazardous Waste Facility Siting Commission, would be counter-productive. Such a drastic shift would cause all the good efforts now being expended by counties to come to a grinding halt. Furthermore, it would not remove political contention from siting decisions; it would merely shift the focus from the county administration building to the State House in Trenton.[6]

It is interesting to note that the concept of the Commissioner of Environmental Protection certifying failure of a county plan is contained in a limited sense in the *1985 McEnroe Act.* This Act states that the Department of Environmental Protection "may determine that a district has failed to fulfill its district solid waste planning responsibilities". After making such a determination, the Department has the power to withhold proceeds of both the Solid Waste Services Tax and the Resource Recovery Investment Tax.[7] In a more recent proposal, a bill (S-2101) sponsored by Senator Dalton, Chairman of the Senate Energy and Environment Committee, contains a provision giving the Department the power to certify failure based on an annual review of each county plan.

Certification of failure by the Commissioner of Environmental Protection is a procedure which should be authorized to facilitate effective long-term planning and management. However, this procedure should be used only by the Commissioner as a last resort for the purpose of expediting the process of plan preparation and implementation by the counties. The failure to construct the needed solid waste facilities, pursuant to *Chapter 326,* necessitates that these modifications be made. Emergency powers to address short-term crisis conditions will blend with and supplement the Commissioner's power to certify failure (see Recommendation C). Also, the specific provisions which are "triggered by certifying failure" (B-1 to B-12) will also apply under emergency powers. *This report seeks to emphasize that the Commissioner's powers to become planner and implementor of last resort should not be invoked ONLY in the name of an emergency.*

The act of certifying failure by the Commissioner of Environmental Protection is the critical first step in triggering additional implementation and procedural actions contemplated by the following recommendations. In each case, the State shall have power to:

B-1 ***Contract for studies and professional services on behalf of a county.***

B-2 ***Site a county solid waste disposal facility which must be within the county where failure has been certified.***

B-3 ***Prepare all necessary environmental and health impact statements, engineering designs and permit documents.***

B-4 ***Acquire property, on behalf of the county, as a site for a solid waste disposal facility; this power shall include the ability to condemn property.***

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[6]A-650 (sponsored by Assemblyman Frelinghuysen) suggests that a State siting commission be established for solid waste facilities. This however, would only occur when a determination has been made that a county has not contracted for a facility and thus, has failed.

[7]N.J.S.A. 13:1E-148; 151 & 152.

B-5 ***Contract for procurement and financing of county solid waste facilities, in part or in whole by bonding in the county's name or otherwise.***

B-6 ***Manage a solid waste facility or system on behalf of a county.***

B-7 ***Collect revenues for waste disposal at a county solid waste facility.***

B-8 ***Utilize all funding for solid waste planning and projects which the county would be eligible to receive for the project.***

B-9 ***Charge a county under "failure" for any costs which are incurred.*** The county will be responsible for paying all contractual costs associated with any State use of these powers (including any up-front costs that may arise in the county's name).

Use of the State's existing powers, and these new extraordinary powers, should be done in a cooperative manner with the county. The explicit punitive damages contained in Assembly Bill 3892 should be replaced with alternative mechanisms designed to encourage every county to proceed in the construction of the necessary solid waste facilities. It should be recognized under all scenarios that solutions to the solid waste disposal problem require the cooperation of all concerned parties.

In addition to assigning these powers to the Commissioner of Environmental Protection, there are two additional recommendations associated with a certification of failure by the Commissioner:

B-10 ***When a county solid waste plan has been amended by the State, the law should be changed to allow prompt appeal in Superior Court.*** This appeal provision is presently available to anyone wishing to challenge a plan amendment initiated by a county. The same right should be available for plan amendments initiated by the State.

B-11 ***Planning and implementation actions by the State should be undertaken by a section in the Division of Solid Waste Management which is separate from the personnel who will be passing judgment on the technical aspects of such actions at a later time.*** This recommendation relates to policy and can be implemented through administrative procedures.

There has been comment in several of the counties questioning the State's present statutory power to plan and implement the transfer station process in the various counties. When the *Solid Waste Management Act* is amended to incorporate the above recommendations, current actions taken by New Jersey's Department of Environmental Protection, with respect to the "transfer station strategy", will be validated.

A county should be given ample opportunity to correct a condition of "failure" on its own initiative.

B-12 ***If a county agrees to the State's recommended actions and commits itself to a binding compliance and financial repayment schedule, the Commissioner of Environmental Protection should be obligated to return primary planning and implementation power to the county.***

Certification of failure by the State (as discussed in the aforementioned recommendations) would not be an extraordinary occurrence based on the status of certain counties. *Chapter 326* requires each plan to provide disposal capacity for the next ten years. Some counties have not made final plans and decisions on resource recovery. Furthermore, many counties, even if they are implementing plans for resource recovery facilities, do not have landfill capacity for their interim needs or for long-term residual disposal.

Recommendation C: Both the Governor and the Commissioner should be granted emergency powers to resolve a short-term disposal crisis.

Four options were discussed for meeting the short-term emergency disposal crisis in New Jersey in Chapter VI. *The Commission concludes that the transfer station and out-of-state disposal strategy is the most viable solution for handling the large volumes of solid waste which will have no other place to go.* This is *an expensive solution;* care must be exercised that it is *not* thought of as *a permanent solution.*

The exporting of solid waste to another state represents *a very fragile arrangement.* This is particularly true considering that New Jersey, within several months, might be sending as much as 69% of its total waste volume to one state, Pennsylvania. Already, objections to New Jersey's garbage have been voiced by officials and the public of Pennsylvania.

During the 1970s, New Jersey tried to prevent other states from disposing of solid waste within its borders. However that may be, the initial efforts failed. Subsequent to the adoption of corrective legislation which embodies the county planning concept, New Jersey has been able to keep out garbage from other states. Pennsylvania can be expected to follow this example sooner rather than later.

This Commission recommends that the Legislature grant the Governor and the Commissioner of Environmental Protection emergency powers to meet the solid waste crisis facing the State.[8] The fundamental provisions and sequence of the emergency powers, involving summary actions, should be:

C-1 ***Declaration of a State of Solid Waste Emergency by the Governor.*** The law should be changed allowing the Declaration of a Solid Waste Emergency for a particular county based on a determination by the Commissioner of Environmental Protection that "There exists or impends in one or more counties in this State a solid waste disposal capacity shortfall of a dimension which endangers the public health, safety, or welfare. . . ."[9] This solid waste emergency declaration should prevail until lifted by order of the Governor based upon his finding that the emergency conditions have been corrected.

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[8]Assembly Bill 3892, introduced by Assemblyman Shinn in March of 1987, contains these basic emergency powers. The Shinn bill also includes implementation provisions similar to those recommended as "generic" reforms to *Chapter 326* (Recommendation B).

[9]A-3892, Section 9, a.

Cause for the determination of a solid waste emergency shall be the impending shortfall of disposal capacity for a county, which is unlikely to be met by planning initiatives or programs of that county. Disposal shortfalls can also occur because of "precipitating events" which include: unanticipated orders for early closure of landfill facilities, exhaustion of capacity in six months or less, out-of-state defaults of disposal arrangements, equipment failures, circumstances beyond the control of the Department or county and labor disputes or acts of God.[10]

Proposed legislation by Assemblyman Shinn contains provisions requiring all solid waste counties to develop "contingency plans" which would evaluate and present that county's solid waste disposal shortfall projections, if any, during the next five years. The legislation allows the Department of Environmental Protection to reject the county plan and adopt a State contingency plan for that county. Contingency plans should incorporate the "precipitating events" concept described above.

Analysis by this study concludes that the Department of Environmental Protection has the power, under present law, to require "contingency planning". There might have to be revisions and adjustments to the regulations so that "contingency planning" addresses more accurately the prospect of solid waste capacity shortfalls as well as unanticipated "precipitating events".

What is needed in New Jersey in order to resolve the solid waste management crisis is for the State to be given the authority to take summary action under emergency powers. The Commission recommends that this power be granted as soon as possible. To the extent possible, the rights of counties to challenge a state of emergency should be protected, but this right must be exercised within a specific time frame.

C-2 ***Upon the Declaration of a State of Emergency by the Governor, the State Department of Environmental Protection should be granted powers to waive full permitting requirements.***[11] In addition, expedited review of facility applications and the issuance of emergency permits should be provided. Summary actions allowed under this procedure would include, among other initiatives, the expansion of present disposal facilities and the reopening of terminated landfills.

C-3 ***Upon the Declaration of a State of Emergency, the Department of Environmental Protection should be given the power to issue emergency solid waste redirection orders.***

There will be instances where counties with anticipated shortfalls in disposal capacity will be willing participants under the emergency orders. It is highly

[10]A-3892, Section 3, a.

[11]To date, transfer stations have been permitted pursuant to all statutory requirements. The procedures used, such as a Temporary Certificate of Authority to Operate and a Master Performance Permit, employed for Sussex County transfer stations and two private transfer stations in Essex County respectively, have been streamlined but do not constitute "emergency permits" in the sense of substantive requirements being waived.

probable that these counties will request expedited review and take other actions to implement the emergency disposal program. On the other hand, certain counties might be unwilling participants. In such cases, the State will have to be implementor of emergency disposal measures instead of the county. All of the implementation and planning powers contained in Recommendations B-1 through B-12, if enacted, would be available to the Department of Environmental Protection during a state of emergency.[12]

Recommendation D: There should be a greater commitment of State and county resources in terms of staff and program support in order to expedite review procedures.

In the decade since the passage of the *Solid Waste Management Act,* most of the counties have acquired competent, experienced staff. Furthermore, within most counties, the respective Board of Chosen Freeholders have made painstaking efforts to move ahead in the area of solid waste management. This has been done even with an added load of program responsibilities, as required by the *McEnroe Act,* and in accordance with recycling initiatives. However, it appears that staff capabilities at the State level have not kept pace.[13] This may have been due, in part, to the former consolidation of solid and hazardous waste management in the same Division, making it difficult to maximize the service and support to counties.

Additional staffing of qualified professionals in the Division of Solid Waste Management would allow for the expediting of review procedures for plan amendments, permit applications and technical submissions of minor consequence. A shortened review time, by the Department of Environmental Protection, should be instituted for matters which are classified as routine through pre-application conference or in accordance with prescribed standards.

These additional resources would also improve conditions in the following areas:

1. Provide more generic engineering data to the counties so that there would not be 22 individual research efforts on the same subject matter. An example of such redundancy is the selection of disposal technology.
2. Develop support capability on procurement matters, including assistance in preparing *Request for Proposals* and recruiting potential vendors. With regard to vendors, the State Department of Environmental Protection should be empowered to prequalify vendors for all counties. The counties would then be able to issue *Request for Proposals* to these vendors.
3. Expend more effort in the enforcement of waste flow rules.

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[12]Assembly Bill 3892 essentially contains the same powers as enumerated in Recommendations B-1 through B-9. The recommendation that the Department of Environmental Protection charge a county for the costs incurred when the Department intervenes, either because of certification of failure or because of a state of emergency, is Recommendation B-9.

[13]It is reported that the recent *Civil Service Reform Act* has had an adverse effect on the staffing of the Division of Solid Waste Management. This Act attempts to improve the merit features of State employment by reducing "provisionals" and requiring that testing apply to more job titles. The Division of Solid Waste Management faces the loss of several of its staff because of inability to meet the new standards.

4. Improve the turn-around time in county submission of plan amendments, permit applications and Environmental and Health Impact Statements.

Other recommendations for greater staff support and capabilities to be supplied by the State include:

D-1 ***The State Department of Environmental Protection should assign project managers to assist with various implementation activities for major disposal facilities.*** These individuals, who must be technically competent, would help with permits and other technical reviews by the Division. They would also coordinate with outside agencies such as the Army Corps of Engineers, the Hackensack Meadowlands Development Commission and other regulatory bodies. Project managers and other Department of Environmental Protection personnel should be available to assist the counties with backup information and presentation at county hearings where siting and other major decisions are being reviewed.[14] Recently, the State has become more involved in attending public hearings and providing overall support to the counties.

D-2 ***The State Department of Environmental Protection should contract with private engineering firms to assist in the review of technical aspects of applications for disposal facilities.*** Use of such services would substantially reduce the time periods for permit and Environmental Impact Statement review.

Along with increased State efforts, there is also a need for a greater commitment of county resources. This need can be met through additional staffing or through the hiring of consultants. These additional resources will enable a county to implement all aspects of the solid waste management process in a timely manner.[15]

Recommendation E: Efforts should be made by both the State and the counties to increase public awareness of solid waste management.

The State Department of Environmental Protection should work in conjunction with the counties to provide more extensive public education services and to encourage the interchange of information with the public in the area of solid waste management.

There is an ongoing need within the State to educate the public in regard to solid waste. Currently, a limited number of educational programs are being conducted (also, see pages 75-76). Examples of this attempt to reach out to the public are the programs offered by the Hackensack Meadowlands Environment Center which examine various aspects of solid waste. These programs are geared towards

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[14]In its report of January 17, 1986, the Partnership for New Jersey recommended the appointment of permit managers for each resource recovery project. Also, Governor Kean in his Annual Message of January 13, 1987, declared that he was instructing the Department of Environmental Protection to "create a group of Project Expediters . . . [who would] lead local project sponsors through the often confusing interdepartmental maze and help them obtain loans and permits".

