

MAINE STATE LEGISLATURE

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REGISTERED MAINE VOTERS

We the undersigned support an INCREASE in the handling fees paid to retail stores and redemption centers to handle empty bottles and cans. We understand that this fee increase will also increase the cost of deposited items by as much as two cents per container.

PLEASE PRINT THEN SIGN NAME

NAME	ADDRESS
Joe Perry	RR 1 Box 402B N. Gloucester
P. Tolson	79 Weymouth St. Portland ME
K.M. Wescott	809 Congress St. Portland 04102
Cecile Donovan	51 Burnham St. Portland 04102
Kenneth Woodman	200 Brown St. Westbrook 04092
George Davis Jr.	55 Elizabeth St. Portland 04102
Ed Davis	22 Douglas St. Portland 04103
Joey Carson	54 Anderson St. Portland ME 04101
W. Pennequin	68 Bennett St. Portland 04102
Jim Coore	53 Leland St. Portland 04103
David Galt	26 Lyman St. Westbrook
Lawrence B. Bunt	RR Box 236 WEST Buxton 04093
Blaine Davis	81 Haskins St. West Brook ME
Loren Solina	20 Oak St. Gorham ME 04002
Kyle W. Jones	14 Quebec St. Portland, Maine 04102
	St. Mary's P.O.

To: Senators and Representatives of the
Department of Energy and Natural
Resources

Re: C.D. 1431

Ladies and Gentlemen:

Recycling is great! Let us not continue
to bury ourselves in our own waste!

Most Sincerely,
Barry W. Dolley #

MAINE FACT SHEET

(20¢ bottle deposit)

Requiring a deposit on liquor bottles would have a very small impact on the state's solid waste problem, while adversely affecting liquor consumers and the state's liquor store operations.

1. **Liquor bottles do not pose a special solid waste or litter problem.**
 - o In a national survey on litter¹, liquor and wine bottles together constituted less than one percent of the total litter along a typical mile of roadway.*
2. **Imposing a bottle deposit on liquor would raise the price to liquor consumers, and worsen an already stagnant market.**
 - o This proposal could raise the retail price of liquor by 4.7%. This is due to the bottle deposit and the increased cost to suppliers of identifying Maine products.*
 - o The higher prices could cause liquor sales to fall by 3.5%. Meanwhile, liquor sales in Maine have been declining -- 1.5% annually over the last 4 years.*
3. **The higher prices would worsen the price disparity with neighboring New Hampshire.**
 - o After imposition of the bottle deposit, New Hampshire's liquor prices would be 26% lower than those in Maine (except for the state's Kittery discount outlet).*
 - o Purchases made in other states would not be subject to Maine's bottle deposit.*
4. **A bottle deposit on liquor would have a negative impact on the state's revenue generated through liquor sales and taxation.**
 - o Due to the decline in sales and the high cost of administering the deposit program, total state liquor revenues -- from taxes and liquor store profits -- would fall by \$1.1 million. This is a 4.6% decline.*
5. **A liquor bottle deposit would place an additional fee on consumers who already pay a large burden to the state.**
 - o In 1987, the state collected \$31.09 per gallon of absolute alcohol from liquor. This is 49% above the U.S. average.*
 - o A consumer buying a \$7.61 fifth of 80 proof liquor would pay \$4.45 (58.5%) to Federal and State governments. The state alone receives \$2.46 (32.3%).*
 - o In 1987, the state collected \$15.88 and \$14.50 per alcohol gallon from beer and wine consumers, respectively.*

¹ National Academy of Sciences -- National Academy of Engineering Highway Research Board, "A National Study of the Composition of Roadside Litter," prepared by Research Triangle Institute. Summary available from Keep America Beautiful, New York, 1969.

1. FY '88 Sales of Liquor (distilled spirits) = 890,000 cases¹
(12 x 750 ML equiv.)

2. Avg. shipping wt. per case = 33 lbs.¹

3. 1 case 12/750 ML bottles contains 2.3778 gals. of liquid

4. 1 gal. of 80 proof distilled spirits weighs 7.93 lbs.²

5. Liquid contents of a case of 12/750 ML spirits weights²
18.855954 lbs.

$$\begin{array}{r} 2.3778 \text{ gals.} \\ \times 7.93 \text{ lbs.} \\ \hline \end{array}$$

6. The solid waste content of each case of spirits = 14.144046 lbs.

$$\begin{array}{r} 33 \text{ lbs. shipping wt.} \\ - 18.855954 \text{ liq. contents wt.} \\ \hline 14.144046 \text{ lbs. s/w} \end{array}$$

7. Total sw tonnage of spirits products based on FY '88 sales =
6294.1 T.

$$\begin{array}{r} 890,000 \text{ cs.} \\ \times 14.144046 \text{ lbs} \\ \hline 12,588,200 \text{ lbs.} \\ \div 2,000 \text{ lbs. (ton)} \\ \hline 6,294.1 \text{ tons s/w} \end{array}$$

8. At estimated disposal cost of \$60/ton - ME spirits s/w
disposal costs = \$377,646

9. DISCUS projects a \$1.1 million revenue shortfall from
imposition of deposits on spirits containers, while actual
estimated cost for disposal is only \$377,646

¹ Maine Bureau of Alcoholic Beverages

² Distilled Spirits Council of U.S.

MARTHA E. FREEMAN, DIRECTOR
WILLIAM T. GLIDDEN, PRINCIPAL ANALYST
JULIE S. JONES, PRINCIPAL ANALYST
DAVID C. ELLIOTT, PRINCIPAL ANALYST
GILBERT W. BREWER
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June 16, 1989

TO: Sen. Kany

FROM: Martha Freeman, Director *MCF*

RE: Relationship between the public nuisance statute and certain proposed sections of the solid waste bill

Tim Glidden has asked me to put in writing for you my understanding of the relationship between the public nuisance statute, 30-A MRSA §3104, and two proposed sections of LD 1431: the proposed amendment to 38 MRSA §1310-U and the proposed enactment of 38 MRSA §2173. Copies of the statute and proposed sections of the bill are attached.

The statute permits a municipality to file a complaint in court requesting the abatement of any public nuisance within the municipality. The proposed sections of the bill, in part, prohibit municipalities from adopting ordinances regulating solid waste disposal facilities owned by certain entities, except in specified circumstances.

As I understand it, the question you pose is whether the proposed sections of the bill would preclude a municipality's ability to initiate and pursue a court action to abate an alleged public nuisance caused by a solid waste disposal facility owned by the Maine Waste Management Agency or a regional association. My answer is no; i.e., the pertinent proposed sections of LD 1431, as currently drafted, would not interfere with the municipality's authority under 30-A MRSA §3104.

The proposed section of LD 1431 seeking to amend 38 MRSA §1310-U prohibits municipalities from "enacting or applying ordinances which regulate solid waste disposal facilities [owned by certain entities]," except as provided in proposed 38 MRSA §2173. Section 2173 permits municipalities to adopt ordinances concerning the permitting of solid waste disposal facilities in certain limited circumstances. The limitations on municipal authority proposed in these sections of LD 1431 thus pertain only to the authority to adopt ordinances. These limitations do not apply to powers the municipality may exercise under other authorizing state statutes. The public nuisance statute is a state law authorizing the municipality to act under it; the statute does not require the municipality to enact any ordinance before the authority to seek abatement of a public nuisance may be exercised. Thus, the prohibition on municipal ordinance powers proposed in LD 1431 would not affect municipal powers existing under the public nuisance statute.

I hope this is helpful to you.

30-A § 3103

MUNICIPALITIES AND COUNTIES

§ 3103. Natural gas systems

Text of section added effective March 1, 1989

1. **Order.** To protect the health and safety of the public, municipalities which have natural gas distribution systems may, without hearing, order the gas company or natural gas pipeline company which distributes natural gas to shut down all or part of that system in any emergency. The municipality shall, by ordinance, set the procedure to be followed in ordering the shutdown.

2. **Refusal.** If the distributing utility refuses to carry out the order given under authority of subsection 1, then the municipal officers may take appropriate action to ensure that the system or any part of the system is shut down. The municipal officers may prescribe criminal penalties for violation of the order.

1987, c. 737, § A, 2, eff. March 1, 1989.

Derivation:

Laws 1973, c. 290.

