MAINE LEGISLATURE

STUDY OF
SOLID WASTE MANAGEMENT AND
DISPOSAL POLICY IN MAINE

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FINDINGS & RECOMMENDATIONS

1. Introduction

During the Second Special Session of the 112th Maine Legislature, the Energy and Natural Resources Committee considered legislation establishing a moratorium on the importation and disposal of solid waste in Maine. The committee rejected this action after hearing testimony that such a moratorium posed serious constitutional problems. Instead, the committee decided to undertake a more comprehensive study of state solid waste policy. This legislation (P&SL 1985, c.137) directed the Energy and Natural Resources Committee to "conduct a study of the laws and regulations governing the disposal of solid waste in Maine." This report provides the general and specific findings and recommendations of this study and background information compiled during the study.

The committee examined the State's general solid waste policy as expressed in statute, regulation and departmental programs. The committee reviewed the current solid waste management system in order to understand the current capabilities, responsibilities and powers of each level of government and the private and public sectors. The committee focused on three major questions:

1. What are the basic objectives of Maine's solid waste management and disposal system?

2. Is the current division of responsibility for solid waste management and disposal appropriate to meet the state's objectives? If not, how should it be altered?

3. Are the financial and technical resources sufficient for the task? If not, what mechanisms can be employed to equitably increase the availability of these resources?

2. General Policy Findings and Recommendations

The committee finds that the primary objective of the solid waste management and disposal system is to minimize the volumes of waste produced so as to reduce the environmental and financial impacts of solid waste disposal on the citizens and businesses of the state. The committee recommends that the state observe a preference for options which reduce waste volumes or reuse solid wastes. The committee further recommends that the state actively encourage and support recycling efforts.

The committee also finds that disposal capacity is a resource vital to the economy of the state and to the well-being of the citizens of Maine. Sites suitable for disposal facilities are in limited supply in Maine due to the state's hydrogeology and its heavy reliance on ground water for drinking water. The rising costs of siting, constructing and operating a disposal facility to modern standards requires a considerable commitment of technical and financial resources. The committee recommends that the state establish a process to ensure that disposal capacity sufficient to meet Maine's needs is developed in an environmentally sound and cost-effective manner.

The committee further finds that a solid waste management and disposal system with a range of technical options offers the promise of reduced environmental risk and greater cost-efficiency in the long run. These options currently include the reduction of waste generation, recycling and reuse of waste, composting, incineration and landfilling. The committee finds that each of these approaches has an appropriate role in the overall system. The committee recommends that the state's solid waste management program encourage a wide range of management and disposal options.

The committee further finds that the traditional division of responsibilities for solid waste and the availability of technical and financial resources is not adequate to meet the state's needs. Furthermore, as local disposal options have become more limited, waste management has become a vital state interest. The committee recommends that, in general, the state take a more active role in promoting the management options outlined above. Equally important, the state should devote more technical and financial resources to the resolution of waste management problems including the clean-up and closure of landfills, the promotion of recycling and the development of adequate disposal capacity.

3. Specific Findings and Recommendations

The committee's specific findings and recommendations fall into four general areas:

1. The need for the state to clean-up (remediation) and close existing municipal and abandoned landfills in a timely manner, particularly those poorly-sited facilities which pose threats to ground water quality;

2. The role of the state in developing and supporting effective recycling and source reduction efforts throughout the state;

3. The disposal facility siting process with regard to environmental considerations, relationship to recycling efforts and objectives, the state's capacity needs, and

the mechanisms for obtaining effective public participation; and

4. The adequacy of the Department of Environmental Protection's statutory authority to effectively regulate solid waste management and disposal and miscellaneous provisions of solid waste law.

Cross references to the bill reported from committee (a new draft of LD 1499) have been added parenthetically. A copy of the final committee bill is attached as appendix A.

Landfill Remediation and Closure

While municipal solid waste disposal has traditionally been a local responsibility, it has become evident that the technical sophistication and financial commitment required to operate the town landfill have outstripped the capabilities of most municipalities. There are exceptions to this generalization but the broad trend is demonstrated by the rapid shift of literally hundreds of Maine towns to regional disposal facilities. This trend has left a legacy of over two hundred municipal landfills that will have to be closed in the next several years. Proper closure of these facilities is vital and can be expensive, even in the absence severe environmental problems.

Evidence presented to the committee demonstrates that approximately 25% of all active municipal landfills are located over sand and gravel aquifers; the primary sources of drinking water in many areas of the state. The ground water monitoring that has been done at these and other sites indicates that contamination has occurred at virtually all monitored sites.

The committee finds that, because of the hazards of widespread ground water contamination and the related threat to public health, there is a pressing need to close and, where necessary, clean-up a substantial number of municipal landfills throughout the state. In addition, it appears likely that some number, as yet undetermined, of abandoned landfills of both municipal and industrial ownership will require attention. Both the broad scope of the environmental risk and the costs of such a program require that the state provide the lion's share of the technical and financial resources needed.

On the basis of this finding the committee recommends the implementation of a comprehensive remediation and landfill closure program administered by the DEP in close cooperation with the municipalities (see Section 25, 38 MRSA §1310-C et seq of draft legislation). To ensure a consistent, methodical and efficient effort, the committee has proposed a three step process to 1) establish remediation and closure priorities on the basis of environmental hazard; 2) evaluate, at state expense, individual sites and develop R&C plans for each site; and 3) implement the plans with a substantial state cost-share (up to 90%).

The committee recommends that the first two steps, setting priorities and evaluating sites, be undertaken by the DEP in order to apply a consistent methodology across the state. The committee recommends that the bulk of this effort be accomplished by DEP through the use of contractors in order to minimize the needs for additional state personnel and to tap most directly the available technical expertise. Such expertise is likely to come from both in-state and national engineering consulting firms. The committee recommends that the third and final step be managed by the party or parties responsible for the site in question under DEP oversight. In most instances the party will be a municipality.

The committee recommends provisions for operational issues that have posed problems for similar programs in the past. These include:

1. Formal public input at key stages of the process through rule-making and, at individual sites, adjudicatory proceedings.

2. A clear time schedule for the ranking and evaluation components and a mechanism for scheduling the implementation of individual plans in light of available disposal alternatives and level of environmental risk.

3. Flexible, minimum requirements for the components of the evaluation effort at individual sites.

4. A protective but realistic environmental standard for clean-up efforts based on ground water quality.

5. Identification of parties responsible for remediation and closure plan implementation.

6. Authority for the DEP to implement remediation and closure plans where responsible parties have failed to meet established schedules. In the latter instance the DEP could sue to recover costs.

7. Clear authority for fast action on specific sites at any time where existing information allows implementation of effective remediation and closure efforts.

The committee finds that ground water and public health concerns posed by these municipal landfills are issues of state concern and are not simply the sole responsibility of a municipality. Ground water contamination moves across town boundaries and may affect citizens in the entire region surrounding a landfill. Furthermore, it is in the interests of the entire state to effect a rapid and safe closure of the many poorly sited landfills. Therefore, the committee recommends passage of a bond issue for $40,000,000 to fund this remediation and closure program. On the basis of initial calculations, the committee recommends that $10,000,000 be

allocated to the evaluation component administered directly by the DEP, $25,000,000 for cost share grants to municipalities for implementation of the remediation and closure plans and $5,000,000 be allocated for development and implementation of remediation and closure plans for abandoned landfills. Cost share implementation grants are available only for municipalities.

The committee further recommends that closure requirements administered by the DEP for all existing private landfills and new landfills of any ownership be consistent with the standards developed under the proposed remediation and closure program.

Recycling and Source Reduction

As the rising environmental and economic impacts of solid waste disposal become more apparent, the option of shrinking the waste stream through recycling or elimination of waste at the source becomes increasingly attractive. Maine's efforts have fallen in three areas. Most prominent is the beverage container deposit law or "Bottle Bill". Best estimates indicate that this program results in the recycling of approximately 5-6% of the municipal solid waste stream. While testimony received by the committee indicates that markets for this material can be uneven, it appears that virtually all of returned beverage containers are recycled into new products.

A second area of recycling effort has occurred in the industrial sector. Although the committee did not investigate this area in detail, it is apparent that rising environmental control costs and raw material costs have driven efforts to reclaim materials from industrial waste streams for reuse and to modify industrial processes to reduce waste generation.

The third area of recycling effort has occurred at the municipal level in the form of local recycling programs. These have traditionally been organized town-by-town (with one exception) and have relied heavily on voluntary labor and participation. While these efforts have taken root successfully in a few towns (notably Brunswick), most local programs appear to be severely hamstrung by lack of access to and fluctuation in recycling markets, low citizen participation rates, and a number of other factors. Testimony presented to the committee indicates that these problems have been effectively addressed and overcome by programs in some other states.

Recycling markets are currently serviced by a network of recycling brokers and end-users. Brokers, particularly scrap metal dealers, face problems as the environmental hazards of certain scrap materials become evident. Variation in the quality of recycled materials, including scrap metals and paper, reduces the value of the material and hinders recycling. The scarcity of instate, end-use markets for many recyclable materials also hinders their efforts.

The committee finds that waste recycling and source reduction holds considerable promise to reduce both the economic and environmental costs of solid waste management and disposal. The committee further finds that fulfilling this promise will require a coordinated state-level effort to overcome the barriers faced by the local programs and the limits of existing markets. State technical and financial assistance will be required. In certain instances, a direct state role may be warranted in developing recycling markets or in performing specific market functions where the private sector cannot currently act profitably.

Office of Waste Recycling and Reduction. The committee recommends that an Office of Waste Recycling and Source Reduction be established in the State Development Office to fill this role (see Section 25, 38 MRSA §1310-K et seq). Unfortunately, the current knowledge of recycling and source reduction options appropriate for Maine is inadequate. herefore, the committee recommends that the first job of the Office be to conduct an assessment and evaluation of the following elements:

1. The current level of public recycling efforts.

2. The current market structure of the recycling industry in the state and in those areas receiving recycled materials from the state.

3. The potential for recycling in various regions of the state including an analysis of the economic and institutional obstacles to increased recycling.

4. The categories of industrial waste which present opportunities for reuse.

5. Opportunities to reduce waste quantities by reducing generation at the source.

The committee further recommends that the Office then develop an action plan with the following program elements for submission to the Legislature:

1. A program of public education in support of the state recycling plan.

2. A market development strategy including methods of collecting and marketing of recyclable materials, an incentives program to encourage end-users of recyclable materials to locate or expand their operations within the state, a program for facilitating the marketing of recyclable materials, and the establishment of an industrial materials exchange to promote the reuse of industrial wastes.

3. A program of technical and financial assistance for municipalities, groups of municipalities and regional councils.

4. A program of recycling to reduce the generation of solid waste by state agencies.

5. A recommended waste reduction strategy for Maine.

The committee recommends that this effort be undertaken with the assistance of a Recycling Advisory Council to be composed of representatives from the recycling and waste generating industries, local and regional agencies, conservation groups and the general public.

The committee recommends that the Office carefully review recycling and source reduction programs undertaken in other states as part of its efforts. These states include Illinois, Michigan, New Hampshire, New York, New Jersey, Oregon, Rhode Island and Vermont.

Because of the urgency of the solid waste problem in Maine, the committee recommends that the Office submit an interim progress report to the Legislature in the spring of 1988 with recommendations for any pilot recycling projects or regional programs that could be funded and implemented quickly. Drawing on the experience of these efforts, the Office is directed to complete its state recycling plan and recommendations by January, 1989 and report to the Legislature on the actions needed for effective implementation of the State's recycling and source reduction program. The Legislature at that time will be able to formally adopt the plan and provide the necessary statutory authority.

Contract limitations affecting recycling. The committee finds that in the process of developing regional waste disposal facilities, a number of towns have entered into contracts with the facility operators which could have the effect of limiting or discouraging recycling efforts in some instances. Therefore the committee recommends enactment of three provisions to mitigate this situation. First, the committee recommends amending the municipal flow control statutes to make it clear that a municipality may, at its option, declare materials in its waste stream to be recyclable and thus not subject to flow control ordinances requiring delivery to a particular disposal facility (see Section 15).

Second, the committee recommends waste disposal contracts not limit the ability of any town to recycle portions of its waste stream so long as any contractual requirements are met for minimum waste quantities and, in the case of energy recovery facilities, minimum energy content (see Section 17).

Third, the committee recommends that waste disposal contracts not limit the ability of a municipality to meet its contractual obligations to supply certain minimum waste quantities with waste generated outside its borders (see Section 17). It is the committee's intent that this option be available only to facilitate the town's recycling efforts. It is the committee's intent that in such situations the municipality be responsible for all the consequences of the waste it uses to satisfy such a contract regardless of where the waste was generated.

The committee finds that, consistent with other areas of state regulation to protect the public health, safety and welfare, the solid waste industry has a long history of governmental regulation. Indeed, many of the waste disposal contracts reviewed by the committee include change of law provisions in anticipation of such changes. It is the committee's intent that the waste disposal contract provisions included in the committee's legislation be retroactive in their application in order to carry out the State's significant and legitimate interest in minimizing the quantities of solid waste generated in the state and the corresponding risk to public health and safety. The committee has carefully reviewed a variety of means to achieve this objective and has, in fact, recommended other, compatible measures which, taken together, form a comprehensive and rational approach to solid waste management. The committee finds that this approach minimizes unnecessary or burdensome requirements on the solid waste industry. In most cases, the actual operation of existing contracts will not be affected in terms of delivery of quantities of solid waste sufficient to operate the disposal facilities. Finally, it is the committee's intent that these provisions concerning waste disposal contracts be applied to all existing and future solid waste disposal contracts.

State Purchasing of Recycled Products. The committee finds that state purchasing of recycled products is desirable. Current law directs the Bureau of Purchasing to give a preference to recycled products meeting state needs. The committee recommends that the Bureau report to the Legislature on accomplishments in this area along with recommendations for improvements in the program or any changes needed in statutory authority (see Section 1). The committee further recommends that the Bureau coordinate its efforts with the Office of Waste Recycling and Reduction.

Facility Siting

The siting of solid waste disposal facilities in Maine has historically been driven by convenience. Growing awareness of the environmental and public health hazards posed by solid waste has stiffened environmental criteria in siting and operation. However, the legal framework which governs the state siting process (administered by the BEP) operates on a case-by-case basis and remains essentially reactive.

The committee finds that the shift from numerous municipal landfills to a few regional and in some cases statewide facilities as mentioned earlier has elevated the status of these siting decisions to a matter of statewide concern requiring an overall state policy for managing solid waste. The scarcity of sites suitable for these facilities reinforces this status.

In addition, the committee finds that the relatively small number of disposal facilities likely to be developed in the future means that each facility will take on much greater importance to the state than in the past. This will be true from economic, environmental and social perspectives. The future facility will be larger and more expensive than the old town dump. Potential environmental hazards will be more concentrated. Technical sophistication will have to increase substantially. Host municipalities are increasingly reluctant to shoulder the risks of such a facility. Yet the well-being of citizens and businesses throughout the state is directly tied to the existence of well-designed and sited disposal capacity sufficient to their needs. In spite of this, the state siting process does not yet reflect these changes or recognize the state's responsibilities for sound solid waste management.

In view of these findings, the committee suggests that the development and management of solid waste disposal capacity is a matter of paramount state importance and that the Board of Environmental Protection (BEP) siting process must be strengthened to reflect this importance. In addition to the strict environmental criteria currently employed, the committee recommends that five additional criteria and requirements be added to the siting decisions for disposal facilities including both landfills and energy recovery facilities (see Section 25, 38 MRSA §1310-N et seq).

Public benefit. The first criterion entails a BEP finding of public benefit through a demonstration that the proposed facility would be designed, located and operated so that it met, at a minimum, an appropriate share of the disposal requirements of the state as identified through a capacity needs analysis conducted and adopted by the BEP. The committee recommends that the BEP and future applicants be afforded substantial flexibility in working out the operational means of making this demonstration. It is, however, the committee's intent that the siting and development of solid waste disposal capacity in Maine be driven primarily by the needs of Maine's citizens and businesses. In this regard, it is the committee's intent that a disposal facility owned and operated by a Maine business for the disposal of waste it generates as a direct result of its operations in Maine is clearly providing a substantial public benefit. The committee finds that publicly-owned waste disposal facilities which provide waste disposal services exclusively to their member towns also provide a clear public benefit. A specific presumption of this benefit is included in the legislation.

It is the intent of the committee that, while estimating Maine's future capacity needs, the BEP avoid underestimating the need that may arise due to unforeseen circumstances. In this regard the committee encourages the BEP to make frequent use of its authority to update the capacity needs analysis to reflect changes in the state's economic base and growth patterns.

The committee is concerned over the monopolistic potential that appears to be latent in the commercial solid waste disposal industry, particularly within geographic regions. While capacity development should be primarily related to the needs of the state, the committee also intends that the capacity needs and siting process sustain a level of competition in the solid waste disposal industry sufficient to offset monopolistic tendencies and to assure that reasonably-priced disposal capacity are available for all areas of the state.

Recycling. The second new criterion recommended by the committee entails the explicit consideration of recycling in the siting process in three ways. First, this is expected to occur through the capacity needs analysis mentioned above as recycling tempers the actual need for new disposal capacity.

Second, the developer of a new or expanded disposal facility will have to ensure that, regardless of its source, waste accepted at the facility is subject to recycling and source reduction programs at least as effective as those imposed by Maine law. The only current recycling requirements are those imposed through the "Bottle Bill". It is the committee's intent that this requirement be performance-based. For example, waste imported from a state without a beverage container deposit law could be disposed of in Maine if the in-state facility operator developed an effective recycling component of its disposal facility for beverage containers covered by Maine law. After a transition period, this requirement would be applied to all existing solid waste disposal facilities.

Third, the applicant for development of new or expanded disposal capacity will be required to demonstrate consistency with the state recycling plan adopted by the Legislature. It is the intent of the committee that the over-development of future disposal capacity not be allowed to undermine the implementation of recycling and source reduction efforts. These efforts may reduce the disposal capacity needed and accomplish the ultimate aims of waste management in an economically and environmentally desirable manner.

It is the committee's intent that the meaning of the statutory language "reduced to the maximum practical extent" in 38 MRSA §1310-N, sub§1, ¶C is defined solely by the statutory language following in the same section, sub§5. Waste generated within the state meets the standard established in 38 MRSA

§1310-N, sub§5, ¶A by definition. It is further the committee's intent that any recycling standards used in facility siting under the authority of 38 MRSA §1310-N, sub§5, ¶B require review and approval by the Legislature (pursuant to 38 MRSA §1310-M, sub§3) prior to application.

Criminal and civil record. The third new criterion provides for consideration of the applicant's record of compliance with environmental and other relevant federal and state laws, including the laws of other states. This would give the BEP the authority to reject an application on the basis of the applicant's inability to provide reasonable assurance of compliance with Maine solid waste laws. It is the committee's intent that the BEP consider the record of any party with an legal interest in the proposed facility including individuals, general partners, limited partners, stockholders, holding companies and other corporate structures for controlling a waste disposal organization.

Escrow accounts. The fourth new element of the siting process is a requirement for operator-established escrow accounts to provide adequate funds for closure and long-term, post-closure care of disposal facilities. It is the committee's intent that this requirement be tailored by the BEP, through rulemaking, to meet the specific characteristics of different types of disposal facilities. For example, amounts accrued and the duration of the escrow account may be substantially less for an energy recovery facility than for a landfill.

Because municipalities can be held accountable for their facilities virtually indefinitely, municipally-owned facilities are exempt from the escrow requirements. It is not the committee's intent that this exemption imply any lesser standard of care in closure or post-closure maintenance of municipally-owned facilities.

Public participation. The fifth new element of the siting process is a new, coordinated model for public participation in the siting process with particular emphasis on the host community. The development and siting of adequate disposal capacity for the state will be impossible without a clear licensing procedure and the active participation and cooperation of the affected public. Thus, the committee recommends that the applicant notify the host municipality at the time of application and that the BEP conduct its public hearing on the application in the immediate vicinity of the proposed site.

The committee further recommends that the host municipality be automatically assigned the status of an intervenor in the state siting process and that the direct expenses of such intervention be supported by a grant or reimbursement of costs of up to $50,000. The applicant is assessed a corresponding fee to cover this cost. The unused portion of this assessment

will be returned to the applicant with interest. It is the committee's intent that, through such assistance, the municipality will become a key player in the technical aspects of the site review process at the state level. The costs of technical consultants, legal assistance and relevant analyses would all be eligible for such assistance. The committee recommends that the BEP adopt rules governing these grants including provisions for categories of expenses eligible for grant assistance and for accountability and management of the grant. It is the committee's intent that, if the municipality collects licensing or other fees from an applicant under separate local authority and uses this money to support intervention in the state siting process, that the assistance grant be reduced in direct proportion.

The committee recommends (one subcommittee member objecting: Rep. E. Murphy) that municipal regulation of the technical, environmental aspects of hydrogeolgical and engineering design criteria for solid waste disposal facilities be limited to standards no more stringent than those imposed by state law. The committee recommends that municipal control of all other aspects of a solid waste disposal facility remain as they currently exist under state statutes and the Home Rule provisions of the Maine constitution. This authority would still include all local land-use planning and subdivision control, health ordinances, traffic safety and other areas of traditional municipal control. Although it supports retention of municipal authority in these areas, the committee intends that exercise of this authority be founded on a rational basis and that it not be used to ban disposal facilities either explicitly or implicity.

Moratorium. The 112th Legislature imposed a moratorium on the development of new and expanded commercial landfill development for a period of approximately eleven months. The purpose of this action was to give the state time to review and update its solid waste management statutes and regulations.

It is the intent of the committee that the legislation accompanying this report and the regulations adopted by the BEP in the latter half of 1987 at the direction of P&SL 1987, c.28 apply to all pending commercial landfill applications and applications filed after the effective date of the act. The reference to "priority processing" of applications for energy recovery facility ash disposal sites applies only to the order of processing applications. The committee intends that the Board of Environmental Protection apply the same licensing standards to ash landfill applications as are applied to all other disposal facilities.

The legislation accompanying this report contains explicit transition provisions to govern the application of any new requirements. It is the intent of this committee that the licenses of solid waste facilities licensed prior to the

effective date of this Act continue to be valid for the term of the license. At that time, relicensing of the facilities is subject to the provisions of this legislation according to the transition provisions cited above.

Current DEP Statutory Authority

Throughout the study process, the committee's attention was drawn to numerous examples of inadequate statutory authority inhibiting the DEP's ability to effectively regulate the management and disposal of solid waste. Several of the major areas have been discussed in the preceding sections on remediation and closure of landfills, recycling and facility siting. Other examples, however, require attention. The committee finds that a sound, comprehensive framework of statutory authority is required to adequately protect the public health and welfare and recommends that the following provisions be enacted.

Disposal and licensing fees. A substantial quantity of solid waste is now imported to the state for disposal. The costs of ensuring sound management of these materials both on the road and at the disposal site are increased by the fact that the material is generated by sources outside the state's jurisdiction and is then moved into the state, frequently by third parties who may or may not be familiar with Maine's environmental requirements. The expense of enforcing Maine's requirements on those responsible for these materials is borne entirely through general tax revenues, a source to which the out-of-state generator makes no contribution. Therefore, the committee recommends that the DEP be given the authority to establish, by rule, a schedule of transporter license and disposal fees for all wastes transported or disposed of in Maine (see Sections 9 and 13). The committee further recommends that the department set the fee based on:

1. The level of potential environmental hazard posed by specific waste types, setting higher fees for higher risk materials; and

2. After evaluating the costs of enforcement, the degree to which enforcement costs are borne through state or local taxes, setting higher disposal fees on wastes generated by parties not paying Maine taxes. It is the committee's intent that any difference in the disposal fees for wastes of the same type (similar physical or chemical characteristics) be based solely on the costs of enforcing Maine environmental requirements.

Transportation and handling. While the DEP has clear authority to regulate the handling and transportation of legally-defined hazardous waste, its authority on the same elements of non-hazardous solid waste management is less clear. Therefore, the committee recommends that the DEP be given clear authority to regulate the transportation of all

solid wastes and the handling of all special wastes. The committee feels that this authority is vital in view of the increasing levels of interstate shipment of waste (see above and Section 6). It is the committee's intent that any costs of such regulation be recovered through a system of transporter licensing fees. The committee recommends that such fees be based on the factors discussed above. It is further the committee's intent that this authority include the authority to exempt clearly defined categories of waste generators and transporters from the disposal fees and the licensing and handling requirements and related fees.

Landspreading The committee finds that landspreading of certain solid wastes offers an attractive method of conserving scarce landfill capacity, reducing disposal costs and deriving some residual value from the waste material. Evidence presented to the committee indicates that these benefits are not being fully realized due to unnecessarily complex and time consuming review of individual landspreading sites. The committee conditions this finding and the following recommendation on the requirement that the benefits of landspreading not come at the expense of any reduction in the level of environmental and public health protection achieved under current regulation without further review by the Legislature.

The committee recommends that the BEP work with the regulated community and other interested parties to develop a regulatory scheme to reduce unnecessary delays in licensing of landspreading operations for wood-derived ash, paper mill sludges and sludges from municipal waste water treatment plants (see Section 12). It is the committee's intent that such a scheme entail thorough testing of the waste in question on a source-specific basis (e.g. a specific wood boiler or pulp digester). The department may license for landspreading a waste from a specific source when:

1. Test results are within environmentally acceptable limits;
2. The applicant commits to using landspreading sites with certain characteristics (soils, slope etc); and
3. The spreading itself is subject to performance standards governing spreading operation requirements (season of operation, storage, setbacks, etc) and further periodic testing (on a time or quantity basis).

Under these conditions, it is the intent of the committee that the BEP waive the requirement for prior review of individual spreading sites. It is further the intent of the committee that the waste generator notify the DEP and the municipality within which a spreading site is located prior to actual spreading operations.

Assistance to municipalities and small hazardous waste generators. The committee finds that there are a number of municipal solid wastes which pose difficult disposal problems beyond the resources of most municipalities. These include such items as white goods (refrigerators, stoves, etc.), used tires, demolition debris and household hazardous wastes (paint thinners, drain cleaners, etc.). While some towns are moving toward regional solutions with the technical assistance provided by regional councils, the committee finds additional state technical and financial assistance would speed development and implementation of these efforts and would extend the benefits of such programs to other municipalities in need. Therefore, the committee recommends that the DEP develop a program of technical and financial assistance to municipalities on this subject (see Section 12).

Regulatory revision. During the study, the DEP expressed its intention to undertake certain revisions to the solid waste rules under its existing authority as a partial measure addressing the concerns raised by the study. These changes included:

1. More specific categorization of and requirements for special wastes including asbestos, inert fill and incinerator ash;

2. Some revision of the siting, design, construction and operation of solid waste landfills;

3. The establishment of financial guarantees for closure and post-closure care; and

4. Other revisions necessary to prepare for the recommencement of disposal facility licensing.

The committee supports the intended revisions subject to the the normal rule-making requirements of the Maine Administrative Procedures Act.

At least three applications for commercial landfill facilities will require action after the moratorium imposed by PL 1985, c.822 expires in September, 1987. Because it is essential that the proposed revisions be accomplished prior to the lifting of the landfill moratorium, the committee recommends the emergency appropriation of $25,000 to accomplish these rule revisions in a timely manner.

Statutory structure. The committee finds that the current organization of the solid and hazardous waste statutes is confusing and hinders clear interpretation of legislative intent. Therefore, the committee recommends that these statutes be reorganized to consolidate into five subchapters the provisions affecting all wastes generally, solid wastes specifically and hazardous and oily wastes specifically. It is the committee's intent that, with the exception of designating

"red-bag waste" as hazardous, there be no substantive change in the provisions of Maine law concerning hazardous and oily waste (see Sections 7, 8, 10, 13, 18 through 21, 23, 24, and 28). A number of cross references in existing law have been corrected to reflect these structural changes (see Sections 3, 11, 26, 27, 29 and 30).

STUDY PROCESS

Solid waste disposal became an issue in 1986 in large part because of the unprecedented number of applications for new secure, commercial landfills and expansions of existing, commercial landfills. The concentration of applications in southern Maine fueled the argument that Maine was constructing capacity for New England's special waste problems. There was concern that waste generators were exporting waste to Maine to avoid their states more stringent disposal requirements. The increasing need for remediation and closure of existing municipal sites, questions regarding compliance with environmental requirements and the increasing costs of solid waste disposal also contributed to the perception that a comprehensive overview of solid waste handling and disposal policies was warranted. The Legislature responded to these concerns by directing the Energy and Natural Resources Committee to investigate the state's solid waste management system (P&SL 1985, c.137).

Later, in the third special session of the 112th Legislature, a moratorium on processing applications for new commercial landfills and substantial expansion of existing commercial landfills was enacted (PL 1985, c.822) in response to the number and concentration of disposal facility applications. This action focused more public attention on the solid waste study.

The Energy and Natural Resources Committee set up a subcommittee composed of five of its members. The subcommittee was subsequently expanded by the Legislative Council to include three legislators from the Audit and Program Review Committee.

The subcommittee, after holding a public meeting to identify issues for the study, directed an ad-hoc working group of interested parties to explore the issues and develop legislative proposals for consideration by the subcommittee. Through the last half of 1986, a group of interested parties (see Table 1) met eight times to discuss solid waste issues and recommendations. A substantial number of other parties have followed the progress of the group; attending meetings or receiving materials by mail. The subcommittee received periodic briefings and summaries of the working group's progress.

As conceived by the subcommittee, the working group process was conducted with an emphasis on openness and full participation by all interested parties. Participants invested a great deal of effort; writing, reviewing and discussing literally dozens of proposals. The group identified some areas of general agreement and other areas of disagreement. In both cases, the process of review and discussion increased the quality and sophistication of the proposals and established good working relationships between the interested parties.

Table 1: List of Active Participants

Waste Disposers

Kuhr Technologies, Inc.
Regional Waste Systems
Sawyer Environmental Recovery Facilities
Signal Environmental
Waste Disposal Inc.

Environmental Groups

Citizens Opposed to Polluting the Environment (COPE)
Conservation Law Foundation
Lebanon Citizens Landfill Alliance (LCLA)
Maine Audubon Society
Maine People's Alliance
Merrymeeting Green Party
Natural Resources Council of Maine
Sacopee People Opposing Industrial Landfills (SPOIL)

State or Regional Agencies

Department of Environmental Protection
Greater Portland Council of Governments
Land and Water Resources Council

Others

League of Women Voters
Maine Chamber of Commerce and Industry
Maine Municipal Association
Paper Industry and Information Office

The subcommittee, working with the recommendations of this group, drafted legislation in a series of work sessions during the first three months of 1987. Several other members of the full Energy and Natural Resources Committee also participated in these deliberations.

The subcommittee's staff compiled and analyzed data on waste generation, facility compliance, projected waste flows and changes in disposal technology. Staff prepared an overview of New England's special waste disposal policies to examine the forces behind waste importation. Staff conducted a survey of the history and overview of Maine's recycling markets and the variables that affects the market. Committee staff also analyzed several legal issues regarding interstate commerce and impairment of contracts. In addition, committee staff prepared a number of technical appendices that are attached to this report. Extensive study files are available in the Office of Policy and Legal Analysis.

SOLID WASTE IN MAINE

Roles and Responsibilities for Solid Waste Management

The regulation of solid waste management is primarily a state and local responsibility. The direct responsibility for waste lies with the generator, in most cases either a municipal government or a private business. Table 2 outlines the roles and responsibilities for Maine's solid waste. This section briefly outlines the responsibilities of federal, state and municipal agencies and industrial generators.

Federal legislation and role in state program

The federal role in solid waste management in Maine is quite limited. Comprehensive federal solid waste legislation first passed in 1965 (Solid Waste Disposal Act PL89-272) and was substantially revised in 1976 (Resource Conservation and Recovery Act PL94-580). RCRA, as this legislation has come to be called, is best known for its provisions regarding hazardous waste. In fact, most federal activity, carried out by the U.S. Environmental Protection Agency (EPA), concentrates on hazardous wastes.

RCRA, however, does provide one fundamental underpinning to Maine's efforts in the form of a prohibition on "open dumps" with replacement by sanitary landfills. Rules promulgated by the EPA pursuant to RCRA define sanitary landfills in terms of minimum operating and performance criteria along with guidelines for other aspects of solid waste planning and management (40 CFR 240-257). The federal Clean Air and Water Acts are included by reference. These requirements along with siting guidelines have been largely incorporated into Maine's regulations. Despite the existence of federal regulations, the EPA program has received little funding since 1981. Enforcement of the ban on open dumps has occurred via either state action or citizen suits. There is little federal involvement in state regulation of solid waste. The prohibition of open burning dumps, with which EPA has been involved, was the most visible enforcement issue in Maine.

As originally envisioned, the mandate of the solid waste provisions of RCRA was to have been implemented via state management plans. These plans required approval by the EPA as a condition of federal solid waste grants. The surge of interest generated by hazardous waste problems, however, diverted attention and funding away from the more conventional problems of the town dump. As a result, EPA's solid waste program languished, Maine's solid waste management plan of 1980 was never finally approved or implemented and federal funding disappeared in 1981. Federal interest in Maine's solid waste program since that time appears to be limited to the increasingly narrow issue posed by the remaining small open burning dumps. As far as can be determined, little or no federal funding is available today even with an approved plan.