[15]A report issued by the Commissioner of Environmental Protection, on February 8, 1987, indicated that ten additional people have been assigned to the Division of Solid Waste Management (*The Star Ledger,* page 36).

students. Educating our youth is a vital aspect of the overall approach to increasing public knowledge of solid waste management. However, the primary focus of concern for both the State and the counties should be the adult population. Through education we can help allay public fear of the unknown and thus work towards a smoother resolution of the issues which will continue to arise as a result of the ever increasing volume of solid waste.

Recommendation F: There should be an expedition of the solid waste process by the Board of Public Utilities.

The Board of Public Utilities should further commit itself to expediting the solid waste process, particularly after a Declaration of a State of Emergency by the Governor.

This can be partially accomplished through an increase in staff within the Board of Public Utilities. However, coupled with this there must be a commitment on the part of the Board of Public Utilities to expedite its review and approval of rates, franchises, waste flow orders and all other aspects of solid waste management which fall within its jurisdiction.

Recommendation G: The State Department of Environmental Protection should encourage the development of a regional ash landfill in northeastern New Jersey.

Ash landfills are necessary to receive the residue from resource recovery plants. These landfills may also take non-burnable waste.

In the northeastern section of New Jersey, it appears that siting an ash landfill will be extremely difficult because of population densities and lack of open space. A State initiative to encourage the development of a regional ash landfill for this section of the State should not apply to other parts of New Jersey. Such a policy should be adopted in the regulations utilizing population density, size of cities and other criteria so as to target these counties.

While it is still possible that these counties will site and implement their own ash landfills, or will provide for long-term out-of-state disposal, it is unlikely that positive solutions will be forthcoming. Under such circumstances, the Department can certify failure and proceed to implement a regional ash landfill using the procedures in Recommendation B. The State should offer incentives for a regional facility of this type: substantial host community and host county benefits; use of State credit to support financing; availability of a greater proportion of bond monies; and use of general State appropriations to finance engineering and planning studies.

The five major northeastern counties (Bergen, Hudson, Passaic, Union and Essex) have already sited resource recovery facilities. Thus, the management of ash disposal is now looming as a significant regional problem.

Recommendation H: The definitions of solid waste facilities should be revised.

Definitions for the various types of solid waste management facilities should be refined and clarified so that a more coherent range of functions and requirements will apply to each type of facility. Among those terms defined are: solid waste

facility, recycling center, materials recovery facility, transfer station, resource recovery facility and composting facility (see Appendix E). Examples of the relationship between the various types of facilities and their functions and requirements are shown in Table VII-1.

Many solid waste professionals operating at the county level have presented strong arguments that certain types of transfer stations and composting facilities should not be subject to the full requirements of permitting and Environmental and Health Impact Statement review. Also, it seems reasonable to allow recycling centers to be built through negotiated procurement as provided under the *McEnroe Act.*

Some people favor the application of waste flow regulations to recyclable materials because there are situations where it is desirable to have an assured source of materials coming to such a center. A possible solution would be to allow counties the option of having waste flow regulations apply to recyclables for a specified time period.

There is inconsistency in the interpretation of mass-burning facilities and recycling centers included in the definition of a resource recovery facility under the *McEnroe Act.* A mass-burn facility is eligible for investment tax proceeds and negotiated procurement, yet a recycling center is only eligible for the investment tax.

The definitions of these solid waste management facilities and the applicable functions or standards should be structured in the law and regulations in such a way that solid waste planning and implementation has optimum flexibility while the Department of Environmental Protection is assured of maintaining appropriate environmental regulation and control.

Recommendation I: Municipal control of collection services should be encouraged.

State policy should encourage municipalities to provide their own collection service or to contract with haulers for collection and disposal of solid waste rather than to allow property owners to contract with haulers on an individual basis. This recommendation was made by the Commission in its 1972 report because it would help to keep costs down.[16] In 1972, 23% of the municipalities provided their own collection services; currently 33% do so. The Commission further stated that ". . . municipally contracted collection . . . encourages professionalization and more efficient service". There is an additional reason to support this recommendation in 1987. The integrity of waste flow rules has a better chance of being maintained, through voluntary action and enforcement, when a municipality provides its own collection program or when a collection and disposal contract exists between a municipality and a hauler. Encouragement by the State for this type of service can be in the form of planning assistance and technical help on contracting.

Before the enactment of Chapter 74 (Assembly Bill 3468, which became law on March 11, 1987), the "CAP" law applied to municipal garbage collection and municipal contracting for collection and disposal service. The "CAP" law had been an impediment to municipalities in the management of solid waste because of

[16]*Solid Waste: A Coordinated Approach*, pp. 16-20.

TABLE VII-1
SOLID WASTE FACILITIES: FUNCTIONS AND REQUIREMENTS

Function/Requirement	Relationship to Facility Type	
Permitting	Required for:	Solid Waste Facility Materials Recovery Facility Transfer Station Composting Facility
	Not required for:	Recycling Center
Environmental Impact Statement	(Same as for permitting)	
Waste Flow Direction	Applies to:	Solid Waste Facility Materials Recovery Facility Transfer Station Composting Facility
	Not applicable to:	Recycling Center*
McEnroe Investment Tax Proceeds	Can use for:	Resource Recovery Facility Recycling Center Ash Landfill
	Cannot use for:	Transfer Station
Negotiated Procurement	Applies to:	Resource Recovery Facility Materials Recovery Facility Ash Landfill Composting Facility
	Not applicable to:	Recycling Center Transfer Station
Local Site Plan and Zoning	Applies to:	Recycling Center
	Not applicable to:	Solid Waste Facility Materials Recovery Facility Transfer Station Composting Facility

*A variation of this relationship occurred in November, 1986, when Judge Haines of Burlington County ruled that under certain circumstances a recycling facility accepting commingled waste *is* a "solid waste facility" and, therefore, is subject to permitting, Environmental and Health Impact Statement and waste flow direction. *Delran v. Burlington County,* Nov. 3, 1986.

Source: County & Municipal Govt. Study Commission.

rapidly escalating disposal costs. However, as a result of the passage of A-3468, the "CAP" law no longer applies to the collection or disposal of solid waste.

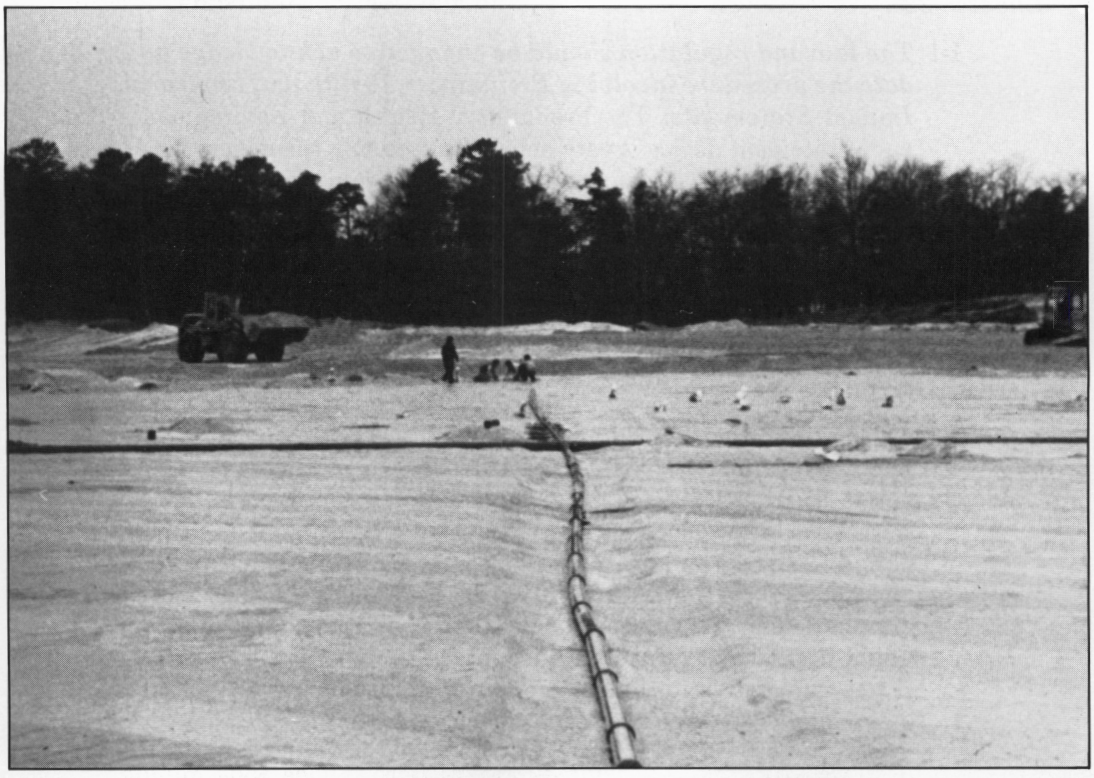
Recommendation J: Technical amendments should be made to* Chapter 326 *to improve the efficiency of the solid waste implementation process.

In order to improve upon the efficiency of the process of implementing solid waste disposal facilities, the following three amendments should be made to *Chapter 326:*

J-1 ***The law and regulation should be changed to acknowledge and validate the procedure involving Preliminary Health and Environmental Impact Statements.*** The Preliminary Health and Environmental Impact Statement device is very helpful in reducing the review time necessary before capital financing and property acquisition can be initiated by the county for a major disposal facility (see page 55). It allows site acquisition and vendor selection before final approval of the Environmental and Health Impact Statement.

J-2 ***The provisions of the Mastrangelo court decision should be incorporated into the law.***

J-3 ***The counties should be encouraged to include a plan component covering alternative disposal arrangements for short-term, emergency situations*** (such circumstances are "normal emergencies" and are not to be confused with the recommendations applying to the present short-term disposal crisis in New Jersey as described in Recommendation C). This can now be done by interdistrict agreement. For example, it would be preferable for two adjacent counties to have an interdistrict emergency arrangement whereby the mass-burner of County A would accept solid waste from County B if the mass-burner of County B was inoperative for a short period of time. Such arrangement would be preferable to disposing regular garbage in a landfill designed for ash residue. Limits in time and quantities would have to be established for these short-term, emergency arrangements.



Strict environmental standards have led to sharp increases in the cost of building new landfills, such as this one in Cape May County. (Photo courtesy of Marvin Ross/Department of Environmental Protection.)

CHAPTER VIII

FINANCING SOLID WASTE MANAGEMENT IN NEW JERSEY

The financing of solid waste disposal can be classified under three major subdivisions: **capital financing,** which covers the costs of solid waste facilities and associated capital expenditures; **operations and maintenance financing,** describing those costs necessary to operate a solid waste disposal system on a day-to-day basis; and solid waste **collection financing.**[1] Generally, capital costs and operations and maintenance costs are paid for through user charges, whereas collection charges are paid for through property taxes or user fees which depend upon the type of collection used.

CAPITAL FINANCING

1. *The Magnitude of Facility Costs*

Resource recovery facilities will require capital expenditures of approximately $2.3 billion for the 1984-2000 period according to the *Solid Waste Management Plan: Draft Update.* This estimate is based on disposing of 22,905 tons of solid waste per day or 6.8 million tons per year through resource recovery. The balance of the waste stream is either to be recycled or disposed of at landfills.

The *Draft Update* states that the expected landfill capital cost for this same time period may be as high as $282 million (based on $6 per ton of total landfill capacity required). This projected capacity requirement is for disposal of residual ash (from resource recovery), non-burnable solid waste and, in the case of a few facilities, the full solid waste stream. In the two years since the publication of the *Draft Update,* costs for constructing landfill facilities have increased sharply.[2] If a figure of $12 per ton of capacity is used, the total capital requirements for landfills will be $564 million.

New landfill facilities which have recently been built, or are being contemplated, have tipping fees in the "moderate" range. For example, the Gloucester County landfill has a tipping fee of $47.04 per ton and the Cumberland County landfill proposes a tipping fee of $38.90 per ton (see page 42). These disposal costs are based on receiving all solid waste from a county. However, when resource recovery facilities are operational, these same landfills will be receiving considerably less solid waste, because they will be getting only ash from resource recovery units (and bulky, non-burnable solid waste).

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[1]In the context of this chapter, *collection costs* refer to the actual expenses needed to operate a *collection system* only. *Collection costs* are not the same as *collection charges* which, in certain instances, are assessed against users and include *disposal costs.* Disposal costs relate to capital financing and operations and maintenance costs.

[2]*Draft Update,* Appendix D.

Capital costs for transfer stations and recycling facilities will further increase the costs of managing solid waste. In addition to this, the proper closure of existing landfills will also escalate solid waste costs. This issue will be discussed in detail in Chapter X.

In regard to the breakdown of facility costs into categories, data supplied to the State Department of Environmental Protection indicates that approximately 55% of a resource recovery facility's annualized cost will be debt service including both interest charges and principal repayment. The remaining 45% will cover the cost of operations and maintenance.

2. ***Government Financing***

Where government financing is required to pay for the capital costs of solid waste disposal facilities, county government will play the lead role. The county will be responsible for assuring that debt service is paid against the bonds which have been sold to finance capital construction costs.[3] Counties will primarily utilize service charges imposed on those who dispose of waste at solid waste facilities.