Former § 3555 of title 30.

→ § 3104. Abatement of nuisances

Text of section added effective March 1, 1989

The municipal officers of a municipality may, in the municipality's name, file a complaint in any court of competent jurisdiction requesting the abatement of any public nuisance within the municipality.

1987, c. 737, § A, 2, eff. March 1, 1989.

§ 3105. Small borrow pits

Text of section added effective March 1, 1989

1. **Requirements.** The following provisions apply to any borrow pit not otherwise within the jurisdiction of the Department of Environmental Protection, under Title 38, chapter 3, subchapter I, article 6,¹ and which is not subject to a municipal ordinance enacted under subsection 2.

A. All borrow pits subject to this subsection shall comply with the following requirements.

(1) The average slope of any cut bank measured from a point located 10 feet from the boundary of any abutting property to the bottom of the cut bank in the pit shall not exceed a horizontal to vertical ratio of 2:1. The owner of the borrow pit is responsible for maintaining this condition.

(2) The top of the cut bank of the borrow pit shall, at no time, be closer than 10 feet from the property boundary of any abutting landowner.

B. Upon request of any owner of land abutting any borrow pit, the municipal officers shall conduct an inspection of the borrow pit to ascertain compliance with this subsection.

(1) The municipal officers may request the Department of Transportation, Bureau of Project Development, Construction Division, to inspect the borrow pit in place of the municipal inspection. The Construction Division shall conduct an inspection of the borrow pit in question when requested to do so by the municipal officers.

C. The person or persons conducting the inspection shall report their findings to the municipal officers, the abutting landowner initiating the request and the owner of the borrow pit. Measurements shall be made from the property line designated by the abutting property owner initiating the request.

D. If the borrow pit is in violation of this subsection, the owner is liable for the cost of the inspection. If the borrow pit is not in violation of this subsection, the abutting landowner who made the request is liable for the cost of the inspection.

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PIERCE, ATWOOD, SCRIBNER, ALLEN, SMITH & LANCASTER

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RICHARD W. MURPHY
WAYNE R. DOUGLAS

*10: Energy Committee members not listed below.
This memo may be of some interest as
were bottled only constitute less
than 45% of the waste stream.
MEMORANDUM
I thank*

TO: Sen. Judy C. Kany, Rep. James Reed Coles, Rep. Annette M. Hoglund, Rep. Richard A. Gould and Rep. Willis A. Lord

FROM: John D. Delahanty, Esq., Local Counsel for the Wine Institute

RE: Expansion of the Bottle Bill to Include Wine

DATE: June 6, 1989

During your subcommittee work session on Friday, June 2, I was permitted a few moments to speak in opposition to including wine bottles in an expanded deposit law. Previously in the work session, reference was made to Vermont including liquor bottles in its deposit system but keeping wine bottles out. The person speaking on behalf of the distilled spirits group suggested that wine bottles were kept out for "political reasons." If keeping wine bottles out because they: are delivered in many different lot sizes, unlike beer and soda; have many varied sizes of containers; have far more manufacturers than beer and soda and are generally not distributed in the same manner as other beverages constitutes "political reasons," then that statement may be correct. The facts, however, show that Vermont excluded wine bottles for valid reasons.

It's with hesitation that I attach for your information yet another report, but the report prepared by the Administrator of Vermont's beverage container law concerning the effects of

I've spared you the added paper & not attached the report.

expanding Vermont's beverage container deposit system and recommendations by the Committee studying this proposal discusses, among other issues, why wine bottles were excluded.

The section concerning wine bottles is covered on pages 10 to 12. The report notes that labeling probably could be done, citing Iowa where labels are affixed by distributors and retailers. Please remember that Iowa included wine in its deposit system when the state controlled wine distribution and sales. Based upon my research, I also have learned wine was included in the legislation at the last minute when opponents to the bottle bill succeeded in having the bill amended in an effort to get the Governor to veto the bill. The wine industry was unable to counter promptly and the opponents' strategy failed as the Governor agreed the state should try to handle the returns. Also, please remember that Iowa is the only state in the nation which includes wine bottles in a deposit law. States which have considered adding wine to their bottle bills, e.g., Vermont, Connecticut, New York, have declined to do so.

The Vermont report notes that:

"in terms of the 'Band-aid' criticism, the beverage industry has a valid complaint of having been singled out to further the state's recycling efforts. Beverage containers presently under the deposit system account for only 6% of the waste stream and wine bottles are only about 3% of this small fraction. The wine industry is justified in wanting to see a comprehensive solid waste strategy, identifying and evaluating options before it would be agreeable to accepting mandatory deposits for its products."

I think it's reasonable to compare Maine with Vermont in terms of assuming that beverage containers in Maine presently account for approximately 6% of the waste stream. Using that assumption, and Vermont's assumption that wine bottles are only about 3% of this small fraction, then wine bottles amount to 0.18% of Maine's waste stream.

Including wine bottles in a deposit system to address less than 1/5th of 1% of Maine's waste stream becomes unreasonable when compared to the very real practical difficulties which will be encountered from handling returns when, among other problems: there are approximately 10,000 different wine labels sold in Maine; distributors handle thousands of different labels; wine is bought more on impulse at many different types of stores and many times will not be returned to the store where purchased; and it's

likely one will not be able to return wine bottles except to a store which carries that particular brand.

The return of wine bottles cannot be compared to beer or soda. Public perception may be that the deposit law can be easily expanded to include wine. Unfortunately, the public doesn't have the facts which you legislators have. Hopefully, these facts will lead you to the conclusion that the burdens which will be encountered by including wine in the deposit law do not justify their inclusion, especially when addressing less than 1/5th of 1% of the waste stream.

I hope the enclosed is helpful as you consider this issue.

map
2043M

Enclosure

BERNSTEIN, SHUR, SAWYER AND NELSON

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June 6, 1989

Dear Members of the Energy & Natural Resources Committee:

At today's work session, the Committee considered a draft provision amending 38 M.R.S.A. §1304-B that would have a very serious--if not crippling--impact on waste-to-energy facilities. (See Recycling Outline Page 16). To paraphrase this provision, a municipality would be released from its obligation to meet any minimum BTU content level it had contractually guaranteed to a waste-to-energy facility if it is unable to do so as the direct result of recycling or source reduction efforts.

There is no reason why a comprehensive recycling effort mandated by the State cannot be accomplished in tandem with waste-to-energy facilities, rather than in conflict with them. MERC and PERC already have established cooperative programs with their contracting municipalities. These programs give credit to towns on any shortfall in their minimum tonnage requirements if the shortfall can be shown to have resulted from recycling. This has been done on a voluntary basis, allowing each town to negotiate its own arrangement with MERC and PERC.

From an economic viewpoint, the contracts with each municipality are the result of extensive negotiation. One very important facet of the contracts is that, in exchange for a very low tipping fee, the towns were bound to provide MERC and PERC with a certain BTU content and tonnage level that would allow the companies to meet their own electrical generation contracts. Were MERC and PERC to lose these guarantees, the foundation of the entire enterprise would be severely undermined. The equation is simple--the plants

BERNSTEIN, SHUR, SAWYER AND NELSON

TO —

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need a certain amount of fuel to produce the amount of energy it is obligated to provide. As the plants are only capable of processing a certain volume of waste, the BTU content of the waste they obtain is crucial to their ability to generate sufficient electrical power. A limiting factor, moreover, is that MERC and PERC can burn no more than 25 percent gas or oil without violating the CMP contract and losing their status as Small Power Producers under federal law. Although there is some flexibility, as you can see, all the parts have to add up in order for MERC and PERC to operate.

I ask the Committee to pause and consider the real economic difficulties such a provision would cause. The financing arrangements for MERC and PERC were based upon certain assumptions. The contracts with municipalities are the basis for many of these assumptions. If MERC and PERC are rendered incapable of producing enough electricity, they would not generate enough revenue to pay off their bonds. This is the reality of the contracts MERC and PERC have negotiated with the towns.

It should be noted, finally, that this draft provision is of dubious constitutional validity. Article I, Section 10 of the U.S. Constitution protects private parties from State laws which abrogates their contracts. I think the Committee should take time to consider the very serious legal implications of such a provision.