Table 2

Roles and Responsibilities in Maine's Solid Waste Management and Disposal System

Actor/Role	DISPOSAL	FUNDING	PLANNING	SITING	MONITOR/ENFORCE	CLOSURE	LIABILITY	TECH. ASSIST.
FEDERAL								
EPA	-	Ceased in 1981	Has guidelines; approves state plan	General prohibition on siting or operating "open dumps". Provides criteria defining "open dumps" & guidelines for operation.			None	-
STATE								
Legislature	Establishes responsibility for disposal	Appropriates funds for regulatory system	Provides authority for public SW districts	Establish Site Law criteria	Establish performance criteria & penalties	Establish general requirements	None	Has provided limited funding in the past
DEP/BEP	Fitzpatrick dec. links general development w/ SW disposal. Directs special waste to specific landfill	Nothing beyond staff time; 3 prog in past: O&M, waste to energy planning grants, recycling	1970 & '80 plans completed but outdated. No current planning activity Law in org. terr.	Review & regulate siting proposals on a case-by-case basis under Site	Monitoring w/ field inspectors & self-reporting; Civil penalties; Enforcement priority list	Requires closure plans w/ bonding or closure escrow funds	None	Limited - had $40K TA grants available 1982-84
L&WRC	-	-	Ground water committee reviewed DEP regs and made recommendations re: special wastes, landfill closures over sand & gravel aquifers, waste oil debris and TA				None	-
REGIONAL								
Regional Planning Commissions	-	-	Planning capability available to towns	Able to comment on siting in DEP proc. (rarely used)	-	-	None	Staff provides TA to towns
County	Responsible for SWM&D in unorg. territory	Pays for services in unorg. terr. via property tax	Responsible for planning in unorg. territory	Functions as local govt. for siting in unorg. terr.	-	Responsible in unorg. terr.	Yes	-
Public Solid Waste Districts	Responsible for SWM&D in member towns	Arrange & guarantee financing; estab. fee schedules	Plan to meet needs of service area	Propose sites subject to local & DEP review	Required to monitor SW entering facility	Responsible for plan and funds in their district	Yes	Receives TA; may provide to member towns
LOCAL								
City/Town	Responsible for SWM&D for town	Pay for services via property tax & some fees (Waterville has tipping fee)	Plan to meet needs of town; may not be long term	Responsible for siting public facilities subject to DEP review, comp. plan, local ord. &	Required to monitor SW entering facility	Responsible for plan and funding	Yes	Receive TA
Commercial Waste Disp. Companies	Provide SWM&D services for municipal & indus. users; in & out of state	Responsible for const. & O/M costs Sets fees. Eligibility for IRBs & loan guarantees currently unclear	Project-related business planning	Propose sites subject to local & DEP review	Required to test special & OOS waste; GW monitoring may be req.	Responsible for closure; town may req. closure fund	Yes	-
Citizen & Conservation Groups	Volunteer recycling	-	-	May intervene in DEP & local siting	May bring citizen suit under Federal law (RCRA)	Monitor compliance	None	-
Industrial Plants	Responsible for disposal of own waste	Fund const. & O/M of own sites	Business planning	Propose sites to local & DEP review	Subject to DEP license conditions	Responsible for closure; town may req. closure fund	Yes	-
Recycling Companies	Marketing of recycled waste	set fees	Business planning	Meet state junkyard law	-	-	Yes	May provide TA

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Following the RCRA amendments of 1984, the EPA has initiated a review of state solid waste regulations to determine whether the regulations and the EPA criteria for Subtitle D (40 CFR Part 257) are sufficient to protect human health and the environment. States are required to have rules as stringent as the current RCRA guidelines by November, 1987. EPA is in the process of developing further rule revisions (proposed rules due by July 1987, final rules due by March, 1988) to deal specifically with municipal landfills and address groundwater monitoring, daily cover requirements, liquids restriction, corrective actions and other environmental requirements. In addition, EPA will revise its criteria applying to landfills receiving household hazardous waste or small quantity generators' hazardous waste. State compliance with EPA's final revisions will be required within 18 months of federal rule adoption. The 1984 RCRA amendments give EPA authority to enforce the criteria if the states fail to do so.

Recent history of State legislation and program

Statutory provisions. The statutory framework for solid waste management in Maine is contained in several different statutes administered by the DEP. The Hazardous Waste, Septage and Solid Waste Management Act (SWMA) (38 MRSA §1301 et seq) and the Site Location of Development Act (38 MRSA §481 et seq) are the principal statutes providing the DEP with the authority to regulate the location and operation of solid waste facilities. Virtually all of DEP solid waste regulations have been adopted under the authority of the SWMA which provides very broad powers to regulate solid waste disposal. This Act also provides for interlocal arrangements; solid waste "flow control" local ordinances; definition of terms; and other aspects. The Act is not specific as to preferred management options nor does it provide DEP with clear legislative intent (via statutory criteria) for planning and enforcement.

The SWMA provides a specific cross-reference to the Site Location Act. The Site Law governs the siting of new waste facilities and gives particular attention to the protection of groundwater. The Legislature has demonstrated its intent in the preamble to this Act stating:

> "The groundwater in these formations (sand and gravel aquifers) is particularly susceptible to injury from pollutants....It is the intent of the Legislature, that activities that discharge or may discharge pollutants to groundwater may not be located on these formations." (38 MRSA §481)

Additional statutory authority specific to solid waste facility siting and operation is contained in:

1. the "300 foot" law (38 MRSA §421), which controls the proximity of waste facilities to surface water;

2. the "open burning" law (38 MRSA §599) which controls the use of burning dumps;

3. a provision of Maine water quality law (38 MRSA §417) which prohibits the placement, disposal or discharge of "any scrap metal, junk, paper, garbage, septic tank sludge, rubbish, old automobiles or similar refuse" in such a manner as creates direct or indirect discharge to the surface waters of the state; and

4. the air quality laws (38 MRSA §581 et seq) which regulate the emissions of energy recovery facilities.

It is important to note that dumps in operation prior to October 3, 1973 are exempt from the "location, development and construction" standards administered by the DEP (38 MRSA §1308). These facilities must still be licensed and are subject to the operation requirements administered by the department.

Interestingly, given the origin of this study, Maine law does provide a prohibition on the disposal in Maine of "waste matter originating outside the state" (17 MRSA §2253). An exemption is provided for the import of material to be used in energy recovery systems. Similar provisions in other states have been found in conflict with the commerce clause of the U.S. Constitution. The Maine statute has apparently never been enforced.

The Board of Environmental Protection considers the compliance status and capacity of local solid waste facilities when reviewing development proposals, such as subdivisions, under the Site Law (38 MRSA §481 et seq). A Maine Superior Court (Fitzpatrick v. BEP, CV 81-562) found that the Board should deny development approval when the host community's landfill is full or does not comply with Board rules. In practice, developers in these situations have chosen to contract with commercial landfills to provide the Board with assurances that disposal capacity is available.

The general penalty provisions of DEP statutes (38 MRSA § 349) apply to all violations of the Title 38 provisions. These penalties may be criminal or civil with fines ranging up to $25,000 for each day of violation and imprisonment up to 6 months. DEP's chosen enforcement mechanism, however, has been through the use of consent agreements with schedules for compliance.

Solid waste management program. Solid waste management planning commenced in Maine in 1966 under the Department of Health and Welfare. A statewide plan was produced in 1970 and approved by the EPA. Legislation prepared in conjunction with the plan was not approved by the Legislature until 1973. The new law (PL 1973, c.387) required any person establishing, constructing, altering or operating a waste facility to have a permit from the Maine Department of Environmental Protection. Facilities in existence prior to October 1973, were exempted from the siting requirements of the law. All waste facilities

were to abide by the operating criteria adopted by the DEP as well as the requirements of Maine's general air and water quality laws.

Early enforcement efforts proceeded largely under the water quality and 300' laws. Towns not in compliance were issued BEP orders for remedial action with compliance schedules timed to coincide with the July 1975, effective date of state regulations on operating requirements and a prohibition on open burning. The open burning deadlines have been deferred several times with a number of Maine towns today having until 1989 under state law to stop burning. A review of the solid waste program prepared for the Audit & Program Review Committee in 1984 provides a good summary of the steps taken by the DEP which define the program today.

> "With scant resources, the DEP staff faced the problems (in the early '70s) of 454 dumps scattered throughout the state and the apathy and hostility of municipal officials unwilling or financially unable to change longstanding local attitudes and disposal practices. Administratively, the staff used the 'shotgun approach' attempting to enforce the law equally on all facilities....Politically, the outcry was loud and harsh."
>
> "...the DEP was losing credibility and legitimacy in the eyes of the people of Maine. Aware of the reality of limited resources to deal with the problem...the staff decided to focus on the largest and worst dumps first..."
>
> "By 1980, the enforcement staff had evaluated and prioritized all the State's dumps....The resulting 'enforcement priority list' was used as an informal management tool to focus staff resources over the ensuing five years."

The priority list focuses on siting and management problems with more weight given to siting problems. The list was updated in 1985 and still serves as a tool to prioritize departmental action.

The state regulations were substantially revised in 1983 to bring together new developments in federal regulation, board policies and other scattered elements of Maine law. The state program today is largely focussed on enforcement generally guided by the priority list. Solid waste activities are shared by staff within the Land Bureau. Technical assistance is provided to municipalities although DEP capabilities in this area have been severely constrained by declining federal dollars. The program continues to operate without the framework of a comprehensive plan to guide state government's role in solving Maine's solid waste problems.

Technical and financial assistance has been available to municipalities in several forms over the years. Prior to 1982, assistance was limited to technical assistance provided directly by DEP staff.

From 1982 to 1985, twenty grants, totaling more than $690,000 were awarded to 13 regions to assist in the development of several energy recovery (waste-to-energy) projects. In the same period, thirty seven grants, totaling $310,000 were awarded to help establish 19 new recycling programs and to help 18 existing programs to expand or improve their operation. Funds for these efforts were derived from a $1,000,000 bond issue in 1981.

In 1981, a trial operating subsidy program ($500,000) was initiated by the Legislature and administered by DEP. Experience with the program was not good. Problems commonly cited include the focus on operating rather than capital costs; inadequate funding; and an inflexible grants process leading to numerous and contentious appeals. The program was not extended.

From 1982 to 1984, approximately thirty towns received a total of $40,000 in technical and engineering assistance to solve a wide range of solid waste problems. This effort was part of the "white hats program" initiated by the DEP and the Legislature to improve DEP services and credibility.

Municipal Role in Solid Waste Management

Municipalities are responsible both operationally and financially for the management and disposal of municipal solid waste generated within their borders (38 MRSA §1305). They traditionally have sited and operated their own facilities. However, the complexity of environmental and operational requirements has made it more cost-effective for many municipalities to seek regional solutions for their waste disposal. A number have formed regional waste compacts or districts. In some cases, these groups have contracted with private vendors for transportation and disposal services as in the case of the Maine and Penobscot Energy Recovery Companies. Other groups have sought to develop their own regional facilities. The Regional Waste Services in the greater Portland area is an example of this effort. The private sector role in municipal solid waste disposal has been increasing both as noted above and through providing space in commercial landfills.

Municipalities also have a role in siting and regulating commercial landfills or energy recovery facilities through their Home Rule Authority (30 MRSA §1917), specific municipal ordinance authority (30 MRSA §2151 and 38 MRSA §1304-B) and through authority exercised through comprehensive planning and zoning (30 MRSA §4961 et seq). A municipality directly affected by a proposed facility may also request intervenor status in the state siting process before BEP to raise issues and cross-examine the applicant.

Industrial Generators

Industrial waste generators are responsible for managing and disposing of their own wastes. Their options include disposing of the waste at their own facilities or contracting with a commercial facility. The majority of industrial waste generators handle their own wastes. There are 29 special waste landfills in the state most of which handle industrial waste (see Table 3). Some industrial waste generators are developing landspreading applications as an alternative to landfills. Papermill sludges, wood boiler ash and waste water treatment plant sludges are currently being landspread subject to state regulation.

Much of the industrial waste handled in Maine is classified by the DEP as "special" thus subjecting it to tighter regulatory requirements designed for specific types of waste.

Types of Waste

This study deals specifically with municipal solid wastes and special wastes. Hazardous wastes were excluded from consideration.

Municipal solid waste (MSW)

As part of the committee's study, staff developed a database on MSW generation and disposal in Maine. The database incorporates the best available information on MSW in Maine during 1986. Using some additional assumptions, the model projects generation and disposal trends for 1990 and 1994. The MSW generation estimates have been compared with the limited data available from specific facilities. These estimates provide a reasonably accurate picture of solid waste flows when viewed at the statewide level. A summary of assumptions is included in appendix E.

Generation. In 1986, Maine citizens generated over three quarters of a million tons of MSW. By 1994, the quantity is projected to increase by approximately 4.5% to a little over 800,000 tons annually if current population trends continue and no new recycling efforts are implemented. Table 4 shows MSW generation figures by county and for the state. Eighty percent of this total comes from the population centers west of the Penobscot and south of the Bangor area. This also is where the licensed energy recover facilities (ERFs) are located.

In the absence of source reduction and recycling, MSW generation is expected to increase both as Maine's population grows and as personal lifestyles change. Per capita generation has been rising and is expected to continue increasing. These figures include only increases in MSW due to population growth.

MSW is composed of a very wide range of materials including some which cause serious disposal problems and an increasing fraction which pose serious health and environmental

Table 3

Special Waste Landfills in Maine

Owner/Operator	Landfill Type
Anson-Madison Sewer District	Landfill-Sludge
Auburn	Secure Landfill-Ash
Auburn Landfill Co.	Landfill-Asbestos
Augusta Sanitary District	Landfill-Sludge
Bath Iron Works	Landfill-Asbestos
Boise-Cascade	Landfill-Sludge
Central Maine Disposal/Scott Paper	Landfill-Ash
Champion Paper Co.	Secure Landfill-Ash
Champion Paper Co.	Landfill-Bark
Consolidated Waste Services	Landfill-Asbestos
Consolidated Waste Services	Secure Landfill-Special Wastes
East Millinocket	Landfill-Ash
Fraser Paper Ltd.	Secure Landfill-Sludge
Georgia-Pacific Co.	Secure Landfill-Mill Wastes
Great Northern Paper Co.	Secure Landfill-Sludge/Solid Waste
Harpswell	Ash Landfill
Hartland	Landfill-Sludge
International Paper Co.	Secure Landfill-Sludge
James River Co.	Landfill-Sludge/Mill Wastes
Marcal Paper	Landfill-Sludge
Northern Aroostook Regional Incineration Facility	Secure Landfill-Ash
Paris Utilities District	Landfill-Sludge
Sanford Utilities District	Secure Landfill-Sludge
Sawyer Environmental Recovery Facility	Secure Landfill-Special Wastes
Scott Paper Co.	Secure Landfill-Sludge
S.D. Warren Co.	Secure Landfill-Sludge
Statler Tissue	Landfill-Sludge
U.S. Air Force	Secure Landfill-Ash
U.S. Air Force	Landfill-Asbestos

hazards. Tires, white goods, demolition debris and other wastes have traditionally been included in the general category of MSW. For various reasons, municipal landfills and the regional facilities that are replacing them are increasingly unable to handle these wastes in a sound manner. A number of towns in southern Maine have initiated efforts to develop a regional solution to this specific disposal problem.

A variety of consumer products with hazardous constituents also end up in MSW. Paint thinners, cosmetics, cleansers, batteries, pesticides and medical supplies are all examples of these wastes. There is growing concern over the safety problems these materials pose to solid waste workers and the threats these materials present to ground and drinking water quality in the areas adjacent to landfills. In some instances, these materials may also create air emission problems for ERFs.

Table 4

ESTIMATED MUNICIPAL SOLID WASTE GENERATION BY COUNTY
(tons per year)

County	1986	%	1990	%	1994	%
Androscoggin	78,816	10	80,962	10	79,528	10
Cumberland	189,274	25	195,673	24	197,757	25
Kennebec	79,531	10	81,726	10	82,019	10
Knox	18,711	2	19,416	2	19,382	2
Lincoln	12,995	2	13,986	2	14,496	2
Penobscot	88,807	12	91,020	11	90,168	11
Sagadahoc	19,108	2	20,025	2	20,125	3
Waldo	13,327	2	13,946	2	13,909	2
York	113,987	15	124,537	16	131,154	16
SUBTOTAL	614,556	80	641,290	80	648,539	81
Aroostook	48,755	6	49,680	6	47,140	6
Franklin	15,867	2	16,572	2	16,592	2
Hancock	20,384	3	21,767	3	21,581	3
Oxford	24,767	3	25,167	3	24,773	3
Piscataquis	7,663	1	8,478	1	8,406	1
Somerset	24,472	3	25,483	3	25,480	3
Washington	12,705	2	12,734	2	11,554	1
SUBTOTAL	154,614	20	159,880	20	155,525	19
TOTALS	769,170	100	801,171	100	804,064	100

Disposal. Landfilling is the disposal method for the overwhelming majority of Maine's solid waste (see Figure 1). In 1986, over 85% of the MSW was deposited in a commercial or municipal landfill. There are over 240 landfills used by municipalities in Maine. About 6% of Maine's MSW was processed at an ERF before final landfill disposal. Three additional energy recovery facilities have been licensed for operation within the state and are expected to be online before 1990. These facilities have contracted with Maine communities to dispose of an estimated 60% of the municipal solid waste generated in Maine by 1990 (see Figures 2 and 3). As a result of these facilities, many municipal landfills are expected to close. A fraction of the ERF's waste stream ranging from 10 to 25% will still be landfilled either as ash or rejected material.

Roughly 9% of Maine's MSW was disposed of in a variety of other facilities including small incinerators and exports to New Hampshire. Approximately 38,000 tons of MSW are annually exported out-of-state, predominantly to the Portsmouth Incinerator and Turnkey Landfill in New Hampshire. In 1986, approximately 80,100 tons were imported into the State, primarily from Massachusetts. The 1986 imports of MSW were disposed of at the two commercial landfills in the state.

Compliance Status. Figure 4 illustrates the current compliance status of Maine's landfills with respect to water quality requirements. The majority of the existing facilities have some known or suspected water quality problem. Approximately 25% of all active municipal landfills are located over sand and gravel aquifers.

As the ERFs go on line, 43 municipal landfills and open burning dumps will close in addition to the number already closed in anticipation of ERF operation. However, the proportion of the remaining landfills in compliance with water quality regulation will not improve as a result.

The cost of closing a landfill is high. At a minimum, these sites must be "capped" with a layer of impermeable soil to control infiltration of precipitation and subsequent leaching of pollutants into ground water. A ground water monitoring system must be employed at virtually all sites. Other steps may also be required including leachate collection and treatment, gas control and, in some cases, remediation of existing environmental contamination. Figures provided by the Greater Portland Council of Governments (GPCOG) provide an estimated range of closure costs from $27,000 to $49,000 per acre depending on site size and other site specific variables (see appendix G).

FIGURE 1

TYPES OF DISPOSAL FACILITIES USED: 1986

Baseline--Percent of MSW

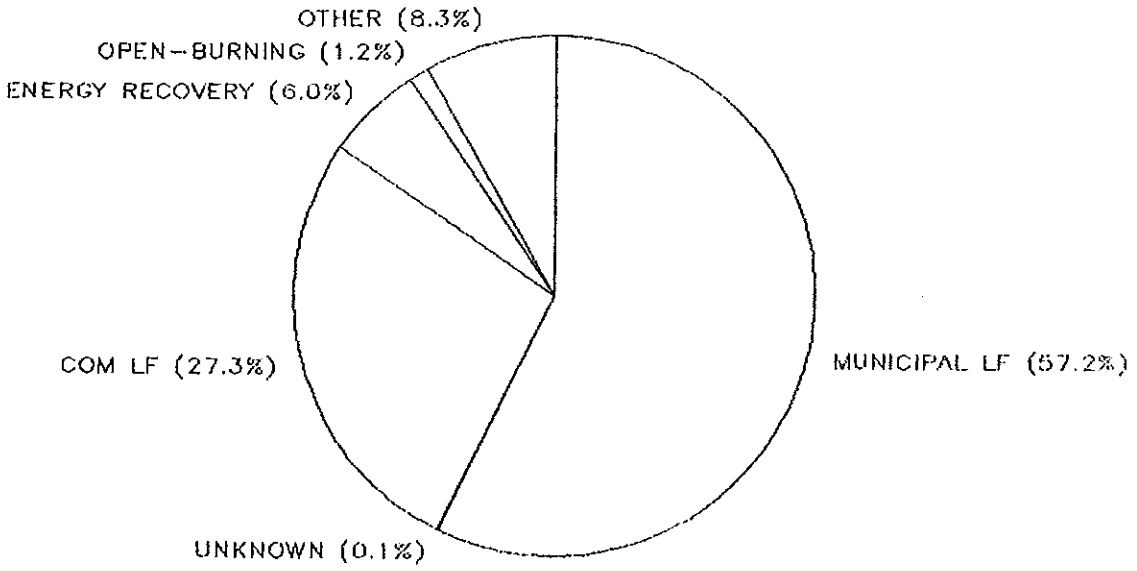


FIGURE 2

PROJECTED DISPOSAL FACILITIES: 1990

Baseline--Percent of MSW

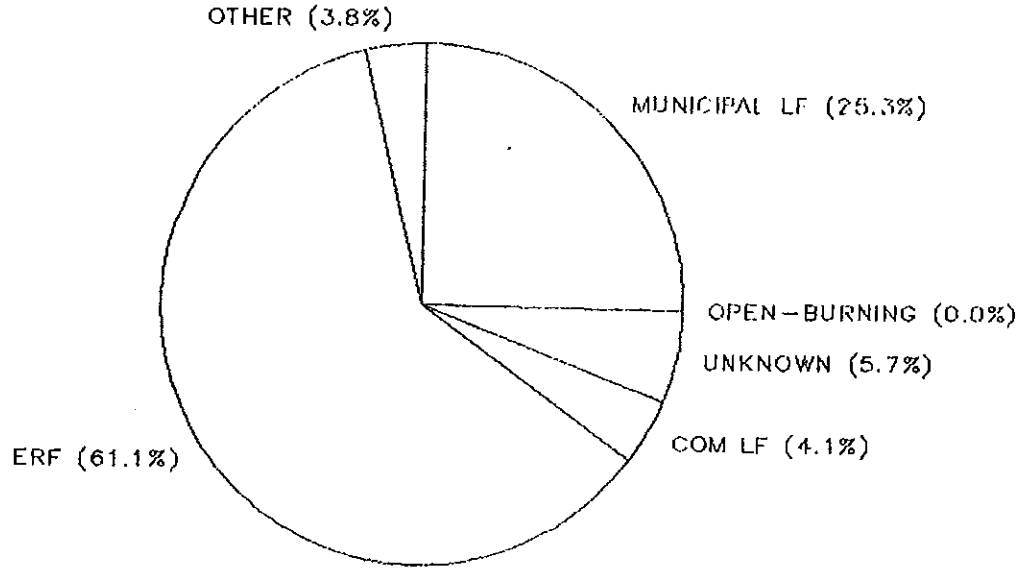


FIGURE 3

PROJECTED DISPOSAL FACILITIES: 1994

Baseline---Percent of MSW

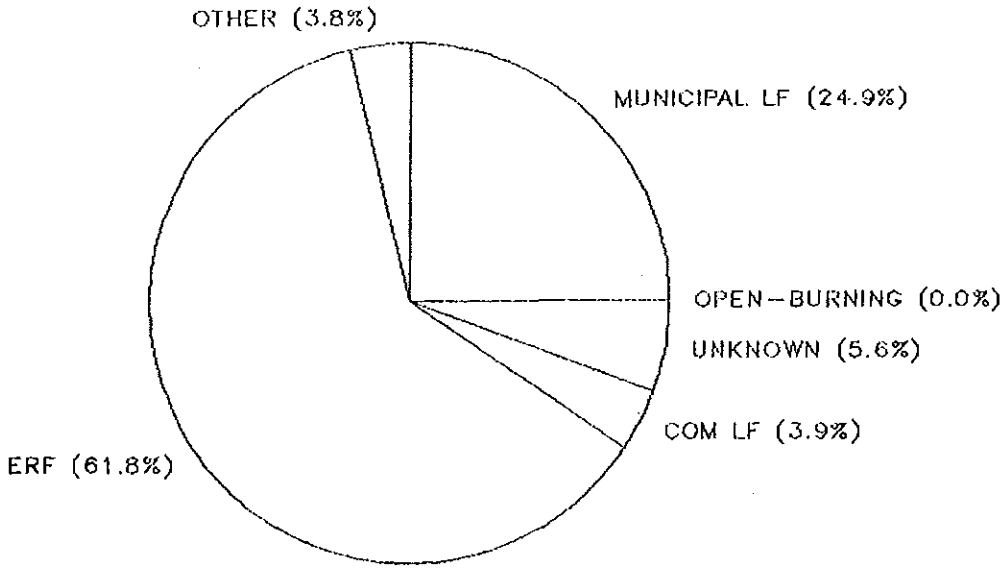
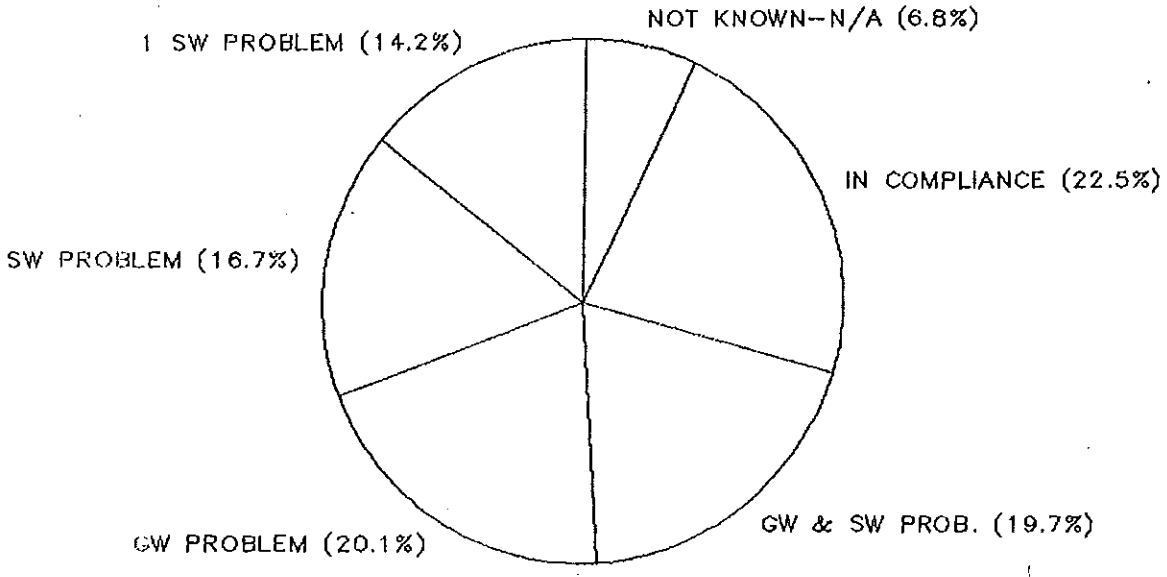


FIGURE 4

COMPLIANCE STATUS OF MSW FACILITIES

FOR WATER POLLUTION REGULATIONS: 1986



3. There are no landfills in New Hampshire currently licensed by the State to accept asbestos.

4. Asbestos disposal is allowed in Connecticut under requirements similar to Maine, however, municipal landfills are under no obligation to take asbestos from out of town. One private landfill within the state will accept asbestos but at very high tipping fees.

5. Maine's commercial landfills are licensed to accept asbestos. They have space, are perceived to be well-managed with low liability risks, and there is a transportation and hauling network established to deliver the wastes. The tipping fees are between $20 and $30 per cu. yd.

Oily debris. Regulation and management of this material varies throughout the New England states. Over 22,500 cu. yds. of oily debris were imported and disposed of in Maine in 1986. It originated in Rhode Island, Massachusetts, Vermont and New Hampshire. The reasons for these imports can be summarized as follows:

1. Massachusetts and Vermont classify oily debris as a hazardous waste and require that it be tracked through the transport and disposal process. The disposal options for oily debris disposal from these states are to export it to Maine or New York. New York commercial landfills reportedly will not accept a manifested waste. Some oily debris from Massachusetts and Vermont is recycled and Vermont uses some non-soaked wastes as landfill cover.

2. Rhode Island in effect bans oily debris disposal in state by requiring it to be disposed in a lined landfill. Again, there are no lined landfills in the state.

3. New Hampshire allows oily debris to be disposed in municipal landfills but it must be approved by the local selectmen. The town is under no obligation to accept oily debris from out of town. The two commercial landfills in the state do not accept oily debris.

4. Maine's commercial landfills and some municipal and industrial landfills are permitted to accept oily debris. It must be mixed or "bulked" with other wastes. Out-of-state wastes are disposed of at the two commercial landfills. Oily debris from out-of-state must be tested for hazardous constituents before it is disposed in the commercial facilities.

Sludge and Ash. The standards and criteria requiring testing of sludges and ashes are fairly consistent through the New England states, although how these wastes are managed

varies between states. Massachusetts and New Hampshire export coal and oil ash to Maine. Coal ash and oil ash are not considered special wastes in Massachusetts and do not require special approval from Local Boards of Health. Maine landfills consequently get very little ash from Massachusetts. Neither of the two commercial landfills in New Hampshire currently accepts coal ash.

Other Special Waste Provisions. In Massachusetts, the Local Board of Health must approve other wastes designated as "special" by the Massachusetts DEQE before the waste is deposited in either a municipal or commercial landfill. DEQE also may place additional constraints on disposal.

New Hampshire landfills are allowed to accept some special wastes as specified in their permit. The selectmen of a town have control over which wastes they will allow into the town's landfill. There is no obligation to take wastes from out of town. There are two private landfills in New Hampshire which do not accept other than typical municipal and commercial wastes.

are four energy recovery facilities licensed for Maine (Auburn, MERC, RWS and PERC), sited in areas where the population density is relatively high and thus the waste stream is sufficient to support the plant.

Two basic technologies are in use; mass-burn and resource-derived fuel (RDF). A mass-burn facility burns the entire municipal waste stream eliminating only the largest, unwieldy pieces of refuse (e.g. white goods). The ash is generally landfilled. With RDF on the other hand, the waste is processed prior to burning to remove glass and metal which in turn may be recycled or landfilled. The remaining material is shredded to a uniform size and burned. The ash is landfilled.

The ash and "bypass" materials from these processes may represent a substantial fraction of the original waste by weight (10-25%) although a relatively small fraction on a volume basis.

There has been concern over air emissions from energy recovery facilities. These emissions include both "criteria" pollutants regulated by the EPA (TSP, CO, SO_2, NO_x) as well as heavy metals, dioxin and other materials. Several of these latter materials are not regulated by the EPA although the DEP has considered limitations on a case-by-case basis. The level of health and environmental risk from these emissions is disputed. The ash also has generated concern because of the high concentrations of heavy metals or toxics.

Composting

Composting of MSW uses bacterial decomposition to reduce waste volume and the content of pathogens. Successful composting usually requires removing glass and metal from the waste stream and shredding the remaining material. After composting, the waste can be either landspread or landfilled depending on its chemical content. Although composting is in widespread use in Europe, it has not been successfully tested in Maine at the municipal scale. There have been pilot projects in other states.

Landspreading

Landspreading of waste on agricultural or forest land as a soil additive has been done in Maine with paper mill and waste water treatment plant sludges. Wood ash is also being landspread. Landspreading is a cost-effective alternative to landfilling in many cases. The practice in Maine has been widespread.

The environmental effects of landspreading depend on the chemical make-up of the material and how the landspreading site is managed. DEP now requires extensive testing of landspread materials because of concern over dioxin and related chemicals. Sludges with very low levels of dioxin

contamination (less than 27 parts per trillion) can be spread on most agricultural land. Spreading of sludge with limited contamination (27 - 250 ppt) is restricted to areas not used for forage or food crops. Sludges with higher dioxin levels must be landfilled. Material to be landspread must meet also standards for heavy metal contamination.

Incineration

This approach simply burns waste in a contained system with no energy recovery. In some systems, glass and metal are removed prior to burning. The ash is landfilled. This system achieves large reductions in the volume of waste. The environmental concerns are similar to those for ERFs. Maine has three small incineration facilities currently operating.

Landfills

Landfills bury the waste and are the most prevalent disposal method currently in use in Maine. There are three basic types: the open burning dump, the sanitary landfill and the secure landfill (see earlier discussion of federal and state programs). Open burning dumps still exist in Maine in violation of federal law. Over 9000 tons of MSW are annually deposited in over 63 open-burning dumps. This method of disposal will no longer be allowed under state law after 1989.

Sanitary landfills, the most commonly used disposal method, rely primarily on proper siting and management to avoid environmental problems. There are no engineered barriers or liners to prevent leaching into the water table. State law restricts the types of waste placed in a sanitary landfill and requires that wastes are covered daily with a layer of soil or fill.

The secure landfill also requires proper siting and management but is typically constructed with impermeable layers of plastic or clay and installed with leachate collection and treatment systems. Secure landfills are used for most special, industrial wastes.

It is expected that landfills will continue to play a major role in Maine's disposal strategy for wastes which cannot be disposed of in any other way.

The environmental effects of a landfill depend on how it is sited and managed, the character of the waste stream and the landfill design. Many older landfills in Maine have been sited over sand and gravel aquifers or close to surface water. These are frequently suspected of posing threats to ground water. Improperly controlled surface runoff has also contaminated surface waters at some sites. Specific concerns have been raised over the impact of materials inappropriately disposed of in MSW landfills including household hazardous wastes (paint thinners, drain cleaners and many other items).