One of the original intentions of the *McEnroe Act* was for counties to accumulate funds for the high cost of resource recovery systems through the imposition of surcharges on waste disposed at landfills.[4] At the end of 1986, $5.28 million had been collected from the Solid Waste Services Tax. These funds will be used to defray the county planning and administrative costs. In the 14 months ending June 30, 1986, $18.9 million had been collected from the Resource Recovery Investment and Solid Waste Importation taxes. The purpose of these funds is to defray the actual construction and operating costs of resource recovery facilities. The rates for the investment and importation surcharges will increase over the next 9 years, making additional moneys available to help offset the "rate shock" which counties will experience in paying for the more costly resource recovery facilities.[5]

Owing to the rapidly escalating capital costs of landfills, the differential between this form of disposal and resource recovery is becoming less. In other words, the public will be paying much more for disposal in new, state-of-the-art landfills than was anticipated several years ago. Part of this cost increase can be attributed to increases in the *McEnroe Act* surcharges. When switching over to resource recovery, the tipping fee increase will still be significant, but not as great as the projections made several years ago. However, it is important to bear in mind that resource recovery tipping fees are subsidized by energy revenues which tend to off-set increased operating costs. Also, tipping fees anticipated for the transfer station process will be greater than either landfilling or resource recovery. Much of the transfer station costs will be for paying labor and truck expenses to transport the garbage to other states.

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[3]In certain circumstances, such as the one described for Passaic County on page 93, the county property tax is a partial source of funding for capital cost and debt service. Also, counties do advance moneys for planning and development, and these moneys can be recovered by "rolling them into" a subsequent bond issue.

[4]P.L. 1985, c.38; N.J.S.A. 13:1E-136 et seq.

[5]Also, see Chapter II regarding the *McEnroe Act* surcharges.

State aid sources for funding resource recovery facilities will play a minor, yet significant, role in providing the $3 billion required by the year 2000. To date, $168 million of State bond funds and appropriations have become available for resource recovery loans at low or zero interest rates. From this "pool", a total of $70.5 million has already been advanced to Essex, Bergen and Camden Counties (see pages 16-17). The Legislature is empowered to set the interest rates on the use of these capital funds on a project-by-project basis.

For those proposed resource recovery facilities which will be vendor owned and operated, the proceeds of State bond moneys have been limited by the Department to ancillary non-private purposes (such as, access roads, land purchase and site improvements) and are limited by to a maximum of 10% of the facility's cost. Bond moneys have been limited because of tax considerations and not because of restrictions of the *Bond Act*. In certain cases, according to a recent Attorney General's ruling, bond proceeds can be used for specialized equipment such as air pollution control units and power turbines.

Occasionally, grant and loan programs are proposed to pay capital costs of disposal facilities. One such program went into effect on August 3, 1987, when S-2666 became law.[6] This bill appropriates $10 million in loans for resource recovery projects from proceeds received as New Jersey's share of oil company overcharges.

The primary responsibility for financing and constructing solid waste facilities lies with the county. The major source of such funds will be service charges on the users of the solid waste facilities. As mentioned earlier, property taxes are the second principal method of county financing, whereas state funds are generally limited to loans, and federal funds have never been available. The following section on vendor financing describes another use of service charge financing for capital facilities

3. ***Vendor Resource Recovery Financing***

Most resource recovery plants are proposed to be owned, designed, constructed and operated by private vendors. Vendors have been able to finance such facilities based on contracts for delivering the solid waste to them. These deliveries are "guaranteed" under the waste flow rules. The private vendor, in turn, sells the energy generated in the incineration process to a power plant. In addition to this, the vendor (or the county) may obtain a traditional franchise from the Board of Public Utilities.

Until 1984, private vendors were able to finance virtually all of their capital requirements through tax exempt industrial development bonds. Tax exempt bonds carry a lower interest rate than non-exempt industrial bonds, thereby keeping the debt service requirements for these capital-intensive facilities at a reasonably low level. This process is known as "privatization". With regard to equity capital (as opposed to debt), private vendors will usually finance about 20% of these projects by this method.

[6]P.L. 1987, c.231; N.J.S.A. 52:18A-209 et seq.

It should be noted that the *McEnroe Act* attempted to encourage private sector investment in solid waste disposal facilities and systems by removing the jurisdiction of the Board of Public Utilities over permanent rate setting of disposal cost.[7] This Act provides that the Board of Public Utilities must review and approve the initial contract between the private vendor and the county contractor. Accordingly on page 143, the *Solid Waste Management Plan: Draft Update,* July 15, 1985, states: "With the recent enactment of [McEnroe], the BPU is given greater flexibility in resource recovery rate regulation [less stringent jurisdiction] and private investment is encouraged with attendant tax advantages".

There is a general belief that private ownership of facilities such as mass-burners will allow for greater efficiency in construction and management. As a result of this, the cost for disposal per ton should be less. Under the *McEnroe Act,* the contracting agency can negotiate contracts with private vendors rather than submit to the public bidding process. These negotiations are closely monitored and approved by State agencies. This system should produce more and better proposals than would be expected under the restrictive public bidding laws of New Jersey.

4. ***Effect of 1986 Tax Reform Act***

Changes in the federal tax laws, beginning in 1984, established a limit on the amount of industrial development bonds which could be used to finance privately owned facilities.[8] This trend continued with the passage of the *Tax Reform Act of 1986* which further reduced the amount of tax exempt industrial development bonds which could be used on a private facility. The *Tax Reform Act* also reduced other economic benefits which could be enjoyed by private vendors such as accelerated depreciation and investment tax credits. In general, these tax benefits were the reason private vendors had been willing to invest the equity portion of the facility cost. In effect, counties enjoyed the pass-through benefits of private tax incentives as well as low-cost tax exempt debt. In addition to the aforementioned loss of benefits, both the 1984 and 1986 Acts increased the costs of financing a facility by limiting arbitrage.[9]

As a result of the *Deficit Reduction Act,* a State "cap" (or limit) has been imposed on the amount of tax exempt industrial development bonds that can be used for financing public facilities. The projects qualifying for funds within this "cap" must be approved by the New Jersey Department of Treasury and, in the case of resource recovery plants, by the Department of Environmental Protection.

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[7]P.L. 1985, c.38; N.J.S.A. 13:1E-136 et seq.

[8]*Deficit Reduction Act of 1984.*

[9]As stated in the National League of Cities *Waste-To-Energy Facilities* magazine of June 1986, positive arbitrage would have permitted using revenues from the reinvestment of unspent bond proceeds, over and above the interest costs of that revenue, to augument project financing which would then reduce debt service (page 59).

The *1986 Tax Reform Act* did, however, make two significant exceptions for resource recovery projects. The first is a "transition rule", allowing counties which had made substantial progress in developing resource recovery facilities prior to March, 1986, to retain the old tax benefits for privatized facilities. Several New Jersey counties qualify under this rule and are likely to opt for privately owned facilities, although they must still compete for the more restrictive state "cap" on tax exempt industrial development bonds.

The second exception to the *1986 Act* allows counties to contract with a private vendor for long-term management and operation of a resource recovery facility. Under this option, the facility must be entirely owned by the county, and the vendor receives no tax benefits, but the tax-exempt debt used to finance the facility is not counted against the state "cap".

The changes in the tax law will have an impact on the financing of resource recovery facilities by private vendors in the following ways:

- There will be less tax exempt bond money available.
- It will take longer for a project to qualify to obtain tax exempt bond money. Moreover, it is unlikely that new projects will qualify for the limited amount of tax exempt bond money.
- Government owned and financed resource recovery projects will become more common.

Thus, the *1986 Federal Tax Reform Act* will serve to discourage private vendors who would normally seek to finance a facility through tax exempt bonds. As a result of this, there will be increased ownership and financing of these facilities by counties. Investment by the counties would prove to be more attractive, than by private vendors, because county bonds which would be used for financing are tax exempt and, therefore, counties will still have the benefits of private management without private ownership.

In summary, the source of financing capital costs for both private and governmental facilities, along with operations and maintenance costs, generally is the user charge. Additional sources for this type of financing are proceeds from the *McEnroe Act* surcharges and, in some instances, the county property tax.

The source of financing for collection charges is usually the local property tax if collection is done by a municipal public works department or by a municipal contract with a private collector or hauler. In cases where collection is a private arrangement between generator and collector, the costs are paid by user fees or service charges.

OPERATIONS AND MAINTENANCE FINANCING

1. ***Disposal***

The cost of operating and maintaining a solid waste disposal facility generally is funded by a portion of the service charge assessed against the

users of the facility. The users of the facility are, for the most part, solid waste collectors. The service charge includes surcharges levied by the State for various purposes. An alternative revenue source is the county property tax.

Tipping fees, or service charges, at a solid waste disposal facility include all costs (capital costs, operational costs and surcharges) paid to the disposal facility by the user of the facility. Table III-8 (page 42) shows the range of tipping fees from the current low of about $15 per ton at an existing land fill, to the $35-$55 range at new landfills, to the $40-$70 range of proposed resource recovery plants, to the $80-$95 range of transfer stations. The tipping fees at landfills include surcharges which are at least $5 per ton and will be increasing over the next nine years. There are no surcharges imposed in the resource recovery tipping fees and only one, the recycling tax, is included in transfer station tipping fees at this time. In addition, the transfer station fee includes the operations, maintenance and capital costs of the transfer station, transportation to a landfill and the landfill's tipping fee.

TABLE VIII-1
WASTE COLLECTION PATTERNS BY COUNTY

	Municipal Service	Municipal Contract	Private Contract
Atlantic (23)	9	8	6
Bergen (70)	21	39	10
Burlington (40)	15	22	3
Camden (37)	16	21	0
Cape May (16)	10	3	3
Cumberland (14)	2	2	10
Essex (22)	4	14	4
Gloucester (24)	10	12	2
Hudson (12)	0	12	0
Hunterdon (26)	3	9	14
Mercer (13)	5	4	4
Middlesex (25)	13	4	8
Monmouth (53)	21	22	10
Morris (39)	7	16	16
Ocean (33)	22	9	2
Passaic (16)	3	13	0
Salem (15)	1	5	9
Somerset (21)	2	3	16
Sussex (24)	2	6	16
Union (21)	4	9	8
Warren (23)	18	3	2
Total	188	236	143

Note: The number in parentheses after each county indicates the total municipalities in that county.

Source: District solid waste plans and review with county coordinators.

SOLID WASTE COLLECTION FINANCING

Solid waste collection activities are carried out by private collection or municipal governments. Most commercial, industrial and other non-domestic waste is collected solely by private haulers. In 25% of New Jersey's municipalities, individual homeowners or commercial establishments must contract with a private collector for the pickup of domestic waste. In 42% of the municipalities, the municipality contracts with one or more private haulers for collection of domestic waste. Finally, the remaining 33% of the municipalities collect their own domestic waste. Table VIII-1 contains a breakdown of the collection patterns by county while Chart VIII-1 indicates the proportion of each of the three types of collection services for the entire State. Both municipal and private solid waste collection costs include the full cost of disposal.

Private haulers not utilizing municipal contracts charge a service fee to the waste generator to cover all collection and disposal costs. Municipalities normally pay for the full cost of collection and disposal through the property tax.

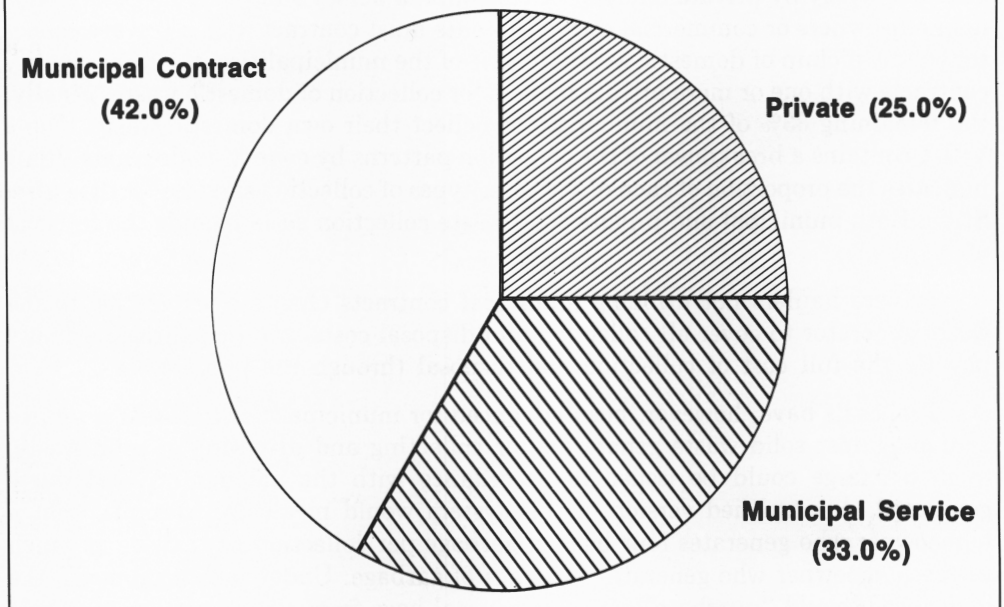
Proposals have, however, been advanced for municipalities to assess a service charge against solid waste generators for collecting and disposing of solid waste. Such a charge could be issued in accordance with the amount of solid waste generated. A simplified version of this system would mean, for example, that a homeowner who generates four bags of garbage per collection pays twice as much as the homeowner who generates two bags of garbage. Under such a proposal, the homeowner could "purchase" garbage disposal bags from a municipality, and this purchase amount would be a service charge for solid waste collection. The advantages of such a system are that each generator would pay his share of disposal costs, and there would be a greater incentive both to recycle and to reduce the amount of waste generated. Disadvantages include administrative complexities and enforcement. Use of a service charge system in the case where a municipality contracts with a private hauler for collection would require additional administrative adjustments. The user fee system has, however, proven to be successful with large commercial generators who contract for collection and disposal in the competitive marketplace.