Again, MERC and PERC fully support a comprehensive State-wide recycling effort. These companies have already been actively encouraging recycling and wish to continue. I hope the Committee will recommend legislation that allows MERC and PERC to be a positive force in Maine's recycling and source reduction efforts--not one of the casualties.

Sincerely yours,

Catherine A. Lee

Catherine A. Lee

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MEMORANDUM

TO: Members, Energy & Natural Resources Committee
FROM: Tim Glidden, Principal Analyst
DATE: 6/4/89

SUBJECT: Options for structure of Maine Waste Management Authority

INTRODUCTION

At the committee's request, I have outlined three options for the structure of the proposed Maine Waste Management Authority (MWMA). You are already familiar with two of these from your review of the bills before you; the third is a hybrid developed to address the specific criteria you identified on Friday (6/2).

What are these criteria? I believe that in your discussions you have identified four criteria that the committee's final proposal must satisfy.

1. **High degree of political accountability.** Generally, the authority should be very accountable for its actions, particularly the planning and operational aspects of waste management.
2. **Independence for siting decisions.** As an important exception to the first criterion, the authority must have some degree of insulation from political pressures to ensure scientifically-sound siting decisions.
3. **Integration of waste management activities.** To avoid bureaucratic turf wars and to ensure that all management options are given proper consideration, the option you choose must provide a structure that can make waste management decisions efficiently and with a high degree of accountability.
4. **Ability to site needed disposal capacity in a timely manner.** There are two aspects to this criteria. In the short-term (2-4 years), the committee has expressed a clear desire to promptly develop some limited amount of disposal capacity without an extensive amount of further planning. In the longer term, disposal capacity should be based on the needs of the time. These needs should be identified through planning and consideration of recycling potential and the potential of other management options (waste reduction, composting, etc.).

Before proceeding, two points are worthy of note. First, the committee appears to have decided that all state environmental regulation should remain the BEP's responsibility.

Second, it may be useful to keep a short term and a long term perspective in mind as you set up the Authority and establish the related responsibilities of other state and local agencies. As I noted above, the committee seems to have a strong desire to quickly develop some limited amount of disposal capacity to meet the state's immediate needs. Without in the least bit minimizing its potential importance, that is a short term problem. The longer term problem is how to strike a balance between the state's reliance on waste reduction and recycling and the need for new disposal capacity. The committee's final proposal should be designed to meet both the short and long term needs of the state.

OPTIONS

The three options outlined below are also shown graphically in the attachment to this memo. I have not shown all the boilerplate language because much of it overlaps and would be distracting.

Option I

- A. **Authority & Board.** The authority is established as a quasi-public corporation headed up by a 9 member board. Board members are appointed by the Governor and confirmed by the Senate. Members serve set-length terms. They can only be removed for cause. Qualifications are related to solid waste but are fairly general given the broad responsibilities of the board. Some state agency heads are ex-officio members.
- B. **Director.** The Governor and/or Board hires an executive director. The director is the chief administrative officer of the authority. Subject to statutory mandate, all policy making power resides with the board.
- C. **Organization.** Authority is organized into 2 offices to oversee 1) planning and operations and 2) recycling and waste reduction. Authority consults a general advisory panel for outside comment along with a normal public review process. Possibility exists of a formal or ad-hoc advisory panel on recycling or any other related topic.
- D. **Authority Responsibilities.**
 - 1. Planning. Develop a comprehensive waste management plan upon which can be based all disposal capacity siting decisions, recycling initiatives and other programs of the authority.

2. Siting. Conduct screening and site identification process. Authority board picks proposed site. (Note: site subject to BEP review).

3. Disposal facility development and operation. Contract for development and operation but maintain ownership or in some other manner provides for development and operation.

4. Recycling and waste reduction program. Provide technical and financial assistance for all local and private recycling efforts. Coordinate state recycling efforts. Measure progress toward recycling goals.

Option II

A. **Agency & Director.** The Department of Waste Management is established as a cabinet-level state agency. The Governor appoints an executive director subject to legislative confirmation. The director is the chief executive officer of the authority. Subject to statutory mandate, all policy-making power resides with the director. The director serves at the pleasure of the Governor. Note: this structure may require a separate entity to issue revenue bonds for construction of disposal facilities.

B. **Organization.** Department is organized into 3 offices to oversee 1) planning; 2) disposal facility siting and operations and 2) recycling and waste reduction programs. A Facility Siting Board (see below) is established within the Office of Siting & Operations to screen and pick sites for disposal facilities. The executive director consults with a general advisory panel for outside comment along with a normal public review process. Possibility of a formal or ad-hoc advisory panel on recycling or any other related topic.

C. **Siting Board.** Board composed of 5-7 members. Board members are appointed by the Governor and confirmed by the Senate. Members serve set-length terms (suggest 5 years). They can only be removed for cause. Qualifications collectively ensure adequate scientific expertise, government experience, public interest and geographic diversity. Possibility exists of technical advisory panel made up entirely persons with scientific background in engineering, geology, hydrology, etc. These could include ex-officio members of state agencies (e.g. Maine Geological Survey). See "siting" below for responsibilities.

D. **Departmental Responsibilities.**

1. Planning. Legislature establishes a directive for prompt development of a limited amount of disposal capacity. Department develops a comprehensive waste

management plan upon which can be based all subsequent disposal capacity siting decisions, recycling initiatives and other programs of the department

2. Siting. Conduct screening and site identification process. Facility Siting Board picks proposed site. (Note: site subject to BEP review).

3. Disposal facility development and operation. Contract for development and operation but maintain ownership or in some other manner provides for development and operation.

4. Recycling and waste reduction program. Provide technical and financial assistance for all local and private recycling efforts. Coordinate state recycling efforts. Measure progress toward recycling goals.

Option III

A. **Solid Waste Management Council.** An interdepartmental council is established composed of the SPO, DEP, DECD and the new Solid Waste Management Authority. The director of the SPO chairs the council. Each department is charged with certain tasks (see "Responsibilities" below).

B. **Responsibilities.**

1. Planning. The new Council is responsible for the development of a statewide solid waste management plan to guide disposal facility development, recycling initiatives and other waste management programs. Portions of the plan are developed by individual agencies. SPO coordinates all waste planning and management programs and provides staff support to the Council. DECD conducts all data collection and analysis necessary to complete the recycling and waste reduction portion of the plan. DEP conducts all data collection and analysis necessary for the capacity needs portion of the plan. (Note: BEP also responsible for environmental review of specific disposal facility sites). The Authority partakes in the Council's adoption of the plan but has no specific responsibilities within the Council.

2. Siting. Authority is solely responsible for screening and site identification process.

3. Disposal facility development and operation. Authority contracts for development and operation but maintain ownership or in some other manner provides for development and operation. Note: Siting and facility operation are the Authority's sole duties.

4. Recycling and waste reduction program. Existing Office of Waste Recycling and Reduction kept within the Department of Economic and Community Development (DECD). This office provides technical and financial assistance for all local and private recycling efforts. Coordinate state recycling efforts. Measure progress toward recycling goals.

C. Authority. The authority is established as a quasi-public corporation with the sole responsibility to site, develop and operate waste disposal facilities. It has no other responsibilities.