MAINE LEGISLATURE

APPENDICES
for the
STUDY OF
SOLID WASTE MANAGEMENT AND
DISPOSAL POLICY IN MAINE

STATE OF MAINE
113TH LEGISLATURE
FIRST REGULAR SESSION

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DISPOSAL POLICY IN MAINE

June 18, 1987

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A. Proposed Legislation

LEGISLATIVE HISTORY

The Joint Standing Committee on Energy and Natural Resources introduced L.D. 1499, An Act to Ensure Safe Management, Recycling and Disposal of Solid Waste and to Reorganize the Solid Waste Law, for consideration by the Legislature on May 11, 1987 after approximately one year of study (see Study Process, page 19). The bill was referred back to committee for public hearing. Following public hearing and several weeks of work sessions, the committee gave the bill a unanimous "ought-to-pass in new draft" report. The new draft, L.D.1862, embodied the committee's findings and recommendations which are laid out in this document (see pages 1 - 18). A copy of the new draft is attached as appendix A.

L.D. 1862 was accepted, given its first and second readings, and engrossed without debate by the House on June 16, 1987. The bill was accepted by the Senate on June 16, 1987. On the same day, at the time of the bill's second reading, there was an attempt to attach an amendment to prohibit the import of waste from states which, by law, prohibit the disposal of Maine waste within their jurisdiction. Floor debate centered on the unconstitutionality of such a provision under the commerce clause of the U.S. Constitution. The Senate Chairman of the committee noted that the committee had considered similar proposals during the study and had rejected them because of the unacceptable and impermissible burden on interstate commerce. The amendment was defeated by a vote of 17 to 11.

A technical amendment was attached to the bill in the Senate on June 17, 1987 in order to conform the budgetary sections of the bill with the supplemental state budget bill passed on the same day. The bill was subsequently engrossed without further amendment in the Senate.

On June 18, 1987, L.D. 1862 was enacted by the House and Senate. During final enactment, the committee chairs commented generally on the study effort and referred to the committee's report for evidence of the intent of the legislation.

(EMERGENCY)
(New Draft of H.P. 1107, L.D. 1499)
PROOF FIRST REGULAR SESSION PROOF

ONE HUNDRED AND THIRTEENTH LEGISLATURE

Legislative Document No.

H.P. House of Representatives,

EDWIN H. PERT, Clerk

STATE OF MAINE

IN THE YEAR OF OUR LORD
NINETEEN HUNDRED AND EIGHTY-SEVEN

AN ACT to Ensure Safe Management, Recycling and Disposal of Solid Waste and to Reorganize the Solid Waste Law.

Emergency preamble. Whereas, Acts of the Legislature do not become effective until 90 days after adjournment unless enacted as emergencies; and

Whereas, the proper management and disposal of solid waste is imperative to safeguard the public health and welfare and the environment; and

Whereas, large numbers of municipal landfills must be properly cleaned up and closed in a timely and effective manner to protect ground water quality; and

Whereas, local financial and technical resources necessary to accomplish this objective are not available and state assistance is required; and

Whereas, adequate waste disposal capacity is essential to the economic well-being of the citizens of the State; and

Whereas, sites suitable for environmentally sound waste disposal are in limited supply and must be conserved for maximum public benefit; and

Whereas, recycling and source reduction are effective means of reducing the solid waste stream and thus conserving limited waste disposal capacity; and

Whereas, a comprehensive and coordinated, statewide recycling and source reduction strategy is urgently needed to achieve the maximum benefit of these techniques; and

Whereas, a comprehensive waste management and disposal facility siting procedure is also necessary to conserve limited waste disposal capacity, to ensure the availability of adequate disposal capacity and the protection of the State's natural resources; and

Whereas, in the judgment of the Legislature, these facts create an emergency within the meaning of the Constitution of Maine and require the following legislation as immediately necessary for the preservation of the public peace, health and safety; now, therefore,

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 5 MRSA §1812-A is enacted to read:

§1812-A. Report on purchase of recycled products

The State Purchasing Agent shall report on or before January 1, 1988, to the joint standing committee of the Legislature having jurisdiction over natural resources and to the same committee of the First Reg-

ular Session of each subsequent Legislature on or before January 1st on the State's efforts to purchase supplies and materials composed in whole or in part of recycled materials pursuant to section 1812. The State Purchasing Agent shall also report on any procurement policies, incentives, educational programs, promotional efforts or other activities undertaken by the Bureau of Purchases to encourage the purchase of those supplies and materials. The State Purchasing Agent shall include in the report any recommendations to increase or facilitate the purchase of those supplies and materials.

Sec. 2. 5 MRSA §12004, sub-§8, ¶A, sub-¶(8-A) is enacted to read:

(8-A)	Environment /Natural Resources	Recycling Advisory Council	Legislative Per Diem	38 MRSA §1310-L

Sec. 3. 38 MRSA §349, sub-§1, as amended by PL 1985, c. 162, §2, is further amended to read:

1. Criminal penalties. Any person who violates any provisions of the laws administered by the department or the terms or conditions of any order, rule, license, permit, approval or decision of the board is guilty of a Class E crime and may be punished accordingly, except notwithstanding Title 17-A, section 1301, subsection 1, paragraph C, or subsection 3, paragraph E, the fine for such a violation shall not exceed $25,000 for each day of the violation.

This subsection does not apply to actions subject to the criminal penalties set forth in section ~~1306-A~~ 1319-T.

Sec. 4. 38 MRSA c. 13, first 4 lines, as amended, are repealed and the following enacted in its place:

CHAPTER 13

WASTE MANAGEMENT

SUBCHAPTER I

GENERAL PROVISIONS

Sec. 5. 38 MRSA §1302, as amended by PL 1983, c. 342, §1, is repealed and the following enacted in its place:

§1302. Declaration of policy

The Legislature declares it to be the policy of the State, consistent with its duty to protect the health, safety and welfare of its citizens, enhance and maintain the quality of the environment, conserve natural resources and prevent water, air and land pollution, that it shall encourage hazardous waste, septage and solid waste programs, public and private, which will reduce the volume of hazardous waste, septage and solid waste generation, increase the level of recycling of all waste, improve efforts to reuse and recover valuable resources currently being wasted and which will not adversely affect the public health, safety and welfare nor degrade the environment.

The Legislature also finds and declares that economic, efficient and environmentally sound methods of waste recycling and disposal are of the highest priority. Municipalities and other persons are generating increasing amounts of hazardous waste, septage and solid waste with no systematic or consistent methods being used to reduce the volume, recycle or soundly dispose of waste.

The Legislature finds that environmentally suitable sites for waste disposal are in limited supply and represent a critical natural resource. At the same time, new technologies and industrial developments are making the recycling and reuse of waste an increasingly viable and economically attractive option, which carries minimal risk to the State and the environment and an option which allows the conservation of the State's limited safe disposal capacity. In addition, the Legislature finds that it is in the best interests of the State to maintain a broad diversity of waste reduction, waste recycling, reuse and disposal methods and that options with lower health and environmental risk should not be foreclosed by the State's commitment to any single option.

The Legislature further finds that failure to analyze and plan properly for future hazardous waste, septage and solid waste disposal and recycling needs may reduce the options open to the State and may further deplete already taxed natural resources and aggravate environmental and public health problems resulting from current inadequate practices of resource recovery and conservation, recycling, waste storage and management, transportation, treatment and disposal.

The Legislature declares that a program to rigorously analyze and plan for the hazardous waste, septage and solid waste disposal requirements of the State is necessary to protect the public health, safety and welfare of the State.

The Legislature further finds that substantial quantities of waste oil are contaminated by hazardous waste and that waste oil, if not properly handled, is a threat to the public health, safety and welfare and to the environment and, therefore, must be controlled.

The Legislature finally declares that the provisions of this chapter shall be construed liberally to address the findings and to accomplish the policies established in this section.

Sec. 6. 38 MRSA §1303, sub-§10-B is enacted to read:

10-B. Special waste. "Special waste" means any nonhazardous waste generated by sources other than domestic and typical commercial establishments that exists in such an unusual quantity or in such a chemical or physical state, or any combination thereof, which may disrupt or impair effective waste management or threaten the public health, human safety or the environment and requires special handling, transportation and disposal procedures. Special waste includes, but is not limited to:

A. Oil, coal, wood and multifuel boiler and incinerator ash;

B. Industrial and industrial process waste;

C. Waste water treatment plant sludge, paper mill sludge and other sludge waste;

D. Debris and residuals from nonhazardous chemical spills and cleanup of those spills;

E. Contaminated soils and dredge spoils;

F. Asbestos and asbestos-containing waste;

G. Sand blast grit and nonliquid paint waste;

H. Medical and other potentially infectious or pathogenic waste;

I. High and low pH waste;

J. Spent filter media and residue; and

K. Other waste designated by the board, by rule.

Sec. 7. 38 MRSA §1303-A, as amended by PL 1985, c. 506, Pt. A, §81, is repealed.

Sec. 8. 38 MRSA §1303-B, as enacted by PL 1983, c. 342, §4, is repealed.

Sec. 9. 38 MRSA §1304, sub-§§1-A and 1-B are enacted to read:

1-A. Rules; transportation. The board shall adopt rules relating to the transportation of solid waste, including, without limitation:

A. Licensing categories of transporters of solid waste, conveyances used for the transportation of solid waste and the operators of these conveyances as the board finds necessary to effect sound waste management;

B. Establishment of transporter licensing and conveyance registration fees which, considering the criteria of subsection 14, paragraphs A to C, are sufficient to recover all costs of administering, monitoring compliance with and enforcing the provisions of this subsection and which fees shall be paid to the Maine Environmental Protection Fund;

C. A manifest system for categories of solid waste which shall provide a means to account for solid waste handled, transported and disposed of in the State; and

D. Evidence of financial capacity of transporters to protect public health, safety and welfare and the environment, including, without limitation:

(1) Liability insurance;

(2) Performance bonding; and

(3) Financial ability to comply with statutory and regulatory requirements or conditions.

1-B. Handling of special waste. The board may adopt rules relating to the handling of special waste, including, without limitation:

A. Containerization and labeling of special waste;

B. Reporting on handling of special waste;

C. Waste which is not compatible; and

D. A marking system, by categories of waste, to clearly identify vehicles transporting solid waste.

Sec. 10. 38 MRSA §1304, sub-§8, as amended by PL 1985, c. 822, §4, is repealed.

Sec. 11. 38 MRSA §1304, sub-§10, as reallocated by PL 1981, c. 698, §191, is amended to read:

10. Legislative review. Rules adopted by the board under this section and section ~~1303-A~~ 1319-O, subsection 1 which impose standards or requirements more stringent than final regulations of the United States Environmental Protection Agency shall be submitted to the legislative committee having jurisdiction over energy and natural resources for review. Any rules adopted by the board under this section

shall be submitted to the legislative committee having jurisdiction over energy and natural resources for review pursuant to Title 5, section 8053-A.

Sec. 12. 38 MRSA §1304, sub-§§13, 14 and 15 are enacted to read:

13. Innovative disposal and utilization. Recognizing that environmentally suitable sites for waste disposal are in limited supply and represent a critical natural resource, the commissioner may investigate and implement with the approval of the board innovative programs for managing, utilizing and disposing of solid waste. Innovative programs may include agricultural and forest land spreading of wood-derived ash, paper mill sludges and municipal waste water treatment plant sludges. The board shall review proposed innovative programs for each waste category and shall apply all controls necessary to ensure the protection of the environment and public health consistent with this chapter. The board may adopt application review procedures designed to review individual applications and their individual waste sources with prior approval of classes of disposal or utilization sites. The board shall adopt provisions for municipal notification prior to use of individual utilization sites.

14. Disposal fees. To support the licensing, monitoring and enforcement activities of the department under this chapter, the board shall establish by rule a schedule of reasonable disposal fees on the disposal of solid waste. Fees received under this subsection shall be deposited in the Maine Environmental Protection Fund. The board may establish solid waste categories with different disposal fees. In adopting the fee schedule, the board shall consider the following criteria:

A. The level of environmental hazard posed by the waste;

B. The costs of administering, monitoring and enforcing compliance with the provisions of this chapter; and

C. The degree to which the general or other special revenues of the State or the State's municipalities are currently employed to manage and dispose of the waste or administer, monitor compliance with and enforce the provisions of this chapter with regard to a particular solid waste category.

15. Special services program. The department shall formulate a program to assist municipalities in the management and disposal of municipal solid waste for which environmentally sound and economically acceptable disposal options do not currently exist, including, without limitation, discarded tires, white goods and demolition debris.

The plan shall be completed and submitted to the joint standing committee of the Legislature having jurisdiction over natural resources by January 1, 1989, and shall include:

A. A survey and assessment of current management and disposal practices for discarded tires, white goods, demolition and woody debris and any other portions of the municipal solid waste stream the department deems relevant; and

B. A proposal for a financial and technical assistance program directed to municipalities with a preference for the development of regional disposal solutions for the waste investigated pursuant to paragraph A.

Sec. 13. 38 MRSA §1304-A, as amended by PL 1985, c. 481, Pt. A, §97, is reallocated to 38 MRSA §1319-Q.

Sec. 14. 38 MRSA §1304-B, sub-§2, ¶¶A and B, as enacted by PL 1983, c. 380, §1, are amended to read:

A. Requiring segregation of waste; ~~and~~

B. Requiring delivery of waste generated within the municipality, or any portion of those waste, to a designated disposal or reclamation facility~~.~~; and

Sec. 15. 38 MRSA §1304-B, sub-§2, ¶C is enacted to read:

C. Designating certain materials as recyclable and exempt from the provisions of paragraph B.

Sec. 16. 38 MRSA §1304-B, sub-§3, as amended by PL 1983, c. 743, §16, is further amended to read:

3. Ordinances. This chapter shall not be construed as limiting the authority of any municipality to enact ordinances for the regulation of solid waste or septage disposal, provided that these ordinances are not less stringent than or inconsistent with section 1310-U or other provisions of this chapter or the ~~regulations~~ rules adopted under this chapter.

Sec. 17. 38 MRSA §1304-B, sub-§4-A is enacted to read:

4-A. Contract limitations. Any contract, including any contract in existence on the effective date of this subsection, for the provision of waste disposal, transportation or handling services to municipalities is subject to the following limitations.

A. No contract for waste disposal, transportation or handling services may prevent a municipality from recycling any portion of its solid waste, provided that any minimum BTU content level and minimum tonnage level required by that contract is maintained by the municipality.

B. No contract for waste disposal, transportation or handling services may prevent a municipality from meeting its obligations to supply a minimum BTU content level and minimum tonnage level required by that contract using solid waste generated outside its borders, provided that:

(1) The municipality is or will be unable, as the direct result of recycling or source reduction efforts, to meet the obligations using solid waste generated within its jurisdiction; and

(2) The municipality is liable for any damages caused by any solid waste it relies upon to satisfy the provisions of its contract.

C. For those waste disposal, transportation or handling services contracts which do not principally rely upon requiring minimum BTU content level or minimum tonnage level to secure solid waste for the waste disposal facility, but which instead rely upon a requirement that the municipality provide all or most of its solid waste to the waste disposal facility, no such contract may prohibit a municipality during the term of the contract from recycling those materials which the municipality determines to be recyclable.

Sec. 18. 38 MRSA §1305-A, as amended by PL 1985, c. 737, Pt. A, §113, is repealed.

Sec. 19. 38 MRSA §1306-A, as amended by PL 1981, c. 430, §§13 to 16, is repealed.

Sec. 20. 38 MRSA §1306-C, as amended by PL 1985, c. 785, Pt. A, §113, is reallocated to 38 MRSA §1319-U.

Sec. 21. 38 MRSA §1308-A, as amended by PL 1983, c. 432, §8, is reallocated to 38 MRSA §1319-S.

Sec. 22. 38 MRSA §1309, as enacted by PL 1979, c. 383, §11, is amended to read:

§1309. Interstate cooperation

The Legislature encourages cooperative activities by the department with other states for the improved management of hazardous and solid waste; for improved, and so far as is practicable, uniform state laws relating to the management of hazardous and solid waste; and compacts between this and other states for the improved management of hazardous and solid waste.

Sec. 23. 38 MRSA §1310-A, as reallocated by PL 1979, c. 663, §238, is reallocated to 38 MRSA §1319-P.

Sec. 24. 38 MRSA §1310-B, sub-§1, as amended by PL 1981, c. 470, Pt. A, §172, is further amended to read:

1. Public records. Except as provided in subsections 2 and 3, information obtained by the department under this ~~subchapter~~ chapter shall be a public record as provided by Title 1, chapter 13, subchapter I.

Sec. 25. 38 MRSA c. 13, sub-c. I-A is enacted to read:

SUBCHAPTER I-A

SOLID WASTE

ARTICLE I

REMEDIATION AND CLOSURE

§1310-C. Program established

There is established within the Department of Environmental Protection a remediation and closure program for solid waste landfills.

1. Objectives. The program shall have the following objectives:

A. To accomplish the prompt closure of solid waste landfills which, through inappropriate siting, inadequate design and construction or improper operation, pose an actual or potential hazard to the environment and public health; and

B. To accomplish remedial activities to eliminate the existing hazards posed by those landfills.

2. Open and closed or abandoned landfills. The department shall organize the program into 2 components to address the problems created by:

A. Open-municipal solid waste landfills; and

B. Abandoned or improperly or inadequately closed, municipal or privately-owned solid waste landfills.

3. New facilities. The department shall ensure that the siting, design, operating and closure requirements imposed on new solid waste disposal facilities pursuant to this chapter and chapter 3, article 6, site location of development, are consistent with the provisions of this article.

4. Definitions. As used in this article, unless the context indicates otherwise, the following terms have the following meanings.

A. "Abandoned" means not handling solid waste on or after the effective date of this article when the cessation of handling operations has not been approved by the department.

B. "Closed" means not handling solid waste on or after the effective date of this article when the cessation of handling operations has occurred in accordance with the provisions of a permanent closure plan approved by the department.

C. "Municipal solid waste landfill" means a solid waste landfill owned by a municipality or group of municipalities.

D. "Open" means handling solid waste on or after the effective date of this article.

E. "Solid waste landfill" means a waste facility for the permanent disposal of solid waste on or in land. This term does not include land spreading sites used in programs approved by the department.

5. Coordination with uncontrolled sites program. Nothing in this article shall be construed to limit the authority of the department under any other provisions of law administered by the department. At any time prior to or following the evaluations conducted pursuant to section 1310-D, subsection 2, the department may proceed under chapter 13-B to properly close any landfill or mitigate any threats posed by

the landfill to public health, safety or the environment.

§1310-D. Closure and remediation of open-municipal landfills

To accomplish the objectives of this article with regard to open-municipal solid waste landfills, the department shall undertake the following activities.

1. Initial ranking. On or before January 1, 1988, the board shall adopt by rule an initial ranking of all open-municipal solid waste landfills on the basis of the hazard each poses to the environment and public health. The ranking process shall be subject to the following provisions.

A. In assessing the hazard to public health, the department shall consult with the Bureau of Health and may consider epidemiological data and risk assessment information the bureau has developed.

B. In assessing the hazard to the environment, the department shall employ all existing hydrogeological and other scientific information, including, without limitation, geological information developed by the Maine Geological Survey and studies previously conducted by municipalities.

C. The department shall revise the ranking as necessary to reflect new information developed during the course of the program.

D. The ranking shall be adopted by rule, according to the provisions of Title 5, chapter 375, subchapter II.

2. Evaluation. In the order of the priorities established in the initial ranking and the objectives of paragraphs A to D, the department shall conduct and complete by January 1, 1993, environmental evaluations of each open-municipal solid waste landfill. The department may employ private consultants to avoid additions to departmental staff and to accomplish the evaluations in a timely manner. The de-

partment may utilize existing analyses of facilities, subject to the provisions of this subsection. When the department has sufficient knowledge of existing hazards to the environment and public health posed by a specific site, it may take measures necessary to effect proper remediation and closure of the landfill, notwithstanding the site's listed priority. In those cases, the department shall ensure that the requirements of this subsection are substantially met. The department shall design each evaluation to achieve the following objectives:

A. To identify the actual hazards, if any, to the environment and public health posed by the landfill and to determine the closure and remediation requirements of the landfill;

B. To establish a ground water monitoring system, including monitoring wells and test borings sufficient to assure identification and monitoring of potential hazards;

C. When hazards are identified, to provide:

(1) A complete description of the movement of surface and ground waters on or near the landfill;

(2) An identification of pollutants in those waters;

(3) An evaluation of the scope, direction and rate of movement of the contamination plume, if any; and

(4) Any other information that the department deems necessary to prepare the closure or remediation recommendations pursuant to this subchapter;

D. To provide a recommended closure plan for the landfill and, when necessary, a recommended plan for the remediation of any hazards identified by the evaluation. Closure and remediation recommendations shall ensure a level or standard of control of pollutants in surface waters at least as stringent as the water quality criteria estab-

lished under chapter 3, subchapter I, article 4-A. Those recommendations shall also seek to achieve a level or standard of control of pollutants in ground water at least as stringent as the water quality criteria established under under sections 465-C and 470, unless the board finds that meeting those standards is technically and economically infeasible and that other measures can be implemented to ensure protection of public health and safety; and

E. To consult with and involve the affected municipality or municipalities in the conduct of the evaluation and the analysis of its results.

3. Plan adoption. The board may adopt the recommendations of the landfill evaluations subject to the following provisions.

A. Within 90 days of the receipt of a landfill evaluation, together with the recommendations for closure and, if any, remediation actions, the commissioner shall issue a proposed plan for closure and remediation. Subject to the provisions of sections 1310-F and 1310-G, a timetable for implementation and all pertinent cost-sharing shall be included as part of the proposed plan. The board shall subsequently adopt the plan subject to the provisions of Title 5, chapter 375, subchapter IV.

B. Any person who is aggrieved by the board's action may appeal the adoption of the formal plan as provided in Title 5, chapter 375, subchapter IV.

4. Implementation. The municipality owning the landfill is the party responsible for the implementation of the plan adopted by the board.

§1310-E. Closure and remediation of closed or abandoned solid waste landfills

To accomplish the objectives of this article with regard to closed or abandoned solid waste landfills in both public and private ownership, the department shall undertake the following activities.

1. Initial ranking. On or before January 1, 1989, the board shall adopt, by rule, an initial ranking of closed or abandoned solid waste landfills on the basis of the hazard each poses to the environment and public health. The ranking process shall be subject to the following provisions.

A. In assessing the hazard to public health, the department shall consult with the Bureau of Health and may consider epidemiological data and risk assessment information the bureau has developed.

B. In assessing the hazard to the environment, the department shall employ all existing scientific information, including, without limitation, geological information developed by the Maine Geological Survey and studies previously conducted by municipalities.

C. The department shall revise the ranking as necessary to reflect new information developed during the course of the program.

D. Any person may request the department to include a closed or abandoned solid waste landfill site in its subsequent evaluations.

E. The department shall report on the ranking developed pursuant to this section , together with the department's recommendations for remediation and closure efforts and related costs necessary to protect the public health and the environment, to the joint standing committee of the Legisalture having jurisdiction over natural resources. The department shall submit the report on or before January 1, 1989.

§1310-F. Cost sharing.

The department shall administer a closure and remediation grants program to assist municipalities in the implementation of the closure and remediation plans. The program is subject to the following provisions.

1. Cost-share fraction. Subject to the availability of funds, the department shall issue grants to eligible municipalities for 75% of the costs of closure and for 90% of the costs of remediation.

2. Eligibility. Any municipality owning a solid waste landfill for which a remediation or closure plan has been adopted is eligible for grants. A municipality, which has acted to close its solid waste landfill or to remedy environmental and public health hazards posed by the landfill prior to the award of a grant under this section, but after January 1, 1983, is also eligible for reimbursement of past and future costs consistent with the plan adopted under this subchapter. The board may apportion available funds in an equitable manner between municipalities eligible for grants under this subsection and those eligible for reimbursement of closure and remediation costs under this subsection.

§1310-G. Time schedules for closure of existing facilities

The board shall establish, as part of the proposed closure and remediation plan, reasonable time schedules for the implementation of the plan.

1. Criteria. In establishing the time schedule, the board shall consider the following criteria:

A. The level of environmental and public health hazard posed by the landfill in its current state;

B. The availability of reasonable, alternative disposal options available to the municipality following closure of the existing landfill; and

C. The period reasonably needed by the municipality to raise its share of plan costs.

2. Violation of schedule. A party responsible for closure or remediation under this article is not in violation of a time schedule, established under this section, if the party is eligible for a cost-sharing grant under section 1310-F and that grant is not currently available from the department, unless

the board finds that the level of environmental hazard poses an immediate hazard to public health. When making a grant subsequent to such a delay, the department shall revise the time schedule to reflect the delay as long as there is no immediate hazard to public health and the environment.

§1310-H. Supervision and enforcement of schedules

The department shall monitor implementation of closure and remediation plans. In addition to any other remedy available to it by law, if the board determines, after opportunity for public hearing, that any party responsible for the implementation of a plan has failed substantially to meet the established time schedule or has failed to execute the provisions of the plan, the board may:

1. Departmental implementation. Authorize the department or its agents to enter onto the site and complete the remaining provisions of the plan; and

2. Cost recovery. Initiate proceedings to recover any costs incurred by the department in implementing a plan from the party or parties responsible for implementation of the plan and, in the case of a municipal landfill, to recover from the municipality the full amount of any grants and loans made to it under this article in connection with closure and remediation of the landfill.

§1310-I. Report to the Legislature

The department shall report annually to the joint standing committee of the Legislative having jurisdiction over natural resources on the progress of the closure and remediation program. The department shall report on:

1. Environmental risks. The specific environmental and public health hazards, by landfill;

2. Priority ranking. The ranking of open, abandoned and closed landfills;

3. Costs. The estimated costs of implementation, together with any anticipated shortfalls in the cost-sharing portion of the program; and

4. Progress. Overall progress toward the objectives of the program, including, when appropriate, the status of the initial ranking efforts, completion of landfill evaluations, closure and remediation of landfills, any enforcement actions taken in connection with this program and any legislative recommendations the department deems necessary.

ARTICLE 2

RECYCLING AND SOURCE REDUCTION

§1310-J. Program established; goals

The Office of Waste Recycling and Reduction, referred to as "the office," is established in the State Development Office to develop a plan to encourage recycling of waste materials and the reduction of waste volumes generated within the State to the maximum extent possible in order to conserve the natural resources of the State, reduce the detrimental environmental effects of waste disposal, to safeguard the public health and welfare, reduce the disposal costs incurred by municipalities and waste generators and to reduce the amount of waste requiring incineration and landfilling.

§1310-K. State recycling plan

The office shall complete, on or before January 1, 1989, a plan, in consultation with the Recycling Advisory Council, municipalities, regional councils and the private sector, to identify and encourage recycling opportunities throughout the State. The office shall revise the plan or components of the plan as necessary, but in no case less than once every 5 years.

1. Assessment elements. The plan shall include investigation and assessment of the following elements:

A. The current level of public recycling efforts, including the quantities and categories of waste currently recycled;

B. The current market structure of the recycling industry in the State and in those areas receiving recycled materials from the State. This element shall include identification of the existing private and public recycling operations, recycling capacity and the quantities and categories of materials currently recycled;

C. The potential for recycling in various regions of the State, including estimates of the types and quantities of waste available for recycling and an analysis of the economic and institutional obstacles to increased recycling;

D. The categories of industrial waste which present opportunities for reuse; and

E. Opportunities to reduce waste quantities by reducing generation at the source.

2. Program elements. The plan shall also include the development of the following program elements which shall be in the form of specific recommendations, including, when necessary, additional legislative authority for implementation and estimated staff, operating and capital costs of the State's implementation of the plan.

A. The office shall design a program of public education in support of the state recycling plan to promote waste reduction, source separation and feasible recycling efforts at the individual, local, regional and state level.

B. The office shall design a market development strategy, consistent with the state recycling plan, which shall include, without limitation, the following elements:

(1) Methods of collecting and marketing of recyclable materials, including those with a direct state role, in order to achieve necessary economies of scale and product quality specifications. The strategy shall include a plan for source separation of recyclable materials at the household, municipal, regional or state level, as appropriate;

(2) An incentive program to encourage end-users of recyclable materials to locate or expand their operations within the State. The office shall consult with the Finance Authority of Maine in developing this element;

(3) A program for facilitating the marketing of recyclable materials consistent with this paragraph. The program may include a clearinghouse of information for municipalities and recycling businesses to improve the flow of recyclable materials in the market, as well as direct state involvement in marketing recyclable materials where private sector capacity is inadequate; and

(4) The establishment of an industrial materials exchange to promote the reuse of industrial waste which may be suitable raw materials for other processes. The office shall coordinate those efforts with other waste exchanges in the northeastern United States.

C. The office shall develop in coordination with the department a program of assistance for municipalities, groups of municipalities and regional councils. The office shall establish a preference for proposals which involve groups of municipalities or which are coordinated by regional councils. This program shall include without limitation:

(1) Technical assistance and grants to study the feasibility of local or regional recycling programs consistent with the state recycling plan; and

(2) Technical assistance and grants to implement the feasibility studies developed under this section when the proposed activities are consistent with the state recycling plan.

D. The office, after consulting with the Commissioner of Administration, shall assess the status

of recycling efforts undertaken directly by the State for its own solid waste and shall develop a proposal for a program of recycling to reduce the generation of solid waste by the State. The program shall include, without limitation, recycling of office papers, cardboard, used motor oil, yard waste and other materials used by the State for which recycling markets exist or may be developed.

E. The office shall develop, after reviewing waste and source reduction programs in other countries and states, a recommended waste reduction strategy for this State.

3. Plan development. The office may contract with regional councils and municipalities to develop the initial assessment of recycling options and waste disposal problems in the various regions of the State. The office shall coordinate its efforts with the Department of Environmental Protection to ensure consistency with the disposal capacity needs analysis developed pursuant to section 1310-O and to ensure compatibility with state and local environmental requirements. The Department of Environmental Protection shall provide the office with any information it possesses on the quantities of waste materials recycled and any other relevant information developed pursuant to section 1310-O. The office shall develop the recycling plan, including the interim progress report and any revisions to the plan with the advice of the Recycling Advisory Council. The final plan shall include regional components and shall seek to maximize reliance on private sector recycling capacity. In preparing the plan, the office shall examine the recycling plans and programs of other states to determine their efficacy and applicability to this State.

4. Research. The office shall conduct a program of research in support of the state recycling plan which may include, without limitation, the areas of innovative recycling technologies and markets, industrial waste exchanges and waste reduction strategies.

§1310-L. Recycling Advisory Council

There is established a Recycling Advisory Council to provide the office with information and advice concerning the recycling needs and opportunities of the State.

1. Membership; terms. The Governor shall appoint 13 members, with 2 members each representing municipal governments, statewide and local environmental organizations, the recycling industry and the waste disposal industry, one member representing industrial waste generators and 3 members from the general public. The Commissioner of Environmental Protection shall serve as an ex officio member. All members, except the commissioner, shall be appointed for a term of 3 years. For the initial appointments, 4 members shall be appointed for a term of one year; 4 members shall be appointed for a term of 2 years; and 4 members shall be appointed for a term of 3 years. A vacancy shall be filled for the unexpired portion of the term.

2. Compensation. Members shall be compensated according to Title 5, section 12004, subsection 8.

3. Quorum; actions. A quorum shall be a majority of the members of the council. An affirmative vote of the majority of the members present at a meeting shall be required for any action. No action may be considered unless a quorum is present.

4. Meetings. The council shall meet at least 4 time per year.

5. Annual report. The council shall report annually to the Governor and to the Legislature on the status of the State's recycling planning effort.

6. Staff support. The office shall provide the council with all necessary staff support.

§1310-M. Report to the Legislature

1. Progress report. The office shall submit an interim progress report to the joint standing committee of the Legislature having jurisdiction over natural resources on or before February 15, 1988. The report shall include any recommendations requiring

legislative action to allow implementation of selected pilot-scale and regional program elements and to enable the office to complete its initial planning effort and to fulfill the objectives of this article.

2. Submission of plan; recommendations. The office shall report on its plan and proposed programs in market development, municipal assistance, state waste recycling, waste reduction and public education to the joint standing committee of the Legislature having jurisdiction over natural resources on or before January 1, 1989. In addition to the plan and programs proposed under section 1310-K, the report shall include recommendations for:

A. A proposed goal for the State's recycling program. The goal shall be expressed in terms of the proportion of specific waste streams that could be recycled based upon an assessment of current and reasonably attainable market conditions and the net economic benefits to the State;

B. Specific market development strategies for recycling of the following materials:

(1) Waste paper, including newsprint, corrugated cardboard, office papers and mixed papers;

(2) Glass, including deposit beverage containers and other glass containers; and

(3) Metal, including deposit beverage containers, white goods, automobile frames and motors and other scrap metals;

C. Model municipal ordinances to accomplish recycling objectives; and

D. All legislation necessary to implement the objectives of the proposed plan and related programs.

3. Legislative review. The joint standing committee of the Legislature having jurisdiction over natural resources may recommend to the Legislature approval of the plan by resolve or may introduce leg-

islation as it deems necessary to clarify legislative intent regarding this article.

ARTICLE 3

SOLID WASTE FACILITY SITING

§1310-N. Site location license

No person may locate, establish, construct, expand disposal capacity or operate any solid waste facility unless approved by the board under the site location of development laws, chapter 3, subchapter 1, article 6 and the provisions of this chapter.

1. Licenses. The board shall issue a license for a waste facility whenever it finds that:

A. The facility will not pollute any water of the State, contaminate the ambient air, constitute a hazard to health or welfare or create a nuisance;

B. In the case of a disposal facility, the facility provides a substantial public benefit; and

C. In the case of a disposal facility, the volume of the waste and the risks related to its handling and disposal have been reduced to the maximum practical extent by recycling and source reduction prior to disposal.

2. Finding of environmental suitability. The board shall issue a finding of environmental suitability when it determines that the applicant has satisfied the requirements of subsection 1, paragraph A, and the site location of development laws, chapter 3, subchapter 1, article 6. The board shall make this determination prior to making its determinations, pursuant to subsection 1, paragraphs B and C.