SALE OF RECOVERED RESOURCES

Most resource recovery projects in New Jersey include a mass-burning facility. These units are constructed so that the energy of the heat is converted to electric power. Typically, the power is connected and sold through the grid of the electric utility serving the area.

In general terms, proceeds from the sale of electric power cover about 30% of the operating budget of the incinerator unit. The sale of electric power produced by resource recovery facilities has a bright future in New Jersey according to Board of Public Utilities officials.[10] New Jersey's Board of Public Utilities has concluded that "considering the energy situation in New Jersey, output from resource recovery is a desirable thing", as stated by Steven Gabel, Director of the Electric Division of the Board of Public Utilities.

CHART VIII-1
SOLID WASTE COLLECTION SERVICES



Source: *Solid Waste: A Coordinated Approach.*

Resource recovery can also include the production of compost which can be used as a soil conditioner. A major component of Burlington County's solid waste management plan will be the production of compost material. However, the outlook for finding markets for large quantities of compost is considered by many as uncertain.

The term resource recovery also includes the process of manufacturing refuse-derived fuel (RDF). Small pellets of burnable matter are produced at the disposal point for burning at a later time or at a different site. To date, there has been little experience with the refuse-derived fuel process as it would be applied in New Jersey. Burlington County, however, is proposing a refuse-derived fuel component in its solid waste plan.

GRANTS AND OTHER FUNDING MECHANISMS

Not all moneys for the operation of disposal facilities come from disposal fees and sale of recovered resources. New Jersey has other sources through which planning and program implementation grants are made available for solid waste disposal as well as recycling. The *McEnroe Act* surcharges (Solid Waste Services Fund,

[10]Article on seminar on resource recovery conducted by the Board of Public Utilities, January 22, 1987, Woodbridge, New Jersey: as reported by *The Star Ledger*, 23 January 1987.

Solid Waste Importation Tax and Resource Recovery Investment Tax) are used for these purposes.[11]

Another source of funds, that is available, through the *McEnroe Act* to assist municipalities in defraying solid waste costs, is the host municipality benefit. The municipality which must host a solid waste disposal facility generally receives upwards of $1 per ton in various forms such as: contribution to other municipal costs, reduction in host municipality's tipping fees at the disposal facility and construction of off-site improvements.

New Jersey's Department of Environmental Protection and the Board of Public Utilities have advised all counties that host community benefits can also be used to reimburse a municipality for costs associated with a solid waste transfer station.[12] In addition to this, host community benefits for resource recovery and landfill facilities can be used for any local purpose—they do not have to be solid waste related.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion, the capital costs for the construction of needed resource recovery and landfill facilities are approximately $3 billion. Furthermore, total solid waste disposal and collection costs (which include the above mentioned capital costs and operation and maintenance costs) are estimated to be approximately $712 million a year.

The capital costs for disposal facilities are currently being met by the sale of bonds which will be paid for by service charges levied on solid waste collectors. To a lesser extent, capital costs will be covered by the following: sale of recovered materials; county property taxes; state loans; equity contributions, in minor proportions, when a facility is vendor owned; and proceeds from surcharge programs, primarily the Resource Recovery Investment and Solid Waste Importation taxes.

Where the solid waste collector is a municipality, or under contract to a municipality, solid waste costs will be paid for by the local property tax. However, when the solid waste collector is a private party, then all solid waste costs are paid for by a service charge to the generator.

It appears that sufficient capital sources will be made available for the construction of resource recovery, landfill and recycling facilities. One must bear in mind, however, that the imminent closure of many remaining landfills along with the shipment of waste to other states will substantially reduce the available State sponsored surcharges which would be used to finance these facilities. An indication of the adequacy of capital sources is seen in the willingness of New Jersey government officials, and the public, to support the very high tipping fees charged at transfer stations for out-of-state disposal.

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[11]Even counties which have not contributed to the Solid Waste Services Tax are still entitled to at least 2% of the State's receipts of this levy. An example of this is Hunterdon County which pays no surcharges on waste generated within its borders but has applied for a $60,000 grant of Solid Waste Services Funds to assist on a landfill siting study. Hunterdon County ships its waste to Pennsylvania, via a transfer station operated by the County, and thus doesn't pay the tax.

[12]Letter from Commissioner Dewling and the Board of Public Utilities President Curran, February 17, 1987.

Several specific recommendations regarding the financing of solid waste disposal follow:

A. ***The surcharges now paid on all waste disposed of in the State should continue to apply to all waste leaving the State that is first processed at a transfer station. The resultant funding, from both in-state and out-of-state disposal, should be dedicated for the same purposes.***

The previously mentioned surcharges should include the following: Solid Waste Services Tax, Resource Recovery Investment Tax and landfill closure taxes. In the case of transfer stations, the surcharges should also include importation and host municipality taxes, if applicable.

B. ***The law should*** clearly ***state that host community benefits can be paid for transfer stations, and that these benefits do not have to be exclusively related to the solid waste disposal system. In addition, the law should*** clearly ***permit counties to specify host community benefits greater than the minimum $1 per ton as part of their solid waste management plans.***

C. ***Legislation should clearly state that any municipality may charge solid waste generators for all collection and disposal costs through the imposition of a solid waste fee. Furthermore, municipalities should have the option of authorizing a private hauler, with whom they have contracted, to bill the resident directly for all solid waste costs.***

D. ***Special loans which are made available for resource recovery plants should be administered by the Department of Environmental Protection in accordance with approved county solid waste plans. It is harmful, in terms of administrative efficiency and accountability, for such funds to be approved by the Department of Commerce as contemplated in A-3445. This bill, if enacted, would provide $10 million of New Jersey funds recovered from oil companies to be spent on resource recovery facilities.***



By 1989, every county must reach the goal of recycling 25% of its waste. (Photo courtesy of Aletha Spang/Department of Environmental Protection.)

CHAPTER IX

RECYCLING AND WASTE UTILIZATION

Recycling is an integral component of solid waste management. In fact, it is the policy of the New Jersey Department of Environmental Protection that solid waste disposal be accomplished by means of a three-part strategy: recycling to the *maximum extent possible;* resource recovery; and landfilling of the residual ash (from mass-burning) and non-burnable items and debris.[1]

Recycling differs from mass-burning and landfilling because it *does not involve disposal. Recycling is the recovery of materials* that would otherwise be waste and which, with or without processing, are returned to the market place for reuse. Recycling emphasizes resource management, and it is the responsibility of the New Jersey Department of Environmental Protection to manage the State's resources as well as to control pollution.

The discussion of recycling which will ensue presents conditions as they now exist and will describe the statutory and regulatory framework for recycling. In the context of solid waste management, recycling has not been the subject of major disagreements with respect to policy or implementation. *The Mandatory Recycling bill, which was signed into law on April 20, 1987, received overwhelming legislative and public approval. This measure should be given ample opportunity to become operative before any changes and refinements are made.*

A recent statewide poll showed that 67% of the residents of New Jersey "strongly favor" mandatory recycling and another 22% "mildly favor" this measure.[2] Very few proposals addressing major State issues have ever received this high an approval rating.

A distinction can be made between waste utilization and waste elimination. Waste utilization, in essence, involves recycling. *Waste elimination,* however, *is the avoidance of creating waste.* Policy considerations regarding waste elimination will be addressed in Chapter X.

RECYCLING AS PART OF SOLID WASTE MANAGEMENT

Not only is recycling popular and "acceptable" in the eyes of the public, but it also is a cost-effective method of removing waste. The consensus among county solid waste management officials indicates that capital cost per ton per day of the capacity of a recycling center is less than $10,000, whereas the capital cost per ton per day for the capacity at a typical resource recovery plant is over $100,000. Moreover, recycling produces revenue from the sale of materials in the secondary markets which off-sets the costs of handling. But perhaps the *greatest economic benefit from recycling is cost avoidance;* every ton of waste material which is

[1] *Draft Update,* p. 12.

[2] The Star Ledger/Eagleton Poll, 8 March, 1987.

recycled is a ton of material which does not have to be disposed of at an expensive mass-burner or landfill facility. The potential savings are exemplified in the Town of Montclair which estimates that it avoids $174,000 per year in landfill disposal costs as a result of its active recycling program. This amount of cost avoidance makes recycling a paying proposition for Montclair.

Enthusiasm for recycling must be tempered by the fact that only a portion of the waste stream can be disposed of in this manner. At present, practicable methods have not been developed for recycling major portions of the waste stream. Accordingly, resource recovery (involving mass-burning, composting, the production of refuse derived fuel, as well as landfilling) will comprise substantial components of a county's solid waste plan. It is the New Jersey Department of Environmental Protection's policy, in fact, ". . . that implementation of both a recycling program and resource recovery facility should result in compatible operations".[3]

Usually, after feasible programs for recycling specific wastes have been developed, up to 25% of a county's waste flow can be recycled. Chart IX-1 indicates the proportions occupied by the various categories of residential and commercial waste generated in New Jersey. Interviews with county solid waste management officials indicated that the expected recycling volume is a major factor in reducing the size of resource recovery facilities. This attitude reflects the economic benefits of maximizing recycling as well as justifiable opposition to "oversizing" proposed mass-burners as a convenience to burn all of our leftovers.

An example of recycling being used as the basis for a decision on resource recovery can be seen in Monmouth County. The Monmouth Solid Waste Plan Amendment of November, 1986, did not specify the technology or the size of the resource recovery facility. The rationale for this was that the County wished to delay a decision regarding the technology until it was able to determine the amount of waste that would be recycled under its comprehensive recycling program (see page 60).[4]

Projections in New Jersey indicate that it is reasonable to expect that 25% of the waste stream can be recycled. The mandatory recycling law specifies this target percentage as achievable by early 1989. Recent legislation in Pennsylvania considered a recycling target of 10%, which was based on that State's experience of recycling 1% of its waste stream. Officials in Pennsylvania were pessimistic about achieving this figure of 10% unless additional markets could be developed for the sale of recyclables.

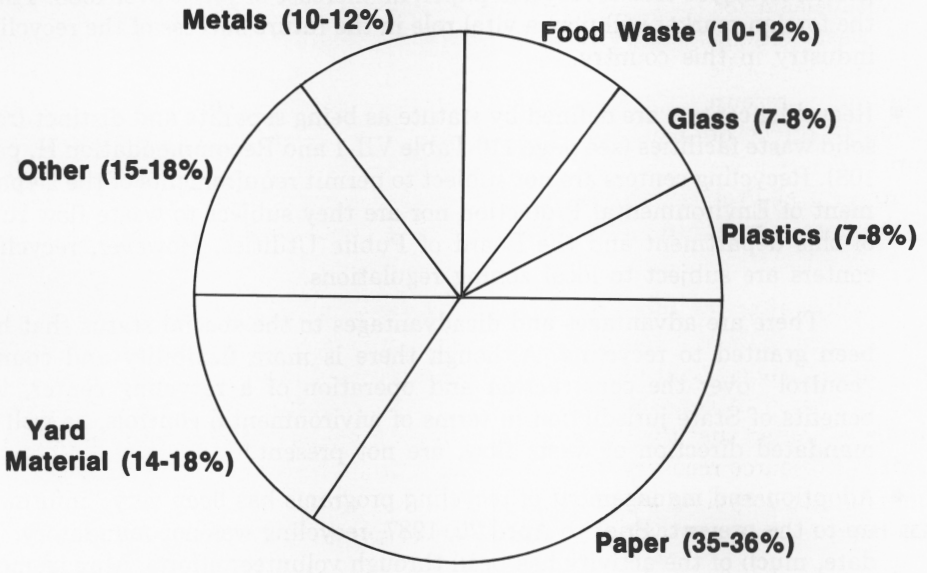
Historically, recycling in New Jersey has been subject to the same governmental management patterns as solid waste disposal. Collection of recyclable waste is generally a municipal function. Most of the planning, administration and disposal activities have been directed by county solid waste officials, although there have been many instances where municipalities have run their own recycling pro-

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[3]*Draft Update,* p. 148.

[4]It should be noted that the State Department of Environmental Protection has the power to limit the size of resource recovery plants through its permitting powers as provided by the *Solid Waste Management Act* and the the *McEnroe Act* Amendments of 1985. This means that the Department can also require that they be big enough and not based on unrealistic recycling predictions.

CHART IX-1
POST CONSUMER SOLID WASTE GENERATED RESIDENTIAL AND COMMERCIAL SOURCES



Source: New Jersey Department of Environmental Protection.

grams or have allowed volunteer non-profit organizations to run them. Finally, the State has attempted to assist in the planning and regulation of recycling through the Departments of Energy and Environmental Protection.[5]

There are several issues which have emerged that are peculiar to recycling (but not to garbage disposal):

- Successful recycling depends on the acceptance of useable materials in the secondary markets. There seems to be no problem in the sale of used aluminum cans. The market for color-separated, used glass has been generally positive and the same applies for scrap corrugated cardboard. However, there are markets whose future at this time is questionable.