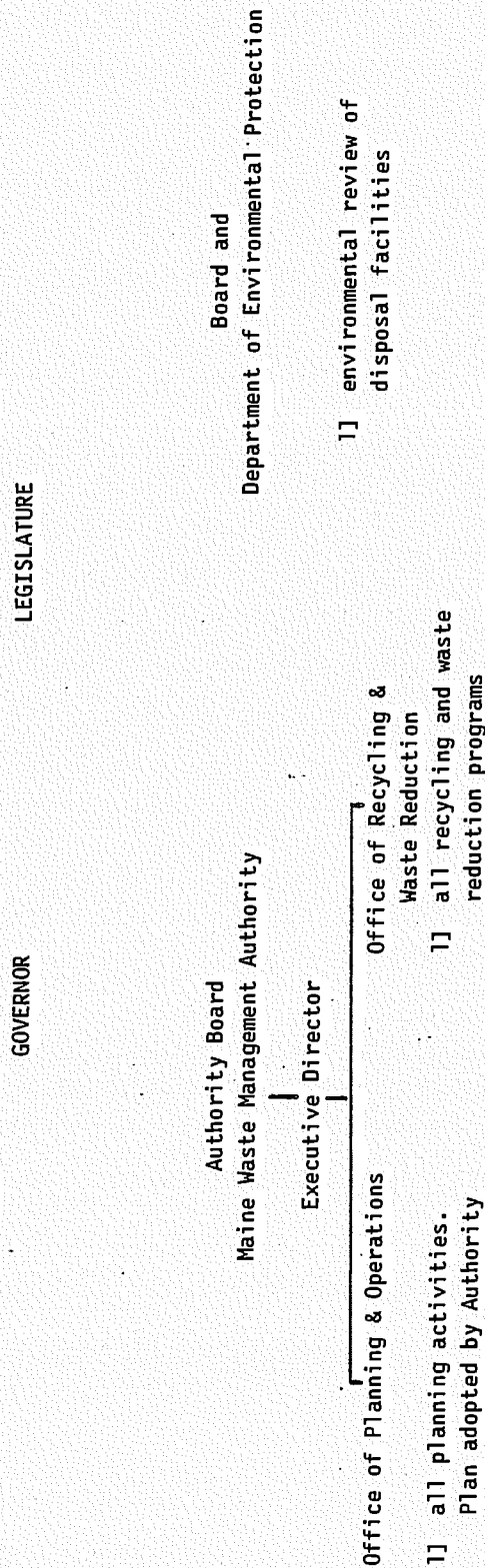
1. Board. The Authority is headed up by a 7 member board. Board members are appointed by the Governor and confirmed by the Senate. Members serve set-length terms. They can only be removed for cause. Qualifications emphasize geographic diversity but could include other factors.

2. Director. The Board hires an executive director. The director is the chief administrative officer of the authority. All policy making power resides with the board.

3. Organization. Authority has no internal offices, reflecting its focus on facility siting and operation. No formal advisory panels; public input via APA process in rule-making.

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OPTION I



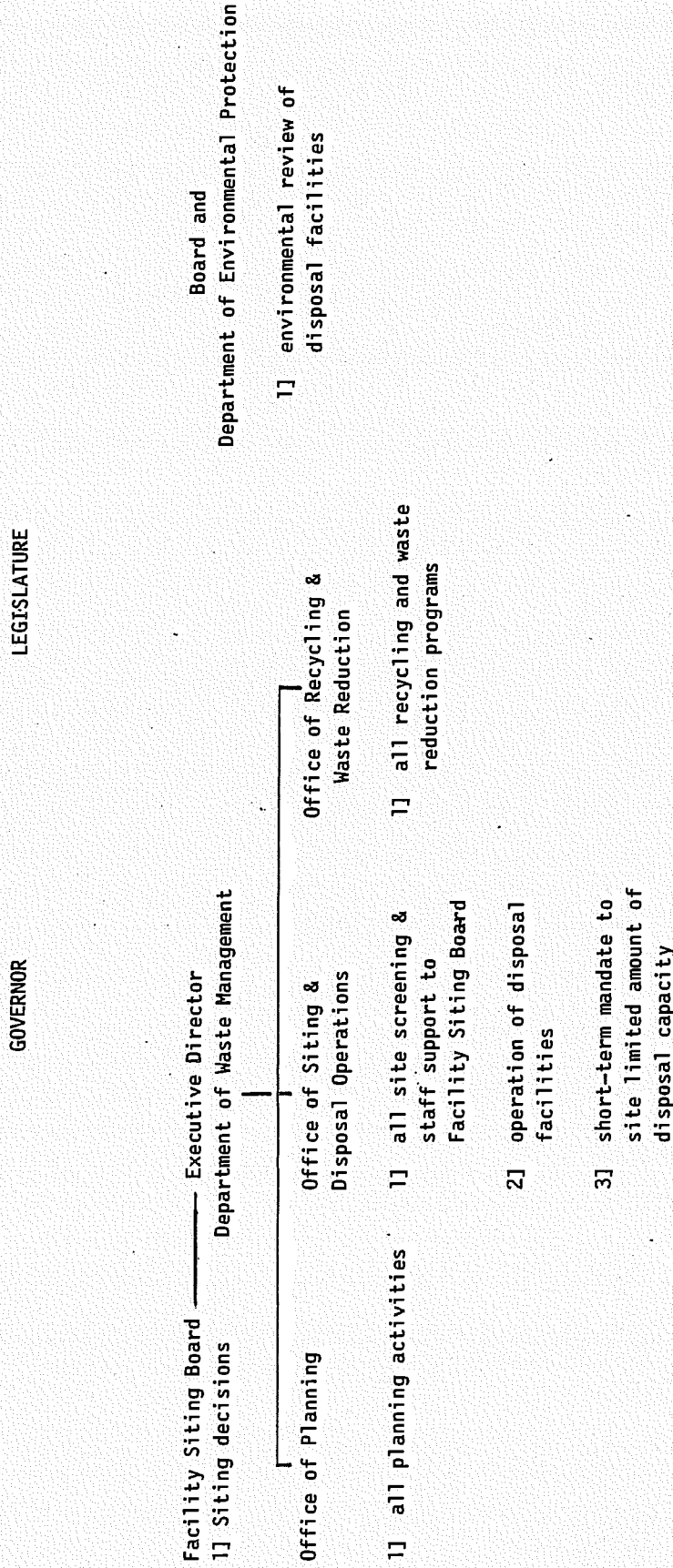
NOTE: MWMA Board members appointed by Governor; confirmed by Legislature. Set-length terms
Executive Director of MWMA appointed by Governor; confirmed by Legislature. Serves at pleasure of Governor.
(alternative of this simply has director hired by Authority Board)

Commissioner of DEP appointed by Governor; confirmed by Legislature. Serves at pleasure of Governor.
Members of BEP appointed by Governor; confirmed by Legislature. Set length terms.

NOTE: This option, as developed in most LDs that used it, had a regional or district level of the organization that typically handled all siting and operational aspects.

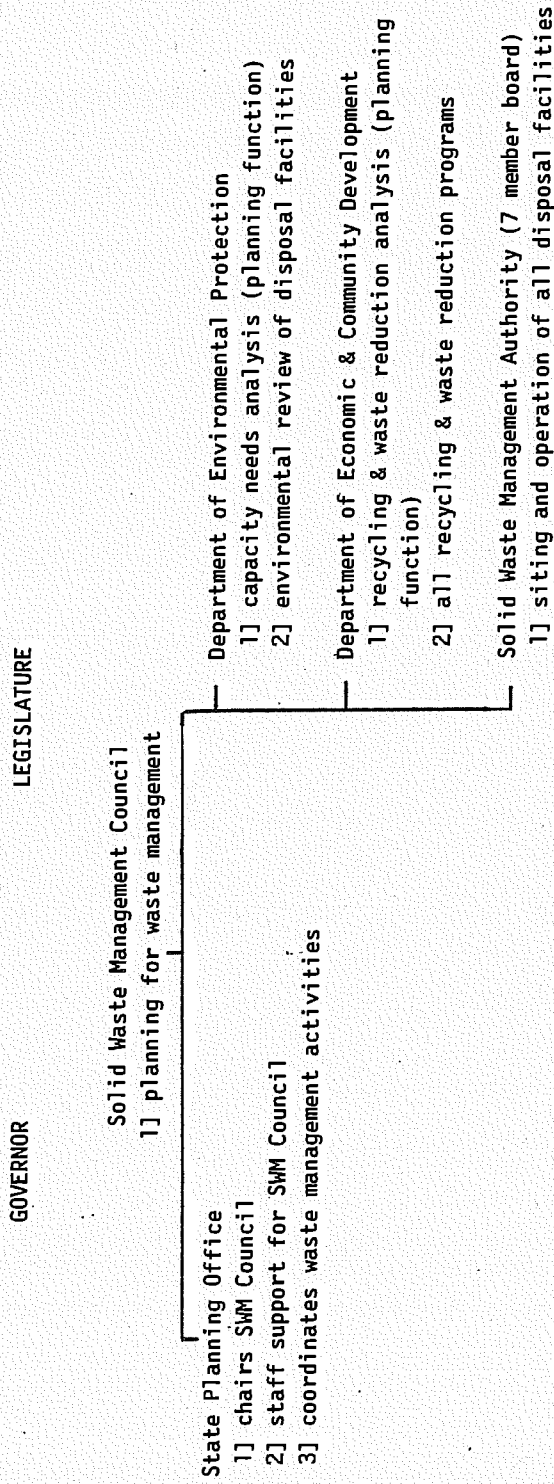
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OPTION II



NOTE: Director of Waste Management appointed by Governor; confirmed by Legislature. Serves at pleasure of Governor.
 Commissioner of DEP appointed by Governor; confirmed by Legislature. Serves at pleasure of Governor.
 Members of Facility Siting Board appointed by Governor; confirmed by Legislature. Set length terms.
 Members of BEP appointed by Governor; confirmed by Legislature. Set length terms.