3. Public benefit determination. The board shall find that a facility provides a substantial public benefit when the applicant demonstrates that the proposed facility is consistent with and will serve to satisfy the capacity needs identified pursuant to section 1310-O. The board shall make this

finding when it determines that the proposed facility is designed and located and will be operated so that it meets the needs identified in the capacity needs analysis.

4. Presumption of public benefit. A publicly owned waste disposal facility is presumed to have met the requirements of subsection 3 when it receives only waste generated within the municipality in which the facility is located or when it receives only waste generated within municipalities which are members of the facility.

5. Recycling and source reduction determination. The board shall find that the provisions of subsection 1, paragraph C, are satisfied when the applicant demonstrates that all requirements of this subsection have been satisfied.

A. The proposed solid waste disposal facility will accept solid waste which is subject to recycling and source reduction programs, voluntary or otherwise, at least as effective as those imposed by this chapter and other provisions of state law.

(1) The board shall attach this requirement as a standard condition to the license of a solid waste disposal facility governing the future acceptance of solid waste at the proposed facility.

B. The applicant has shown consistency with the most recent state recycling plan approved by the Legislature pursuant to section 1310-M, subsection 3.

6. Terms and compliance schedules. Licenses shall be issued under the terms and conditions as the board may prescribe, and for a term not to exceed 5 years. The board may establish reasonable time schedules for compliance with this article and rules promulgated by the board.

7. Criminal or civil record. The board may refuse to grant a license under this article if it finds that the applicant or, if the applicant is oth-

er than a natural person, any person having legal interest in the applicant has been found guilty of a criminal or civil violation of laws administered by the board or other laws of the State, other states, the United States or another country.

§1310-O. Capacity needs analysis

The board shall complete and adopt by rule an analysis of the solid waste disposal capacity needs of the State by January 1, 1989. The analysis shall be considered by the board in making its finding of consistency in facility siting decisions as provided in section 1310-N, subsection 1, paragraph B and section 1310-N, subsection 3. The analysis shall also serve as a guide for municipal and commercial entities interested in developing solid waste facilities to meet needs identified in this analysis. The board shall prepare the capacity needs analysis according to the following provisions.

1. Data collection. The board shall develop and maintain a comprehensive data base on solid waste generated or disposed of in the State. The types of data collected shall include:

A. The amount of solid waste generated, handled or transported within the State;

B. The source of the waste;

C. The type of waste;

D. The costs and types of treatment or disposal technologies currently employed, including, without limitation, recycling, composting, landspreading, incineration or landfilling;

E. The capacity of existing licensed solid waste treatment and disposal facilities receiving waste generated within the State;

F. The costs of transporting solid waste to disposal facilities; and

G. The extent to which the State relies on solid waste disposal capacity outside its jurisdiction.

2. Needs analysis. The board shall identify the need in the State for current and future expansions of solid waste treatment and disposal capacity by type of solid waste. The analysis shall include, but not be limited to:

A. Identification of solid waste by type which are capable of being reused or recycled in an economically and environmentally sound manner and the preferred technologies to be utilized;

B. A survey of the solid waste generators and the recycling and disposal facilities they utilize;

C. Estimation of waste generation by region and waste type over the next 10-year and 20-year periods based on the best available forecasts of population growth, economic activity within the State, estimates provided by the solid waste generators and other available information;

D. Comparison of the projected waste generation levels with existing capacity, including consideration of expected facility closures under this chapter;

E. Identification of the regional availability of solid waste disposal capacity, including consideration of transportation costs; and

F. Assessment of the level of competition in the solid waste disposal industry.

3. Regional and local considerations. In developing the capacity needs analysis, the board shall consult with industrial waste generators, regional councils and municipal officials concerning the specific needs of their locale. The board shall identify areas of the State which are underserved with regard to waste treatment or disposal capacity or which have capacity in excess of regional needs. In determining regional needs, the board may consider economic criteria, including disposal and transportation costs, population densities, regional differences in current industrial mix and the potential for economic growth, the level of competition in the solid waste

disposal industry and any other factors as the board deems relevant.

4. Revisions. The board shall revise the analysis at least every 2 years to incorporate changes in the waste generation trends, changes in waste disposal technologies, the development of new waste generating activities and other factors affecting solid waste management as the board finds appropriate. If the board finds that rapidly changing conditions necessitate more timely revisions of the analysis, it may make those revisions pursuant to the rule-making provisions of Title 5, chapter 375, subchapter II, including emergency rulemaking if necessary.

5. Coordination. The board shall coordinate development of the solid waste capacity needs analysis with the hazardous waste facility needs plan developed annually pursuant to section 1319-Q and with the state recycling plan developed pursuant to section 1310-K. The board may prepare recommendations to the Legislature, using the data developed under this chapter, to ensure that suitable waste facilities are available for the State's solid and hazardous waste.

6. Report. The board shall submit the capacity needs analysis to the joint standing committee of the Legislature having jurisdiction over natural resources at the beginning of the first regular session of each Legislature for review. The committee may introduce legislation it deems necessary to clarify the legislative intent of this article.

§1310-P. Escrow closure accounts

The board shall apply this section to every license for a new or expanded solid waste disposal facility and to the license of every existing solid waste disposal facility at the time of relicensing.

1. Escrow account. The owner or operator of every solid waste disposal facility shall accrue an amount sufficient to satisfy the estimated costs of closure and post-closure care and maintenance. The owner or operator shall deposit the amount according to rules adopted by the board pursuant to subsection 3. The account established pursuant to this subsec-

tion shall constitute an escrow account for the closure and post-closure care and maintenance of that solid waste disposal facility. No withdrawals from the escrow account may be made without written approval of the commissioner or as otherwise authorized by the commissioner.

2. Annual report. Every owner or operator of a solid waste disposal facility shall file annually with the department a report containing a sworn statement providing the calendar year-end balance of the escrow account established for the closure of the facility pursuant to this section. The report shall be filed with the department no later than March 31st of each year or such other annual date as the commissioner may designate.

3. Rules. The board shall adopt rules prescribing the type of closure account, the minimum duration of the account by type of disposal facility, the amount to be deposited to the account, the manner in which account records shall be maintained and how a licensee shall make deposits to and withdrawals from the account and other matters considered necessary to administer this section.

4. Money remaining in account. No less than 20 years after the closure, except as otherwise provided by the board, any money remaining in the escrow account of any solid waste disposal facility after proper closure and completion of post-closure care and maintenance requirements, as determined by the department, shall be released to the owner, operator or its designated beneficiary.

5. Municipal exemption. A solid waste disposal facility owned by a municipality or group of municipalities is exempt from the provisions of this section.

§1310-Q. Transfer of license

No person may transfer a license issued pursuant to this Title without the transfer of the license being approved by the board prior to transfer of the ownership of the property, facility or structure which constitutes or is part of the solid waste dis-

posal facility. The board, at its discretion, may require that the proposed new owner of the facility apply for a new license or may approve the transfer of the existing license upon a satisfactory showing that the new owner can abide its terms and conditions and will be able to comply with the provisions of this Title.

§1310-R. Transition provisions

1. General. Except as otherwise provided, the provisions of this article apply to any new, expanded or existing solid waste disposal facility licensed or relicensed after the effective date of this article.

2. Recycling. The recycling requirements shall apply as fllows.

A. The board shall apply the provisions of section 1310-N, subsection 5, paragraph A, when relicensing any solid waste disposal facility, except that, to the extent that waste disposal contracts in effect on the effective date of this article are inconsistent with section 1310-N, subsection 5, paragraph A, in which case, those provisions shall apply at the expiration of the term of those contracts without consideration of any renewals or extensions of those contracts.

B. The board shall require an applicant for a new or expanded solid waste disposal facility or for a license renewal submitting a complete application prior to the approval by the Legislature of the first state recycling plan pursuant to section 1310-M, subsection 3, to demonstrate that the applicant has considered recycling alternatives that are reasonably within the applicant's control.

C. The provisions of section 1310-N, subsection 5, paragraph B, do not apply to the relicensing of any solid waste disposal facility licensed prior to the effective date of this article.

3. Public benefit. The public benefit requirements shall apply as follows.

A. The board shall require an applicant for a new or expanded solid waste disposal facility submitting a complete application prior to the initial adoption of the capacity needs analysis pursuant to section 1310-O to submit such information as the board requires to demonstrate that the proposed facility provides a substantial public benefit, including such information described in section 1310-O.

B. The provisions of section 1310-N, subsection 1, paragraph B, and section 1310-N, subsection 3, do not apply to the relicensing of a solid waste disposal facility licensed prior to the effective date of this article.

§1310-S. Public and local participation

In addition to provisions for public participation provided pursuant to Title 5, chapter 375, the following provisions shall apply to an application for a solid waste disposal facility.

1. Notification. A person applying for a license under this article or giving notice to the department pursuant to section 483, shall give, at the same time, written notice to the municipal officers of the municipality in which the proposed facility may be located and shall publish notice of the application in a newspaper of general circulation in the area.

2. Mandatory hearing. The board shall hold an adjudicatory public hearing within the municipality in which the facility may be located or in such other convenient location in the vicinity of the proposed facility as the municipal officers may agree.

3. Automatic municipal intervenor status. The board shall grant intervenor status to the municipal officers, or their designees, from the municipality in which the facility will be located. The intervenor status granted under this subsection shall apply in any proceeding for a license under this article. The board may grant this status only if requested by the municipal officers within 60 days of notification under subsection 1.

4. Financial assistance. The department shall reimburse or make assistance grants for the direct expenses of intervention of any party granted intervenor status under subsection 3, not to exceed $50,000. The board shall adopt rules governing the award and management of intervenor assistance grants and reimbursement of expenses to ensure that the funds are used in support of direct, substantive participation in the proceedings before the board. Allowable expenses include, without limitation, hydrogeological studies, waste generation and recycling studies, traffic analyses, the retention of expert witnesses and attorneys and other related items. Expenses otherwise eligible under this section which are incurred by the municipality after notification pursuant to subsection 1, shall be eligible for reimbursement under this subsection only if a completed application is accepted by the department. The board shall also establish rules governing:

A. The process by which an intervenor under subsection 3 may gain entry to the proposed facility site for purposes of reasonable inspection and site investigations under the auspices of the board; and

B. The reduction in the maximum level of reimbursable costs to the extent the municipality establishes by local ordinance any substantially similar financial requirements of the applicant.

§1310-T. Application fee

In addition to any fees imposed pursuant to section 352, the applicant shall pay a fee of $50,000 at the time of filing an application for a solid waste disposal facility. The fee shall be deposited in the Maine Environmental Protection Fund and shall be used only to make reimbursements and grants to the intervenor in the applicant's license proceedings pursuant to section 1310-S. Any portion of the fee not disbursed by the department for these purposes shall be reimbursed to the applicant, together with any interest that may have accrued on that portion.

§1310-U. Municipal ordinances

Municipalities are prohibited from enacting stricter standards than those contained in this chapter and in the solid waste management rules adopted pursuant to this chapter governing the hydrogeological criteria for siting or designing solid waste disposal facilities or governing the engineering criteria related to waste handling and disposal areas of a solid waste disposal facility.

Under the municipal home rule authority granted by the Constitution of Maine, Article VIII, Part Second and Title 30, section 1917, municipalities, except as provided in this section, may enact ordinances with respect to solid waste facilities which contain such standards as the muncipality finds reasonable, including, without limitation, conformance with federal and state solid waste rules; fire safety; traffic safety; levels of noise which can be heard outside the facility; distance from existing residential, commercial or institutional uses; ground water protection; and compatibility of the solid waste facility with local zoning and land use controls.

§1310-V. Moratorium

Prior to 91 days after the First Regular Session of the 113th Legislature adjourns, the department shall not process or act upon any application for, and the board shall not issue, a license for a new commercial landfill facility or the substantial expansion of a commercial landfill facility. In processing applications after the moratorium, priority shall be given to applications for commercial landfill facilities used for the disposal of solid waste which is generated by an energy recovery facility designed to reduce the volume or alter the physical characteristics of municipal solid waste and to produce electricity through incineration. Notwithstanding the provisions of Title 1, section 302, any application pending or filed after the effective date of this article shall be subject to departmental rules regarding solid waste adopted pursuant to section 1304 and the provisions of Private and Special Law 1987, chapter 28. Notwithstanding other provisions of this Title, the department shall not issue a license under this article until it has adopted rules

pursuant to the provisions of Private and Special Law 1987, chapter 28.

Sec. 26. 38 MRSA §1319-E, sub-§1, ¶D, as amended by PL 1985, c. 162, §12, is further amended to read:

D. Amounts necessary to reimburse municipalities as required by section ~~1305-A~~ 1319-R, subsection 3; and

Sec. 27. 38 MRSA §1319-I, sub-§9, as amended by PL 1983, c. 467, §2, is further amended to read:

9. Hazardous waste subject to fees. No hazardous waste may be subject to the fees established in this section unless the waste is identified under section ~~1303-A~~ 1319-O, subsection 1, provided that waste identified under section ~~1303-A~~ 1319-O, subsection 1 paragraph B, shall not be subject to the fees ~~until~~ 90 days after the next regular session of the Legislature.

Sec. 28. 38 MRSA c. 13, sub-c. V is enacted to read:

SUBCHAPTER V

HAZARDOUS WASTE AND WASTE OIL

§1319-O. Rule-making authority; hazardous waste and waste oil

1. Hazardous waste. Rulemaking for hazardous waste shall be as follows.

A. The board may adopt and amend rules identifying hazardous waste. It is the intent of the Legislature that the board shall identify as hazardous waste those substances which are identified by the United States Environmental Protection Agency in proposed or final regulations. The Legislature also intends that the board may identify as hazardous waste, in accordance with paragraph B, other substances in addition to those identified by the United States Environmental Protection Agency. Further, the Legislature

intends that a substance which has been identified as a hazardous waste by the board shall be removed from identification only by further rulemaking by the board.

Hazardous waste may be identified as follows.

(1) The board may identify any substance as a hazardous waste if that substance is identified as hazardous by particular substance, by characteristic, by chemical class or as a waste product of a specific industrial activity in proposed or final rules of the United States Environmental Protection Agency.

(2) The board may identify any substance as a hazardous waste if the board, after evaluation based on existing data or data reasonably extrapolated from previously conducted studies using similar classes of substances or compounds under similar circumstances, has determined that the substance is an acute or chronic toxin causing significant potential adverse public health or environmental effects. An acute or chronic toxin may include the characteristics of:

(a) Carcinogenicity;

(b) Mutagenicity;

(c) Teratogenicity; or

(d) Infectiousness.

Rules adopted under this subparagraph shall be submitted to the joint standing committee of the Legislature having jurisdiction over natural resources for review. These rules shall remain in effect until 90 days after adjournment of the next regular session of the Legislature unless adopted by legislative enactment.

(3) Whenever the board proposes to adopt or amend rules identifying hazardous waste or

removing hazardous waste from identification, it shall hold a public hearing.

(4) In addition to hazardous waste identified under subparagraphs (1) and (2), the Legislature identifies the following chemicals, materials, substances or waste as being hazardous waste:

(a) Polychlorinated biphenyls and any substance containing polychlorinated biphenyls.

(b) Pathogenic and infectious waste, as defined by the department, by rule.

B. The board may adopt rules relating to the handling of hazardous waste, including, but not limited to:

(1) Containerization and labeling of hazardous waste, consistent with applicable rules of other federal and state agencies;

(2) Reporting of handling of hazardous waste; and

(3) Waste which is not compatible.

C. The board may adopt rules relating to transportation of hazardous waste, including, but not limited to:

(1) Licensing of transporters of hazardous waste, conveyances used for the transportation of hazardous waste and the operators of these conveyances; and licensing fees shall be paid to the Maine Hazardous Waste Fund; and

(2) A manifest system for hazardous waste which takes into consideration the requirements of the United States Resources Conservation and Recovery Act of 1976, Public Law 94-580, as amended, and this subchapter.

D. The board may adopt rules relating to the interim and final licensing and operation of waste facilities for hazardous waste, including, but not limited to:

(1) Standards for the safe operation and maintenance of the waste facilities, including, but not limited to, record keeping, monitoring before and during operation of the facility and after its termination of use or closure, inspections and contingency plans to minimize potential damage from hazardous waste;

(2) The training of personnel and the certification of supervisory personnel involved in the operation of the waste facilities;

(3) The termination, closing and potential future uses of the waste facilities; and

(4) Rules equivalent to rules of the United States Environmental Protection Agency which provide for licensing or permitting by rule.

E. The board may adopt rules relating to evidence of financial capacity of hazardous waste facilities' owners or operators, and of those who transport hazardous waste, to protect public health, safety and welfare and the environment, including, but not limited to:

(1) Liability insurance;

(2) Bonding; and

(3) Financial ability to comply with statutory and regulatory requirements or conditions.

2. Waste oil. Rulemaking for waste oil shall be as follows:

A. The board may adopt rules relating to the transportation, collection and storage of waste oil by waste oil dealers to protect public health, safety and welfare and the environment. The rules may in-

clude, without limitation, rules requiring licenses for waste oil dealers and the location of waste oil storage sites which are operated by waste oil dealers, evidence of financial capability and manifest systems for waste oil. A person licensed by the board to transport or handle hazardous waste shall not be required to obtain a waste oil dealer's license, but his hazardous waste license must include any terms or conditions deemed necessary by the board relating to his transportation or handling of waste oil.

§1319-R. Facility siting

1. Licenses for hazardous waste facilities. The board shall issue a license for a hazardous waste facility whenever it finds it will not pollute any water of the State, contaminate the ambient air, constitute a hazard to health or welfare or create a nuisance. Licenses shall be issued under the terms and conditions as the board may prescribe and for a term not to exceed 5 years. The board may establish reasonable time schedules for compliance with this subchapter and regulations promulgated by the board.

A. The board shall also find that:

(1) The applicant presents evidence of sufficient financial capacity, including projections of utilization of the facility by hazardous waste generators, to justify granting the license;

(2) Issuing the license is consistent with the applicable standards, requirements and procedures of this chapter; and

(3) In the case of a disposal facility, the volume of the waste and the risks related to its handling have been reduced to the maximum practical extent by treatment and volume reduction prior to disposal.

B. The board shall issue an interim license for a waste facility for hazardous waste or shall deem the facility to be so licensed if:

(1) The waste facility is in existence on April 1, 1980;

(2) The owner or operator has:

(a) Notified the department of its location;

(b) Provided a detailed description of the operation of the facility;

(c) Identified the hazardous waste it handles; and

(d) Applied for a license to handle hazardous waste;

(3) The waste facility is not altered or operated except in accordance with the board's rules; and

(4) If the waste facility has a discharge or emission license under sections 414 or 591, and the facility is operated in accordance with that license.

C. Interim licenses shall expire on the earliest of the following dates:

(1) The date of the final administrative disposition of the application for a hazardous waste facility license;

(2) The date of a finding of the board that the disposition referred to in subsection 1 has not been made because of the applicant's failure to furnish information reasonably required or requested to process the application;

(3) The date of expiration of the license issued under section 414 or 591; or

(4) The date on which the application for a hazardous waste facility license is due and the person operating under the interim license has failed to apply for the hazardous waste facility license.

2. Municipal ordinances. Municipalities may enact necessary police power ordinances dealing with commercial hazardous waste facilities, provided that they are not more stringent than or duplicative of the hazardous waste provisions of this chapter or rules and orders promulgated by the board. The board shall incorporate all applicable local requirements to the fullest extent practicable.

3. Site review. All persons who make application for a license to construct, operate or substantially expand a commercial hazardous waste facility, at the same time, shall give written notice to the municipal officers of the municipality in which the proposed facility will be located. The municipality through its municipal officers shall be granted intervenor status in any proceeding for site review of a commercial hazardous waste facility. The department shall reimburse the municipalities' direct costs, not to exceed $5,000, for participation in the proceedings.

The Governor may appoint a person to facilitate communications between the applicant and the municipality and between the department and the municipality.

The State may accept public and private funds from any source for the purpose of carrying out responsibilities under this section.

The board shall hold at least one public hearing within the municipality in which the facility will be located.

During any proceeding for site review of a commercial hazardous waste facility, the legislative body of the municipality in which the facility is to be located may appoint 4 representatives to the board. If the facility is proposed to be located within an unorganized township, the county commissioners of that county may appoint 4 representatives. These representatives may vote on board decisions related to the proposed commercial hazardous waste facility. All representatives appointed under this subsection shall participate on the board only for that site review, until final disposition of the application, including any administrative or judicial appeals. The municipal members shall receive the same pay for each day and

expenses as regular board members during the period of their service, to be paid by the department.

4. Municipal fees authorized. A municipality, by ordinance, may levy a fee on a commercial hazardous waste facility located in the municipality. These fees shall be applied as a percentage of the annual billings of the facility to its customers. No fee so levied may exceed 2% of the annual billings. The department may audit the accounts of a facility to determine the amount of the fee owed to the municipality.

5. Application. Except for substantial expansion, this section does not apply to any facility which has been granted an interim or final license prior to September 18, 1981.

§1319-T Criminal provisions

In addition to being subject to civil penalties as provided by section 349, subsection 2 and to criminal penalties as provided in section 349, subsection 3, conduct described in subsections 1 and 2 shall be subject to criminal penalties as follows.

1. Penalty provisions. Any person is guilty of a Class E crime and may be punished accordingly if that person, with respect to any substance or material which has been identified as hazardous waste by the board and which such person believes may be harmful to human health or knows or has reason to know has been so identified, knowingly:

A. Transports any such substance or material without, in fact, having a proper license or permit as may be required under this subchapter;

B. Transports any such substance or material to a waste facility knowing or consciously desregarding a risk that such facility does not have a proper license or permit as may be required under this subchapter;

C. Handles any such substance or material without, in fact, having obtained a proper license or permit to do so as may be required under this subchapter; or

(1) The waste facility is in existence on April 1, 1980;

(2) The owner or operator has:

(a) Notified the department of its location;

(b) Provided a detailed description of the operation of the facility;

(c) Identified the hazardous waste it handles; and

(d) Applied for a license to handle hazardous waste;

(3) The waste facility is not altered or operated except in accordance with the board's rules; and

(4) If the waste facility has a discharge or emission license under sections 414 or 591, and the facility is operated in accordance with that license.

C. Interim licenses shall expire on the earliest of the following dates:

(1) The date of the final administrative disposition of the application for a hazardous waste facility license;

(2) The date of a finding of the board that the disposition referred to in subsection 1 has not been made because of the applicant's failure to furnish information reasonably required or requested to process the application;

(3) The date of expiration of the license issued under section 414 or 591; or

(4) The date on which the application for a hazardous waste facility license is due and the person operating under the interim license has failed to apply for the hazardous waste facility license.

2. Municipal ordinances. Municipalities may enact necessary police power ordinances dealing with commercial hazardous waste facilities, provided that they are not more stringent than or duplicative of the hazardous waste provisions of this chapter or rules and orders promulgated by the board. The board shall incorporate all applicable local requirements to the fullest extent practicable.

3. Site review. All persons who make application for a license to construct, operate or substantially expand a commercial hazardous waste facility, at the same time, shall give written notice to the municipal officers of the municipality in which the proposed facility will be located. The municipality through its municipal officers shall be granted intervenor status in any proceeding for site review of a commercial hazardous waste facility. The department shall reimburse the municipalities' direct costs, not to exceed $5,000, for participation in the proceedings.

The Governor may appoint a person to facilitate communications between the applicant and the municipality and between the department and the municipality.

The State may accept public and private funds from any source for the purpose of carrying out responsibilities under this section.

The board shall hold at least one public hearing within the municipality in which the facility will be located.

During any proceeding for site review of a commercial hazardous waste facility, the legislative body of the municipality in which the facility is to be located may appoint 4 representatives to the board. If the facility is proposed to be located within an unorganized township, the county commissioners of that county may appoint 4 representatives. These representatives may vote on board decisions related to the proposed commercial hazardous waste facility. All representatives appointed under this subsection shall participate on the board only for that site review, until final disposition of the application, including any administrative or judicial appeals. The municipal members shall receive the same pay for each day and

D. Handles any such substance or material at any location knowing or consciously disregarding a risk that such location does not have a proper license or permit as may be required under this subchapter for such treatment, storage or disposal.

Notwithstanding Title 17-A, section 1301, subsection 1, paragraph A-1, or subsection 3, paragraph C, the fine for such violation shall not exceed $50,000 for each day of such violation. In a prosecution under paragraph B or paragraph D, the conscious disregard of the risk, when viewed in light of the nature and purpose of the person's conduct and the circumstances known to him, must involve a gross deviation from the standard of conduct that a reasonable and prudent person would observe in the same situation.

2. Class D crimes. A person is guilty of a Class D crime if, with respect to any substance or material which, in fact, has been identified as hazardous waste by the board and which such person knows or has reason to believe has been so identified or may be harmful to human health, that person knowingly:

A. Establishes, constructs, alters or operates any waste facility for any such substance or material without, in fact, having obtained a proper license or permit as may be required under this subchapter;

B. Handles or transports any such substance or material in any manner which, in fact, violates the terms of any condition, order, regulation, license, permit, approval or decision of the board or order of the commissioner with respect to the handling or transporting of such substance or material; or

C. Gives custody or possession of any such substance or material to any other person whom he knows or has reason to believe:

(1) Does not have a license or permit to transport or handle such substance or material as may be required under this subchapter; or

(2) Will transport or handle such substance or material in violation of this subchapter or rules adopted under it.

A person who violates the provisions of this subsection may be punished accordingly, except that, notwithstanding Title 17-A, section 1301, subsection 1, paragraph B, or Title 17-A, subsection 3, paragraph E, the fine for such violation may not exceed $25,000 for each day of the violation.

Sec. 29. 38 MRSA §1362, sub-§1, ¶A, as enacted by PL 1983, c. 569, §1, is amended to read:

A. Any substance identified by the board under section ~~1303-A~~ 1319-O;

Sec. 30. 38 MRSA §1370, first ¶, as enacted by PL 1983, c. 569, §1, is amended to read:

The following property shall be subject to forfeiture to the State in accordance with the procedures set forth in section ~~1306-E~~ 1319-U and all property rights therein shall be in the State:

Sec. 31. Allocation. The following funds are allocated from the Maine Environmental Protection Fund to carry out the purposes of this Act.

	1987-88	1988-89
ENVIRONMENTAL PROTECTION, DEPARTMENT OF		
Maine Environmental Protection Fund		
Positions	(3)	(9)
Personal Services	$60,590	$221,245
All Other	24,900	90,000
Capital Expenditures	9,400	5,400
Total	$94,890	$316,645

Provides funds for the enforcement, monitoring and licensing of the solid and special waste programs. Program elements include waste transportation and special waste handling.		
Maine Environmental Protection Fund		
Position	(2)	(2)
Personal Services	$ 49,800	$ 65,100
All Other	76,600	60,000
Capital Expenditures	1,150	
Total	$127,550	$125,100
Provides funds for administering new elements of the facility siting program; involves public benefit determinations and recycling plan consistency findings; includes mandatory public hearings and costs.		
Maine Environmental Protection Fund		
All Other	$75,000	
Provides funds for development of the initial state capacity - needs analysis needed for licensing solid waste disposal facilities.		
TOTAL	$297,440	$441,745

Sec. 32. Allocation. The following funds are allocated from the Maine Environmental Protection Fund to carry out the purposes of this Act.

	1988-89
ENVIRONMENTAL PROTECTION, DEPARTMENT OF	
Maine Environmental Protection Fund	
Positions	(4)
Personal Services	$ 96,000
All Other	40,000
Capital Expenditures	25,700
Total	$161,700

Provides funds for monitoring and compliance in the remediation and closure program upon approval by the voters of the related bond issue.

Sec. 33. Appropriation. The following funds are appropriated from the General Fund to carry out the purposes of this Act.

	1987-88	1988-89
ENVIRONMENTAL PROTECTION, DEPARTMENT OF		
Bureau of Land Quality Control		
Positions	(6)	(6)
Personal Services	$143,500	$183,604
All Other	49,800	60,000
Capital Expenditures	22,075	
Total	$215,375	$243,604

Provides funds to administer the early phases of the remediation and closure program.		
Bureau of Land Quality Control		
Positions	(2)	(2)
Personal Services	53,950	70,525
All Other	16,600	20,000
Capital Expenditures	1,200	
Total	$ 71,750	$90,525
Provides funds to design a technical and financial assistance program for municipalities on such waste as demolition debris, white goods and tires.		
TOTAL	$287,125	$334,129
EXECUTIVE DEPARTMENT		
State Development Office		
Office of Waste Recycling and Source Reduction		
Positions	(4)	(4)
Personal Services	$108,937	$136,500
All Other	91,600	120,000
Capital Expenditures	7,150	
Total	$207,687	$256,500
Provides funds to develop the state recycling and source		

reduction program.

Total	$494,712	$590,629

Sec. 34. Appropriation. The following funds are appropriated from the General Fund to carry out the purposes of this Act.

	1988-89
ENVIRONMENTAL PROTECTION, DEPARTMENT OF	
Bureau of Land Quality Control	
Positions	(8)
Personal Services	$221,061
All Other	80,000
Capital Expenditures	29,575
Total	$330,636

Provides funds necessary to implement the remediation and closure program when the voters approve the related bond issue.

Sec. 35. Effective date. The allocations contained in sections 32 and the appropriation contained in section 34 of the new draft are effective when the Governor certifies that the voters have approved the bond issue needed to provide state grants for implementation of the remediation and closure program. The remainder of the new draft is effective when approved.

Emergency clause. In view of the emergency cited in the preamble, this Act shall take effect when approved.

FISCAL NOTE

This legislation provides the necessary allocations and appropriations to support the activities authorized in the solid waste legislation. All funds are either allocated from the Maine Environmental Protection Fund or appropriated from the General Fund.

The Maine Environmental Protection Fund is supported by processing, licensing and disposal fees paid by the solid waste industry and by applicants for the related solid waste licenses. The allocations outlined in section 31 and the appropriations in section 34 are accompanied by the necessary authority for the department to set fees needed to cover the allocation.

The General Fund appropriation supports the administration and implementation of the remediation and closure program for municipal landfills. This appropriation also provides funds to start up the Office of Recycling and Source Reduction.

The allocation in section 32 and the appropriation in section 34 are made conditional on the successful passage of the remediation and closure bond. This action is taken to avoid overstaffing the program if funds are not immediately available for implementation of remediation and closure plans.

STATEMENT OF FACT

The overall intent of the new draft is virtually identical to that of the original draft. The Joint Standing Committee on Energy and Natural Resources has issued a study report with its findings and recommendations. This report provides additional background material and description of the intent of the legislation. Committee files provide substantial documentation of the deliberations undertaken in the development of this legislation. The purpose of this new draft is primarily to correct a variety of drafting and typographical errors in the original bill.

This legislation is recommended by the Joint Standing Committee on Energy and Natural Resources pursuant to Private and Special Law 1985, chapter 137. The legislation is the result of a one year legislative study of solid waste management policy.

The purpose of the legislation is to establish a comprehensive framework for the safe management and disposal of Maine's solid waste. The legislation addresses 4 specific areas:

1. Establishment of a state-funded, rapid clean-up and closure program for existing municipal and abandoned landfills, particulary those poorly sited facilities which threaten public health and ground water quality;

2. Establishment of a lead role for the State in developing and supporting effective recycling and source reduction efforts throughout this State;

3. Revision of the disposal facility siting process to link this process to recycling efforts and the State's disposal capacity needs and to obtain more effective public participation; and

4. Strengthening the Department of Environmental Protection's statutory authority to effectively regulate solid waste management and disposal.

This legislation is accompanied by 2 companion bills; Lesgislative Document 1191, AN ACT to Ensure

Timely Adoption of Revised Solid Waste Rules, already enacted as Private and Special Law 1987, c. 28 and Legislative Document 1356, AN ACT to Authorize a General Fund Bond Issue in the Amount of $40,000,000 to Protect Ground Water Quality and Public Health through Cleanup and Closure of Municipal and Abandoned Landfills.

The legislation also clarifies the structure of the solid and hazardous waste laws.

This new draft requires legislative review of agency rulemaking in certain key areas, most notably the establishment of waste transporter licenses and disposal fees, see section 11.

The new draft provides requirements regarding new waste handling contracts in order to encourage municipal recycling and to remove impediments to recycling that are contained in existing contracts. It is the intent of the committee that the requirements are consistent with the comprehensive regulatory framework that currently governs solid waste management, see section 17.

The new draft provides definitions for certain terms which are central to the remediation and closure program proposed by this new draft, see section 25, Title 38, section 1310-C, subsection 4.

The committee substantially revised the provisions regarding the remediation and closure of closed and abandoned landfills. The committee recognizes that, while the general approach to these sites should be consistent with that employed for open municipal landfills, some differences may arise which cannot be foreseen at this time. Thus, the new draft requires the department to develop an initial priority list of closed and abandoned sites that need attention and directs the department to report to the Legislature on necessary future steps, see section 25, Title 38, section 1310-E, subsection 1.

Recognizing the clear public benefit of publicly owned waste disposal facilities, the committee revised the provision regarding the public needs test to provide a presumption of public need for such fa-

cilities, see section 25, Title 38, section 1310-N, subsection 4.

The committee revised provisions of the bill that lay out the requirements of the capacity needs analysis, see section 25, Title 38, section 1310-O, to include consideration of disposal and transportation costs along with consideration of the level of competition in the solid waste industry when developing the assessment of the State's need for disposal capacity. This assessment will be considered in licensing decisions.