  There is serious concern as to whether all of the used newsprint that will be collected under mandatory recycling can be sold in the secondary markets. In addition to this, the sale of ferrous scrap has also shown signs of weakness. *The resolution of marketing problems,* such as those described above, *is crucial to the success of the mandatory recycling programs.*

[5]The Office of Recycling was recently removed from the Department of Energy and is now totally within the Division of Solid Waste Management in the Department of Environmental Protection.

One means that has been used in an attempt to deal with the uncertain United States market is to export recycled paper. Currently, the majority of the recycled paper emerging from the east coast is being exported to countries in the far east (such as Japan, South Korea and Taiwan). In 1986, the Paper Stock Institute of America reported that the United States exported 3,725,000 tons of recycled paper, an increase of 13.4% over 1985. Thus, the foreign market will play a vital role in the future success of the recycling industry in this country.

- Recycling centers are defined by statute as being separate and distinct from solid waste facilities (see page 110 Table VII-1 and Recommendation H, page 108). Recycling centers are not subject to permit requirements of the Department of Environmental Protection nor are they subject to waste flow rules of this department and the Board of Public Utilities. However, recycling centers are subject to local zoning regulations.

  There are advantages and disadvantages to the special status that has been granted to recycling. Although there is more flexibility and county "control" over the construction and operation of a recycling center, the benefits of State jurisdiction in terms of environmental controls, as well as mandated direction of waste flow, are not present.[6]

- Adoption and management of recycling programs has been very "informal" up to the present. Prior to April 20, 1987, recycling was not mandatory. To date, much of the activity has been through volunteer efforts. Management of solid waste disposal, on the other hand, has been active, formal and mandatory—as this has been required by *Chapter 326* (the 1976 amendment to the *Solid Waste Management Act*). However, with the passage of the mandatory recycling bill, it is expected that county recycling programs will become structured and comprehensive.

RECYCLING EXPERIENCE TO DATE

In 1981, the *Recycling Act* was passed requiring the Department of Environmental Protection to prepare a statewide recycling plan and to impose a disposal tax at all landfills of $.40 per ton of solid waste.[7] The funds collected from this tax, as administered by the State, were used to pay for programs, planning and capital expenditures related to recycling. These funds have been allocated to projects and municipalities where the reported recyclable materials have been generated.

There have been wide variations in recycling activities from county to county. Some municipalities have been given great latitude by counties in running their own programs. These municipalities receive the proceeds from the sale of re-

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[6]It was reported in one interview for this study that a recycling facility for office paper located in the general area of the Hackensack Meadowlands was receiving its materials from Manhattan on a daily basis. Included with this office paper, however, was a substantial amount of regular garbage. Once in New Jersey, it was the responsibility of the county and municipality where the recycling facility was located to see that the Manhattan "garbage" was properly disposed of at the appropriate New Jersey landfill. However, the State Department of Environmental Protection was without inspection and enforcement powers to control this situation.

[7]P.L. 1981, c.278; N.J.S.A. 13:1E-92 et seq.



In 1985, 890 thousand tons of New Jersey's waste was recycled. This figure represents over 8% of the State's solid waste generation. (Photo courtesy of Aletha Spang/Department of Environmental Protection.)



The average waste generation rate per person, for three of the most widely recycled items, is as follows: newspaper-100 lbs./person/year; glass-100 lbs./person/year and aluminum-5 lbs./person/year. (Photo courtesy of Aletha Spang/Department of Environmental Protection.)

cyclables as well as grants from the State based on the volume of materials recycled. Some counties have provided leadership on recycling by creating and managing recycling facilities. Also, there are counties which have assumed the responsibility for collection of recyclables from large areas. The level of administrative assistance provided by county recycling offices has varied widely.

All counties have designated one individual as the recycling coordinator for the County. This person has worked closely with the solid waste coordinator in providing technical assistance to municipalities. This technical assistance involves: data collection, marketing, coordination with other municipalities, model municipal ordinances, education programs, public forums and information and other functions.

Some of the counties have developed county-wide initiatives on recycling. Examples of these initiatives are:

- Somerset County which provides collection of curbside separated recyclables for many of its municipalities through contractual arrangements with the Association for Retarded Citizens. Somerset supplies the equipment for collection of the waste. In regard to funding the collection program, charges are assessed through the local property tax. Finally, the County assumes the responsibility for processing and selling the recycled materials.
- Burlington County has also supplied equipment and collection services for over half of its municipalities for the recycling of newsprint.
- Camden County has developed and manages a recycling center to which many of its municipalities are transporting cans and bottles by means of municipal equipment. The Camden recycling center is a privately operated entity which markets the separated materials.

Other counties have started programs containing some of these elements.

Among those counties which have begun to move rapidly towards implementing a recycling program are: Monmouth, Morris, Union, Middlesex and Somerset. These counties have been required by the Department of Environmental Protection to develop their programs within a shorter amount of time than is required by the *Mandatory Recycling Act* in order to conserve remaining landfill space.

Since recycling heretofore has not been mandatory (except in Somerset), municipal recycling activities, as directed by counties, have varied widely. Even though some of the counties have claimed that they require their municipalities to conduct recycling programs, the results have usually been sporadic. Examples of such sporadic activities include: maintenance of a drop-off center, cooperation with a local civic organization in the periodic collection of recyclables, municipal collection and sale of newspapers once per month.

Despite the haphazard and voluntary nature of recycling programs in New Jersey through 1986, the volume of reported recycled materials has increased dramatically—from 252,000 tons in 1982 to 890,000 tons in 1985. The 1985 recycling figures represent over 8% of the State's solid waste generation.[8]

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[8]See the article in Appendix F for an example of the management of recyclable materials in Japan versus the recycling plans which were proposed, and have now become law, in New Jersey.

As a result of the enactment of the mandatory recycling bill, the *Solid Waste Management Act (Chapter 326)* has been amended to require that county solid waste plans include an element for recycling. The courts have also recognized the interrelationship between recycling and solid waste management and have required that recycling be implemented in some of the court orders that have been issued.[9]

MANDATORY RECYCLING LAW

On April 20, 1987, Governor Kean signed the mandatory recycling legislation into law. This comprehensive law transforms recycling from local programs which are largely voluntary and informal into *a structured county and municipal recycling program which is mandated.*

This Act makes recycling in each county subject to the solid waste management planning process of *Chapter 326.* Among the major planning elements are the following requirements for each county:

- Appoint a recycling coordinator for each county.
- Designate at least three recyclable items which shall be source-separated within the county. (Leaves are excluded from these items. However, within 12 months, municipal plans must be in place for leaves to be transported to special leaf composting facilities.)
- Develop a plan, within six months of passage of the Act, for the collection, marketing and disposition of source-separated recyclable materials in the various municipalities.
- Establish as a goal, to be achieved by the end of the first year, the recycling of at least 15% of the prior year's waste stream from each municipality.
- Increase this goal for the end of the second full year to 25% of the base year's solid waste.
- Within six months after approval of a county plan by the State Department of Environmental Protection, enter into contracts and take other steps to implement recycling for any municipality which has not accomplished implementation on its own.

In addition to the above mentioned requirements, the recycling law states that if a county is unable to obtain markets for recycled materials which are part of its plan, the Department of Environmental Protection shall assist the county in acquiring these markets and may exempt the specified materials that have been included in the county plan for up to one year. The *Mandatory Recycling Act* also "grandfathers" fully mandatory county programs which were already in existence prior to January 1, 1987, and encourages maximum use of private and volunteer organizations already active in recycling programs.

Under this new law, municipalities have the following responsibilities:

- A municipal recycling coordinator must be appointed within 30 days after passage of the Act.

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[9]As an example, see *Glassboro v. Gloucester County Board of Chosen Freeholders, Supra.*, p. 21.

- Each municipality must implement its part of the collection system within six months after approval of the county plan by the Department of Environmental Protection.
- After the execution of market agreements, municipalities must adopt ordinances within 30 days for the source separation of the three recyclable items.
- Municipalities must revise (and update every three years) their planning and zoning ordinances to include recycling components.

There are many additional provisions contained in the *Mandatory Recycling Act* which are not related directly to the planning process. Some of the major provisions include:

- The recycling surcharge at landfills increases from $.12 per cubic yard ($.40 per ton) to $1.50 per ton. Furthermore, the Act appropriates $8 million as an advance for loans and planning moneys to be used by the counties for implementing mandatory recycling. An additional $.5 million is appropriated for State administration of the Act.
- After 12 months, the Department of Environmental Protection will review recycling programs with respect to plastic and bimetal beverage containers to determine if these programs are satisfactory or if additional legislation is necessary.
- The Department will study and report on the recycling of tires within 18 months.
- Improvements in the programs for recycling motor oil are specified.
- The *Local Public Contracts Law* is amended to allow for negotiated sale of recyclable materials by a local government without public bidding.
- The definition of recycling centers is "sharpened" so that those facilities which accept nonputrescrible source-separated materials such as metal, paper, plastic containers, glass (commingled or otherwise) and other approved materials do not have to be permitted by the Department of Environmental Protection.
- The Act contains many provisions to stimulate the sale and reuse of recycled materials. An example of this is the requirement that at least 45% of the paper products purchased by the State after July of 1989 will have to be made of recycled materials.

Further provisions of the *Mandatory Recycling Act* are blended in with the above features to establish this as a truly mandatory and implementable solid waste initiative.

CONCLUSIONS

As stated in this chapter, the recently passed mandatory recycling law should be given a period of time to operate before consideration of any changes. This Act recognizes that not all of the recycling answers can be predicted in advance (particularly in regard to marketing). Also, the difficult disposal problems associated with plastic and bimetal beverage containers will require a further examination after 12 months.

The enforcement aspects of mandatory recycling should be subject to ongoing review. Source separation in some municipal jurisdictions might be difficult to achieve.[10]

In conclusion, it is to the credit of New Jersey that it is establishing a precedent on mandatory recycling. The prospect of reducing the volume of the waste stream by maximizing recycling is a vital part of the solution for the effective management of solid waste in New Jersey.

[10]The Department of Environmental Protection has required CAFRA projects (a large facility or development built in the State's designated coastal zone and subject to the *Coastal Area Facilities Review Act*) to contain recycling components. However, comments during the field interviews of this study indicated that there has been minimal enforcement of CAFRA recycling requirements.



CHAPTER X

OTHER ISSUES

The first nine chapters of this report described various programs in New Jersey relating to the management of solid waste disposal, and evaluated those governmental agencies which have been assigned the responsibility for implementing these programs. There are a number of other significant issues which were not discussed in the earlier chapters and will be covered here. These issues include: closure of defunct landfills, sludge management and developing innovative programs.

CLOSURE OF DEFUNCT LANDFILLS

In 1981, the *Sanitary Landfill Closure Act* was passed. This measure established a surcharge on all solid waste disposed at New Jersey landfills. Part of the surcharge (15 per cubic yard—estimated to produce $8 million per year) is intended to provide funds for the State to compensate plaintiffs in damage suits against terminated landfills that were abandoned and/or found to be without resources. This law also requires landfill owners to establish escrow accounts from an additional 30¢ per cubic yard of solid waste receipts to insure the proper closure of landfills.[1]

Finally, the 1981 Act declared the concept of *strict liability applicable to closed landfills.* Under this concept, any previous owner or disposer at the landfill, who could be identified, would be liable to the full extent of any claims against the landfill regardless of that owner's or disposer's contribution to the landfill liability. Since many terminated landfills were either municipally owned or have been abandoned by entities which have since dissolved, there have been suggestions that the concept of strict liability be modified so that the State can proceed with the direct closure of many of these facilities.

In the early 1970s, there were over 400 operating landfills in New Jersey. This number has rapidly decreased through the end of 1986 when there were only 93 landfills officially remaining open in the State. Most of these, however, were special purpose and/or private; there are less than 20 "commercial" landfills which would accept standard municipal solid waste. The Department of Environmental Protection estimates that there are presently in excess of 400 terminated landfills in the State, 330 of which were registered.

Of the landfills remaining open, 14 received about 95% of the State's waste in 1986 (see Table III-2, page 30). This number of "major" landfills will, however, decline to ten with the anticipated closures in 1988 of those landfills ranked two, three, seven and nine in quantity of disposal for 1986 on Table III-2.[2]

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[1]Some landfill owners are charging more than the minimum 30¢ per cubic yard in order to ensure their being able to meet the potentially high closure costs.

[2]On August 1, 1987, the 1C landfill in Hudson County was closed.

It is clear that the *Closure Act* of 1981 has not provided the funding to close all of the terminated landfills in New Jersey properly.[3] The Department of Environmental Protection is currently finishing a report on the status of terminated landfills. This report will identify the landfills needing additional remediation and closure operations, and will estimate the overall cost to accomplish this objective. Although the report has not become public, it is generally believed that the economic impact of the landfill closure program will be a cost of about $1 billion and extend over at least a decade. Prior to the enactment of the 1981 *Closure Act,* 170 of the landfills which were in existence in 1970 were terminated. These facilities have no escrow funds and, in most cases, no resources to effect closure. Moreover, there is serious doubt that most landfills terminated after 1981 have sufficient funds for closure.