OPTION III



NOTE:

Commissioners of DEP & DECD appointed by Governor; confirmed by Legislature. Serve at pleasure of Governor.
 SWMA Board members appointed by Governor; confirmed by Legislature. Set-length terms
 Executive Director of SWMA hired by SWMA. Serves at pleasure of Board.

Director of SPO appointed by Governor (no legislative confirmation).

Members of BEP appointed by Governor; confirmed by Legislature. Set length terms.

CHAIRMAN
Kenneth Gordon



COMMISSIONERS
Cheryl Harrington

STATE OF MAINE

PUBLIC UTILITIES COMMISSION

242 State Street
State House Station 18
Augusta, Maine 04333-0018
(207) 289-3831
May 24, 1989

Senator Judy C. Kany, Chair
Representative Michael H. Michaud, Chair
Joint Standing Committee on Energy
and Natural Resources
State House Station #115
Augusta, Maine 04333

Re: PUC Involvement in the Management of Maine's Solid
Waste

Dear Sen. Kany & Rep. Michaud:

The Public Utilities Commission has reviewed the many bills currently under consideration by your Committee which deal with solid waste management and recycling. A number of these bills call for a state agency, in some cases the PUC, to regulate tipping fees at incinerators and/or landfills. We would like to offer our observations on the circumstances under which regulating tipping fees may be appropriate. We would also like to explain why we believe that, if the Legislature finds that regulating tipping fees is necessary, the PUC is not the best agency to carry out that responsibility.

The PUC regulates utilities both because they have been determined to be "natural" monopolies, and because the services they provide are considered "essential." In other words, we regulate utilities for two fundamental reasons: (1) because it is less expensive, for technological reasons, to allow a single firm to be granted a franchised monopoly in a particular service area than it would be to allow several firms to compete for customers in that area; and (2) because consumers would find it extremely difficult to go without the service or to find an alternative to purchasing it from the single firm. In return for a monopoly franchise, the utility is subject to regulation of many aspects of its operation including the rates it may charge. Regulation assures the public that the utility is not abusing its monopoly power by charging unreasonable prices.

Sen. Judy C. Kany
Rep. Michael H. Michaud
May 24, 1989
Page 2

it may charge. Regulation assures the public that the utility is not abusing its monopoly power by charging unreasonable prices.

Almost all of the utilities we regulate are physically connected to their customers either through electric or telephone lines or water mains, or some other means. Reduced to its essence, this is why they are natural monopolies. The only way to have competition would be to have several firms physically connected to each customer which is, of course, not economically feasible.

In considering the economics of waste disposal, it seems to us that there are two critical questions the Committee must address. The first question is whether the solid waste disposal industry is a monopoly. This question turns on whether it is practical to have more than one facility within a given geographical area. Because of the lack of adequate sites, the cost of developing a site, or some other related difficulties, it is conceivable that the solid waste disposal industry is, as a matter of economics or politics, a natural monopoly.

If the Committee determines that the solid waste disposal industry is likely to be a monopoly, the second question is whether rate regulation is necessary or desirable. Two possible alternatives to rate regulation should be considered: namely, public ownership of the facilities or reliance on long-term contracts with private facilities. In the first case, the need for rate regulation is diminished by the fact that a public authority would have little reason to seek monopoly profits. In the latter case, competition could, in principal, operate when the contracts were let out for bid by developers competing for the right to develop on available sites.

If the Committee does conclude that regulating tipping fees is desirable, we believe that the PUC is not the appropriate regulating agency for three reasons. The most important reason is that if fees are regulated, they should be regulated by a statewide agency with broad responsibility for solid waste issues. The bills which are before your Committee offer many interrelated approaches to the overall solid waste disposal problem - waste reduction measures such as recycling, container deposits, and restrictions on packaging; user fees for white and brown goods; licensing procedures; and creation of regional waste authorities are some of the many options being considered. The level of tipping fees is only one of a number

Sen. Judy C. Kany
Rep. Michael H. Michaud
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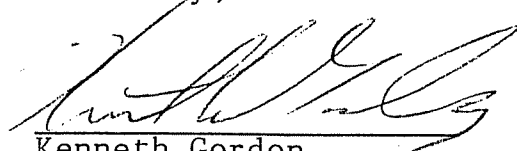
of policy levers which are likely to be used in dealing with overall solid waste management problems. For example, there will be trade-offs between the general desire for low tipping fees on the one hand and the desire to reduce the waste stream through the use of relatively high fees on the other. An agency with overall responsibility for solid waste might conclude that high tipping fees, with a portion of these fees being used to subsidize recycling, would be an appropriate policy. It would be difficult, if not impossible, for an agency with only narrow jurisdiction over tipping fees to consider such an approach.

A second difficulty with assigning the PUC jurisdiction over tipping fees is that it could result in a conflict of interest for the Commission. Two Maine electric utilities, Central Maine Power and Bangor Hydro-Electric, purchase electricity from solid waste facilities. It is entirely conceivable that we would be asked to raise tipping fees so as to reduce electric power costs or vice versa. To put the PUC into the position of responding to conflicting mandates is clearly undesirable - each issue should be judged on its own merits.

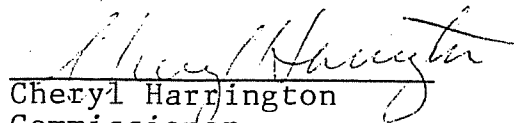
Finally, we simply lack expertise in solid waste disposal. This is solvable, of course. We could add staff with specialized knowledge and undertake a remedial course in solid waste ourselves. However, other agencies, either existing agencies or agencies which you will create, will necessarily have such expertise. It seems wasteful for the PUC to duplicate these capabilities.

We hope that you have found these comments useful. If you would find it useful to discuss further the regulatory concerns we have raised, we or members of our staff are available to you and your Committee at your convenience.

Sincerely,

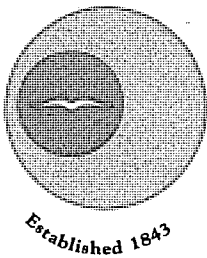


Kenneth Gordon
Chairman



Cheryl Harrington
Commissioner

KG/CH/sn



MAINE AUDUBON SOCIETY

Gilsland Farm • 118 U.S. Route One • Falmouth, Maine 04105 • 781-2330

The responsible voice for Maine's environment and natural resources.

To: Members of the Energy and Natural Resources Committee
From: Karin Tilberg, Maine Audubon Society
Re: Solid Waste Legislation - ban on plastic yokes
Date: May 31, 1989

During the public hearing on proposed solid waste legislation, Maine Audubon restated its long-standing support for a ban on plastic rings or "yokes." We take this position for the following reasons:

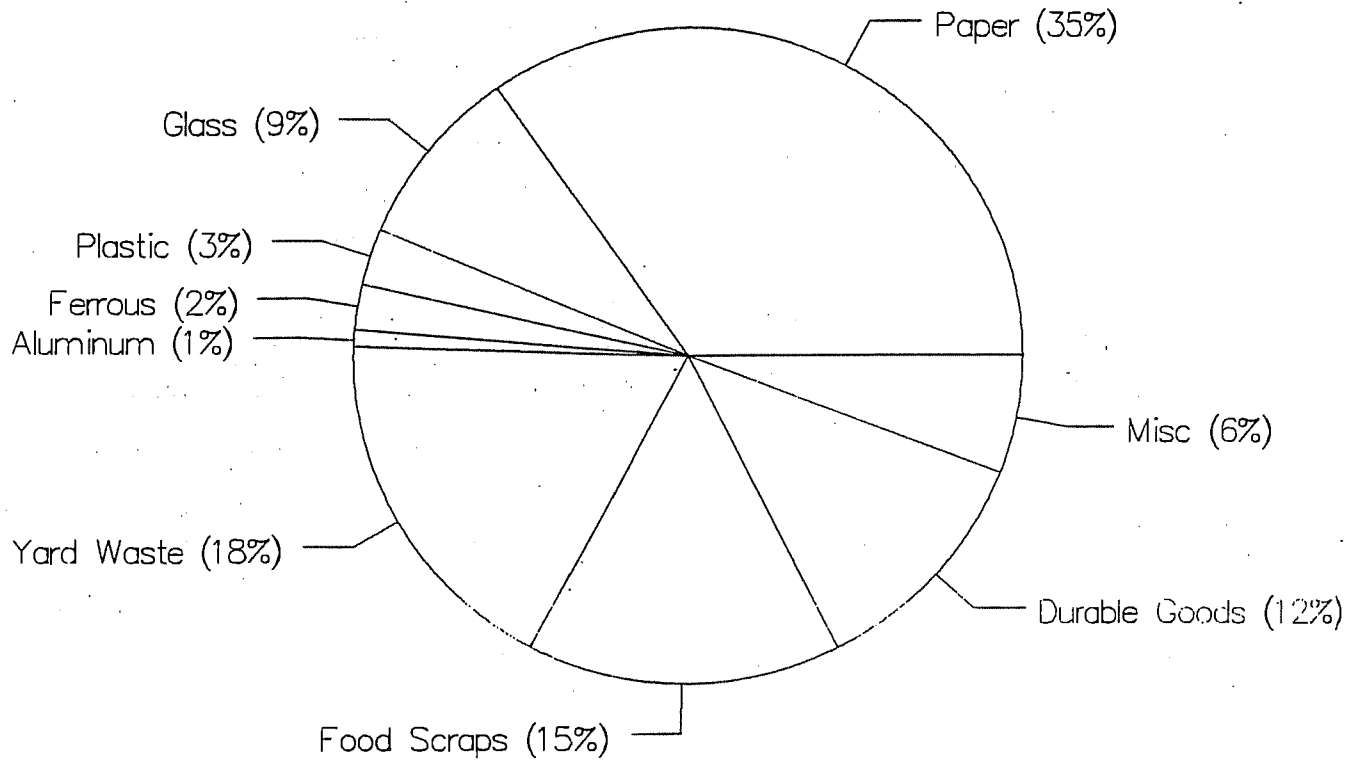
* Plastic debris ingestion is a major problem for marine organisms. Raw plastic particles, and the breakdown products of finished plastic items such as photodegradable yokes, are mistakenly ingested by numerous seabirds, mammals, and fish species. At least 50 species of seabirds are known to ingest plastic, likely mistaking pellets for fish eggs. Documentation of plastic ingestion by fish is growing. Sea turtles and even whales ingest plastic.

* The reliability of photodegradable yokes is questionable. At the 2nd International Conference on Marine Debris (April 1989, Hawaii), studies on the degradability of yokes indicated very inclusive and conflicting results. They are taking much longer to degrade in the marine environment than on land, requiring months and months before even becoming embrittled. During that period of time, they are effective snares for fish and wildlife.

* Maine Audubon is a proud member of the "Entanglement Network Coalition" and as such, has supported federal legislation to require degradable plastic alternatives to reduce the entanglement of non-target fish and wildlife. But this does not preclude us from urging at the state level that Maine consider the problems of ingestion of plastics and ban the precursor -- plastic yokes. As part of the "Entanglement Network" we are also moving to reduce the harms caused by fishing nets and gear, another entanglement problem. The Network has never not supported a ban on plastic yokes.

Please let me know if you have any questions about our position on this matter. Thank you for your consideration.

Fact Sheet #9: Municipal solid waste composition





Kimberlee A. Vollbrecht
Northeast Region
Government Affairs Manager

June 5, 1989

The Honorable Judy C. Kany and
The Honorable Michael H. Michaud
Chairmen
Joint Committee on Energy and
Natural Resources
State House
Augusta, ME 04330

Dear Chairmen Kany and Michaud:

I appreciated the opportunity to provide additional information on plastic container coding programs at your work session yesterday. To reiterate the major points I raised:

- (1) It is not true that any state has prohibited the use of the triangulated arrows as part of a container coding system. In fact, a growing number of states -- including Massachusetts and New Hampshire -- are endorsing the SPI coding system.
- (2) All plastic containers are recyclable. The SPI coding system will increase the effectiveness of single-resin recycling, which has the highest economic value for local recycling programs. At the same time, opportunities for mixed plastics recycling are constantly growing, providing an option for commingled plastics as well as for multi-resin containers.
- (3) National uniformity is essential in a container coding system. Any variation in coding requirements could disrupt interstate commerce; place an undue burden on retailers, who are responsible for compliance; and interfere with sorting efficiency at regional recycling centers.

11 North Pearl Street, Room 1412
Albany, New York 12207
518.432.7835
FAX: 518.426.2276



Page 2
Senator Kany and Representative Michaud
June 5, 1989

I hope that the information I presented will be helpful to the Committee's deliberations. If there are any remaining questions, or you there is further information that could be helpful to you, please do not hesitate to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Kimberlee A. Vollbrecht". The signature is written in dark ink and includes a small circular mark at the end of the last name.

Kimberlee A. Vollbrecht

cc: Harold Pachios
David Maskewitz
Alice Knapp



National Research Council
Canada

Conseil national de recherches
Canada

Division of Chemistry

Division de chimie

Ottawa, Canada
K1A 0R6

RECEIVED OCT 11 1988

October 3, 1988

Mr. Ron Hayter,
Director of Environmental Affairs,
The Society of the Plastics Industry of Canada,
1262 Don Mills Road, Suite 104,
Don Mills, Ontario
M3B 2W7.

Dear Ron:

Many thanks for your recent letter and the draft bill H.R. 5000. Needless to say I am appalled by the technological illiteracy of the people who put together this piece of proposed legislation. You undoubtedly know what is wrong with it as well as I do but I propose to outline a critique anyway. Then, however, it may be useful to identify what good bits there are in the draft bill since it is praiseworthy that it's intended to encourage R & D.

People who don't know any better persist in talking about "making" plastics photodegradable, biodegradable, recyclable and re-useable as though:

(a) one can start with plastics that are none of these and "make" them do all of these; and (b) all of these novel properties are equally desirable. Both a and b are incorrect.

Virtually all the well-known, high volume thermoplastics and thermosets are not biodegradable; most of the more expensive specialty plastics are also not biodegradable. Many in both these categories of plastics, if unstabilized, will undergo some thermal degradation as a result of being heated during processing and fabrication. They will also, if unstabilized, undergo some degradation (photodegradation) if exposed to unfiltered sunlight during use. The chemical reactions involved in this degradation are complex, and not entirely understood but very sophisticated "additive packages" (mixtures of various kinds of costly chemical stabilizers) are available and are commonly used commercially to maximize service life. To try to impose some kind of limited-life programming on most plastics in most applications is silly, to say the least.

A relatively small number of applications exist in which biodegradable plastics would be useful. In medicine, sutures that "dissolve" (i.e., that don't have to be removed) following surgery are highly desirable; these exist and have been in use for some time. Assimilable holders for tree seedlings, slow release encapsulants for fertilizers, pesticides, medicines and the like are useful although in many instances the controlled lifetime is obtained with hydrolyzable rather than biodegradable polymers. It is well understood why almost all plastics are not biodegradable; it is well understood how to

Canada

synthesize specialty plastics which are biodegradable. It is fortunate that most commodity plastics are not biodegradable because this ensures that no products of microbial degradation can ever arise to contaminate water supplies, lead to landfill site instability, or generate explosive gases such as methane.

A limited number of applications exist in which sunlight-degradable plastics would be useful. Agricultural mulch is one example. There are two approaches to changing existing thermoplastics into photodegradable materials; the additive approach where some photosensitive material like benzophenone is added to a resin, and the copolymer approach where a photosensitive monomer is copolymerized with a conventional monomer. Ecoplastics Ltd. of Toronto uses the copolymer approach. The light sensitivity is based on the erythmal (sunburn) region of the solar spectrum such that the sensitized plastics photodegrade quite rapidly outdoors but at a much reduced rate indoors from light filtered through glass. There are some claims that the photo-oxidized (photodegraded) plastic fragments are biodegradable but the evidence for this does not convince most applied microbiologists.