The new draft establishes a clear source of funding for the technical assistance grants to municipalities by assessing a special fee of $50,000 to applicants for solid waste disposal facilities, see section 25, Title 38, section 1310-T. The fee is to be used in support of a municipality's intervention in the state licensing process. The unused portion of the fee and any accrued interest is to be reimbursed to the applicant.

The new draft also clarifies the Legislature's intent that all waste disposal faciltiy applications acted on after the expiration of the landfill moratorium are subject to revised solid waste rules that the Department of Environmental Protection adopts as the result of Private and Special Law 1987, chapter 28. The department is directed to process applications after the expiration of the moratorium but not to approve any waste disposal facility applications until such rules become effective, see section 25, Title 38, section 1310-V.

It is the intent of this legislation that the licenses of solid waste facilities licensed prior to the effective date of this Act continue to be valid for the term of the license.

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B. Legal Memoranda on Commerce Clause and Contract Issues

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MEMORANDUM

July 1, 1986

TO: Tim Glidden, Policy Analyst

FROM: Peggy Reinsch, Esq.
Legal Analyst

SUBJECT: Commerce Clause Issues and the Importation of Solid Waste

I. QUESTION: Can the State of Maine limit or completely prohibit the disposal in Maine of solid waste generated out-of-state?

II. ANSWER: The State may not statutorily prohibit the importation into and disposal in Maine of out-of-state solid waste; however, there may be other options for controlling imported waste which may be available to the State.

III. DISCUSSION OF COMMERCE CLAUSE ISSUES

A. City of Philadelphia v. New Jersey

1. History

In 1973, the New Jersey Legislature, faced with dwindling landfill capacity and a lack of land area for new landfills, enacted a statute which basically prohibited the importation and disposal in New Jersey of most solid or liquid waste generated or collected out-of-state.

The operators of private landfills in New Jersey and several cities in other states, which had agreements for waste disposal with the landfills, challenged the statute on several state and federal grounds. The

trial court declared the law unconstitutional because it discriminated against interstate commerce. The New Jersey Supreme Court reversed, finding that the law advanced important health and environmental objectives while involving no economic discrimination, and causing little or no burden on interstate commerce. 68 NJ 451, 348 A2d 505.

On appeal, the United States Supreme Court remanded the case back to the New Jersey Supreme Court for a ruling on whether the then-new Resource Conservation and Recovery Act of 1976 (90 Stat. 2795, codified at 42 USC §6901 et sec) preempts state action in this area. 430 US 141, 97 SCt 987

If the federal statute were found to preempt state law, the New Jersey statute would have been found invalid and the inquiry would have ended there. The New Jersey court found no federal preemption of state law, 376 A2d 888, and the case came once again to the United States Supreme Court.

The Supreme Court agreed that the RCRA did not preempt the state law either explicitly or because of direct conflict with provisions or objectives of the federal law. 437 US 617, 620, 98 SCt 2531, 2533-2534. The Court ruled, however, that New Jersey's statute violated the commerce clause of the United States Constitution (US Const. Art. I, §8, cl. 3) by discriminating against, or unduly burdening, interstate commerce. (Justice Rehnquist and Chief Justice Burger dissented.)

The Court first determined that the waste in question was an article of commerce. 457 US, at 626, 98 SCt, at 2536. (The New Jersey Supreme Court had ruled that "wastes which can(not) be put to effective use." are not commerce. 348 A2d at 514) The Court then refused to give weight to the legitimacy of the purposes behind the New Jersey statute. (A usual step in Commerce Clause analysis is to at least examine the state interest.) "But whatever New Jersey's ultimate purpose, it may not be accomplished by discriminating against articles of commerce coming from outside the State unless there is some reason, apart from their origin, to treat them differently." 437 US, at 627-628, 98 SCt, at 2537.

The waste coming from outside New Jersey was the same as the waste generated inside the State, so New Jersey had no constitutional basis for placing the full burden of preserving New Jersey landfill space on other states. New Jersey could limit the amount of solid waste disposed of in its landfills, but not by treating other states differently.

(The offending New Jersey statute has since been repealed.)

2. Analysis

The Commerce Clause test which emerges from Philadelphia v. New Jersey is much stricter than the analysis applied in other cases. The Court labeled the statute as "protectionist", without specifically finding a prohibited economic motivation. This results in a per se rule that all state statutes which involve discriminatory methods are invalid, no matter what state interests are being served. In addition, the Court refused to acknowledge the deference that state environmental laws have traditionally received. Huron Portland Cement Co. v. Detroit, 362 US 440, 445-46 (1960) (city's ordinance regulating ship boilers for air pollution control purposes a legitimate state interest despite effect on interstate commerce), and Hudson County Water Co. v. McCarter, 209 US 349, 355 (1908) (statute prohibiting transportation of state's fresh waters into another state did not violate commerce clause because of the State's quasi-sovereign power to protect the public interest and its police power to protect the water within its territory).

In short, using Philadelphia v. New Jersey as a guide, any facially discriminatory state regulation will be invalidated without the state having an opportunity to defend it in a balancing process. This is somewhat different from the usual commerce clause analysis, and may be applied in other solid waste importation cases.

B. Borough of Glassboro v. Gloucester County Board of Chosen Freeholders

1. History

The New Jersey Legislature enacted the Solid Waste Management Act (SWMA) (NJSA 13:1 E-1 to -38) in 1970; The Act established the State policy to provide a coordinated approach to solid waste disposal by creating 22 solid waste management districts (consisting of 21 counties and the Hackensack Meadlowlands district). Each district is charged with the responsibility of developing and implementing comprehensive solid waste management plans. NJSA 13:1E-2b (2). Any waste which is transported into a solid waste management district must be done under an interdistrict agreement. NJSA 13:1E-21b(3). This is necessary to allow the district to effectively plan for the disposal of that waste. An important aspect of the interdistrict agreements, however, is that they do not affect existing contracts concerning waste disposal.

The controversy centers on the Kinsley Landfill, regulated by the New Jersey Department of Environmental Protection and the New Jersey Public Utilities Commission. The Kinsley Landfill obtained a permit in 1980 authorizing the dumping of solid waste at the landfill to a height of 164 feet. Most of the solid waste which comes from New Jersey and is disposed of at Kinsley comes from Gloucester, Camden and Salem counties.

On October 11, 1984, Kinsley notified its customers that it would soon reach its permit height and would close on October 28, 1984. The Borough of Glassboro, one of the municipalities using the Kinsley Landfill, brought suit to enjoin the closure and to enjoin the use of the landfill for solid waste originating in Philadelphia.

The trial court found that Kinsley should be closed, but that, even though use of the landfill beyond the permit level would endanger the health and safety of people near the site, the closure of the landfill would cause irreparable harm to the citizens of Glassboro and certain other municipalities who had no other landfill to use. The court restrained the closure and directed Gloucester County to establish an alternative site.

The court, with input from the New Jersey Department of Environmental Protection, raised the height limit at the Kinsley Landfill to 180 feet. With DEP's help, the counties could open alternate landfills by November of 1985. The increase in the height of the landfill, and then-current rates of disposal, would give the affected parties only 3 1/2 months, however. Philadelphia was contributing over half of all the solid waste since July of 1983; prohibiting the dumping of solid waste from Philadelphia would give the New Jersey customers more time to develop alternative sites. Philadelphia had made its case even worse by refusing, since 1980, to enter into an interdistrict agreement with Gloucester County.

The trial court issued a preliminary injunction which provided:

(1) Municipalities in the 3 counties could continue to use Kinsley up to the 180-foot height. Meanwhile, alternative sites would be developed, to be in operation by November, 1985.

(2) The Kinsley Landfill could no longer accept solid waste generated in Philadelphia, other Pennsylvania communities, or any other district outside of Gloucester County not subject to an interdistrict agreement.

(3) The municipalities using Kinsley must maximize their recycling efforts.

(4) The Kinsley Landfill would close when the 180-foot level was reached.

(5) Kinsley would close for all sludge disposal on March 15, 1985.

Philadelphia appealed the injunction, but the Appellate Court (488A. 2d 562 (1985)) and the Supreme Court of New Jersey affirmed. 495 A.2d 49 (1985). The Supreme Court refused to hear Philadelphia's appeal of the New Jersey Supreme Court's ruling, allowing the injunction to stand ____US ____, 106 SCt 532 (1985). (Philadephia was denied a request for a stay of the injunction by both the New Jersey Supreme Court (485 A.2d 299 (1984)) and a single United States Supreme Court Justice.) Philadelphia is thus prohibited from disposing of solid waste at the Kinsley Landfill in Gloucester County, New Jersey.

2. Analysis

The result in Glassboro may look more far-ranging than it actually is. Four important aspects to keep in mind are that: 1) The prohibition against Philadelphia solid waste applies as well to all New Jersey solid waste, except from the 3 designated counties. This satisfies the commerce clause non-discrimination requirements. The existence of interdistrict agreements was very important to the court. 2) The prohibition against Philadelphia solid waste applies only to the Kinsley Landfill. Philadelphia is free to contract with any other New Jersey landfill (provided the county enters into an interdistrict agreement with Philadelphia). 3) The prohibition against Philadelphia solid waste is made through a court-issued injunction, not a New Jersey legislative action. The court issued the injunction as the most equitable remedy, not necessarily as the most politically satisfactory. If Philadelphia had been in the same position as most of the municipalities in Gloucester, Camden and Salem counties (no alternative site and no transfer stations or vehicles to move the solid waste to another site), the court may have fashioned a drastically different injunction. 4) The injunction addressed a crisis situation in which, without court intervention, the landfill would be closed to everyone. This would have disastrous effects on the municipalities in the 3 New Jersey counties.

In upholding the injunction, the New Jersey Supreme Court thoroughly analyzed the Commerce Clause issue. The court noted that the injunction was not a ban on all out-of-state solid waste as was the case in Philadelphia v. New Jersey: The injunction is not discriminatory on its face. (495 A.2d at 49) It does however, have some effect on interstate commerce. The court then weighed the burden placed on interstate commerce with the local benefits the injunction is designed to achieve. Although Philadelphia must bear the financial cost of using other, often more expensive landfills, the communities which may still use the Kinsley Landfill must also assume substantial obligations in establishing new sites and vigorous recycling programs. In addition, the cost of using Kinsley has been increased. Philadelphia, therefore, is not the only one to bear a burden.

The local benefit the injunction provides is to give emergency access to the Kinsley Landfill for the municipalities which have no current alternative. Such access avoids the public health and safety problems that the complete, immediate closing of Kinsley would have created. This benefit, to the court, clearly outweighs the burden placed on Philadelphia.

In addition, the court used language from Philadelphia v. New Jersey to uphold the injunction. That United States Supreme Court decision observed that a statute regulating the flow of articles of commerce might be upheld when there was "some reason, apart from their origin, to treat them differently." 437 US at 626-27 98 SCt at 2536-37.' 495 A2d at 55. Place of origin, for commerce clause purposes, the New Jersey Supreme Court concluded, was unrelated to the injunction; thirteen New Jersey counties were excluded along with Philadelphia.

The court also used the four factors utilized by the United States Supreme Court in sustaining water conservation measures in Sporhase v. Nebraska, 458 US 941, 956-57, 102 SCt 3456, 3464-65 (1982). (Nebraska statute which prohibits export of Nebraska ground water unless the export is reasonable, not contrary to conservation and use of ground water, not otherwise detrimental to the public, upheld.) The first factor is whether the restriction on interstate commerce is an exercise in economic protectionism or of the police power. The New Jersey Supreme Court found the injunction to be "a measured response to a genuine local health problem" (495 A2d at 57) (police power function).

The second factor is whether a legal expectation exists that the use of the resource might be restricted. The statute created the legal expectation that the state and local governments will manage the disposal of solid waste in New Jersey, which entails regulation and limits of the use.

The third consideration is based on the public ownership or nature of the resource. In New Jersey, landfills are classed as public utilities, and must be operated in the public interest. NJSA 48:13A-1. This can support a limited preference for the State's own citizens in use of the resource. Sporhase 458 US at 956, SCt at 4364.

The last factor involves the extent of the State's efforts to conserve the resource. The comprehensive scheme followed by New Jersey on the state and local levels indicates that, at least in this particular situation, the extra landfill space actually becomes a form of "a good publicly produced and owned in which the state may favor its own citizens in times of shortage." Sporhase, 458 US at 957, 102 SCt at 3464.

Philadelphia appealed the decision of the New Jersey Supreme Court to the United States Supreme Court, which declined to hear the appeal. US 106, SCt 532 (1985). Denial of certiorari has the effect of allowing the State Court decision to stand. It is often cited as the Supreme Court's approval of the result, although the Court may not necessarily rule that way if it had agreed to hear the case.

C. Commerce Clause Analysis

There now appear to be three pertinent analyses which the Supreme Court may apply in determining if a state statute or regulation places an undue burden on interstate commerce, prohibited by the constitution.

1. Philadelphia v. New Jersey

This is a strict standard which applies when the state regulation demonstrates economic protectionism. Once discrimination is shown, the state is usually afforded an opportunity to justify the regulation based on the local benefits which result and the unavailability of nondiscriminatory alternatives. The Supreme Court's decision in Philadelphia does not appear to have fully allowed this second part of the analysis.

Simple economic protectionism, where one state extends a clear preference to its citizens, is the most obvious offense the commerce clause was designed to prevent. Isolation of each state would be inimical to

the structure of the government as a whole, and counterproductive for the states. Therefore, when this strict standard of analysis is applied, the regulation is usually ruled invalid.

Maine's statute (17 MRSA §2253), if challenged, would be ruled unconstitutional.

2. Pike v. Bruce Church

A more flexible standard is applied when the statute does not facially discriminate in favor of instate business or citizens, but still has an effect on interstate commerce. Pike v. Bruce Church, Inc., 397 US 137, 142, 90 SCt 844, 847 (1970):

> Where the statute regulates evenhandedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits. ... If a legitimate local purpose is found, then the question becomes one of degree. And the extent of the burden that will be tolerated will of course depend on the nature of the local interest involved, and on whether it could be promoted as well with a lesser impact on interstate activities.

This analysis, basically a weighing process, is used fairly often. The Philadelphia decision cited it, without actually using it. (Bruce Church struck down an Arizona statute which required that all melons grown and picked in Arizona must be packed and crated in Arizona.)

3. Sporhase v. Nebraska

The third analysis is relatively new and, developed in a decision on use of ground water, applies well to resource conservation issues. Sporhase v. Nebraska, 458 US 941, 102 SCt 3456 (1982). The Glassboro court applied it in addition to Bruce Church. The case itself involves a Nebraska statute which requires a permit to withdraw ground water and transport it to another state. If the Director of the Department of Water Resources determines that the request is reasonable, not contrary to the conservation and use of ground water, and not otherwise detrimental to the public welfare, the Director must grant the permit. 458 US at 944, 102 SCt at 3458. (The Court struck down the additional requirement that the receiving state grant reciprocal rights for Nebraska to use its ground water. Reciprocity requirements are uniformly

invalidated, with few exceptions, as imposing impermissible burdens on interstate commerce.) The Nebraska Supreme Court upheld the statute by finding that ground water is not an article of commerce, and therefore not subject to the commerce clause.

The United States Supreme Court disagreed, partly based on the great importance of water to that section of the country. The Court did, however, uphold the statute (except the reciprocity requirement). Its analysis of the statute's constitutionality started with Bruce Church, then progressed to include 4 basic considerations (discussed in Glassboro):

> (1) Nebraska was "protecting the health of its citizens - and not simply the health of its economy - (which) is at the core of its police power." 458 US at 956, 102 SCt at 3464.
>
> (2) The legal expectation that under certain circumstances a state may restrict use of the waters within its borders has been furthered over the years in many ways. 458 US at 956, 102 SCt at 3464.
>
> (3) Nebraska's claim to ownership of the ground water "may support a limited preference for its own citizens in the utilization of the resource." 458 US at 956, 102 SCt at 3464.
>
> (4) Nebraska's conservation efforts have helped to make more ground water available. This serves as evidence that the ground water now available is a good which is publicly produced and owned, and "in which a state may favor its own citizens in times of shortage." 458 US at 956, 102 SCt at 3464.

IV. DISCUSSION OF POSSIBLE ALTERNATIVES

A. Multi-state regionalization

Maine could, instead of banning out-of-state waste, opt for a cooperative approach with one or more states to deal with the solid waste disposal issue on a regional basis. The drawback is that Maine could still become the disposal site for more than Maine's garbage. The somewhat-silver lining is that at least the State could plan for the volume of solid waste coming into Maine where interstate agreements exist, if, of course, such agreements are required. However, such an agreement would not necessarily preclude the import of solid wastes not party to the agreement.

B. Use Tax

A non-discriminatory use tax, levied on everyone who disposes of solid waste in a Maine landfill would satisfy commerce clause scrutiny. The higher the use tax, the less attractive Maine sites would be. (There is some discussion that New Jersey's low fees created its problem in the first place. If the fees had been higher initially, Philadelphia may have gone elsewhere. See Note. The Commerce Clause and Interstate Waste Disposal: New Jersey's Options After the Philadelphia Decision, 11 Rutgers - Camden L.J. 31, 56 (1979). This may, of course, cause problems for Maine municipalities.

C. Proprietary exclusion

The proprietary exclusion concept comes from the theory that states can spend their own money to benefit their own citizens, provided it is not in a regulatory manner. For example, the State of South Dakota owned the only cement plant in the State. It chose to sell cement to only South Dakotans. The United States Supreme Court upheld the discrimination because South Dakota was acting as a proprietor (in a traditionally non-governmental business) as opposed to a regulator. Reeves v. Stake, 447 US 429, 100 SCt 2271 (1980). In another case, the State of Maryland paid a bounty on Maryland-titled wrecked cars delivered to processors for the purpose of ridding the state of wrecked and abandoned cars. The State required out-of-state processors to obtain more elaborate title documentation than instate processors. This resulted in few car hulks being delivered to out-of-state processors. The United States Supreme Court upheld the statute because Maryland was actually participating in the market (of car hulks), not regulating it. There was no impermissible trade barrier preventing the flow of Maryland hulks out-of-state. Hughes v. Alexandria Scrap Corp., 426 US 794, 96 SCt 2488 (1976). See also American Yearbook Co. v. Askew, 339 F. Supp. 719 (M.D. Fla. 1972), affirmed mem., 409 US 904, 93 SCt 240 (1972).

1. Subsidies

The State could agree to pay each Maine landfill operator a set fee per ton of waste originating in Maine which is disposed of in each Maine landfill. Operators would prefer to accept profitable in-state waste rather than waste coming from out-of-state. This seems to fit the Alexandria Scrap scenario very well. The drawback is the expense of the subsidies.

Subsidizing landfills on the contingency that the landfill not accept out-of-state waste runs much closer to the facts in Philadelphia; the landfill operator may be viewed as an agent of the State.

Thus, the likelihood of the program being found to be cunconstitutional is very high.

2. State ownership

Another option may be for the state to actually own and operate its own landfills. There would be no prohibition on others operating landfills. The State could then charge higher fees for waste originating out-of-state. This is discriminatory on its face, but the state would actually be a market participant rather than a regulator, as in Reeves and Alexandria Scrap. The drawback is that other landfill operators could still accept out-of-state waste. A prohibition on the existence and operation of other (private) landfills may drop the situation out of the Reeves pattern, and put the State in a more governmental, rather than proprietary, position.

D. Comprehensive waste management scheme

Maine could develop a comprehensive statewide waste management program, which New Jersey has done to some extent. In New Jersey, each district, not the State, has the responsibility for developing a solid waste management plan, subject to state approval. There is not, however, a statewide plan, per se. Maine could do the same, providing on the state level: Policy, establishment of districts, authority for districts, guidelines and plan approval system.

The use of districts could be quite helpful in regulating the disposal of solid waste. As in New Jersey, a district could charge higher disposal fees for out-of-district waste sent to a landfill. Because this would not be facially discriminatory (York County would treat New Hampshire and Cumberland County the same), yet still affects interstate commerce, the Commerce Clause analysis would consist of applying the Bruce Church balancing test: Do the local benefits outweigh the burden on interstate commerce? The factors could include population pressures, diminishing suitable land space and ground water contamination.

It is not clear what would be the outcome of a challenge to a State's use of the conservation of suitable land space as a basis for strict regulation of landfills, which affects the importation of solid waste. Whether the State must then take into account the same type of resource available in other states and those states' need for that space, and the space in Maine, has not yet been answered.

The State may require a "need analysis" before each new or modified permit for a landfill is issued. The applicant would have to demonstrate a definite need for the space; other states' need for landfill space would not necessarily be enough for the State to issue the permit.

Whatever plan the State chooses to follow, it must deal with the private as well as the municipal landfills.

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MEMORANDUM

March 5, 1987

To: Tim Glidden, Policy Analyst

From: David Elliott, Legal Analyst

Subj: Legal Issues Related to the Legislature's Solid Waste Management Study

I. Background

Currently, waste disposal facilities in Maine accept waste generated both in-state and out-of-state. It was largely the concern over the importation of waste into this state which prompted the study now under way by the Energy and Natural Resources Committee. The Committee has already considered the issue of prohibiting the importation and disposal of out-of-state waste and rejected that option as violative of the Commerce Clause of the U.S. Constitution.[1]

Recently a trend toward incineration of trash both to dispose of solid waste and to generate electricity which may be sold at a profit has begun. Three energy recovery facilities are currently under construction which it is anticipated will have the capacity to handle about 60% of the municipal solid waste generated in-state as well as waste imported from out-of-state. Many contracts have already been entered into with municipalities to supply their solid waste to those resource recovery facilities. Among the provisions contained in those contracts are: (1) prohibitions or limitations on participation in recycling programs by the municipalities, (2) requirements that municipalities supply all their waste to the energy recovery facility and (3) requirements that municipalities supply a guaranteed annual tonnage of waste and a minimum BTU level per ton or a quantity of waste sufficient to produce a minimum BTU level when incinerated.

It is in this context (admittedly much abbreviated here) that the study Committee is considering options for development of a comprehensive solid waste management policy.

II. Committee Deliberations

Among the proposals which the Study Committee has under consideration are: (1) the establishment of a program of mandatory recycling and the creation of a governmental or quasi-governmental entity to implement it and (2) the establishment of a performance standard which must be met by any waste accepted by a Maine facility. That standard would be the same for all waste, whether generated in-state or out-of-state.

You have asked whether incorporation of these proposals into the Committee's recommendations raises any legal problems. It is difficult to answer without reservation not having seen specific statutory language embodying the proposals. However, there are some principles which may be helpful to you and the Committee in developing specific language and recommendations. This memo discusses Commerce Clause and Contract Clause requirements of the U.S. Constitution and other contract issues in general terms. If specific proposed statutory language is developed along the lines described above, further review of that language may be necessary.

III. Commerce Clause Issues

A. QUESTION: Can the State enact legislation restricting the type, form or treatment of waste (waste generated both in-state and out-of-state) to be accepted by waste disposal facilities operating in the State, notwithstanding that there may be some impact on interstate commerce?

B. ANSWER: Yes, because the restriction does not, on its face, discriminate against out-of-state waste, because it serves a legitimate state concern and because any impact which it may have on interstate commerce is minor in comparison to the environmental, public health and resource conservation benefits which it seeks to achieve.

C. DISCUSSION: The Constitution specifically grants to Congress the power to regulate international and inter-state commerce:

> "Congress shall have power ... to regulate Commerce with foreign Nations, and among the several States ... " (U.S. Constitution, article I, §8, clause 3.)

In formulating its analytical framework for Commerce Clause cases, the Supreme Court has recognized that the rationale for the Commerce Clause was to foster the development of a

"common market" among the States by disallowing internal trade barriers. If discriminatory economic laws enacted by one state were allowed to stand, retaliatory legislation by the burdened States would be encouraged which would lead to economic chaos.

The first issue to consider in analyzing the proposals before the Committee is: whether solid waste constitutes "commerce" within the meaning of the Commerce Clause of the Constitution. City of Philadelphia v. New Jersey, 437 U.S. 617, 98 S.Ct. 2531 (1978), clearly answers that question. "All objects of interstate trade merit Commerce Clause protection and none is excluded from the definition of commerce at the outset." (p. 2534).

That issue disposed of, the cases indicate the court will review cases involving Commerce Clause challenges on two levels.

1. Facial discrimination. First, the statute will be examined to see if it discriminates against interstate waste, i.e. is it a case of economic protectionism by the enacting state. If so, the law is unconstitutional on its face, and analysis need proceed no further. As the court said in City of Philadelphia v. New Jersey:

> "Thus, where simple economic protectionism is effected by state legislation, a virtual per se rule of invalidity has been erected. The clearest example of such legislation is a law that overtly blocks the flow of interstate commerce at a state's borders." (p. 2535)

And further:

> "The New Jersey law at issue in this case falls squarely within the area that the Commerce Clause puts off limits to state regulation. On its face, it imposes on out-of-state commercial interests the full burden of conserving the State's remaining landfill space." (p. 2537)

The proposal before the Committee in general terms does not discriminate against interstate wastes on its face. In fact, it appears to treat both in-state and out-of-state waste equally. Therefore, the court will review the legislation further.

2. Effect on interstate commerce balanced against public benefit. The second level of analysis seeks to determine, if no outright discrimination is present, whether there is any burden on interstate commerce; and, if so, whether the benefits to public health and safety and the environment outweigh that burden. As the court has stated:

> "Where the statute regulates evenhandedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits. If a legitimate local purpose is found, then the question becomes one of degree. And the extent of the burden that will be tolerated will of course depend on the nature of the local interest involved, and on whether it could be promoted as well with a lesser impact on interstate activities." Pike v. Bruce Church, Inc., 397 US 137, 142, 90 SCt 844, 847 (1970).

The elements of the court's review in such cases are likely to be: (1) is the regulation even-handed, (2) are the purposes behind the regulation legitimate, (3) is the burden imposed on interstate commerce relatively minor in comparison to the benefit to the State, and (4) is this the available approach with the least impact on interstate commerce. (See Minnesota v. Clover Leaf Creamery Co., 449 U.S. 456, 101 S. Ct. 715, 727-729 (1981).) This is basically a balancing test and is frequently employed by the courts in Commerce Clause cases.

3. Application to proposals before the Committee. The elements of the test might be applied to the general proposal being considered by the Committee as follows. As stated above, the proposal appears to be even-handed - it does not on its face favor in-state waste over out-of-state waste. Second, the proposal is to further a legitimate state concern - environmental protection, public health and resource conservation - and the State also actively seeks to limit environmental damage from waste generated in state. Third, in light of the benefit to the State of a decreased quantity of waste in the waste stream, the burdens imposed on interstate commerce are modest. Finally, no other feasible alternative proposals have been put forward to accomplish the same objectives with less impact on commerce.

Therefore, if carefully tailored, the legislative proposal could withstand a Commerce Clause challenge.

IV. Contract Clause Issues

A. QUESTION: Can the State enact legislation establishing a mandatory recycling program which is contrary to, or invalidates part of, existing contracts between energy recovery facilities and municipalities?

B. ANSWER: Yes, because the proposal would not substantially impair existing contracts, or, if it did, the proposal is designed to serve a significant and legitimate state purpose and is a reasonable and narrowly tailored means of achieving that purpose.

C. DISCUSSION: The U.S. Constitution provides: "No state shall ... pass any ... law impairing the Obligation of Contracts." (U.S. Constitution, article 1, §10, the Maine Constitution has an identical provision applying to the Maine Legislature at article 1, §11). The purpose of the clause is to provide a stable economic environment by prohibiting states from enacting laws that would retroactively interfere with existing contractual agreements between citizens or between citizens and the government.

Although little relied on earlier in this century, the Contract Clause was revived by a series of cases in the late 1970's. However, even in its present revived form, the Contract Clause does not, in all cases, prohibit a State from adversely affecting pre-existing contracts. Under certain conditions, a State may constitutionally impair existing contractual obligations.

The controlling case in this area appears to be Energy Reserves Group, Inc. v. Kansas, 459 U.S. 400 103 S.Ct. 697 (1983). In that case the Supreme Court upheld, against a Contract Clause challenge, a Kansas law which prohibited the enforcement of an indefinite price escalator clause in a natural gas supply contract between the gas supplier and the purchasing utility. Under Energy Reserves, the court will employ a three step analytical process.

1. Substantial impairment. First, the court will ask whether the statute has created a substantial impairment of a pre-existing contractual relationship. Although there may be a number of factors bearing on the degree of impairment, the court in Energy Reserve focused on the history of government regulation of the activity involved. "In determining the extent of the impairment, we are to consider whether the industry the complaining party has entered has been regulated in the past." Energy Reserves at p.411. It found the State's authority to regulate natural gas prices well established. Moreover, the contract itself recognized the role of government regulation by providing that the contract terms are subject to present and future state and federal law.

2. Significant and legitimate interest. Even where there is substantial contract impairment, the legislation may not be unconstitutional. In the second step, the court will examine whether the statute is designed to promote a significant and

legitimate state interest. If it is, the law may survive a Contract Clause challenge. The court in Energy Reserve found that exercising its police powers to protect consumers from increased gas prices was a "significant and legitimate" state interest. Among the factors which may influence the court are whether the statute benefits the public generally or is designed to serve only a small segment, and whether the law is general in its approach and its effect on contracts is merely incidental to its broader purpose or whether the law is specifically directed at pre-existing contracts.

3. Reasonable and narrowly tailored. In the third step of its inquiry, the court will determine whether a law which impairs contract rights and obligations was a reasonable and narrowly tailored means of promoting the significant and legitimate public purpose identified in step 2. Citing, among other factors, the deference properly accorded to legislative determinations of reasonableness and necessity, the court in Energy Reserve upheld the challenged legislation.

4. Law Court interpretation. The Maine Supreme Judicial Court will apparently follow the U.S. Supreme Court's analysis described above when deciding cases under the Contract Clause of the Maine Constitution. See Atlantic Oceanic Kampgrounds v. Camden National Bank, 473 A, 2d 884 at 889-890, Glassman, J., concurring.

5. Application to proposals before the committee.

a. Step One - Using the test (in step one of the analysis described above) of the historical level of government regulation of solid waste disposal facilities, it seems likely that analysis of the proposals under consideration by the Committee would find there was no substantial impairment of existing contractual obligations or rights. That is so because the siting, construction and operation of waste disposal facilities is an activity already considerably regulated by existing state law, particularly the Site Location of Development Law and various other water quality and land use laws.

Similarly, the existence of contract provisions acknowledging the possibility of state regulatory activity (the so-called change of law provisions which some of the contracts contain) would bolster the argument that government regulation is commonplace in this field and that no substantial impairment would occur.

Were the court to agree that there is no substantial impairment of contract relationship, the analysis should end there. In the event that substantial impairment were found, the court would proceed to steps two and three of the analysis described above.

b. Step Two - Step two involves the determination of whether a "significant and legitimate state interest" is served by the legislation which impairs contractual relations. An important element in that analysis is the breadth of application of the statute said to impair contracts. If the statute is directed toward a broad segment of society, rather than a narrow part, and if it aims to affect pre-existing contracts only incidentally in achieving its broader purpose, rather than specifically targeting pre-existing contracts, then the statute will likely be found to be serving a significant and legitimate purpose. The proposals before the Committee for discussion have a broad focus. They are directed at all waste disposal facilities (although that is, by definition, a small group) and do not single out some of that group for special treatment. Likewise, the proposals are not directed specifically at pre-existing contracts, but affect those contracts only incidentally in achieving the broader purposes of energy conservation, waste reduction, environmental protection and public health.

Some cases and commentators draw a distinction between impairment of contracts between private persons and contracts between governmental entities and private persons. See United States Trust Co. v. New Jersey, 431 U.S. 1 (1977) and 89 Yale L.J. 1623 (1980). Generally, the court has held governmental units to their contractual obligations when they enter the contractual market-place. In entering into the contract, the government had the opportunity to negotiate contract terms and committed itself to honoring them. It should not be allowed to alter that commitment by enacting legislation impairing the contract rights of private citizens with whom it has contracted. "... complete deference to a legislative assessment of reasonableness and necessity is not appropriate because the State's self-interest is at stake... If a State could reduce its financial obligations whenever it wanted to spend the money for what it regarded as an important public purpose, the Contract Clause would provide no protection at all." U.S. Trust Co. at 26.

Although the contracts in question here involve governmental units -- various municipalities -- the present situation may be distinguishable from the U.S. Trust Co. case. In that case, the challenged State law relieved the State of its own contractual

obligation. The proposals under consideration by the Committee do not affect contracts between the State and private persons. It is municipalities, not the State, who are parties to the contracts which would arguably be impaired by enactment of the proposals under consideration. It is not a contractual obligation of its own which the State would be affecting by legislative action. Therefore, the increased scrutiny called for by U.S. Trust Co. may not be appropriate.

Furthermore, U.S. Trust Co. does not stand for the proposition that governmental contractual obligations may not be constitutionally impaired under any circumstances. Rather, that case indicates that the court will give such cases a closer review to ensure that the act is reasonable and necessary. It is possible that the State may have important energy conservation, waste reduction, environmental and public health concerns which would justify contract impairment even where governmental obligations are involved.

c. Step three - The third step in the court's analysis involves determining whether the law (which impairs contractual rights but is designed to promote a significant and legitimate public purpose) is a reasonable and narrowly tailored means of promoting that public purpose. There are several areas the court could investigate to make that decision. Is the law a temporary emergency measure or is it permanent? What role has the State played in the past in regulating this area? Is the State's method of advancing its asserted purpose reasonable and practical? Are there alternative means to further the State interest? How effective or burdensome are they?

While the proposals before the Committee do not satisfy all of those tests, they do appear to satisfactorily address most of them. In light of that and of the deference cited in Energy Reserves due to legislative judgment in this area, it seems likely the State plan would be found sufficiently reasonable and narrowly tailored to survive Contract Clause challenge.