Various policy initiatives have been recommended for addressing the terminated landfill "time bomb" in New Jersey. For environmental reasons, these facilities must be made clean. On the other hand, the funds required to accomplish this are very substantial, and must be raised at the same time as additional funding mechanisms are being developed for "normal" solid waste disposal.

In late 1985, the Legislature passed the *Sanitary Landfill Closure and Rate Relief Fund Act.* This Act would provide $30 million for grants and low interest loans to take care of proper landfill closure. Through this bill, the Legislature recognized that many landfill problems could not be overcome by the limited funds generated by the closure surcharge, and that these problems were not always the fault of the landfill operator or owner. However, Governor Kean conditionally vetoed the 1985 measure, reducing the amount to $8 million to apply only to closure problems at a Burlington County landfill which had accepted large amounts of out-of-state waste.

Other legislation has been introduced to impose additional surcharges on solid waste disposed at present landfills.[4] Furthermore, there have been suggestions that State bond issues be authorized to provide long-term funds for this need.

One source of funding is the *1985 McEnroe Act.* This Act allow funds from the Investment Tax to be used, in certain instances, for closure of terminated landfills.[5]

Finally, there is the possibility of re-opening terminated landfills on a selective basis. Surcharges collected from solid waste, then disposed at such landfills, would help to defray closure costs for all landfills in the State (see pages 95-96).

Recommendation A

After the extent of the closure costs associated with terminated landfills is more accurately known through the current Department of Environmental Protection study, leaders of the Legislature and Executive Branch should develop, as soon as possible, a long range funding policy which addresses the

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[3]This conclusion has been arrived at by many in the solid waste field and is included in the *Draft Update* (page 26).

[4]A-3248, introduced by Assemblyman Bennett, would establish a surcharge of $5 per ton on solid waste disposed in New Jersey and also solid waste being transferred out-of-state. This surcharge would be collected for landfill closure. The amount of the surcharge would increase in succeeding years.

[5]P.L. 1985, c.38; N.J.S.A. 13:1E-136 et seq.

closure of terminated landfills in a positive, cost-effective manner. In determining the amount of funds necessary to carry out this program, an analysis should be made of potential funds that can be recovered from current and previous owners as well as disposers. However, because of the magnitude of funds required and the heavy use of surcharges for current disposal programs, it appears at this time, that public bond issues offer the best financing alternative.

SLUDGE MANAGEMENT

The Legislature amended *Chapter 326* in 1977 making sludge disposal subject to the solid waste planning process. In addition to this, sludge is subject to Board of Public Utilities regulation when: it is managed at a landfill or co-disposal facility with municipal solid waste, or it is disposed of by a private (Board of Public Utilities regulated) hauler. The final disposal of sludge, except for ocean dumping, is subject to the solid waste planning process of *Chapter 326.* The official definition of sludge specifies that it is solid waste.

Sludge is a by-product of sewage treatment. Sludge may be either a dry or liquid composition. Since sludge is produced at wastewater treatment plants, its generation has already been subject to the requirements for planning and management under the *Federal Clean Water Act* sections 405d and 201. The 201 process regulates areas served and determines the facilities necessary for treatment and transmission. A 201 wastewater service area does not necessarily respect county boundaries (as is the case of solid waste districts). In other words, sludge produced at one treatment facility can come from sewage generated in more than one county.

Other than ocean dumping, sludge is normally disposed of in one of the following three ways: composting, incineration or land application. A sludge generator (or disposer) is regulated under the New Jersey Pollutant Discharge Elimination System program for disposal by any of these three modes.[6] Sludge permits and approvals are obtained from the Division of Water Resources in the Department of Environmental Protection. The section 405d requirements for sludge management must be included in all discharge permits (New Jersey Polluant Discharge Elimination System permits). All New Jersey discharge permits and Treatment Works Approval applications are also subject to another regulatory process, a determination of consistency with the Areawide Wastewater Management Plan. The Monitoring and Planning Element of the Division of Water Resources makes this determination in accordance with standards contained in the Areawide Water Quality Management (208) Plan.

Even though current New Jersey solid waste statutes require individual counties to adopt sludge disposal elements in their solid waste plans, the Department of Environmental Protection has not enforced this requirement because the prerequisite Statewide Management Plan and sludge regulations are not in place. These documents will establish the standards, goals and criteria for State review of county plans. An extensive set of proposed sludge regulations is being developed. The

[6]In certain instances, a NJPDES permit is not required for an incinerator, although Air Emission Permits and Treatment Works Approval are required.

Statewide Sludge Management Plan has been through public comment and could be adopted by the end of 1987.

The policy implications of including sludge management in solid waste planning are significant. Sludge can be directed from a wastewater disposal facility to a specific composting, incineration or land application site. This process may be formalized by inclusion in waste flow regulations.[7] In addition, the economic aspects of sludge disposal may be regulated by the Bureau of Public Utilities in the same manner as solid waste.

It has been argued that a sludge disposal facility qualifies as a solid waste facility because it disposes of material which, by definition, is solid waste. However, the *Solid Waste Management Act* allows the Department of Environmental Protection to exempt certain types of operations from solid waste registration, and the Department has exempted land application sites. Currently, sludge facility permits are developed, environmental reviews are performed, and public participation is provided through the Air Emission and New Jersey Polluant Discharge Elimination System Programs. The Department considers it redundant to repeat the process through the Solid Waste Program.

The proposed sludge regulatory process differs from the solid waste regulatory system of *Chapter 326* in two additional respects:

- Sludge regulations would allow counties to delegate the planning of sludge disposal to the 201 facilities in the county.
- Federal regulations will require that planning for sludge disposal be a part of the New Jersey Polluant Discharge Elimination System permit—which means that the sewage treatment facility, as the holder of the New Jersey Polluant Discharge Elimination System permit, will develop the plan.

County solid waste staffs will be making sludge planning decisions as part of their county solid waste plan when the sludge regulations are formally adopted.

Although there will be no siting problems for existing incinerator and composting facilities, it is expected that disposal capacity for sludge will have to increase substantially, and new sludge facilities will have to be planned. The reason for this is that sludge disposal at landfills, accounting for up to one-third of all sludge disposed of in 1984, was terminated on March 15, 1985. Furthermore, the federally imposed July 1, 1988 deadline for all sewage treatment plants to meet water quality criteria will result in significant increases in sludge production.

Field interviews made during this study indicate that most county solid waste staffs are prepared to accept the added responsibility of sludge planning. There are some counties, however, that believe that the Department of Environmental Protection (Division of Water Resources) should make the planning decisions for sludge disposal in the same manner as this agency makes its 201 wastewater disposal planning decisions.

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[7] *The proposed sludge management regulations provide an option which removes sludge from waste flow direction.*

Recommendation B

This report makes no recommendation that the contemplated system for managing and planning sludge disposal be changed. However, the Legislature should note that once the counties have entered the sludge planning process, it will be much more difficult to reverse this procedure by having the State assume more direct responsibility.

DEVELOPING INNOVATIVE PROGRAMS

This study has been conducted in the general context of "present conditions" and analyzes the management of solid waste disposal within the existing institutional framework. Also, the study is based on the presumption that the composition of the waste stream will remain relatively constant.

There are many ideas on solid waste management which, although largely untried, offer the promise of substantially improving solid waste disposal conditions. These ideas should not be summarily discarded, or put on the shelf. Administrative mechanisms should be developed so that worthy innovations are constantly being evaluated and introduced into the process. Most notable among the suggestions are ideas and theories on reducing the waste stream by greater recycling, more efficient waste utilization and avoiding the creation of certain wastes in the first place.

It has been said that we live in a "throw away society" and that the public is merely interested in convenience. Recognizing this, American industry designs products and packaging materials which appeal to convenience while sacrificing environmental and cost considerations involved in ultimate disposal.

There are many cost-effective opportunities for improving solid waste management and reducing the amount of waste that is generated. The 1972 report of this Commission contained the following observation:

> As the solid waste problem in New Jersey reaches crisis proportions it is appropriate to inquire into the possibility of arresting and rolling back the amount of waste produced. Waste generation can be curtailed by restricting the amount of materials that enter the waste cycle, by recycling for example, and by designing products with longer useful life and that can be more readily recycled and reused. With the appropriate use of incentives (such as taxes and transportation rates that do not discriminate against recycled materials), constraints (such as a per-unit levy against manufacturers of disposable products), and the changing of public attitudes toward waste production, the generation of waste can be reduced.
>
> . . . [T]he Department of Environmental Protection should evaluate the possible use of incentives, constraints and the changing of public attitudes to promote waste avoidance. . . .[8]

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[8]*Solid Waste: A Coordinated Approach*, p. xiii.

[9]Assemblyman Bennett has introduced legislation (A-1265) to outlaw the use of the polystyrene egg carton.

Improved solid waste management and waste reduction opportunities exist in the following areas:

1. ***Packaging***

Many packaging materials impose a cost to society, because of their disposal problems, that is greater than the value provided in their function as a package. An example of this is the packaging of eggs which are sold by supermarkets and other outlets generally in two types of containers: one is made of polystyrene plastic which is petroleum based and nonbiodegradable; the other carton is a cardboard, paper base, biodegradable package. The former, although considered to be more attractive, is functionally the same as the latter, yet its disposal unit cost is considerably more.[9]

Ketchup, as another example, is sold in supermarkets in glass bottles as well as plastic squeeze containers. Unlike the plastic, the glass bottles can be recycled. However, the plastic, which costs more to the consumer as a package, can only be disposed of by incineration at very high temperatures under controlled conditions. The unit cost for disposing of these plastic bottles is substantially greater than disposal costs for glass bottles.[10]

Another problem market exists with regard to soda in one liter and two liter plastic bottles. The recycling industry recognizes that it is very difficult to reprocess these containers on a cost-effective basis because of high transportation expenses due to their bulk and because of the difficulty in processing the plastic for resale. The *Mandatory Recycling Act* acknowledges both the high cost and the difficulty in developing reuse value and has delayed a final disposal strategy for this waste material.

In 1985, a precedent was established in New Jersey for the use of certain packaging materials. A law was passed prohibiting the sale of beverage cans with detachable openers as well as the plastic nonbiodegradable holding device for beverage six-packs.[11]

2. ***Waste Utilization and Elimination***

Significant economies can be realized when waste is utilized (recycled) or eliminated. Every ton of solid waste which does not go to an incinerator or landfill represents substantial savings in both operating and capital costs.

Some examples of potential waste utilization and elimination are: conversion of incinerator ash, building debris, glass foundry slag and crumb rubber from automobile tires into road paving materials; recycling plastic beverage containers (see #1 above) into plastic feedstocks; chipping of tree stumps and other vegetative materials for compost, landscaping and soil conditioners.

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[10]The plastic used in the "squeeze" bottles is unlike the plastic used in beverage containers and offers little prospect of reclamation.

[11]P.L. 1985, c.533; N.J.S.A. 13:1E-99.1.

Much of the work being conducted on waste utilization is experimental. It is unreasonable to expect county and municipal governments to undertake this type of activity; rather, the State should conduct research and development where waste utilization offers promise. The State can work closely with universities, private organizations and other states to develop breakthroughs in these projects.[12]

Chapter 326 of the *Solid Waste Management Act* established a special Solid Waste Management Research and Development Fund in the Department of the Treasury. The purpose of this fund is to finance research and development "for any experimentation with, or demonstration of, new methods and techniques for the collection, disposal and utilization of solid waste. . . ."[13]

Another area where solid waste districts and municipalities are lacking in resources to maximize material reuse is marketing. Counties, which are directed to assist municipalities on marketing matters, must sometimes seek assistance from the State in basic market development. The State, in turn, is in a position to develop the volume, transportation methods and assured sources of supply necessary to attract buyers.

The *Mandatory Recycling Act* addresses the issue of marketing in several respects. The sum of $200,000 is appropriated for marketing studies, to be conducted by the Office of Recycling, on waste materials such as automobile tires, paper and plastic beverage containers.[14] This Act also directs the Department of Environmental Protection to investigate and develop specific material utilization plans for plastic (and bi-metal) beverage containers and scrap automobile tires.[15] In addition, the Act requires State agencies to purchase recycled paper to the maximum extent possible, and the Department of Transportation must specify recycled materials in its paving requirements where feasible. The Act is specific in requiring the Commissioner of Transportation to "encourage the use of fuel derived from waste oil as a furnace or boiler fuel by manufacturers of asphalt or recycled asphalt pavement".[16]

Finally, one fundamental issue of waste utilization and elimination must be addressed on a continuing basis. This is the conflict between recycling and resource recovery through incineration. *Recycling must be maximized; mass-burning or other kinds of incineration must be minimized.* Waste that has a real potential for recycling must not be contemplated for the waste stream to the burn unit. Financing plans for these types of resource recovery facilities must not depend on throwing everything in the burner. At the same time, reality dictates that resource recovery units must be built in New Jersey because of the magnitude and urgency of the waste disposal problem.

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[12]The New York State Energy Research and Development Authority is conducting an experimental program for the increased use of incinerator ash material. Philadelphia has a pilot program to combine incinerator ash and municipal sludge in the production of aggregate for roadbeds and other purposes. *Solving The Garbage Disposal Crisis In New Jersey,* New Jersey Alliance for Action (1986), pp. 3-4.