It is claimed by some that additives exist which impart biodegradability to non-biodegradable thermoplastics. Specifically it is claimed, at least by implication, that biodegradable polyethylene is obtained by mixing starch with the resin. Needless to say, this claim is nonsense. A shopping bag made from starch/PE will break up into little pieces as the starch biodegrades but the PE particles do not biodegrade. Reference to "the closed system with respect to carbon dioxide" in the material you sent me is certainly a massive over-simplification, totally unrelated to a time scale such as human lifespan.

Using additives to impart degradability of one sort or another to existing, high-volume plastics would impose cost penalties and might lead to unfortunate premature failures. A much more serious consequence, however, of the widespread use of degradable plastics is that it would be extremely difficult to recycle/re-use such materials if they were to be collected in industrial or municipal waste collection systems. How could one sensibly re-use plastic materials into which sensitizing molecules have been incorporated? It would be prohibitively expensive (if indeed it were technically feasible at all) to add enough UV-stabilizing additives to recycled plastics so that these could be used subsequently outdoors. Similarly, it would be very difficult if not impossible to incorporate enough fungicide in re-used plastics that contained even a small amount of biodegradable material.

In my view, it is important to find out the amount and nature of plastics in municipal waste and to determine the most economic methods for separating and collecting these plastics. Furthermore, considerable R & D is required to determine suitable ways for re-using these materials in commercially useful products. Legislation which supports these kinds of investigation and which provides public monies for at least a significant part of the funding could be useful. It is probably the case that two years is much too short a period in which to expect optimal results. It is certainly the case that built-in degradability is not desirable in a great many plastics applications.

I hope these thoughts are useful to you, but don't hesitate to ask for any additional details you might like.

Yours sincerely,

A handwritten signature in cursive script, appearing to read "D. M. Wiles".

D. M. Wiles,
Director.

DMW/rm

D E G R A D A B L E P L A S T I C S

AN OVERVIEW

F. H. EDGECOMBE

SPI CANADA

PLASTICS ARE RELATIVELY NEW MATERIALS. PRIOR TO WORLD WAR II THEY WERE ALMOST CURIOSITIES HAVING BUT A FEW SPECIFIC USES. THEIR GROWTH AS MARKETABLE COMMODITIES WAS ACCELERATED DURING THE WAR AS THEY BECAME CRITICAL FOR USE IN ELECTRONICS AND COMMUNICATIONS EQUIPMENT PARTICULARLY IN HOT, HUMID ENVIRONMENTS WHERE MANY OTHER MATERIALS DETERIORATED OR DECOMPOSED. THE VALUE IN USE OF PLASTICS IS DERIVED FROM PROPERTIES SUCH AS LIGHTWEIGHT, INERTNESS, SAFETY, ENERGY EFFICIENCY AND BASIC ECONOMICS.

THE TERM "PLASTICS" IS A GENERIC ONE RATHER LIKE "METALS". PLASTICS CAN BE AS DIFFERENT ONE FROM ANOTHER AS LEAD FROM GOLD. SOME PLASTICS ARE TRANSPARENT, SOME FLEXIBLE, SOME RIGID BUT ALL TEND TO HAVE THE DESIRABLE PROPERTIES MENTIONED ABOVE AND ALL ARE POLYMERS. THEIR APPLICATIONS ARE MYRIAD. FROM PRINTED CIRCUIT BOARDS IN COMPUTERS TO HEAT SHIELDS ON SPACE CRAFT TO AUTO PARTS, TO FURNITURE, TO TEXTILES, TO DETERGENT BOTTLES, TO TRASH BAGS,.

AS CONSUMERS WE ARE MOST FAMILIAR WITH THE PLASTICS USED IN PACKAGING.

PLASTIC PACKAGING MATERIALS ARE ESSENTIALLY OF 5 TYPES

POLYETHYLENE 64%

POLYSTYRENE 11%

POLYPROPYLENE 9%

POLYETHYLENE TEREPHTHALATE P.E.T. 7%

POLYVINYLCHLORIDE PVC 5%

THESE MATERIALS FIND APPLICATION AS:

FILM 35%

BOTTLES 27%

OTHER CONTAINERS 24% (TUBS, PAILS, BOXES, CUPS)

COATINGS ON PAPER OR FOILS 9%

CAPS AND CLOSURES 5%

WITH VERY FEW EXCEPTIONS MOST PACKAGING MATERIALS ARE DISCARDED AFTER THEY HAVE FULFILLED THEIR FUNCTION. THE EXCEPTIONS SEEM TO BE THOSE ITEMS FOR WHICH ONE PAYS A DEPOSIT EG. SOFT DRINK BOTTLES AND CRATES. THE KETCHUP BOTTLE, THE PICKLE JAR AND THE EMPTY TIN CAN ALL FIND THEIR WAY TO THE WASTE STREAM.

IN 1984 THE U.S. ENVIRONMENTAL PROTECTION AGENCY CARRIED OUT AN ANALYSIS OF MUNICIPAL SOLID WASTE (MSW) AND FOUND THAT ONE THIRD BY WEIGHT WAS PACKAGING MATERIALS. THIS QUANTITY WAS MADE UP OF:

PAPER 48%

GLASS 27%

PLASTICS 12%

STEEL 7%

ALUMINUM 2%

WOOD AND OTHER 4%

THE SAME STUDY SHOWED THAT IN 1984 95% OF MUNICIPAL SOLID WASTE WAS LANDFILLED, 5% INCINERATED.

PRESENTLY LANDFILLED MSW CONSISTS OF NEARLY 30% INORGANICS AND PLASTICS WHICH ARE NOT BIODEGRADABLE AND 70% ORGANICS (NOT INCLUDING PLASTICS) WHICH MAY DEGRADE OVER VARYING LENGTHS OF TIME. DECOMPOSITION IN LANDFILL DEPENDS UPON MOISTURE, PRESENCE AND TYPE OF MICROORGANISMS, TEMPERATURE AND pH. STEEL, MOST WOODS, CLOTH AND ORGANIC WASTES WILL BE PARTIALLY TO TOTALLY DECOMPOSED WITHIN 20 YEARS. LANDFILL SITES HAVE BEEN OPENED AFTER 20 YEARS AND SUBSTANTIAL QUANTITIES OF STILL READABLE NEWSPAPERS HAVE BEEN FOUND.

DECOMPOSITION IN LANDFILL DOES NOT OCCUR COMPLETELY OR RAPIDLY ENOUGH TO PERMIT RE-USE OF LANDFILL SITES FOR DISPOSAL OF MORE MUNICIPAL SOLID WASTE. THIS FACT IS NOT WELL KNOWN AT THE PUBLIC LEVEL.

THERE IS ONLY ONE MEANS WHEREBY THE LIFE OF A LANDFILL SITE CAN BE EXTENDED. THAT MEANS IS TO REDUCE THE VOLUME OF MATERIALS ENTERING THE SITE AND THIS CAN BE ACCOMPLISHED BY RECYCLING MATERIALS WHICH CAN BE RECYCLED OR USING WASTE EFFICIENTLY AS A SOURCE OF ENERGY TO GENERATE POWER ETC.

APART FROM THE MATTER OF COLLECTED WASTE THERE IS THE PROBLEM OF UNCOLLECTED WASTE KNOWN AS LITTER. LITTER IS A SOCIAL PROBLEM. IT ONLY EXISTS BECAUSE PEOPLE LACK CONCERN FOR THEIR ENVIRONMENT WHEN DISPOSING OF ARTICLES WHICH TO THEM HAVE LITTLE VALUE. LITTER ON LAND IS UNSIGHTLY HOWEVER LITTER IN THE MARINE ENVIRONMENT HAS BEEN SEEN TO BE HAZARDOUS FOR MARINE LIFE.