V. Other Contract Issues

A. QUESTION: Would enactment of the proposals under consideration affect the existing contracts between energy recovery facilities and municipalities for the supply of waste to an energy recovery facility? If so, how?

B. ANSWER: Yes; although the nature of the impact would depend on the particular wording of each contract.

C. DISCUSSION:

1. Contract provisions. Apparently, dozens of contracts for the supply of waste exist between each of the three prospective operators of energy recovery facilities and individual municipalities. Although many of the contracts are similar, each one would have to be examined to determine the effect of enactment of mandatory recycling provisions.[2] Some of the important contract provisions are summarized below.

a. Delivery of waste. Provisions in the contracts which I have seen regarding delivery of waste to an energy recovery facility take two tacks. PERC contracts require municipalities to provide at least a minimum annual tonnage stated in an appendix to each contract. That minimum volume may be exceeded up to a maximum annual tonnage (125% of the minimum).

In order for waste to be acceptable, it must (among other requirements) have a BTU content of at least 4000 per pound. So, for example, for a municipality with a minimum annual tonnage of 25,000 tons, PERC would be able to count on at least 200 trillion BTU's per year from that contract. Of course, the actual BTU's generated might be much higher both because the town might supply waste up to its maximum annual tonnage and because most waste may exceed the minimum 4000 BTU's per pound.

RWS contracts, on the other hand, require municipalities to supply all acceptable waste generated in the municipality.

Each contract specifies that the facility will be paid a fee by the municipality for each ton of waste delivered.

b. Recycling. PERC contracts permit recycling without facility permission only if (1) such recycling does not significantly reduce the BTU content of the municipality's waste or (2) the facility is not presently combusting that type of materials to generate electricity.

RWS contracts do not permit recycling without facility permission.

c. Change of law provisions. PERC contracts contain a specific "change in law" article. That article provides that if, as a result of a change in the law affecting the construction, operation

or maintenance of the facility, there is an increased cost for the financing, construction, modifying, operating or maintenance of the facility exceeding $100,000, PERC may increase the tipping fee until the excess costs are recovered.

RWS contracts do not contain a change of law provision.

d. Penalties and damages. PERC contracts provide for damages to be paid by the municipality in the event it fails to deliver its minimum tonnage requirement. Those damages consist of the value of (1) the tipping fee lost by the facility for waste not delivered and (2) the cost of purchasing alternate fuel of equivalent BTU value.

RWS contracts have two applicable provisions. First, provision is made to adjust the tipping fee during the year to reflect substantial and unanticipated costs, decreases in revenue or changes in waste delivered. Second, if the municipality fails to deliver all its waste to the facility, damages equal to 125% of the tipping fee times the number of tons not delivered shall be awarded.

2. Reopening contracts. The general question under consideration is whether enactment of a mandatory recycling program, which makes it impossible for municipalities to comply with the pre-existing contracts with energy recovery facilities for the supply of municipal solid waste, would permit those facilities to reopen these contracts for the purpose of renegotiating the tipping fee or other payments due to the facility. The answer to that question depends on the specific provisions of each contractual agreement and of any recycling program ultimately adopted. There may, in fact, be several specific answers to the general question.

In general, there is no right for one party to unilaterally "reopen" or otherwise affect modification of a contract. The assent of both parties is essential to any modification, since the effect of any change in terms is to substitute a new contract for the old. (Simpson on Contracts, second edition, p. 186) In the absence of mutual modification of pre-existing contracts, a court could rule some or all of the contracts discharged under the doctrine of supervening impossibility of performance. That would set the stage for renegotiation. Under the doctrine of impossibility, an unforseen event, occurring

subsequent to the formulation of the contract, which makes performance of a contractual duty impossible excuses the promisor from performing. (6 Corbin on Contracts §1321)

a. Impossibility by legal prohibition or act of the State. The general rule is:

> "A contractual duty or a duty to make compensation is discharged, in the absence of circumstances showing either a contrary intention or contributing fault on the part of the person subject to the duty, where performance is subsequently prevented or prohibited (a) by the Constitution or a statute of the United States, or of any one of the United States whose law determines the validity and effect of the contract, or by a municipal regulation enacted with constitutional or statutory authority of such a State,...." Restatement of Contracts, §458.

The rationale for such a rule as stated by Williston is that:

> "It would obviously be a gross injustice if the law should hold a promisor liable for failing to perform the promised act after the law itself had prohibited its performance, though at the time of the contract the undertaking was legal." 6 Williston, Contracts (Rev ed) §1938.

See also American Mercantile Exchange v. Blunt, 102 Me 128, 66 A 212 (1906), (contract to perform certain debt collection services included some actions later prohibited by statute).

In light of the general rule, the question then becomes whether, if the mandatory recycling program is enacted, compliance with both that statute and with the waste supply provisions or recycling provisions of the various existing contracts is legally impossible. If it is, the contract is discharged and both parties are excused from performance. (6 Corbin on Contracts §1343.) In such a circumstance, the whole contract would be open for renegotiation.[3]

The answer to the question posed in this section depends on the performance contemplated by the contracts (which will vary between the different energy recovery facilities and may vary between contracts with different municipalities and the same facility). Under a contract which requires delivery

of all municipal waste to a facility (as RWS's does) enactment of a subsequent recycling program which requires participation by the municipality would make it impossible for the municipality to legally comply with the terms of the contract. Under the general rule discussed above, the contract would thus be extinguished and the way would be paved for the parties to renegotiate based on the changed circumstances.

Where the contract calls for the delivery of a minumum annual tonnage and, therefore, a minimum annual BTU level, (as PERC's does) enactment of a mandatory recycling program would not necessarily make compliance impossible. Whether it did or not in each case would depend on whether participation in the recycling program would reduce the municipality's available waste below the minumum annual tonnage to which it is committed. There are a number of factors which might tend to indicate that, in many instances, the minimum would continue to be met. First, municipalities are likely to have been conservative in setting the minimum annual tonnage figure to avoid penalties for non-compliance. Second, some contracts provide that a municipality will not be penalized for failure to provide its minimum annual tonnage where the facility receives the total minimum annual tonnage from all its contracts. In other words, a community supplying less than its required tonnage can be saved from penalty if other municipalities provide above their minimums. Third, the volume of waste is likely to grow naturally over time all other factors remaining constant. By the time a recycling program comes on line, a municipality may be able to comply with both mandatory recycling requirements and its contractual obligations.

If the provisions of any state law imposing a mandatory recycling program on municipalities did not cause a municipality to fall short of its contractual obligations, performance of the contract would not be discharged and there would be no need for reopening the negotiations, although the parties could mutually agree to do so.

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[1]See City of Philadelphia v. New Jersey, 437 U.S. 617, 98 S. Ct. 2531 (1978) and Reinsch, M., Legal Analyst Memorandum: Constraints on Importation of Solid Waste: Commerce Clause Implications (July 22, 1986).

[2]At this point, I have reviewed sample contracts for Penobscot Energy Recovery Company (PERC) and Regional Waste System (RWS) only and, so, can speak only in general terms about the effect of legislative changes on those contracts.

[3]In addition, there may be an issue of damages for losses incurred when the contract is discharged by impossibility. As the court said in Albre Marble & Title Co. v. John Bowen Co. (155 NE1d 437 at 444) "The problems of allocating loses where a ... contract has been rendered impossible of performance by a supervening act not chargeable to either party is a vexed one." The subject of damages, not being directly at issue here, is not discussed.

C. Recycling in Maine: Background Paper

RECYCLING IN MAINE: ISSUES SUMMARY

Introduction

Recycling is the reuse of the waste materials from a productive or consumptive action. Recycling usually involves the separation of usable materials, followed by the saving and collecting of quantities large enough for reprocessing, and then use in some productive manner. Recycling of an industrial nature has existed in Maine since at least 1900. A more relevant date for examining current recycling issues is 1978, when the Maine bottle bill went into effect. Prior to the bottle bill's enactment, recycling in Maine was primarily a concern of people in the scrap or junk industries and of large volume generators of scrap metals, paper, or corrugated cardboard. Some civic groups also recycled paper, but the primary municipal wastes being recycled were white goods and light iron. Beverage bottles, widely recycled until the mid-1960's, shifted to throw-away types in the early 1970's.

Passage of the bottle bill seems to represent a watershed of sorts, an action that signaled the beginning of more recycling efforts at the municipal level and of increased recycling by the business sector. Coincident with the bottle bill's passage, some municipalities were beginning to experience troubles with their recently developed landfills. Landfills had become the chosen diposal option after the passage of environmental control laws in the early 1970s. Pollution problems, high operating expenses, and the rapid filling of landfills supposedly designed to last years into the future caused municipalities to search for cost cutting measures. Civic groups increasingly found that paper recycling was a inexpensive means of raising money.

The remainder of this section summarizes the status, the structure, the apparent problems, and the opportunities for recycling in Maine. Little firm data on recycling exists, so this report is based primarily on conversations with individuals who are active in the recycling industry or municipal recycling programs. A solid waste disposal conference provided the opportunity to learn about recycling in other states and to learn about regional, national, and international markets for various recyclable materials. The lack of good empirical information on recycling in Maine points out the need for an effort to coordinate and promote the gathering of data, if state government is serious about promoting recycling as means of waste stream reduction. Neither municipalities or the state can make rational decisions about the correct nature and extent of recycling programs without knowledge of the amount of materials available, the availability of markets, and the requirements of reprocessors.

Recycling in Maine

As stated, recycling takes place primarily on municipal and commercial levels. Municipal programs are either associated with a community's waste disposal facility or are run by a local civic or charitable group. Commercial recyclers include major users of paper and scrap metals. Opportunities for the recycling of industrial chemicals also exist.

Municipal programs. 24 municipal recycling programs serve about 60 Maine communities. Early Maine recycling programs were in Harpswell (1978), Brunswick and Falmouth (both 1980). One program in Lincoln County serves more than 10 communities. The Lincoln County program and most of the other recycling programs in Maine were assisted in their start-up by grants from a bond issue administered by the DEP. Thirty-seven grants for a total of $300,000 were made between 1982 and 1986. The amount of municipal investment in recycling programs is unknown. Nineteen grants assisted in program starts and the remaining 18 grants were for program expansions, mostly for equipment and building purchases. Programs that received grants serve 55 communities. No estimate of the amount of materials that have been recycled is available. The Natural Resources Council of Maine did a telephone survey of 16 programs in February, 1987. They report 1986 totals (in tons per year) for the following materials from these programs: newspaper, 931; cardboard, 1741; mixed paper, 791; unspecified paper, 366; glass, 423; metals, 840. The metal quantity reported by NRCM apparently includes both scrap metals and recycled cans from some communities, so a separate estimate of can recycling is not available.

DEP regulations require landfills accepting junk vehicles, white goods, or tires to provide separate storage areas. Although there are some municipalities who have problems in getting their scrap metal removed, about 75 municipalities seem to be paying for adequate removal service. The amount of scrap metal being recycled from these communities far exceeds the 840 tons reported by NRCM. One scrap recycler estimates his company handles 8-10,000 tons per year from just 15 municipalities.

The typical municipal recycling program is run out of the local landfill or transfer station. Bins are provided for glass and paper, with varying levels of separation by different grades of glass and paper. Metal cans are collected in some communities. A small building contains an area to sort and handle materials. Oftentimes a baler is used to bundle paper and cardboard. Glass crushers are sometimes employed and trailers are used for storing materials until a full load is collected. A few communities also collect waste oil. Brunswick is unique in operating the only curb-side collection program in Maine. Residents can place sorted paper and glass by the curb on collection days for crews to take to the

recycling center at the Brunswick landfill. The program also provides free pick-up of cardboard and paper for 50 businesses.

Recycling programs at the municipal level are not presently profitmaking ventures. George MacDonald, program director in Brunswick, estimates that the recycling program pays for itself when revenues and avoided landfill costs are compared with operating expenses. The amount of money that can be earned by a recycling program varies with market demand for the materials. Programs directly affect their income by how well materials are graded and packaged. In general, the more sorting the more value. Materials should conform to the requirements of the reprocessors, often a step removed from the firms that collect materials from municipal programs. Cardboard and paper are generally the highest value materials recycled (in terms of dollars per ton) and the commercial volume in programs like Brunswick's is a big boost to revenues. The price for clear glass has been stable, but green and brown glass are not profitable items for municipalities. The market for aluminum cans is good. On the other hand, markets for tin and bi-metal cans are virtually non-existent. In Falmouth, a "bargain barn" sells second-hand items to landfill users. Income from this endeavor tops $4,000 per year, which was more than half the program revenues in 1986.

NRCM reports the following price ranges (in $ per ton) received by towns in their February 1987 survey: newspaper ranging from $10-32, cardboard from $22-45, mixed paper from $0-5, glass from $12-20. Municipal programs can pay $16-20 per ton to get rid of scrap metal.

Local groups. The local groups concentrate on paper collection, although sometimes they collect deposit bottles and cans which would be recycled anyway. There is no estimate of the amount of materials collected by them. Until recently, many groups in Central Maine were selling their paper directly to Keyes Fibre in Waterville, a major end-user of recycled paper. The decision by Keyes, who was paying $30-35 per ton for newsprint, to stop taking direct deliveries has undercut the efforts of these local groups. Paper recycling firms in Maine will pay only $10 per ton for delivered newsprint, since the recycling firm will only receive the same $30-35 per ton from end-users like Keyes. In many cases $10 is not enough to cover transportion costs for local groups, so the future of these recycling efforts is in doubt. Efforts are underway to resolve the quality and quantity problems which led Keyes to stop the local purchases.

Commercial and industrial recycling. For the purposes of this section commercial and industrial recycling includes materials generated by private business, institutions, and recycled deposit beverage containers. Any information given here was provided by recycling industry sources.

In recent years more of the true costs of trash disposal have been placed upon generators. The response by business has been to increase the recycling of materials when markets exist. The materials most frequently recycled by commerce and industry are paper, cardboard, and scrap metals.

Deposit beverage containers also constitute a large volume of recyclable material. Henry Brown of Maine Beverage Recycling estimates that 45-52,000 tons per year of glass is recycled in Maine, with all but 1,000 tons per year deposit glass.

David Murphy of Maine Metal Recycling estimates that roughly 150,000 tons per year of ferrous scrap metal is recycled in Maine, but this number does not include light iron and white goods. No estimate of non-ferrous metal recycling is available.

Sam Zaitlin of I. Zaitlin and Son, paper and metal recyclers, gives an estimate of 30-45,000 tons of paper (all grades, all sources) per year being recycled from Maine generators.

The general concensus among industry people is that a substantial percentage of the recyclable paper and scrap metal generated by the business sector is being recycled. This percentage is growing according to sources in the recycling industry.

Industrial Chemicals. Many byproducts of industrial processes can be used in different industries in their production process. Maryland, New Hampshire, New York, Ohio sponsor the Northeast Industrial Waste Exchange, an organization attempting to put waste producers in touch with waste users in order to minimize waste disposal expenses and maximize the value of manfacturing by-products with reuse value. A quarterly listings catalog is published and a computerized waste materials listing service is available. Both the catalog and the listings service are available free of charge. One Maine firm was offering a sodium hydroxide in the latest catalog. There is great potential for expanded use of this or similar programs.

Recycling Markets by Commodity

Paper goods, metals, and glass are the broad categories of waste products recycled in Maine. The markets for recycled goods are very complex. Demand for materials and requirements for the condition of recycled materials change as the needs of different players in the market change. Many factors can change a player's need. Changes in the quantity or composition of a material, a boom in the construction industry, and changes in the monetary exchange rates of nations who trade can influence the price for a municipal recycling program receives for its recycled goods. One of the most important factors effecting the feasibility of recycling is the distance from the

supply of material to the reprocessor or end-user.

The structure of the recycling market for a material is also important. Generators, collectors, reprocessors, and potential re-users of waste or secondary materials each have separate sets of needs. Most generators of recyclable waste materials, municipalities and individual businesses, do not generate a large enough volume to deal directly with reprocessors or end-users of the material. Because of this, markets for most materials include an intermediate layer of companies who act as collectors. For each of the major recyclable materials, Maine appears to have from 2 to 5 major collectors who also act as brokers and intermediate processors. These firms accumulate sufficient quantities and insure adequate quality to permit sales to reprocessors. Reprocessors convert materials into the form needed for use in a manufacturing process. Shredding of paper or scrap metal and the crushing of glass are examples of reprocessing. On the other hand, end-users of recycled materials are manufacturers of products that are used either by other manufacturers or by consumers. At this stage of the recycling market, recycled materials are used as substitutes for virgin materials and so must be competitively priced.

Paper

Paper goods are recycled in many grades, but corrugated cardboard, newsprint, and mixed paper are convenient subcategories. Generators of paper are discussed in the Recycling in Maine section of this appendix. Maine appears to have two major collectors and several end-users of recycled paper. The major paper collectors are Zaitlin and Son in Biddeford and Goodman and Sons in Portland. Keyes Fibre, Statler Tissue, and Yorktowne Paper all buy from brokers. The Winslow plant of the Scott Division of S.D. Warren is another major user of recycled paper. Cellulose insulation makers, operating on a seasonal basis, also use waste paper. Although the quantity of paper collected in Maine probably exceeds the in-state demand, these end-users do not necessary make use of the paper that is collected in Maine. Most waste paper from Maine is shipped to mills in the eastern U.S. or Canada. Overseas exports of waste paper are also important to the recycled paper industry. Approximately 15 percent of the paper collected in the U.S. is exported. Used paper is the largest volume single-item export from East Coast ports. This material goes to Europe and the Far East. It has been estimated that some 30-45,000 tons of paper (all grades, all sources) is collected in Maine yearly.

The market for paper generally reflects the health of the national and world economies, but some grades of paper are in more demand than others with less fluctuation in that demand. Corrugated cardboard and high grade papers like computer printout are much in demand. Corrugated cardboard in particular seems to have a strong and growing overseas market. Demand for cardboard will probably remain strong even

if expanded recycling programs by eastern states increase the quantity available. Technological problems in de-inking reduce the value of other grades of paper.

Metals

The metals category breaks down into ferrous (iron based) and non-ferrous (copper, brass, tin, aluminum) metals. Automobiles, white goods (stoves, washer-dryers, refrigerators), and other light iron are important household metal wastes. Scrap metals are collected from commercial and municipal generators by scrap metal recyclers. Usually, non-ferrous metals are re-smelted in the midwestern U.S. In general, the market for non-ferrous metals such as copper and brass is stable. Ferrous metals from commercial generators and municipal landfills are treated according to their quality and prior use. Contaminant-free, good quality iron is shredded. Shredded materials are separated into ferrous, non-ferrous and waste segments. Waste materials, plastics for instance, are landfilled. Much of the ferrous metal is exported to European and Far Eastern countries. Some is processed in the U.S., but economies of scale in transportation make truck and rail shipments to the mid-West more expensive than cargo ships to South Korea. Portland has been the site of both paper and metal exports, but it appears that most Maine scrap metal is shipped from Boston after shredding. Contaminant-free, lower quality metals (eg., clean 55 gallon drums) can be loosely baled and sent to some smelters, although demand for this material is weak.

Industry exposure to liability. Because shredders and scrap metal recyclers do not want to face the liability associated with handling heavy metal contaminants or other potentially hazardous wastes, they have increasingly restricted the types of materials they will handle. A muffler and a fender might have similar metal content, but shredders will not generally handle mufflers because of the potential lead contamination problem. Liability worries have caused a decrease in the level of automobile battery recycling from about 95% ten years ago to 60% today. The Institute of Scrap Iron and Steel, an industry group, has suggested a list of items that must be removed from all scrap being delivered to a shredder. The list includes batteries, gas tanks, tires, loose mufflers or tail pipes, catalytic converters, and unspent air bag canisters. Other items refused by shredders are barrels, drums, pails and buckets, closed containers, heavy unshreddable scrap, cable, wire, steel or cast iron borings or turnings. Many of these items are commonly found at municpal landfills where they pose a continuing disposal problem. When shredders refuse materials, scrap recyclers are forced to leave these materials with the municipal or commercial generators for alternative disposal.

Market supply and demand. The combination of liability problems and the decline of the domestic steel industry have caused a huge build-up of scrap metal, decreasing the demand

for ferrous scrap in the U.S. Although the export market for scrap has absorbed increasing amounts of scrap metal, both the price and the quantity demanded fluctuate with the world economy. Foreign users of scrap expect the same high quality as domestic handlers, so lower grades of metals and tainted materials are not exportable. All of these factors combine to make disposal of some types of ferrous scrap metal, especially the materials listed above, difficult for municipalities.

Commercial scrap metal recyclers. Scrap metal dealers or recyclers prepare scrap metal for shredding and resmelting. Scrap metal dealers are not junkyards or automobile wreckers. Junkyards and companies that recover used auto parts are among the commercial suppliers of scrap to the recycling firms. There are approximately 12 companies in Maine who process industrial scrap metal. Of these companies, four companies are handling municipal scrap. The level of service varies. Three companies pick-up at a municipal site, one company accepts delivery of municipal scrap. One of the pick-up companies hauls the scrap to their plant for crushing and baling, the other two crush at the landfill site. Municipalities are paying about $20 per ton before transportation costs for scrap metal removal. Transportation costs vary with distance from the recycler's home base. The firms that will pick-up scrap at municipal sites are located in Auburn, Brewer, and Saco.

The Auburn and Saco companies are serving about 75 municipalities in a region roughly bounded on the east and south by a line from Pittsfield to Belfast and along the coast to Kittery, the New Hampshire border, and south of a line extending from Rangeley east to Pittsfield. The Auburn firm has mobile baling equipment used to service municipal landfills. Two types of bales are created. The higher value material is loosely baled and consists of white goods and other materials that did not contain hazardous materials. These bales go to shredders in Massachusetts and New Hampshire. The lower value bales contain automobile parts, empty paint cans, and empty 55 gallon drums. These materials are tightly baled and sent to a furnace. This firm indicates that landfills which mix mufflers, tailpipes, rocks, metal cans and half-filled drums in with white goods are not going to be serviced by in-state metal recyclers, since they can neither sell mixed bales to shredders nor hand separate large volumes of these materials.

The firm in Brewer reports servicing about 10 to 12 communities a year. Many smaller communities do not generate large enough quantities of scrap metal to warrant yearly pick-ups. Nonetheless, the northern and eastern regions of the state are probably not adequately serviced at the present time. The Brewer firm reports having frequent problems with their mobile crushing unit making their reliability questionable.

Municipal disposal. The quantity of municipal scrap metal being generated in Maine has not been estimated, neither has the quantity being recycled. One industry source gives the rule of thumb figure that 25 people will generate one ton of scrap per year, exclusive of cans. If so, Mainers contribute about 44,000 tons of automobiles, white goods, and other metal products per year to the state's landfills and junkyards. In the not-too-distant past, scrap dealers paid for white goods and other landfill scrap metal. Now municipalities pay the scrap dealers for removal. In some cases municipalities, especially those in northern and eastern Maine, are unable to have their scrap removed at a reasonable cost. Contrary to normal DEP policy, some towns in northern Maine have been given permission to bury their scrap metal (separate from other wastes) for lack of other disposal options. Other municipalities, even those with access to scrap dealers, may have to bury some types of metal wastes not acceptable in current scrap markets.

Industrial disposal. In contrast to municipalities, many industrial generators of scrap are paid for their scrap metal. Higher grade metal, consistent quality and consistent supply make industrial scrap a higher value product to scrap dealers and shredders. One of the largest scrap recyclers in Maine estimates that 150,000 tons per year of industrial ferrous scrap is recycled in Maine. This figure does not include light iron and white goods, items for which no estimates are available.

Outlook for scrap metal recycling in Maine. The market for scrap metals appears to be one where requirements for those wishing to recycle metals will continue to become more difficult. This is especially true for ferrous metals where a huge backlog of scrap keeps prices low. Meanwhile, the presence of hazardous contaminants results in fewer materials being accepted for recycling. Municipalities should expect to pay more to get less of their scrap metal pile removed. Cables, paint cans, and suspect 55 gallon drums are likely to accumulate at municipal storage sites unless liability problems are addressed. Junkyards will find it more difficult to dispose of exhaust system and other automobile parts.

Glass

Glass is classified as white (flint), green, or brown. Currently, both deposit (bottle bill) glass and non-deposit glass are recycled. Far more deposit glass (as much as 50 times more) is recycled than non-deposit glass. End-users of recycled glass generally require separation by color. There appear to be no end-users of glass in Maine. The two major recycled glass brokers in the state ship white glass to facilities in Massachusetts and Connecticut. One firm estimates that 45,000 to 52,000 tons of glass per year are collected. Only about 1,000 tons of this is non-deposit glass. Both brown and green glass are more difficult to sell for smaller volume dealers. One large broker has no problem

disposing of brown glass, but sometimes holds green glass while waiting for a market. Contrary to rumor, it appears that deposit glass is being recycled and not landfilled.

Cans

The same firms recycling glass also recycle deposit cans, which are the vast majority of cans being recycled. The demand for aluminum cans is strong and is likely to continue to be, since the manufacture of aluminum from raw materials is very energy intensive and therefore expensive. Many other cans do not have good markets because they are composites, made of tin and steel, aluminum and steel, or aluminum, steel, and tin. This type of can is definitely not designed for recycling, but there are indications that demand for recycled tin and steel cans may be improving. "Recycling in New York," a November 1986 report by the Nelson Rockefeller Institute for Government of the State University of New York says that steelmakers have overcome the problem of residual tin in their final product by diluting the amount of tin cans used. Increasing availability of recycled tin and steel cans, along with their low cost, provides steelmakers with incentive to use bimetal cans. On the other hand, bimetal cans seem to be losing market share to plastics and other packaging materials. In either case, increased use by the steel industry or decreased use by the packaging industry, the recycling problem that bimetal cans have presented may be lessened.

Plastics

There does not appear to be a plastics recycling market in Maine except for deposit bottles made of PET (polyethylene terphthalate). Goods made of PET can be recycled into a number of other plastic products. Products include strapping, scouring pads, industrial paints, fiberfill, belts and sails.

Overview of Recycling Markets

This section points out those factors that encourage or impede the further development of recycling. Factors influencing recycling markets occur at the local, regional, national, and international levels. Issues at the state and local levels are the factors of most immediate impact. They are also the factors over which we have the most control.

Federal and regional issues. The nature of interstate commerce and the magnitude of some environmental issues causes certain recycling issues to fall within the province of the federal government. Key issues at the national level are; 1) rulings by the federal government on who is liable for when violations of environmental pollution laws occur, 2) the definition of what constitutes a product made of recycled materials, and 3) rules that encourage manufacturers to design products without potentially hazardous ingredients. These issues can affect both the supply of recycled materials and the demand for products made of recycled materials.

One industry being affected by current laws that assign liability for violations of environmental laws is scrap metal recycling. The current strategy for protecting the environment from hazardous materials focuses on cleaning up existing problems. The Superfund Act established procedures for identifying, cleaning up and funding hazardous disposal sites. Part of the funding mechanism requires that responsible parties be identified and held liable for remediation costs. The question of liability and how it is defined has been the cause of an unintentioned decrease in the recycling of some materials. Three factors are causing metal recyclers to refuse items previously accepted. First, an increase in the presence of hazardous contaminants in otherwise reusable materials. Second, no statute of limitations is applied to the liability of involved parties. Third, one contributor to a hazardous waste site can potentially be held liable for the total damage. The combination of these factors causes metal recyclers potentially greater costs than they can recoup by handling materials with hazardous contaminants. These items, lead-acid batteries are an example, are now being deposited illegally in municipal landfills or along roadsides. Other materials are no longer removed from municipal scrap metal piles by scrap recyclers, so they remain a disposal problem for the municipalites. This was certainly not the intention of Congress in creating the Superfund Act, but no action has been taken to address this problem.

One federal action that might alleviate this problem is to decrease the amount of hazardous materials being generated. In many cases marketing factors such as aesthetics lie behind the use of hazardous materials. The consumer is usually unaware of the disposal problem being created when they purchase a car with cadmium-based paint (heavy metal contamination) or use notepads with pressure sensitive adhesives that can cause paper de-inkers to malfunction. Manufacturers could be required to design for recycling, which means design products without including materials that make recycling or reuse difficult. Action by individual states could disrupt interstate markets for some products and would be difficult to enforce. The logical solution is to establish federal standards that require manufacturers to consider recycling in their design process.

The federal government could also take action to encourage the development of markets for products made of recycled materials. The Resource Conservation and Recovery Act (RCRA) of 1976 requires state governments to buy recycled products to the maximum extent possible. In RCRA, the EPA was charged with establishing standards defining what material contents constitute a product made of recycled materials. For instance, should recycled letter grade paper contain 20% or 50% recycled aper. Ten plus years after the passage of RCRA, EPA has yet to set standards. The lack of standards has created confusion in the marketplace and inhibited the development of markets for recycled products. Manufacturers have no consistent standards to meet and many states have delayed implementing procurement

policies because no standards defining recycled goods exist.

In the eastern U.S. a major issue is the implementation by several states of major recycling programs. Mandatory recycling programs in New Jersey and development of state-assisted programs in Massachusetts, Rhode Island, and New York could lead to supplies of some recycled materials far exceeding the current quantity demanded by reprocessors. Already depressed prices for some materials could possibly lead to municipalities paying to have recycled materials removed just as they pay for scrap metal removal today. The value of recycling to a municipality is the income received from a material plus the avoided disposal cost. Decreases in income received from recycled materials will make recycling some materials less attractive. Two factors will offset the possibility of oversupply causing a collapse in the price for recycled materials. First, new programs will take time to become effective. This delay will allow end-users of recycled materials to anticipate increased supplies and plan to incorporate more recycled materials into their production processes. The implementation of government procurement policies that give recycled materials a small price advantage, an approach adopted by several states, will also help this process by expanding the demand for recycled products. Of course, markets for recycled materials will still fluctuate for reasons outside governmental control. In the short run, increases in supplies will tend to make all prices lower.

State and Local Issues. State governments have relatively few options in achieving waste reduction at the manufacturing or food processing level, but have greater opportunities to encourage recycling of waste products. As a result much attention is being given to programs for recycling municipal and industrial wastes. This section concentrates on municipal solid waste recycling issues. Some of the questions raised have been:

*Should the state form a collection authority?
*Should regional recycling districts be formed or can collection be left to private industry?
*What role do small private trash haulers play? Are they impediments to recycling?
*Will the development of energy recovery facilities aid or hinder the growth of recycling?

Central to the discussion of these issues is the impact of disposal systems on municipalities. Municipalities have the legal responsibility for disposal their solid waste. Waste disposal has proved to be an increasingly controversial and expensive responsibility. Recycling is a disposal method that municipalities can use to decrease their solid waste disposal costs. Discussion of the role recycling can play has centered on the issues of private versus public sector roles and how best to regionalize municipal recycling.

Today, Maine's privately owned recycling firms act primarily as collectors, accumulating materials from numerous small generators, including municipal recycling programs. Recycling firms strive to minimize handling and transportation costs, while delivering a product that meets the reprocessor's specifications. Collection of a large volume of goods enables the firm to obtain economies of scale in preliminary reprocessing activities and in transportation to larger reprocessors. Municipalities dealing directly with reprocessors usually have higher per unit handling and transportation costs than recycling firms. In theory, regional recycling facilities would be able to lower their per unit costs just as commercial firms do now.

A regional recycling facility would presumably lower per unit costs by obtaining large volumes of materials from increased numbers and more effective municipal recycling programs. Most people in the recycling industry feel that as municipal landfills close opportunities for regional recycling programs will develop. Transfer stations can be designed to include the room and equipment needed for recycling. It seems likely that separation of different materials, glass from cans from paper, will take place at the transfer station. Types of glass could also be separated locally. Increased disposal costs and the obvious advantages of reducing the amount of waste subject to tipping fees and transportation costs are the underlying motivation for recycling. The remaining question is what role should the state play in developing regional recycling facilities? Can entrepreneurs be expected to fill the need for regional facilities or will some level of public ownership or operation be needed?.

For municipalities there may be advantages to publicly operated regional facilities. Among the potential advantages are control over what materials will be handled and the opportunity to receive a higher percentage of the market value of recycled goods. Public interest in keeping some materials out of landfills or incinerators for environmental reasons might result in public subsidy of recycling that would not occur if left to market forces. Still, some doubt exists whether these advantages would materialize. No matter who operates a recycling facility, there needs to be enough demand for materials that economically feasible recycling can take place. It is also possible for the state to subsidize or otherwise entice private industry to recycle materials not desired in landfills or incinerators.

Ideally, the methods chosen to reduce and remove our waste stream should be compatible and work together in an integrated manner. If the goal in Maine, as it is in most other eastern states, is to reduce the amount of the waste stream that is incinerated or landfilled, then the opportunity to move closer to this ideal situation has already passed. Sixty percent of Maine's municipal solid waste stream is committed to energy recovery facilities that were designed without intensive

recycling efforts in mind. If recycling is taken into account when designing a plant, then intensive recycling and energy recovery can be compatible, but facilities designed with large quantities of paper and plastic in mind do not have strong incentives to recycle those materials.

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D. Comparison of Special Waste Regulations in Other States

APPENDIX D

SPECIAL WASTE DISPOSAL IN NEW ENGLAND

Maine receives special wastes from throughout New England. However, the forces behind waste import vary from state to state and waste to waste. Table 1 shows the categories of wastes that are imported to Maine and the state in which they originate. This overview discusses how wastes imported into Maine are regulated and managed throughout the region. It focuses on asbestos, oily debris, coal and oil ash and some sludges. Tires and construction debris are not addressed.