[13]N.J.S.A. 13:1E-34. To date, no moneys have been appropriated to this fund.

[14]P.L. 1987, c.102; N.J.S.A. 13:48.

[15]N.J.S.A. 13:10-12.

[16]N.J.S.A. 13:21.

It is essential that a proper balance of these competing influences be maintained.

3. ***Tax and Revenue Policy***

Tax and revenue initiatives can have an important influence on waste avoidance and reduction. The Department of Environmental Protection is not in a position to create such initiatives; instead, this would fall to other departments of the Executive Branch as well as the Legislature.

One program which should receive thorough investigation and serious consideration is a taxing program on certain packaging materials. Where disposal problems and costs are unreasonably excessive for a particular type of packaging, consideration should be given to the imposition of a tax on that type of packaging. Proceeds from this tax would be used to pay for the "special" cost of disposal for this type of packaging. *The philosophy of a tax on packaging is very simple—let the consumers who demand a certain package also pay for its total cost, which includes disposal.*

Another revenue issue which was covered in Chapter VIII involved the application of a *collection charge to be imposed on homeowner generators for the garbage which is placed at the curb for pickup.* It was suggested that this tax be billed to a homeowner in a manner similar to sewer and water charges. One of the advantages of collection charges is that they can be based on the volume of waste generated. Thus, there would be incentives to reduce the amount of waste disposed of.

The State is in a position to encourage this kind of local program by providing planning assistance and possibly, demonstration grants. A similar program is in effect in Latrobe, Pennsylvania where homeowners pick up a supply of opaque garbage bags at a municipal facility. The homeowner is charged for the bags obtained through the local property tax mechanism. Meanwhile, collection vehicles are instructed to only pick up garbage in the "official" opaque plastic bags.

Recycling is facilitated under this system by the municipality supplying free transparent plastic bags for recyclables. The collector can visually identify the recyclable items and keep them separate from landfill or incinerator garbage.

One very serious revenue issue involving auto shredders in northern New Jersey will probably come to a head in the near future. A large portion of the product of auto shredding cannot be sold in metal or other secondary markets. This material, from shredders located in Essex and Hudson Counties, is now being disposed of at landfills in the Hackensack Meadowlands. Landfill tipping fees constitute a major portion of the auto shredders' costs.

On July 31, 1987, the Meadowlands landfill serving Essex County was closed. All waste material from this county is now being transported to Pennsylvania with an increase in costs that is approximately five to six times higher than the previous costs. However, as of the above mentioned date, the Meadowlands landfill serving Hudson County remained open with its present schedule of low tipping fees. The above situation creates an unreasonable economic hardship on the auto shredder located in Essex County.

Furthermore, if the shredder is forced out of business, the problem of disposing of scrap automobiles in northern New Jersey could become acute.

The decades-old issue of requiring deposits on all beverage containers sold in New Jersey is still being debated. Many believe that mandatory recycling should be given a chance to operate before reconsidering this matter. In any event, when and if additional study and consideration is given to a "bottle bill", it would be desirable to enlist the participation of other departments of State government which have direct and indirect concern over the implications of this issue.

4. ***Administrative Efficiency***

Under present conditions, where the Department of Environmental Protection is responsible for managing all aspects of solid waste disposal, it is difficult to coordinate involvement of other State departments when required. Administrative improvements cannot be effected by action of the Department alone.

One area in which problems have arisen is in the enforcement of waste flow regulations. The Board of Public Utilities, the Department of Law and Public Safety, individual disposal sites and the Department of Environmental Protection all have responsibilities to enforce waste flow regulations. It might be determined, after study and analysis, that this responsibility should be under the jurisdiction of only one department. With regard to raising additional financing which is needed for improved enforcement, consideration might be given to increasing the $20 per vehicle license fee which is now imposed on all of the 16,000 hauling vehicles in New Jersey.

In addition, a number of departments and ongoing commissions in State government are concerned with matters regarding material utilization and waste reduction. These efforts should be consolidated and should be receiving maximum input from all agencies.

Recommendation C

A cabinet level Waste Reduction and Utilization Policy Commission should be created to provide continuing State planning and policy direction. This Commission would focus attention and planning resources on all aspects of waste reduction and utilization. It would consolidate functions now performed by other commissions and agencies, and would consider problems and opportunities similar to those described in sub-sections one through four above. This Commission would have the important function of monitoring and reporting on the State's basic policy of maximizing recycling and minimizing mass-burning.

Many of the functions proposed for this cabinet level Commission are now spread among other commissions and agencies in an inefficient manner. Also, because solid waste management involves materials handling issues, it is important to receive guidance from other departments of State government such as Treasury, Commerce and Economic Development, the Board of Public Utilities, Community Affairs, Agriculture and Transportation.

Solid waste management is a very public issue with important economic consequences. For this reason, the recommended policy Commission should be at the cabinet level where it will receive maximum attention.

CONCLUSION

This chapter addressed three remaining solid waste issues: landfill closure, sludge management and various innovative programs. These programs included suggestions for alternative packaging of products; the utilization of waste, along with the marketing of such waste; taxing particular types of packaging; and finally, reviewing the administrative efficiency of several State departments.

The first of these issues, landfill closure, will continue to be a primary concern of the State until sufficient funding for closures can be acquired. The second issue relates to the probable impact of the proposed sludge management regulations. The final section on innovative programs provides an overview of the various means of dealing with the ever increasing generation of solid waste. It can further be concluded from this section that there will be an ongoing need to conduct research on new ideas in packaging, marketing and waste utilization and to provide the necessary administrative support mechanisms if these innovations are to succeed.

APPENDIX A

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION WASTE IDENTIFICATIONS AND DEFINITIONS

SOLID WASTES

10 MUNICIPAL (household, commercial and institutional)

Waste originating in the community consisting of *household waste* from private residences, *commercial waste* which originates in wholesale, retail or service establishments, such as, restaurants, stores, markets, theaters, hotels and warehouses, and *institutional waste* material originating in schools, hospitals, research institutions and public buildings.

12 DRY SEWAGE SLUDGE

Sludge from a sewage treatment plant which has been digested and dewatered and does not require liquid handling equipment.

13 BULKY WASTE

Large items of waste material, such as, appliances, furniture, whole trees, branches, tree trunks and stumps. Also included are waste building materials and rubble resulting from construction, remodeling, repair and demolition operations on houses, commercial buildings, pavements and other structures. Discarded automobiles, trucks and trailers and large vehicle parts, and tires are included under this category.

23 VEGETATIVE WASTE

Waste materials from farms, plant nurseries and greenhouses that are produced from the raising of plants. This waste includes such crop residues as plant stalks, hulls, leaves and tree wastes processed through a wood chipper.

25 ANIMAL AND FOOD PROCESSING WASTE

Processing waste materials generated in canneries, slaughterhouses, packing plants or similar industries. Also included are dead animals.

27 DRY INDUSTRIAL WASTE

Waste materials resulting from manufacturing, industrial and research and development process and operations, and which are not hazardous in accordance with the standards and procedures set forth at N.J.A.C. 7:26-8. Also included are non-hazardous oil spill cleanup waste, dry non-hazardous pesticides, (and) dry non-hazardous chemical waste, and asbestos and asbestos-containing waste managed in accordance with 40 CFR 61 and N.J.A.C. 7:26-2.6.

LIQUID WASTES

72 BULK LIQUID AND SEMI-LIQUIDS

Liquids or a mixture consisting of solid matter suspended in a liquid medium which is contained within, or is discharged from, any one vessel, tank or other container which has the capacity of 20 gallons or more. Not included in this waste classification are septic tank clean-out wastes and liquid sewage sludge.

APPENDIX B

SOLID WASTE PLANNING AND IMPLEMENTATION PROCESS[1]

Feasibility Studies

(1) Conduct energy and materials market studies.

(2) Conduct transportation analysis.

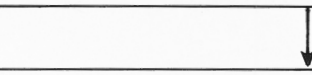
(3) Determine the size of the facility.

(4) Conduct preliminary engineering.

(5) Select the technology.

(6) Conduct financial, legal and institutional analysis.

(7) Examine the project alternatives.



Review and Adoption of County Plan

(1) SWAC (appointed by the Board of Chosen Freeholders) acts as a forum for county government to receive input and other assistance.[2]

(2) The Board of Chosen Freeholders commissions engineering consultants to aid in:
—determination of siting criteria,
—alternative site identification,
—data gathering,
—assessment of sites according to criteria, and
—selection of the proposed site.

(3) A public hearing is held on the plan.

(4) SWAC reviews the county solid waste plan.

(5) The Board of Chosen Freeholders consults with SWAC and adopts the county plan.

(6) Within thirty days of the adoption by the Board of Chosen Freeholders, the plan may be challenged in Superior Court.



[1]The process that is indicated in this diagram should be understood as being ideal. In reality, counties often will not adhere to the numerous steps which should comprise the implementation process.

[2]The abbreviations used in this diagram are as follows: BPU—Board of Public Utilities, DEP—Department of Environmental Protection, SWAC—Solid Waste Advisory Council, RFP—Request for Proposal, RFQ—Request for Qualifications, PEHIS—Preliminary Environmental and Health Impact Statement and FEHIS—Final Environmental and Health Impact Statement.

State Approval of the Plan

(1) The adopted county plan (as well as a site map, Board of Chosen Freeholders resolution, proof of public hearing notification and transcripts from the public hearing) is submitted to the Commissioner of DEP for review.

(2) The Commissioner of DEP submits the plan to approximately 20 State and federal agencies (including offices within DEP), as well as the Advisory Council on Solid Waste Management and BPU, for review.

(3) The Commissioner (within 150 days of his receipt of the plan) approves, rejects or modifies the plan and certifies this to the Board of Chosen Freeholders.

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PEHIS Approval and Site Procurement

(1) The county contracts with engineers for the preparation of the PEHIS which is then submitted to DEP.

(2) DEP approves the PEHIS.

(3) The county procures the designated site.[3]

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Vendor Selection

(1) The county contracts for a vendor to construct and/or operate the facility.
   (A) RFQ is issued by the county.
   (B) Vendors submit RFQ to the county for review.
   (C) RFP is issued by the county to prequalified vendors.
   (D) Prequalified vendors submit RFP (including facility design) to the county for review.
   (E) The county negotiates with the vendors for a contract.
   (F) The county selects the vendor and approves their contract.
   (G) The vendor contract is reviewed by the Public Advocate—Division of Rate Counsel, and approved by DEP, Community Affairs—Division of Local Government Services and BPU.

↓

FEHIS Approval, Construction and Operation

(1) The Commissioner of DEP issues a permit (based upon an approved application which will include FEHIS, final engineering and design and the registration statement) to construct and operate a facility.

(2) The facility is constructed.

(3) The facility is inspected by DEP.

(4) The operation of the facility begins.

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[3]Prior to arranging for capital financing of a facility with a vendor, a county may sell bonds in order to finance the site procurement.

APPENDIX C
STATUS OF LANDFILL FACILITIES

County and Facility	County Plan Submitted/ Approved	PEHIS Submitted/ Approved	FEHIS and Engineering Design Submitted/Approved	Construction Underway/ Operational	Comments on Current Status
Atlantic Egg Harbor	January 1987 June 1987			Operational	Plan amendment for expansion of Pinelands Park addresses operation until 1992 when RR in operation (residual LF not yet sited).
Bergen Not sited					Existing county landfill is operational. Bergen continues to negotiate with HMDC for possible future landfill arrangements.
Burlington Florence and Mansfield Interim and Residual 1988	September 1982 April 1983	March 1985 May 1985	March 1987		
Camden Winslow	April 1985 July 1985				Existing site in operation. Proposed conversion to ash landfill approved by county and State, rejected by Pinelands.
Cape May Woodbine	March 1983 May 1983	* *	December 1982 June 1983	Operational	Facility commenced operation on May 15, 1984.
Cumberland Deerfield 1987	March 1984 July 1984	January 1985 April 1985	January 1985 December 1985	November 1986	Facility is expected to begin operation in fall of 1987.
Essex Not Sited					
Gloucester South Harrison	March 1986 April 1986	April 1985 May 1985	July 1986 December 1986	Operational	Facility commenced operation on February 9, 1987.
Hudson Kearny Residuals 1991	November 1985 December 1985				
Hunterdon Not Sited					County has hired consultant to perform EIS on site in Franklin Township. County may pursue long-term out-of-state disposal.