TABLE 1
CATEGORIES OF WASTE IMPORTED INTO MAINE

	MA	NH	RI	VT	CT
Asbestos	x	x	x	x	x
Oily debris	x	x	x	x	
Metal hydroxide sludge	x				
Coal/oil ash	x	x			

MAINE

Special waste designation	Special wastes are defined as those wastes emanating from other than typical homes and businesses and which are not readily compatible with the waste facility at which it may be handled. The quantity, chemical, or physical characteristics of the waste may affect its disposal method. Special wastes are reviewed by DEP to determine whether they are hazardous under four criteria adopted from EPA regulations: ignitability, corrosivity, reactivity, and EP toxicity (an extracting procedure to analyze for the presence of elements and pesticides). Their physical characteristics also are assessed to see whether the design of the landfill and the conditions of disposal are appropriate.
Special waste management	Landfills apply for a permit to receive special wastes on a case by case basis. The two secure commercial landfills have approval to receive categories of special wastes such as asbestos, oily debris, and oil or coal ash. DEP regulations allow municipal landfills to accept limited amounts of oily debris. Disposal of other special wastes is reviewed by DEP and permitted after testing or review.
Oily debris	DEP directs oil spill clean-ups and directs wastes to disposal sites. Because DEP directs the clean-up and is aware of possible contamination, additional testing is not required before disposal. Certain municipal and industrial landfills are allowed to accept 100 to 500 cu. yds. per

year of oily debris. The two commercial landfills can accept more oily debris, as long as it is mixed with other wastes. Combustible oily wastes are brought to the Auburn incinerator. Oil debris from out of state must be tested before it is disposed at the two commercial landfills in Maine.

Asbestos

The disposal of any material that contains more than one percent friable asbestos is regulated. It must be wetted, double-bagged, and covered within 24 hours of disposal. DEP requires a ten day notice for asbestos disposal. DEP regulations require notification when an existing landfill begins accepting asbestos. The landfill must be 300 feet from surface waters and not within a flood plain.

MASSACHUSETTS

Special waste designation

A waste is considered a special waste in Massachusetts if it "requires special handling or procedures for disposal". DEQE makes these determinations on a case-by-case basis.

A waste is classified hazardous in the state under criteria consistent with Maine in terms of EP toxicity, corrosivity, reactivity, and ignitability (except for oily waste).

Special waste management

Disposal of a special waste in Massachusetts requires approval from the municipality's Local Board of Health (LBOH), whether the landfill is private or municipal. According to staff at DEQE, landfill capacity to handle some of these wastes exists within the state but is not used because of LBOH disapproval.

Papermill waste, and coal and oil ash are exempt from the special waste designation and the LBOH does not have jurisdiction over their disposal. Coal and oil ash must be disposed in a secure landfill. The staff expects, however, that as more information becomes available, more wastes will be classified as special wastes and require local review.

Oily debris	Oily debris containing more than 3 to 4% oil is classified a hazardous waste in Massachusetts. Because there are no facilities to handle oily debris, it cannot be disposed of in-state. It must be tracked on a manifest system and transported out of state. Most of the state's oily debris is sent to Maine. Massachusetts permits the burning of some waste oils in industrial boilers but they must first be tested for hazardous constituents.
Asbestos	Asbestos is classified a special waste in the state bringing it under LBOH jurisdiction. Most LBOHs will not allow it to be disposed within their towns. According to DEQE, there are currently 9 landfills that will accept asbestos but only one of these is commercial and will accept asbestos from out of town. If asbestos is generated in a town that does not allow disposal, the asbestos must go to the commercial landfill or out of state. The commercial landfill charges $75/ cu. yd. (compared to $28 to $36/ cu. yd. for Maine disposal) and it received less than 100 cu. yds. in 1985. There is a well-developed transport network to export DEQE asbestos from Massachusetts. DEQE staff estimates that 70 to 90% of the state's asbestos comes to Maine.

NEW HAMPSHIRE

Special waste designation	New Hampshire has an unwritten policy defining special wastes as any material that requires special handling or is not innocuous. New Hampshire follows the same criteria for designating a material hazardous as Maine.
Special waste management	A landfill permit from the state of New Hampshire will describe types or character of wastes that landfill can accept. The selectmen of a town then have discretion over which wastes they will allow into their municipal landfill. Each town has the responsibility to dispose of wastes generated within their borders or to find an

alternative disposal site. The selectmen can turn down wastes from out of town. If a municipality has only a transfer station, the selectmen must supply waste generators with alternative disposal sites. In New Hampshire, there are only two commercial landfills, however at this time they do not accept special wastes.

Oily debris

Oily waste is not considered hazardous in New Hampshire and most landfills are licensed for its disposal. Testing for hazardous constituents is required before disposal. Again, it is up to the discretion of the selectmen whether to allow disposal. Some of the state's oily debris is sent to Maine.

Asbestos

New Hampshire does not have a formal policy for asbestos disposal. While nonfriable asbestos (asbestos that cannot be crumbled in your hand) is accepted by landfills, friable asbestos is not. There have been exceptions in more remote areas provided that asbestos is double bagged and immediately covered, but even the private landfills within the state do not handle it.

According to New Hampshire staff, no landfills have asked to be permitted for asbestos although in well-designed facilities it would be allowed.

RHODE ISLAND

Special waste designation

Rhode Island does not have a special waste category -- their wastes are classified as either hazardous or suitable for disposing in their landfills without special approval. Oily debris and asbestos are an exception as discussed below. However, Rhode Island requires testing for more constituents than does Maine to determine if a material is hazardous.

Special waste management

There are no wastes under special management in Rhode Island.

Oily debris

Rhode Island no longer allows oily debris to be disposed of in their state. The state has recently required that oily debris be disposed of only in lined facilities

	although Rhode Island has no lined landfills. Maine landfills have begun receiving oily debris from Rhode Island.
Asbestos	Asbestos also is now required to be disposed of in lined landfills and therefore must go out of state. Rhode Island had been receiving large amounts of asbestos from Massachusetts.

CONNECTICUT

Special waste designation	Connecticut defines a special waste as a non-hazardous solid waste which requires special handling. They have more stringent requirements for classifying a material as hazardous. Their concentrations for EP toxicity are 20 times more stringent than EPA's suggested criteria. Connecticut feels this extra precaution is warranted because there are no lined landfills within the state. However, since these criteria were implemented in 1984 no additional special wastes have been classified as hazardous under these more stringent levels.
Special waste management	Special waste management is outlined in their regulations. Testing and state approval is required for disposal of wastes not approved in facility permits. Local health officials can exercise some control over municipal landfills but have never done so.
Oily debris	The state's handling of oily debris depends on the source of contamination. Virgin oily debris, for example from an oil spill along a road, can be disposed of in selected landfills within the state. There are no quantity limits. Waste (nonvirgin) oily debris must be tested and if below 50 ppm of organic compounds, it can be disposed of in selected landfills.
Asbestos	Any municipal landfill within the state can accept asbestos if they receive permission from DEP. There are established procedures for disposing of the waste, similar to Maine's requirements. However, only 100 of

the 169 towns within Connecticut have their own landfill. The other towns must either make arrangements with other towns or dispose of it out of state.

There is one private landfill within the state that accepts asbestos for $50 to $60/ cu. yd. but according to staff, it is cheaper to send the asbestos out of state.

VERMONT

Special waste designation

Vermont has adopted the same criteria as Maine and most other New England states for designating a special waste and testing levels for classifying a waste hazardous.

Special waste management

The state manages special wastes on a case-by-case basis. If a town owns a landfill, they can deny disposal of any special waste. However, 1/3 of Vermont's landfills and 60% of their capacity is privately owned and operated. According to Vermont staff, more and more special wastes have to be transported further distances to private landfills that will accept them. The private landfills do not meet any more stringent design or operating requirements. Coal and oil ash are not classified as special wastes.

Waste is also imported into Vermont. While they get municipal waste from Massachusetts and New Hampshire, the largest category of imported waste is demolition debris from Massachusetts.

Oily debris

Vermont is working under a temporary policy for oily debris. They classify oily debris into two categories:

1) Petroleum contamination which can be treated through aeration or biodegradation -- this material can be stockpiled, aerated and ultimately used as landfill cover.

2) Debris contaminated with heavy oils or supersaturated with petroleum -- this material is considered hazardous in Vermont. It must be put on a manifest system and shipped out of state as there are no facilities in state that can accept it.

The situation has become serious enough that the Vermont Legislature has funded a feasibility study for an oily debris landfill to be constructed on state land.

Asbestos

Vermont has one facility within the State permitted to accept asbestos. It is a private facility and their disposal requirements are similar to Maine's. Disposal costs range between $30 to $80/cu. yd.

E. Municipal Solid Waste Model Documentation

Appendix E

MAINE MUNICIPAL SOLID WASTE DISPOSAL DATABASE AND MODEL DOCUMENTATION

MAINE MUNICIPAL SOLID WASTE DISPOSAL DATABASE AND MODEL DOCUMENTATION

Purpose

A database of information on municipal solid waste disposal in Maine was developed as part of the work undertaken by the Solid Waste Study Subcommittee of the Joint Standing Committee on Energy and Natural Resources. The database was developed in order to address a series of questions about municipal solid waste (MSW) generation and disposal in Maine. Areas of interest were:

1. How much MSW is generated in Maine?
2. Where and how is Maine's MSW disposed?
3. What changes in the amount of MSW generated and in the disposal technologies used can be expected given current conditions?
4. What effect might different policies have on MSW generation and disposal?
5. How do different regions of Maine handle their MSW?

This appendix provides the reader with information on the database and the model that was developed to address these questions. The appendix is divided into three sections. First is a brief description of data sources and model structure. Second, data sources and limitations, model components, assumptions, and organization of results are described in the waste generation section. A third and final section compares the model results with other data sources to assess their accuracy.

General Description of Database and Model

The database and model prepared for this study are designed to represent the 1986 situation in MSW generation and disposal. The objective was to describe what is happening now and what is most likely to happen between now and 1994. Therefore, this database and model represent a baseline scenario of Maine MSW generation and disposal. The most reliable population data was combined with the best available information on waste generation in Maine and its disposal to produce the results reported in the body of the main report. No attempt was made to consider the impacts of recycling programs, unusual growth patterns, or innovative disposal technologies on the future of MSW generation or disposal in Maine. Only one future option different from the baseline scenario was examined. The Bath-Brunswick-Augusta energy recovery facility proposal was used as an example of the impact another 500 ton per day energy recovery facility would have on the disposal technology mix.

The primary components of the database are municipalities, their counties, and their estimated populations in 1985, 1986, 1990, and 1994. The database is organized by municipality because municipalities are responsible for disposing of their

own MSW. MSW includes all non-industrial wastes generated within a municipality. Because of inadequate data on populations in the unorganized territories, only data on organized territories, (cities, towns, villages, and plantations) is included in the main database.

The model is very simple. Each municipality is placed within a population category, for example 2-5,000 people. Each population category has an associated per capita generation rate. For towns in the 2-5,000 population category each person is assumed to generate 3 pounds of solid waste per day. Five population categories are used; per capita generation rates increase with increases in populations. The per capita generation rate for a town is multiplied by its population in a given year to obtain an estimate of waste generation in that year. Estimates for 1986, 1990, and 1994 are included in the results.

Data on municipal disposal facilities, both current and planned, was gathered so changes in disposal technologies could be examined. Disposal facility compliance with Maine's water quality regulations are recorded for each 1986 facility to allow analysis of environmental policy factors. No analysis of environmental policy options is reported.

Population data was obtained from the State Planning Office. Most data on landfills and other disposal facilities were obtained from the DEP Bureau of Land Quality Control. Owners of commercial landfills and energy recovery facilities provided the names of current and future clients. Specific sources for the data and the coding for disposal facility and facility compliance with pollution regulations are included below.

Waste Generation

Little research has been done on the rate and volume of municipal solid waste generation in Maine. Determining generation rates for MSW is difficult because a large number of variables influence the amount and types of waste generated. Among these variables are seasonal changes in population and the extent of commercial or industrial activity. The data and model prepared for this study do not explicitly deal with these variables. The model estimates MSW generation in a consistent manner for all municipalities. Comparisons with actual disposal data indicate that these estimates are reasonably accurate at the state level and can be a useful tool to consider the impacts of policy changes and new disposal technologies. At the municipal or county level additional factors should be taken into consideration to adapt the model estimates to particular local circumstances.

Database sources. The primary data sources used are the State Planning Office report Population Projections of Maine Counties and Minor Civil Divisions for Total Population: July 1, (1985-1994) and the Draft Maine Solid Waste Management Plan, 1978 prepared by the Dept. of Environmental Protection. The variables included are discussed in this section.

Municipalities included are those minor civil divisions whose populations are estimated by the State Planning Office for 1985-1994. State Planning Office data on population is derived from Census Bureau statistics. Census Bureau population estimates are usually for single municipalities, but the Census Bureau groups areas of unorganized territories and names them by region within county, as in Northeast Aroostook Unorganized Territory. This organization of population data bears little relationship to the number or type of waste disposal sites in these territories. Additionally, DEP does not have much information on where and how the residents of unorganized territories dispose of their waste. Waste generation in the unorganized territories was an estimated 8,600 tons in 1986, slightly more than 1% of the state's estimated waste generation. Exclusion of unorganized territory solid waste will not have a great impact on the accuracy of the state-wide database.

The State Planning Office projects a total state population by age and sex. These projections are derived from a computer model of the state's economy that relies on national economic forecasts and on Census Bureau estimates of populations in past years to project a population for the entire state. The Maine Department of Human Services then uses regression analysis to assign overall changes in the state's population to counties and to municipalities within counties. Variables considered within the regression analysis include population trends between 1970-80, birth and death rates, the SPO migration estimates, and housing starts. Population forecasts are subject to error because they rely on historical records and on economic forecasts.

Another, more serious, problem with using these population projections to estimate municipal solid waste generation is the exclusion of seasonal population increases. Estimates of municipal solid waste generation in municipalities with large seasonal population increases will be underestimates. The Greater Portland Coucil of Governments and Regional Waste Systems estimated seasonal impacts for 23 towns. Using historical waste generation records to calculate the fluctuation of the waste stream by season, the study showed that summer waste generation rates were twice the fall waste generation rates in Naples and Ogunquit, two towns that attract large numbers of tourists and summer residents. Other communities in the study had smaller increases in the amount of waste they generated in the summer.

Database limitations. Despite the problem of seasonal populations, the SPO estimates are the best available. When grouped into regions or for the state as a whole, they are reasonably accurate for examining trends and policy effects. When aggregated, errors in year-round population estimates for individual communities will tend to offset one another. Of course, even in the aggregate, the lack of data on seasonal population impacts means that the model underestimates the MSW generated in Maine. The database also excludes MSW from unorganized territories and much industrial waste that is currently landfilled.

Model structure. To obtain estimates of MSW generation in Maine and to answer questions about disposal technologies and policy issues, a methodology for estimating municipal waste generation and classification schemes for disposal facilities and types of disposal facility environmental violations were developed.

A simple process was used to arrive at an estimated MSW generation quantity for each municipality. A municipality's estimated population was multiplied by its per capita MSW generation rate and multiplied by 365 to obtain each municipality's yearly estimated MSW generation. Estimates for Maine per capita waste generation in municipalities of different size were developed by Stearns, Conrad, and Schmidt, Consulting Engineers, Inc. of Reston, Virginia. The estimates are "based upon discussions with operators of private and public disposal sites with scales and previous experience of SCS Engineers in other New England communities" (Draft Maine Solid Waste Management Plan, 1978. Maine Dept. of Environmental Protection, Table 3, p. 105.). The DEP feels that these estimates are "as good as any available" (Eliason, Clifton. Telephone conversation, Jan. 8, 1987, Bureau of Land Quality Control, Me. Dept. of Environmental Protection). Per capita waste generation rates for each municipality were selected by placing municipalities into population size categories. Five municipal size categories based on populations of less than 1,000, 1-2,000, 2-5,000, 5-10,000, and more than 10,000 were assigned pounds per capita per day values of 1.5, 2.2, 3.0, 4.0, and 5.0, respectively. This categorization resulted in a state-wide average of about 3.6 pounds per person per day (.657 tons per person per year) for 1986.

These staff estimates of the state's MSW generation are expected to be underestimates. Besides a lack of information on seasonal population waste, staff estimates are also underestimates because the per capita generation rates date from 1978 or before. When forecasting MSW generation some allowance for increases in per capita generation rates is usually included. In dealing with increased generation rates, the joint Greater Portland Council of Governments and Regional Waste Systems report, Feasible Solid Waste Disposal Alternatives for the Greater Portland Cumberland County Area, used a .6% growth rate in per capita waste generation until 1990 and a .9% rate from 1990 to 2000. No adjustments in the per capita generation rates were attempted in this study.

A coding system was developed for facilities either in current use or licensed for operation. Both facility type and ownership of the disposal facility are indicated by a single number. Codes are assigned by municipality for 1986, 1990, and 1994. The code assignments were based on information provided by the DEP and by the operators of commercial landfills and energy recovery facilities. In a few instances municipal offices were contacted to verify their current and future disposal methods. Facility types are categorized as landfills, open-burning dumps, energy recovery facilities, or other types of facilities. Landfills are either commercial or municipal in ownership. If they are using a municipal landfill, municipalities are further classified as using either their own or a neighboring community's landfill.. Municipalities using open-burning dumps are also split into those using their own dump and those using a neighbor's dump. The division between municipalities with their own facility and those using another community's facility is made to more accurately trace the effects of policy changes. Four commercial landfills serving multiple communities are individually identified by a code. The Auburn energy recovery facility and the other licensed ERFs are each identified by a code. An additional code was designated to illustrate the effect development of another ERF would have on Maine's waste disposal system. The Bath-Brunswick-Augusta proposal for a facility at the Hatch Hill site in Augusta was assigned a code for use in that analysis.

Codes	Facilities Being Used
30	Municipality's own landfill or incinerator.
31	Municipality's own open-burning dump.
32	Neighboring community landfill or ocean dumping.
33	Neighboring community open-burning dump.
34	Anderson's Landfill, Steuben.
35	Consolidated Waste Systems landfill, Norridgewock.
36	Downeast Landfill, Marion Township.
37	Sawyer Environmental Recovery Facilities, Hampden.
38	Maine Energy Recovery Corp., MERC, Biddeford.
39	Mid-Maine Waste Action Corp., Auburn.
40	Penobscot Energy Recovery Corp., Orrington.
41	Regional Waste Systems, Scarboro.
42	Other private landfill or disposal methods.
43	Out-of-state disposal
44	Unknown disposal facility.
45	Projected users of BBARDD-Hatch Hill ERF.

Three additional codes are used to represent the disposal activities of municipalities not falling into the above groupings. Other Disposal Methods (42) include the Northern Aroostook Regional Incineration Facility (NARIF) in Frenchville, the Normantas Incinerator in Baldwin, the Dolby Landfill owned by Great Northern Paper, and the Emerson

Landfill in Durham. Out-Of-State Disposal (43) reported here refers to Maine MSW going to two New Hampshire facilities, the Turnkey Landfill in Rochester and the Portsmouth Incinerator. The Unknown (44) category is used for communities whose disposal method is currently not recorded by the DEP, and for those communities whose current disposal method will be terminated prior to 1990 and whose subsequent plans are not known.

Information on the compliance of landfills with environmental regulations is included in the database in order to, 1) indicate the current status of landfills, 2) assess the impacts of industry trends, and 3) examine how changes in DEP regulations and enforcement policies might affect municipalities. No analysis of the impact changes in DEP regulations could have was attempted because of time limitations. Compliance status is adapted from DEP's 1984 survey to establish landfill closure priorities. Their tables list the management, groundwater, and surface water violations for each landfill and transfer station. Since most management violations could presumably be mitigated under threat of closure and many ground and surface water problems are site characteristics not easily changed, we chose to focus on ground and surface water compliance. This approach was used to identify the sites most likely to receive a closure order and to draw attention to the number of sites where water quality problems could increase closure costs. Additionally, removing management factors was expected to minimize error by removing the factors most likely to have changed in the three years since the survey was performed. Survey data was supplemented by discussion with DEP staff of the compliance status of commercial and large municipal facilities.

The compliance status codes focus on the following ground and surface water violations of water pollution regulations.

A. Known groundwater contamination
B. Location on a sand and gravel aquifer
C. Located within 300' of surface water
D. Drainage problems (ponding of water or leachate)
E. Drainage control problems (surface water drainage is not diverted from contact with solid waste).

These problems correspond to the following compliance categories used in presenting the results:

Groundwater problem= A or B
Major surface water problem= at least two of C, D, or E
One surface water problem= C,D, or E
Groundwater or surface water problem= (A or B) and (C,D, or E)
Not applicable corresponds to exported waste or those wastes going to small incinerators
Not known refers to communities with unknown disposal sites.

Compliance codes are divided into two groups, municipalities using a facility within their borders and municipalities using a facility outside their borders. The codes between the two groups are parallel. For example, a code 62 represents a groundwater violation in a municipal facility, while code 72 represents a groundwater violation in the facility used by an outside municipality. This design allows a more precise analysis of the impacts that changes in water quality regulations might cause.

For municipality's own facility

60 No reported problems.
61 Major surface water violation(s) reported.
62 Groundwater violation(s) reported.
63 Both groundwater and surface water violations.
64 Surface water violations
65 Not applicable
66 Not known

For municipality's using another's facility

70 No reported problems.
71 Major surface water violation(s) reported.
72 Groundwater violation(s) reported.
73 Both groundwater and surface water violations.
74 Surface water violations.
75 Not applicable
76 Not known.

Model assumptions. To make use of the data gathered it is necessary to make some assumptions about its characteristics. We have created a scenario of municipal solid waste generation and disposal in Maine that attempts to represent the status quo of 1986. Current laws, regulations, and behaviors are assumed with only the most likely changes in disposal facilities incorporated. Disposal facility code 45 identifies municipalities who are potential contributors to an as yet unlicensed energy recovery facility (Bath-Brunswick-Augusta was used). This small variation from the status quo allows the impact of another large energy recovery facility to be examined.

The model is based on one major assumption, that estimates of MSW deposited in specific facilities equal estimates of waste generated in municipalities using that facility. This means that municipal and other local recycling programs, present or anticipated, are not incorporated into the model. Other model assumptions were needed to project the roles of various technologies in 1990 and 1994. These assumptions are outlined below..

*The status quo nature of the model means no initiatives to close noncomplying landfills, no waste reduction efforts, and no new waste disposal technologies are assumed.

*The only compliance issue that is "resolved" is the open-burning dump. Open-burning dumps are assumed to comply with existing state law and close by Jan. 1, 1989. MSW from communities currently burning is placed in the Unknown Disposal category for 1990 and 1994 unless other plans are known.

*No new commercial or municipal facilities are licensed.

*All currently licensed Energy Recovery Facilities will be on-line by 1990.

*Successful and timely operation of MERC, PERC, and RWS energy recovery plants is assumed. Continued operation of the Mid-Maine Waste Action Corporation incinerator in Auburn is assumed. Compliance status of the Auburn incinerator is based on the compliance of their landfill facility, not the incinerator. An additional ERF is assumed in an alternative analysis.

*Waste disposed at ERFs is the amount generated by the contracted communities. Ash from ERFs is not estimated or attributed to a landfill facility in either scenario. See Appendix F on Energy Recovery Facilities for discussion of ash generation and other ERF issues.

*Comprehensive information on the remaining capacity of landfills, whether municipal or commercial is not available from any source. We assume that any currently operating municipal or commercial landfill remains in operation through 1994, unless other plans are known for the wastes of the municipal or commercial owners of the landfill. The exception to this rule is the Lewiston landfill, expected to run out of capacity and close before 1990.

*Current existing municipal contracts will be continued at commercial landfills.

*When PERC comes on line, all SERF MSW will go to PERC.

*Communities using CWS in late 1986 are assumed to continue, unless other plans are known. This would probably require acceptance by the Board of Environmental Protection of the CWS application for expansion at their existing site in Norridgewock. This application is currently on hold because of the moratorium on commercial landfill applications.

*The alternative analysis of a fifth ERF being constructed uses the communities that were most likely to be involved in a proposed Bath-Brunswick-Augusta incinerator. This changes the baseline scenario in several ways. Eight municipal landfills would be closed and fourteen communities, mostly those using Hatch Hill in Augusta, would no longer be classified as using neighboring

municipal facilities. One private landfill serving one municipality, and one open-burning dump would also be closed. These communities would incinerate and then landfill their wastes at the Hatch Hill site in Augusta. Another ERF could be substituted for this proposal with only quantitative changes in the current trend toward regionalization and incineration.

Results Assessment

This section evaluates the usefulness of the MSW generation estimates presented in this report. Descriptive statistics were developed to compare OPLA staff estimates of municipal solid waste (MSW) generation and disposal in Maine with two other types of waste disposal data. One type of data on MSW disposal in Maine includes actual tonnages received by landfills and other disposal facilities. Sources of this 1986 actual disposal data for 64 municipalities are Consolidated Waste Services, the Hatch Hill landfill in Augusta, Sawyer Environmental Recovery Facilities, Regional Waste Systems, and the Auburn Energy Recovery Facility. The second type of MSW disposal data available are minimum tonnage guarantees for 87 municipalities contracting with the MERC and PERC energy recovery facilities. Kuhr Technologies, Inc. released this information to OPLA staff. Some municipalities are included in both data sets. The remainder of this section describes the actual disposal and the contract data and comparisons between these sources and the staff estimates. The data and methodology used in the staff estimates was previously described.

Actual disposal data. Actual disposal data for 64 municipalities in 1986 is used, except that Auburn data is for December 1985 through November 1986. Only municipalities with a full 12 months of data and who use the reporting facility as their primary disposal facility were included. Two types of factors effect the reliability of actual disposal data. First, disposal facilities sometimes differ in the types of solid waste they will accept. White goods, 55 gallon drums, stumps or large limbs, demolition debris, and shipments of tires are generally not acceptable. These facilities are believed to have similar policies, still some variation between disposal facilities is likely. The second source of variations occurs at the municipal level. In many cases, commercial businesses may arrange for disposal at a different site, removing waste from a municipality's total waste stream. In other cases, private haulers have been known to deposit waste from nonmember towns at a commercial site under their agreement with a member municipality. On the other hand, if commercial tipping fees are high relative to other area landfills, member community waste may be diverted by a private hauler to the less expensive site.

Contract guarantee data. Municipalities signing contracts with energy recovery facilities (ERF) must indicate to their facility what amount of waste they expect to deliver. Minimum tonnage guarantees for 87 municipalities were provided by Kuhr Technologies, part owners of MERC and PERC. Since PERC is not scheduled to open until sometime in 1988, we have interpreted the minimum tonnage guarantees in ERF contracts to represent 1990 waste disposal quantities. These minimum tonnage guarantees help the ERF to determine when they have enough municipalities signed up for efficient operation of the plant. The tonnage guarantees also guarantee the ERF a revenue stream. How these municipalities arrived at their contract guarantee figures varied. One thing is clear, however, municipalities should use a conservative waste generation figure in the contract to avoid paying for waste not actually taken to the facility. This concern must be balanced by limits on how much waste can be sent to the ERF by the municipality. These limits usually allow growth in the waste stream amounting to some percentage increase of the guaranteed minimum tonnage, for example, 1.5 or 2 times the minimum. This type of provision allows municipal growth while limiting the quantities of waste the ERFs are committed to accepting.

Comparison of data sources. Staff estimates for 64 municipalities are compared with the actual disposal data for the same 64 municipalities. Staff estimates for 87 municipalities with minimum tonnage guarantees are compared with the minimum tonnage guarantees of those municipalities. Statistics describing the staff estimates of waste generation for all organized townships in Maine are presented prior to the comparisons of the smaller data sets.

Staff estimates. Table 1 shows the summary statistics describing staff estimates of waste generation by Maine municipalities in 1986. The 494 organized townships and six recently de-organized townships included in the model were expected to generate about 770,000 tons of municipal solid waste. The large number of small towns in Maine caused the average municipality to generate an estimated 1,500 tons of waste per year. Figure 1 demonstrates that although towns of less than 5,000 people far outnumber larger municipalities, municipalites with more than 5,000 people are estimated to generate about 68% of the MSW in Maine.

Comparison of actual and estimated disposal. Table 2 shows the statistics describing both actual disposal data and the staff estimates for the same set of municipalities. Estimates for these municipalities make up 28 percent of the estimated state MSW for 1986. Both per capita rates and means for the two data sets are quite close. Actual per capita and mean disposal rates are slightly larger than the staff estimates. The difference in per capita rates means staff estimates underestimate actual disposal by 53 tons per year for every thousand people. Over the entire state, actual disposal would exceed the staff estimate by 62,000 tons per year if per capita actual disposal rates are accurate. While the actual data provides a good reality check, the set of municipalities with available disposal data does not represent the size mix of

TABLE 1

ESTIMATED MUNICIPAL SOLID WASTE GENERATION IN MAINE:
SUMMARY STATISTICS BY POPULATION CATEGORY, 1986

ESTIMATED TONS

POPCAT	NUMBER	SUM	MEAN	STANDARD DEVIATION	PERCAPITA (TONS/YR)
<1,000	253	30,202	119	83	0.274
1-2,000	104	60,506	582	118	0.402
2-5,000	89	151,384	1,701	469	0.548
5-10,000	38	204,145	5,372	1,078	0.730
>10,000	16	322,934	20,183	12,623	0.913
OVERALL	500	769,170	1,538	4,259	0.657

TABLE 2

ACTUAL AND ESTIMATED WASTE GENERATION STATISTICS BY
POPULATION CATEGORY FOR MUNICIPALITIES WITH 1986 DATA

ACTUAL TONS

POPCAT	NUMBER	SUM	MEAN	STANDARD DEVIATION	PERCAPITA (TONS/YR)
<1,000	12	3,559	297	200	0.477
1-2,000	17	10,971	645	565	0.429
2-5,000	24	38,783	1,616	1,180	0.518
5-10,000	5	19,252	3,850	1,099	0.525
>10,000	6	162,030	27,005	27,228	1.065
OVERALL	64	234,595	3,666	10,300	0.791

ESTIMATED TONS

POPCAT	NUMBER	SUM	MEAN	STANDARD DEVIATION	PERCAPITA (TONS/YR)
<1,000	12	2,042	170	68	0.274
1-2,000	17	10,280	605	122	0.402
2-5,000	24	41,008	1,709	386	0.548
5-10,000	5	26,792	5,358	1,353	0.730
>10,000	6	138,792	23,132	19,019	0.913
OVERALL	64	218,914	3,421	8,099	0.738

TABLE 3

ENERGY RECOVERY FACILITY CONTRACT DATABASE: 1990
STAFF ESTIMATES VS. MUNICIPAL CONTRACT GUARANTEES
SUMMARY STATISTICS BY POPULATION CATEGORY

ESTIMATES

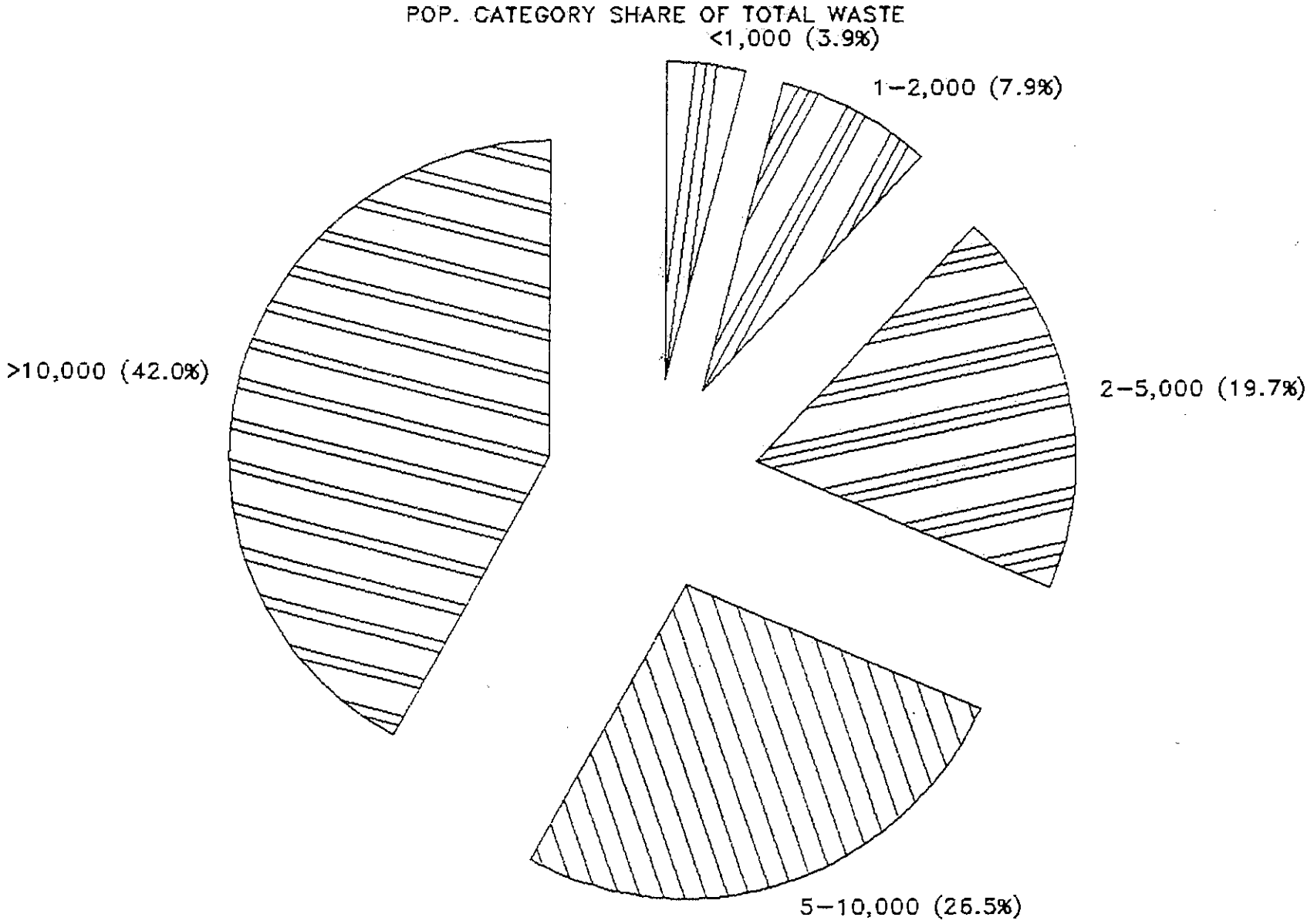
POPCAT	NUMBER	SUM	MEAN	STANDARD DEVIATION	PERCAPITA (TONS/YR)
< 1,000	16	2,959	185	67	0.274
1-2,000	21	12,507	596	109	0.402
2-5,000	25	43,412	1,736	562	0.548
5-10,000	17	93,917	5,525	830	0.730
>10,000	8	133,136	16,642	7,366	0.913
OVERALL	87	285,930	3,287	5,120	0.722

CONTRACT

POPCAT	NUMBER	SUM	MEAN	STANDARD DEVIATION	PERCAPITA (TONS/YR)
< 1,000	16	4,496	281	167	0.416
1-2,000	21	14,056	669	417	0.451
2-5,000	25	40,389	1,616	905	0.509
5-10,000	17	73,228	4,308	1,994	0.569
>10,000	8	96,178	12,022	16,241	0.659
OVERALL	87	228,347	2,625	5,579	0.577

FIGURE 1

MAINE ESTIMATED MSW GENERATION, 1986



communities in Maine. These 64 municipalities are heavily weighted toward larger municipalities, the average tons of waste disposed of by municipalities is more than twice the state-wide estimate found in Table 1. Looking at per capita disposal in each of the population categories, no consistent differences are revealed when comparing the actual data and the estimates. Actual data shows a decrease in the per capita rate for municipalities in the 1-2,000 category (see Table 2). In addition, the per capita rate does not change much for towns under 10,000 people. Contrast this to the regular per capita increases assumed in the model. Figures 2 and 3 graphically portray the distribution of the actual data around the estimates. Overall, both the actual data and the estimates are highly correlated with increases in population (r=.98). In the actual data, correlation between waste disposal and population in towns of less than 5,000 people is positive (r=.71), but more unexplained variation is noticable.

The correlation between the actual disposal data and staff estimates is very high (r=.99). Actual disposal data and staff estimates do differ for individual municipalities, but overall are comparable given that actual disposal data incorporates waste generated by seasonal residents. On the other hand, per capita waste generation rates used in the staff estimates supposedly incorporated types of waste not included in the actual disposal data; a fact which should make the estimates higher than actual disposal data. Actual data also misses the materials that are recycled. On a state-wide scale seasonal waste generation will outweigh the impact of recycling, in individual municipalities recycling may remove more waste than is generated by seasonal populations. Essentially, there is enough information available to determine that staff estimates underestimate MSW disposal in Maine. At this time, available resources do not allow for further refinements of the staff estimates.

Comparison of contracts and estimated disposal. Overall, differences between contract guarantees and staff estimates of waste disposal appear large. In Table 3 the staff estimate is 0.15 tons per person per year greater than the contract estimate. This difference translates to 150 tons per year for every 1,000 people in a municipality. Contract guarantees were expected to be conservative with respect to both staff estimates and actual data. Unfortunately, actual data was only available for a few (23) of the municipalities that had signed contract guarantees, so the comparison of actual disposal data to contract data is not reported.

Like the actual data (see figure above), contract guarantees increase (r=.80) as the population category increases. As with the actual disposal data, Figures 4 and 5 also show some variation within population categories. Once again, factors specific to municipalities for example, large seasonal populations, a strong recycling program, and the presence of a major industry probably account for much of the variation. An additional note; municipalities with more than 5,000 people appear to be more conservative in their contract guarantees than are smaller communities.

FIGURE 2

ESTIMATED VS. ACTUAL WASTE GENERATION

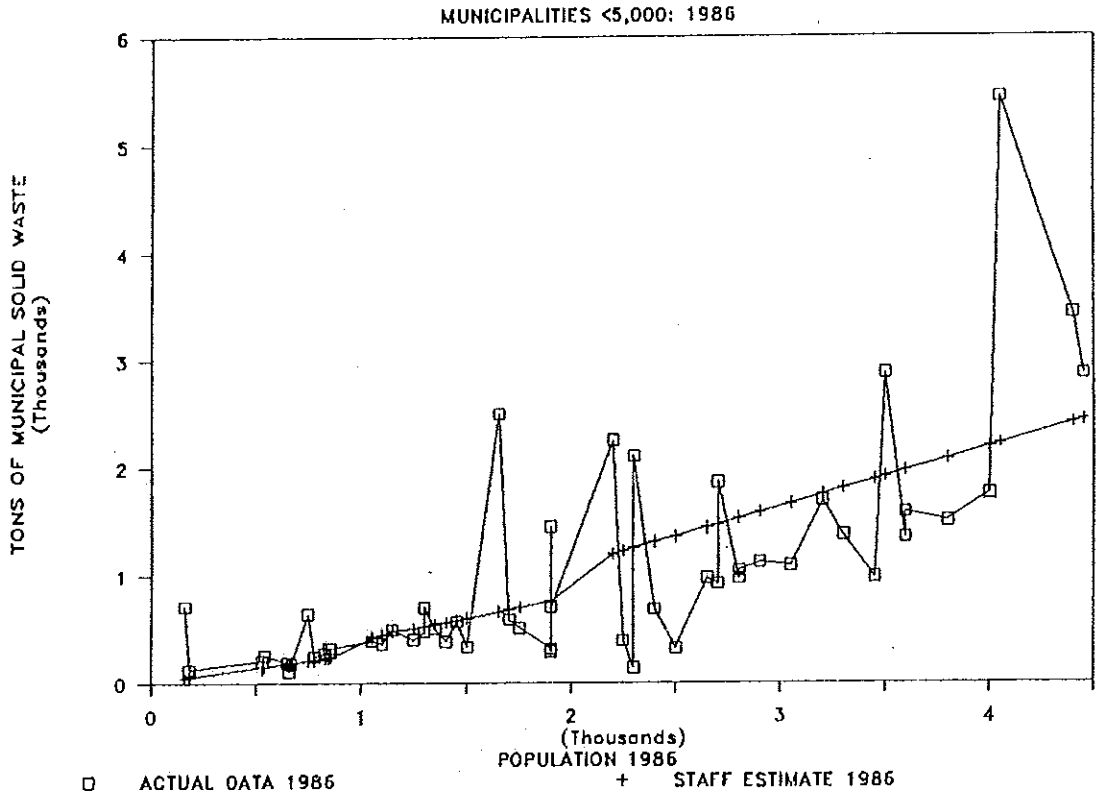


FIGURE 3

ESTIMATED VS. ACTUAL WASTE GENERATION

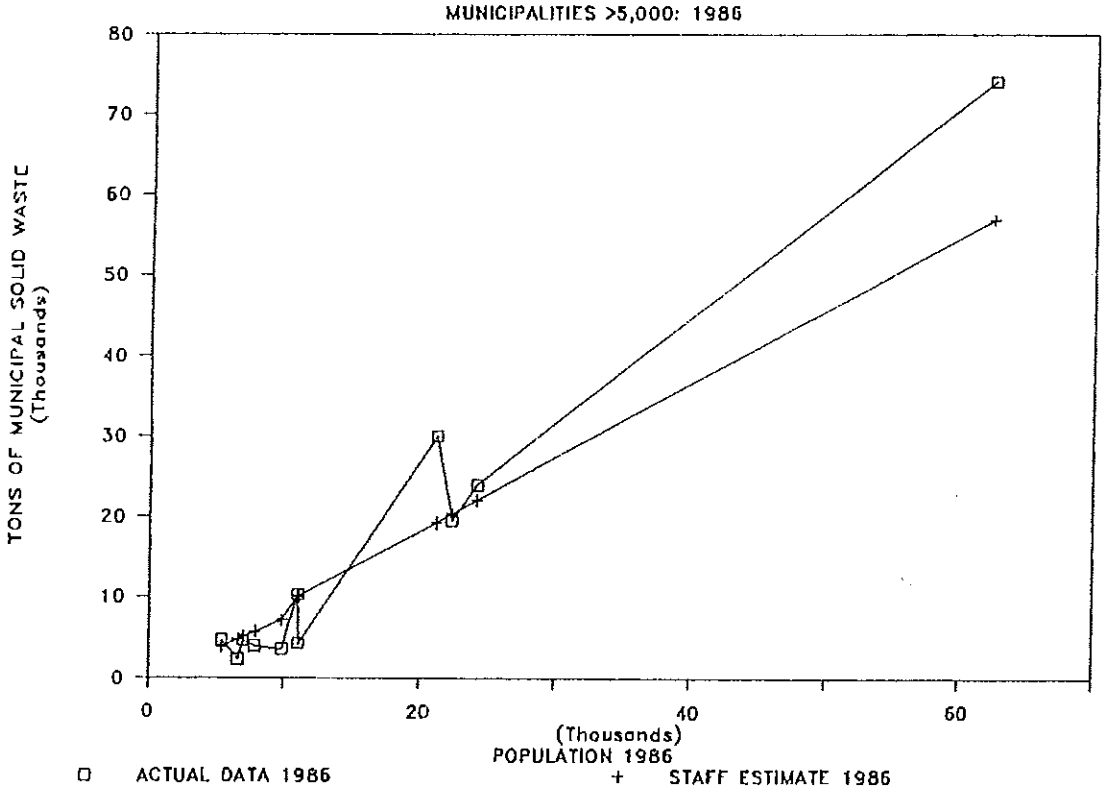


FIGURE 4

ESTIMATES VS. CONTRACT GUARANTEES

MUNICIPALITIES < 5,000 POPULATION

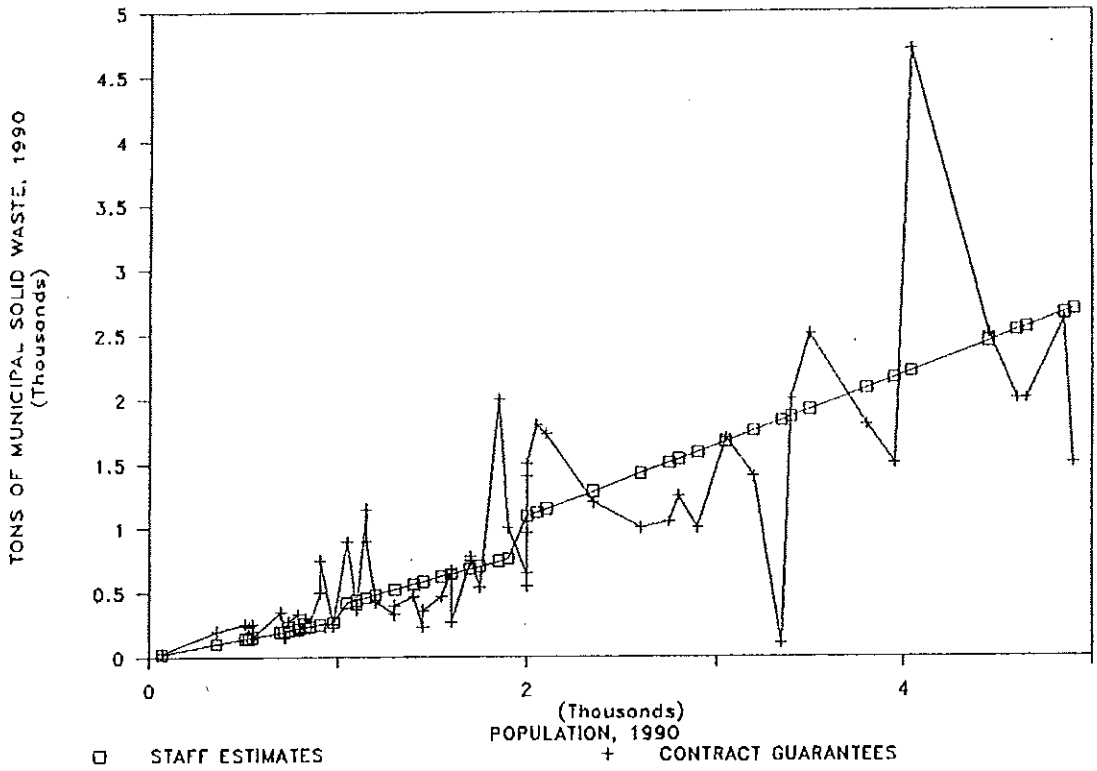
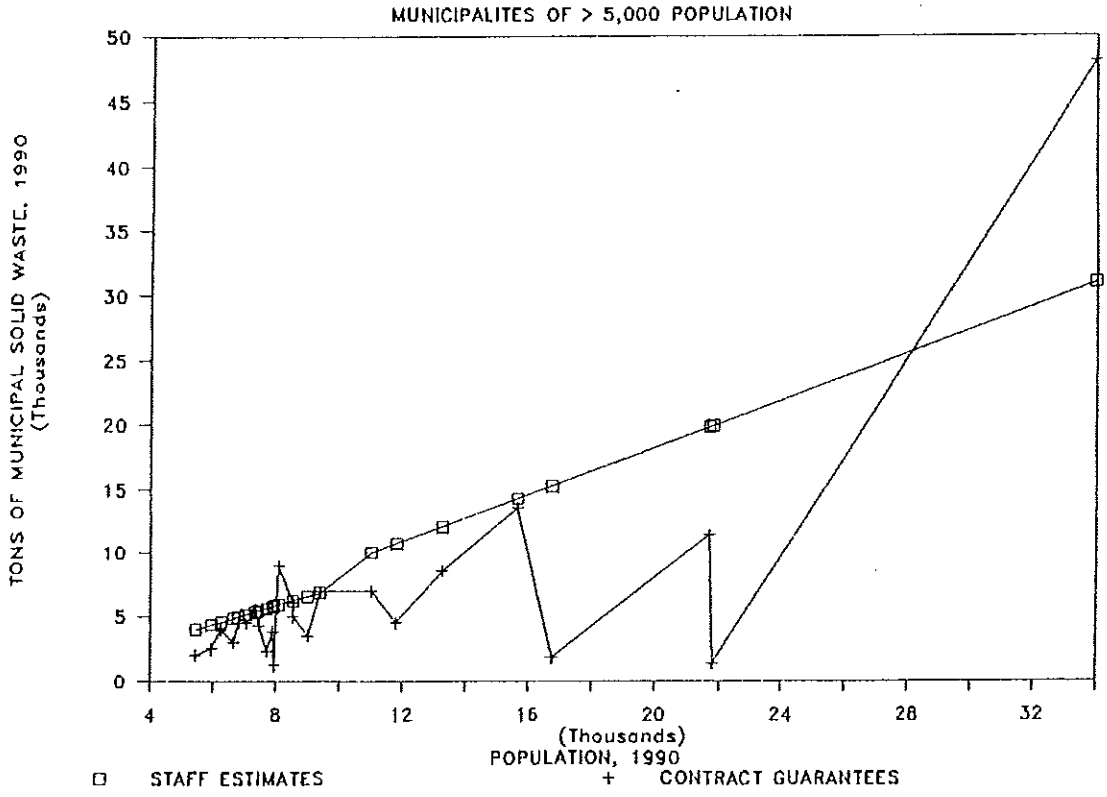


FIGURE 5

ESTIMATES VS. CONTRACT GUARANTEES

MUNICIPALITES OF > 5,000 POPULATION



Summary

Actual disposal data for 64 municipalities and minimum waste disposal guarantees for 87 municipalities were compared with staff estimates for these same communities. Descriptive statistics and some graphical representations of the data are presented. For the state as a whole, staff estimates are reasonably accurate and are probably the best estimates of MSW disposal available. Given this, two points should be kept in mind.

First of all, per capita disposal rates were slightly higher for actual disposal data than for staff estimates. We conclude that staff estimates underestimate the quantity of MSW disposal in Maine. Several factors make additional interpretation or refinements in the model difficult at this time. Actual disposal data does not include some types of MSW that is incorporated by the staff estimates. But, staff estimates are not adjusted for seasonal increases in population or unusual amounts of commercial activity within a municipality. In theory, actual disposal data reflects these factors more accurately, but the role of private trash haulers in the collection system creates substantial opportunities for inaccuracies. Actual disposal data also includes the impact of recycling while the staff estimates do not. This factor should act to bring the two sources of information closer together. Time constraints and the lack of additional waste disposal data make refinements impossible at this time.

A second point to keep in mind is that minimum waste tonnage guarantees found in municipal contracts with energy recovery facilities were generally lower than staff estimates of municipal waste generation. This was expected as the municipal incentives in the contract would lead them toward conservative estimates. Some municipalities do have contract guarantees that exceed staff estimates of their waste generation, but these instances are probably explained by the presence of large seasonal populations or large commercial districts.

In conclusion, the estimates presented here are the best currently available. When used for state-wide or large region analysis staff estimates of waste generation are reasonably accurate. As both monetary and environmental costs of waste disposal increase, the need for better management of wastes also increases. Accurate information on the amounts and types of waste generated and how these wastes are being disposed is becoming more important. Fortunately, the trend is toward more widely available information. Information from municipalities using energy recovery facilities and commercial landfills will become more widely available in the near future. Additional work with this actual disposal data will provide the basis for improved estimates of MSW generation. If the Department of Environmental Protection develops a more comprehensive planning perspective for solid waste management, then the information organized in this study can be refined to provide a more accurate assessment of municipal solid waste generation and disposal in Maine.

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Appendix F

ENERGY RECOVERY FACILITIES
NEW FACILITY OPERATING EXPECTATIONS

Several operational aspects of newly licensed energy recovery facilities will affect solid waste disposal in Maine. Energy recovery facilities (ERF) will reduce the volume of wastes they incinerate by 90 percent, but many wastes will not be incinerated. Thirty percent by weight of the waste stream handled by the three new facilities will ultimately be landfilled, recycled, or composted. These residues of energy recovery will be in the form of ash, front-end residue, ferrous metals, and waste bypass. The estimates provided in Table 1 are best guesses of the waste processing parameters for the new facilities that were provided by their developers.

Table 1

PROCESSING CAPACITIES ESTIMATED BY PLANT OPERATORS

		----------Tons per Day----------			
			--------ERF Residue--------		
Facility[1]	Electrical Generation[2]	Design[3] Capacity	Ash[4] Compound	Front-End Residue[5]	Ferrous Metal[6]
MERC	21.45 MW	800	80	104	40
PERC	25 MW	900	90	117	45
RWS	12.5 MW	550	150	28	28

[1]MERC is Maine Energy Recovery Corporation, PERC is Penobscot Energy Recovery Corporation, RWS is Regional Waste System.

[2]Gross electrical generation expected.

[3]Design capacity represents the tons per day of municipal solid waste each facility intends to process.

[4]Ash compound represents the combined amount of fly ash and bottom ash expected.

[5]Front-end residue consists of materials separated from the waste stream at the ERF prior to combustion. MERC and PERC will separate glass, cans, grit, and demolition debris up front (13-14% of waste stream). RWS will separate bulky wastes, stumps, leaves, and demolition debris.

[6]Ferrous metals included here are also separated prior to combustion and are expected to be about 5% of the waste stream. The RWS 5% is made up of white goods; if feasible they may separate other ferrous from the ash.

Intricacies of Operation

MERC is the Maine Energy Recovery Corporation plant located in Biddeford, PERC is the Penobscot Energy Recovery Corporation plant in Orrington, RWS is the Regional Waste System plant in Portland. MERC and PERC will burn refuse-derived fuel supplemented with wood-chips and fuel oil. Refuse-derived fuel is the result of a milling and screening process that produces a more consistant fuel than raw municipal solid waste. Low BTU materials such as glass, grit, cans, and ferrous metals are separated from the waste stream during the processing. RWS will handle a municipality's total waste stream (excluding hazardous wastes) in a system that involves incineration, landfilling, and some recycling. RWS will use a mass-burn incineration technology involving little processing of the burnable portion of the waste stream, but white goods, bulky wastes, demolition debris, stumps and yard wastes will be separated. Pre-sorted materials, such as cardboard, will be recycled along with the white goods. Eventually, a composting facility for organics may be developed. Most materials not incinerated will be landfilled.

Energy recovery facilities are systems with two distinct elements, waste processing and waste incineration. Design capacity (in Table 1) refers to the amount of solid waste the waste processing part of an energy recovery facility is expected to handle each operating day. Unlike the waste incineration element, waste processing will not normally occur seven days a week, so extrapolating from these numbers should not be done without additional information. Front-end residues are materials removed from the plant's waste stream before burning. Materials removed will vary by type of energy recovery facility (ERF). MERC and PERC will remove glass, cans, and grit. MERC and PERC will not accept white goods. RWS will remove white goods, demolition debris, bulky wastes, stumps, and yard wastes. A combination of materials that could amount to 35 percent of their waste stream. All three facilities expect about 5% of their waste stream to be ferrous metals, other than white goods. Metals may be recycled, but finding a market may be difficult given the nature of the waste, cost of removal, and the relative abundance of scrap metal. Ash compound consists of fly and bottom ash. The fly ash generally will be considered a special waste.

The operating figures for MERC provide an example of how these figures fit together. MERC can process 50 tons of municipal solid waste per hour and plans to operate for 16 hours per day, thus 800 tons per day are processed. From that 800 tons, about 104 tons of glass, grit, and cans, and about 40 tons of ferrous metals will be removed, leaving 656 tons of municipal solid waste to be burned. Plans call for recycling of the ferrous metal, but the metal may not be of acceptable quality to metal recyclers. The solid waste processing part of the plant will operate six days per week. Solid waste will normally be burned with woodchips at a 3 to 1, waste to woodchip, ratio. The boiler will operate on a 24 hour per day, seven day per week basis, producing at least 80 tons of ash per day.

Bypass wastes are MSW delivered when boilers are shutdown for maintenance that must be disposed of by the ERF. All three facilities plan to dispose of bypass without resorting to landfilling. Each facility has 2 boilers and will try to keep one boiler operating at all times to handle most of the waste stream. MERC and PERC will schedule maintenance so that one plant can handle the other's waste stream. RWS will schedule maintenance during dips in the waste stream, shutting down only one of its boilers at a time and utilizing its tipping pit to avoid landfilling. The RWS tipping pit has an 8 day capacity.

Costs

Municipalities using energy recovery facilities face several types of costs. Each community planning to use MERC and PERC has negotiated a "put or pay" contract stipulating a minimum quantity of waste to be delivered each year and the per ton tipping fee. For the most part contracts were negotiated by individual communities, so the tipping fees differ for each community. Municipalities using MERC have 20 year contracts with tipping fees ranging from $9-12 per ton. Most municipalities using PERC have 30 year contracts with tipping fees ranging from $9-15 per ton. MERC and PERC contracts include a minimum BTU value that the municipal waste stream must meet. The RWS facility will be operated by the Dravo Corp., but is owned by the member communities of Regional Waste Systems. Each community is represented on the Board of Directors, which will determine the tipping fees for the municipal and commercial users of the facility. Unlike MERC and PERC, RWS will handle all of a member's non-hazardous solid waste. Currently, municipal tipping fees are expected to average from $20-23 per ton during the next five years. Commercial fees are about $6 per ton above municipal at present.

Municipalities will also bear the costs of transporting wastes to the energy recovery facility. At the facility the load is weighed and a tipping fee is assessed to the municipal account. Some municipalities have curbside trash collection programs. The costs associated with running these programs should not be affected by the change in disposal methods. Transportation from the municipalities to MERC and RWS will be handled by the individual communities. Much of the MSW going to PERC will be delivered by Sawyer Environmental Recoveries Facilities. Municipalities will either deliver their own waste to Sawyer facilities in Hampden or the Waterville area, or contract with Sawyer or other private haulers to remove the waste from the municipalities.

Operating Capacity and Projected Waste Committments

There has been speculation that the operating capacity of licensed, but unbuilt, energy recovery facilities (ERF) exceeds the amount of municipal solid waste (MSW) available to them in Maine. If true, the excess capacity would presumably be used to meet the waste disposal needs of New Hampshire and Massachusetts. This section briefly discusses this issue.

Estimating ERF Operating Capacity. Combining estimates of planned ERF processing capacity and of projected MSW generation easily leads to an inaccurate assessment of the relative amount of Maine generated waste to ERF capacity. Both generation and capacity estimates have their limitations. In the case of ERF operating capacity, it is tempting to sum capacity estimates for the three newly licensed facilities, giving a total of around 2,250 tons per day (see Table 2). Multiplying by 365 gives an estimate of yearly operating capacity in excess of 820,000 tons. However, while boilers will operate seven days a week, 365 days a year, operating capacity figures refer to the processing end of ERFs which will be in operation six days a week on average. Six day weeks result in a 312 day processing year. A more accurate estimate of new ERF operating capacity is 700,000 tons per year. Even this may be an overestimate if additional downtime is required for repair and maintenance.

Table 2

NEW ENERGY RECOVERY FACILITIES: OPERATING CAPACITIES, CONTRACTUAL COMMITTMENTS AND MUNICIPAL GENERATION ESTIMATES

Facility	Daily Operating Capacity (tons-day)	Yearly Operating Capacity (tons-yr)	Contractual Agreements (tons-yr)	Staff MSW Estimates (tons-yr)
MERC	800	250,000	248,903[1]	140,000
PERC	900	280,000	175,000[2]	160,000
RWS	550	170,000	160,534[3]	150,000

[1]MERC contractual agreements include 78,700 tons per year from New Hampshire and 70,800 tons per year from Maine commercial haulers and industry.

[2]PERC is presently negotiating with about 15 additional communities for 25,000 additional tons. Sawyer Environmental may also be negotiating for additional waste that will end up at PERC. A cut-off date of June 30, 1987 has been established for communities to sign up for PERC. After this date the cost of sending waste to PERC will be determined by spot market prices.

[3]This estimate is a composite of actual 1986 disposal data for 9 current members of RWS and OPLA staff estimates for 11 other communities expected to join RWS.

Estimating MSW Generation. Staff estimates of MSW generation also have limitations that should be clarified. In general, these limitations suggest that the staff estimates underestimate actual MSW generation. This finding further decreases the chance that newly licensed ERFs create more disposal capacity than Maine has MSW.

The OPLA staff estimate of Maine MSW generation in 1990 is 801,000 tons. While in aggregate, this fact alone puts to rest the contention that ERF capacity exceeds MSW generation, an ERF operating capacity of 700,000 tons per year is still a large percentage of Maine's MSW committed to one disposal technology. But there are several reasons why the amount of MSW incinerated is likely to be less than seven-eigths of the total MSW generation. First, comparisons between staff estimates and the actual MSW disposal data of 64 towns in 1986 show actual MSW disposal to be greater than the staff estimates of generation. For the 64 towns with available data, actual MSW disposal was seven percent higher (16,000 tons) than the staff generation estimate for the same time period. The inclusion of MSW from seasonal populations not factored into the staff estimates is at least part of the reason actual disposal data exceeds the staff estimates.

In addition, actual disposal data is less than the actual MSW generated, because actual disposal data only reflects regionally landfilled or incinerated materials. Scrap metals, debris, brush, and other materials that are generally considered MSW are not included in actual disposal data. Much of this material is landfilled at sites separate from the sites that provide actual disposal data. These materials will not be acceptable for burning at ERFs and will be refused, landfilled, or recycled. However, many wastes generated by commercial and industrial sources (that are not included in the MSW estimates) would be acceptable to the ERFs. The bottom line is that the amount of waste available is greater than the staff estimates of waste generation.

Table 2 shows the planned operating capacities of the MERC, PERC, and RWS facilities in tons per day and tons per year. Also included are the tons per year committed to the MERC and PERC facilities and an estimate of the amount of waste RWS might receive. The RWS estimate is a composite of actual disposal data from municipalities that are now members of RWS and of staff estimates for waste generated by municipalities expected to join RWS. Committments to MERC include a 20 year contract for 50,000 tons per year with New Hampshire communities currently using the Portsmouth incinerator and other New Hampshire contracts for 28,700 tons per year. Contracts with private haulers and industries in Maine total 70,800 tons per year. Contracts with Maine municipalities for 102,000 tons per year put MERC at planned operating capacity. Plans to construct a new incinerator in Portsmouth within five years will allow MERC to absorb the additional MSW generated by expected growth in southern Maine. PERC committments included are all from municipalities. The final column shows the staff estimates of 1986 MSW generation in the towns expected to use each facility. Contractual agreements exceed staff estimates

because commercial and seasonal wastes are not included in the staff estimates. Most municipalities have contracted for amounts less than the staff estimate of their MSW generation. Municipalities whose contracted waste exceeds the staff estimates appear to be either commercial or resort centers.

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G. Landfill Closure Cost Factors
(prepared by the Greater Portland Council of Governments)

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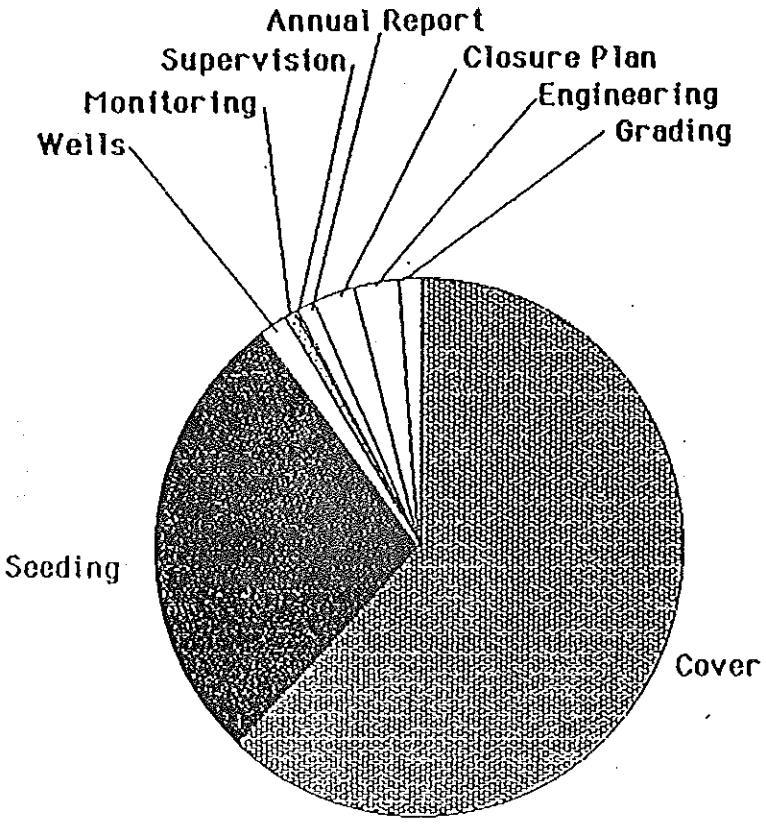
Land Fill Closure Project
Cost Estimate based on Lower Cost Estimate



APPENDIX G Five acre - thirty five acre site costs based on 8 acre composite model.

Explanation

Cover: Cost Per Cubic Yard Per Acre Multplied by Acres

Seeding: Cost Per Acre Multplied by Acres

Wells: Base cost of $1200 per well
0-15 Acres = 4 Wells
16-25 Acres = 6 Wells
26-35 Acres = 8 Wells

Monitoring: Base cost of $660 per well with an addition cost of one tenth of $660 for each additonal well

Supervision: Base cost of $750 with an additional cost of $200 for each additional 2.5 acres

Annual Report: Base cost of $2500 with an additional cost of $200 per well

Engineering : Base cost of $5000 with an additional cost of $2500 for each additional 5 acres

Closure Plan : Base cost of $312.50 per acre

Low Total: Lower cost for Cover and Seeding catagories

High Total: Higher cost for Cover and Seeding catagories

	Cover Low	Cover High	Seeding Low	Seeding High	Wells	Monitoring	Supervision	Annual Report
Cost Per Acre	$16,135	$32,270	$7,200	$14,400	$1,200	$660	$750	$2,500
Site Size in Acres								
5	$80,675	$161,350	$36,000	$72,000	$4,800	$924	$950	$2,700
10	$161,350	$322,700	$72,000	$144,000	$4,800	$924	$1,250	$2,700
15	$242,025	$484,050	$108,000	$216,000	$4,800	$924	$1,750	$2,700
20	$322,700	$645,400	$144,000	$288,000	$7,200	$1,056	$2,250	$2,900
25	$403,375	$806,750	$180,000	$360,000	$7,200	$1,056	$2,750	$2,900
30	$484,050	$968,100	$216,000	$432,000	$9,600	$1,188	$3,250	$3,300
35	$564,725	$1,129,450	$252,000	$504,000	$9,600	$1,188	$3,750	$3,300

	Grading	Engineering	Closure Plan
Cost Per Acre	$625	$5,000	$313
Site Size in Acres			
5	$3,125	$5,000	$1,563
10	$6,250	$7,500	$3,125
15	$9,375	$10,000	$4,688
20	$12,500	$12,500	$6,250
25	$15,625	$15,000	$7,813
30	$18,750	$17,500	$9,375
35	$21,875	$20,000	$10,938

Final Land Fill Closure Cost Estimate

Site Size in Acres	Low Total	High Total
5	$134,787	$252,412
10	$258,649	$493,249
15	$382,512	$734,287
20	$509,106	$978,056
25	$632,969	$1,219,094
30	$759,763	$1,463,063
35	$883,626	$1,704,101