Mercer Not Sited					
Middlesex East Brunswick 1988	September 1987				Freeholders approved expansion of Edgeboro on August 20, 1987. Landfill to be used only by Middlesex County.
Monmouth Tinton Falls	December 1986 May 1987			Operational	Plan amendment to include expansion area is approved. New designs have not been submitted.
Morris Not Sited					County and State approved site rejection because of Superfund legislation.
Ocean Manchester	November 1984 April 1985			Operational	In plan amendment, county designated the facility as a county LF when RR site enters operation. Adequate capacity exists until RR facility operates. Revisions to approved design are expected. This will reflect changes to the approved designs only.
Passaic Not Sited					
Salem Alloway 1987	April 1983 June 1983	July 1983 November 1983	August 1986 April 1987	June 1987	Facility expected to be operational in fall of 1987.
Somerset Not Sited	June 1983 November 1983				County recently held public hearing for potential siting in Montgomery Township. Recently submitted plan amendment to delete Bridgewater site.
Sussex Lafayette 1988	May 1985 October 1985	January 1986 May 1986	January 1987		
Union Elizabeth and Linden Residuals Only	September 1986 February 1987			Operational	Plan amendment to designate Elizabeth site approved. Linden site is in operation for all Linden waste. Future residual waste flow to each site remains unspecified.
Warren White 1988	March 1985 October 1985	Feburary 1986 September 1986	December 1986		

NOTE: In each case where a specific project exists the host community has been listed. In addition, the projected date of the facility's operation has been provided when available. Current project status has been noted, as needed, in the narrative comments section. Finally, where milestone achievement dates were not yet obtained, an asterisk is used to denote that the milestone has, in fact, been achieved. In this appendix the abbreviations used are as follows: RR is resource recovery facility; LF is landfill facility; PEHIS stands for Preliminary Environmental and Health Impact Statement; and FEHIS stands for Final Environmental and Health Impact Statement.

Source: New Jersey Department of Environmental Protection.

APPENDIX D
STATUS OF RESOURCE RECOVERY FACILITIES

County and Facility	County Plan Submitted/ Approved	PEHIS Submitted/ Approved	FEHIS and Engineering Design Submitted/Approved	Construction Underway/ Operational	Comments on Current Status
Atlantic Egg Harbor 750 TPD 1991	August 1986 December 1986				
Bergen Ridgefield 3000 TPD 1990	October 1980 October 1980	November 1984 November 1984	August 1985		
Burlington Florence and Mansfield 500 TPD 1989	September 1982 April 1983	March 1985 May 1985	March 1987		Awaiting submission of engineering designs.
Camden Pennsauken 500 TPD 1989	May 1984 September 1984	November 1984 December 1984	January 1987		
Camden South Camden 1400 TPD 1989	January 1985 May 1985	August 1985 October 1985	April 1986		
Cape May Woodbine 500 TPD 1991	October 1987				Freeholders approved site on September 27, 1987.
Cumberland Not Sited					Joint study with Cape May yielded decision not to pursue resource recovery at this time.
Essex Newark 2250 TPD 1990	June 1981 December 1981	October 1983 *	December 1983 December 1985		Project implementation previously stalled due to litigation against DEP issued permits and approvals.
Gloucester West Deptford 575 TPD 1989	March 1985 May 1985	August 1985 October 1985	December 1985		
Hudson Kearny 1500 TPD 1991	November 1985 December 1985	October 1985 December 1985			Remedial action and construction due to begin in fall of 1987.
Hunterdon Not Sited					Contract signed with Warren County to dispose of 100 TPD for 10 years.

Mercer Hamilton 2000 TPD 1992	November 1986 April 1987	August 1987			
Middlesex Sayreville	September 1987				Freeholders approved site on August 20, 1987.
Monmouth Tinton Falls 1990	December 1986 May 1987				
Morris Rockaway 1500 TPD 1990	December 1985 March 1986				Uncertainty as to effect of Superfund reauthorization. County negotiating with Picatiny Arsenal for potential refuse derived fuel project.
Ocean Ocean Twp. 1500 TPD 1992	October 1986 February 1987	July 1987			
Passaic Passaic City 1300 TPD 1990	March 1985 July 1985	May 1986 June 1987			
Salem Carneys Point 240 TPD 1989	October 1985 March 1986				
Somerset Not Sited					County investigating site in Bridgewater Township.
Sussex Lafayette 400 TPD 1990	May 1985 October 1985				
Union Rahway 1350 TPD 1990	May 1984 October 1984	November 1986 February 1987			
Warren Oxford 400 TPD 1988	November 1984 November 1984		August 1985 June 1986	July 1986	Facility expected to be operational in fall of 1987 or spring of 1988.

NOTE: In the majority of cases, where a specific project exists, the host community, the tonnage per day and the county's date of operation have been listed. Current project status has been noted, as needed, in the narrative comments section. Finally, where milestone achievement dates were not yet obtained, an asterisk is used to denote that the milestone has, in fact, been achieved. In this table the abbreviations used are as follows: TPD is tons per day; PEHIS stands for Preliminary Environmental and Health Impact Statement; and FEHIS stands for Final Environmental and Health Impact Statement.

Source: New Jersey Department of Environmental Protection.

APPENDIX E

DEFINITIONS OF VARIOUS TYPES OF SOLID WASTE AND RECYCLING FACILITIES

COMPOSTING FACILITY

". . . means a solid waste facility which utilizes a controlled biological process of degrading nonhazardous solid waste." N.J.A.C. 7:26-1.4

MATERIALS RECOVERY FACILITY

". . . means a solid waste facility such as a transfer station which is designed, operated and permitted to process a nonhazardous solid waste stream by utilizing manual and/or mechanical methods to separate from the incoming waste stream categories of useful materials which are then returned to the economic mainstream in the form of raw materials or products for reuse." N.J.A.C. 7:26-1.4

RECYCLING CENTER

". . . means a facility designed and operated solely for receiving, storing, processing and transferring source separated, nonputrescible or source separated commingled nonputrescible metal, glass, paper, plastic containers, and corrugated and other cardboard, or other recyclable materials approved by the Department." N.J.A.C. 7:26-1.4

RECYCLING FACILITY

". . . means any solid waste facility utilized to separate or process solid waste into marketable materials." N.J.S.A 13:1E-3

RECYCLING FACILITY

". . . means a facility at which materials which would otherwise become solid waste are collected, separated or processed and returned to the economic mainstream in the form of raw materials or products. . . ." N.J.S.A. 13:1E-137

RESOURCE RECOVERY

". . . means the collection, separation, recycling and recovery of metals, glass, paper and other materials for reuse or for energy production." N.J.S.A. 13:1E-3

RESOURCE RECOVERY FACILITY

". . . means a solid waste facility constructed and operated for the incineration of solid waste for energy production and the recovery of metals and other materials for reuse; or a mechanized composting facility, or any other solid waste facility constructed or operated for the collection, separation, recycling, and recovery of metals, glass, paper, and other materials for reuse or for energy production. . . ." N.J.S.A. 13:1E-137

SOLID WASTE FACILITIES

". . . mean and include the plants, structures and other real and personal property acquired, constructed or operated or to be acquired, constructed or operated by any person pursuant to the provisions of this or any other act, including transfer stations, incinerators, resource recovery facilities, sanitary landfill facilities or other plants for the disposal of solid waste, and all vehicles, equipment and other real and personal property and rights therein and appurtenances necessary or useful and convenient for the collection or disposal of solid waste in a sanitary manner." N.J.S.A. 13:1E-3

SOLID WASTE FACILITY

" . means any system, site, equipment or building which is utilized for the storage, collection, processing, transfer, transportation, separation, recycling, recovering or disposal of solid waste but shall not include a recycling center." N.J.A.C. 7:26-1.4

APPENDIX F

CONSERVATION GROUP POINTS TO JAPAN'S HEAVY RELIANCE ON TRASH RECYCLING

EXPERT'S REPORT ON 5-WEEK STUDY OFFERS MODELS FOR JERSEY STRATEGY

By GORDON BISHOP

Recycling garbage has become a way of life in densely populated Japan, according to research just released by INFORM, a nonprofit organization concerned with the conservation of natural resources.

"The Japanese depend largely on recycling to lessen their waste burden," according to Dr. Allen Hershkowitz, director of INFORM's solid waste management project.

"Recycling is a large part of Japan's waste management strategy," said Hershkowitz, who recently completed five weeks of research there.

About 30 percent of Japan's unrecycled garbage goes into landfills, compared with about 90 percent for a typical New Jersey municipality. There are 567 municipalities in New Jersey, the most densely populated state in the country.

The New Jersey Department of Environmental Protection (DEP) launched a voluntary recycling program in 1971. This year, the Kean Administration submitted to the Legislature the nation's first statewide mandatory recycling plan involving source separation of recyclables at the home and workplace.

In Japan, about 3 percent of the garbage is composted at 23 facilities, while 67 percent is burned in 1,915 incinerators throughout the country, Hershkowitz reports.

New Jersey is planning to have from six to eight regional incinerators, or resource recovery plants, for burning most of the garbage. The regional incinerators are coupled with the source separation program.

Under the recycling initiative, the state is seeking to remove at least 25 percent of the cans, bottles and other recyclables from the trash before the remaining garbage is picked up at the curb for incineration, where the wastes will be converted into energy for heating and generating electricity.

While in Japan, Hershkowitz found that more than 90 percent of the newspapers and 50 percent of all paper are being recycled; 42 percent of all bottles are recycled, and 95 percent of the six billion new beer bottles emptied annually are returned, cleaned and reused an average of 20 times.

The Kean Administration has been opposed to a so-called "bottle bill" that would place a deposit on throwaway beverage containers. Instead, the administration supports a comprehensive litter approach covering all throwaway packaging. A multimillion-dollar-a-year litter pickup program is funded by the state's food and packaging industries.

Residents in Japan's 3,300 communities separate their garbage into six classifications to simplify recycling. They are: Combustibles (kitchen wastes, light plastics, soiled paper); noncombustibles (hard plastics and metal cans); poisonous and hazardous materials; newspapers, bottles, and bulky wastes (furniture, discarded bicycles, mattresses, etc.).

More than 70 percent of all aluminum cans are recycled in Japan. Only 28.6 percent of all the discarded aluminum is reused in the United States, according to INFORM.

Japan recycles more than 50 percent of its steel cans, compared to 2.7 percent of the scrapped steel recovered in the U.S.

Japan also returns 42.2 percent of its glass to the furnace to make new glass, while the U.S. recovery rate is only 7 percent, based on INFORM's research.

Headquartered in Manhattan, INFORM will release a full report on the Japanese waste recycling experience in early February. The report, titled "Garbage Management in Japan: Lessons for the U.S.," will discuss Japanese garbage burning technology and how Japanese perceive the threat of dioxin emissions.

Several civic and environmental groups in New Jersey are opposed to incinerators because of the potential for dioxin emissions. Dioxin has been identified as a carcinogen.

"The report should be an important source of information for those developing waste management strategies and assessing the benefits and limitations of both recycling and garbage burning's contributions to these strategies," Hershkowitz said.

Founded in 1973, INFORM identifies and reports on practical actions for the protection and conservation of natural resources. Its work is supported by contributions from individuals and corporations and by grants from more than 40 foundations.

Funding for the Japanese research project was provided by the North Shore Unitarian Universalist's Veatch Program.

THE STAR-LEDGER, Friday, December 21, 1986

FUTURE PUBLICATIONS OF THE COUNTY AND MUNICIPAL GOVERNMENT STUDY COMMISSION

- **Services for the Elderly: Current and Future Needs**
- **An Analysis of the Corrections System**
- **Local Code Enforcement**
- **Independent Boards and Municipal Government**
- **The Municipal Welfare System**

ABOUT THE COMMISSION

The New Jersey Legislature established the County and Municipal Government Study Commission with the charge to "study the structure and functions of county and municipal government . . . and to determine their applicability in meeting the present and future needs of the State and its political subdivisions."

To achieve as broad a representation as possible in carrying out this legislative charge, a Commission of fifteen members was created, nine of whom are named by the governor, three of whom are senators, named by the president of the senate, and three of whom are assemblymen, named by the speaker of the general assembly. Of the governor's appointments, three are nominees of the New Jersey Association of Counties, three are nominees of the New Jersey State League of Municipalities, and three are from among the citizens of the State.

The Commission's initial report, *Creative Localism: A Prospectus,* recommended a comprehensive and systematic study of the patterns of planning, financing, and performing functions of government. This assessment seeks to develop more effective approaches for service provision among municipal, county, and state governments through statutory amendments and changes in administrative practices and policies.

In light of these goals, the Commission has examined alternative forms of service provision on a larger-than-municipal scale and evaluated current systems for provision of services. This research has led to a series of structural studies dealing with county government, joint services, consolidation, and municipal government forms. The Commission also engages in functional studies that are focused upon the services that local governments provide or should so provide. These functional studies have included examinations of transportation, housing, social services, health, solid waste management, flood control, libraries, and state mandates. In addition, a series of informational periodicals and handbooks are published for the use of officials, administrators, and others interested in New Jersey government.

While the Commission's research efforts are primarily directed toward continuing structural and functional studies, its staff is often asked to assist in the drafting of legislation and regulatory action based upon Commission recommendations. The Commission also serves as a general resource to the legislature, executive agencies, local government officials, and civic organizations, as well as to related activities at the national level.

*Water Quality Management: New Jersey's Vanishing Options, June 1973
Solid Waste: A Coordinated Approach, September 1972
A Public Personnel Information System for New Jersey, March 1972 (In cooperation with the Bureau of Government Research, Rutgers, The State University of New Jersey)
*Consolidation: Prospects and Problems, February 1972
*Beyond Local Resources: Federal/State Aid & the Local Fiscal Crisis, April 1971
*Joint Services: A Practical Guide to Reaching Joint Services Agreements, May 1971 (In cooperation with the N.J. Department of Community Affairs)
*Joint Services: A Local Response to Area-Wide Problems, September 1970
County Government: Challenge and Change, April 1969
Creative Localism: A Prospectus, March 1968

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*Available upon request