ONE FREQUENTLY OFFERED SUGGESTION TO SOLVE OUR LITTER PROBLEM IS TO MAKE THE LITTERED ITEMS OF MATERIALS WHICH WILL DETERIORATE OR DEGRADE AT THE END OF THEIR USEFUL LIFE. OF THE USUAL PACKAGING MATERIALS FOUND IN A LITTERED ENVIRONMENT GLASS IS NOT DEGRADEABLE, ALUMINIUM DEGRADES VERY SLOWLY. STEEL CANS MAY RUST TO DISINTEGRATION AND PAPER MAY DECOMPOSE OVER TIME BUT ONLY IF THE CONDITIONS ARE RIGHT.

PLASTIC WASTE AND LITTER HAS RECEIVED MUCH ATTENTION FROM LEGISLATIONS, REGULATORS AND THE PUBLIC. THESE GROUPS ARE SUGGESTING THAT PLASTICS BE MADE MORE DEGRADEABLE TO MAKE THEM DISAPPEAR FROM LITTER AND LAND FILL.

MAKING PLASTICS DEGRADEABLE

MATERIALS DETERIORATE OR DEGRADE BY MEANS OF PHYSICAL, CHEMICAL AND BIOLOGICAL ACTIONS. THAT IS THEY MAY BE PHYSICALLY STRESSED BY WEAR AND TEAR OR EXPOSURE TO SUNLIGHT, THEY MAY BE CHEMICALLY ATTACKED OR CONSUMED BY MICROBES.

MOST PLASTICS BY THEIR VERY NATURE ARE NOT NORMALLY BIODEGRADEABLE. PLASTICS ARE COMPOSED OF LONG CHAIN MOLECULES. MICROBES TEND TO ATTACK THE ENDS OF MOLECULES AND PLASTICS OFFER FEW END POINTS FOR THE "BUGS". OVER THE YEARS MUCH EFFORT HAS BEEN EXPENDED TO MAKE PLASTICS MORE RESISTANT TO PHYSICAL AND CHEMICAL ABUSE WITH THE RESULT THAT THEY ARE QUITE INERT.

AT THE PRESENT TIME EFFORTS ARE BEING MADE TO LOWER THE INERTNESS OF PLASTICS AND RENDER THEM MORE SUSCEPTIBLE TO PHOTOCHEMICAL AND BIOLOGICAL DEGRADATION.

PLASTICS OWE THEIR TOUGHNESS TO THE LONG CHAIN MOLECULES MENTIONED EARLIER. IF THESE LARGE MOLECULES CAN BE REDUCED IN SIZE THE PLASTIC ARTICLE LOSES STRENGTH, BECOMES BRITTLE AND MAY FALL APART.

ONE MEANS WHEREBY THIS CAN BE CAUSED TO OCCUR IS TO INCORPORATE INTO THE PLASTIC ADDITIVES WHICH WILL ABSORB ULTRAVIOLET LIGHT FROM THE SUN AND SET UP A DESTRUCTIVE REACTION IN THE PLASTIC ARTICLE. A VARIETY OF TECHNIQUES ARE KNOWN WHEREBY THIS CAN BE ACCOMPLISHED WITH THE RESULT THAT THE PLASTIC IS DEGRADED INTO SMALL PIECES SOME OF THEM SMALL ENOUGH TO OFFER SITES FOR BIOLOGICAL ATTACK.

THE TECHNOLOGY OF PHOTODEGRADATION

VERY PURE POLYMERS ARE NOT AFFECTED BY THAT PORTION OF THE SUN'S ULTRAVIOLET (U.V.) RADIATION WHICH REACHES THE EARTH. (IT IS U.V. RADIATION WHICH CAUSES US TO TAN). VERY PURE POLYMERS TEND TO BE LABORATORY CURIOSITIES. IN THE REAL WORLD PLASTICS CONTAIN SOME MOLECULAR IMPERFECTIONS OR IMPURITIES, CREATED DURING PROCESSING AND THESE IMPERFECTIONS ARE SUSCEPTIBLE TO ABSORPTION OF THE SUNS ULTRAVIOLET RAYS AND THIS ABSORPTION CAN LEAD TO SOME DEGRADATION. INCREASING THE CONCENTRATION OF THESE IMPERFECTIONS BY MEANS OF ADDITIVES OR CHANGES IN PROCESSING MAKES PLASTICS MORE SUSCEPTIBLE TO ULTRAVIOLET ATTACK. TO ACCOMPLISH THIS A NUMBER OF SYSTEMS ARE COMMERCIALY AVAILABLE.

POLYETHYLENE, A MAJOR COMPONENT OF PLASTICS PACKAGING, CAN BE MADE PHOTSENSITIVE THROUGH THE INTRODUCTION OF CARBONYL GROUPS (A CARBON MONOXIDE MOLECULE). A METHOD DEVELOPED AND PATENTED BY GUILLET OF THE UNIVERSITY OF TORONTO INCORPORATES KETONE MOLECULES CONTAINING THE CARBONYL GROUP INTO THE POLYMER CHAIN. THE KETONES WHICH ARE USED ABSORB U.V. LIGHT UP TO 330 NM A RANGE NOT PRESENT IN INCANDESCENT OR FLUORESCENT LIGHT BUT PRESENT IN SUNLIGHT. PLASTICS MODIFIED IN THIS WAY SHOULD NOT DEGRADE UNDER ARTIFICIAL LIGHT BUT WILL DEGRADE OUT OF DOORS.

MATERIALS OF THIS TYPE ARE OFFERED COMMERCIALY AS ADDITIVES BY ECOPLASTICS INC.

ANOTHER METHOD OF INCORPORATING CARBONYL GROUPS INTO LOW DENSITY POLYETHYLENE IS TO COPOLYMERIZE CARBON MONOXIDE WITH ETHYLENE IN THE MANUFACTURING PROCESS FOR THE POLYMER. SEVERAL RESIN MANUFACTURES DOW, DUPONT AND UNION CARBIDE EMPLOY THIS METHOD TO PRODUCE THE PLASTIC USED TO MAKE PHOTODEGRADABLE LOOP CARRIERS FOR SIX PACKS OF BEVERAGE CANS. THE UNMODIFIED 6 PACK RING HAS BEEN SITED AS A HAZARD TO MARINE LIFE.

YET ANOTHER SYSTEM OF RENDERING PLASTICS PHOTODEGRADEABLE STEMS FROM THE RESEARCH OF SCOTT AND GILEAD. THIS SYSTEM WHICH INVOLVES AN ANTIOXIDANT - PHOTOACTIVATOR IS CHEMICALLY MORE COMPLEX BUT PURPORTEDLY BY VARYING THE CONCENTRATIONS OF VARIOUS CHEMICALS THE LIFETIME OF THE PLASTIC ARTICLE CAN BE CONTROLLED PROVIDING THE AMOUNT OF U.V. EXPOSURE IS KNOWN. IN PRACTICE THE U.V. ENERGY

IS ABSORBED BY METAL COMPLEXES ADDED TO THE MATERIAL. THESE COMPLEXES RELEASE METAL IONS WHICH CATALYSE CHAIN BREAKING. THE MANUFACTURERS OF "PLASTIGONE" AN AGRICULTURAL MULCH FILM CLAIM THAT ONCE INITIATED THE REACTION MAY PROCEED IN THE ABSENCE OF SUNLIGHT OR OXYGEN.

FACTORS AFFECTING PHOTODEGRADATION

KEY TO INITIATING AND IN MOST INSTANCES CONTINUING THE PROCESS OF PHOTODEGRADATION IS EXPOSURE TO ADEQUATE AMOUNTS OF ULTRAVIOLET LIGHT. A SECOND KEY FACTOR WHICH INFLUENCES RATE OF DEGRADATION IS TEMPERATURE. CHEMICAL REACTIONS PROCEED FASTER AT HIGHER TEMPERATURES.

IT IS OBVIOUS THAT THE RATE OF PHOTODEGRADATION WILL VARY WITH THE SEASON AND ONES LATITUDE ON THE EARTH'S SURFACE. VERY LITTLE DEGRADATION WILL OCCUR IN MANY PARTS OF CANADA DURING THE WINTER SEASON.

OF COURSE IT IS AXIOMATIC THAT THE MATERIAL RECEIVE SUNLIGHT. IT CANNOT BE BURIED UNDER GROUND AS IN LANDFILL OR EVEN UNDER A SNOW COVER IF THE PHOTOCHEMICAL REACTION IS TO TAKE PLACE.

PHOTODEGRADATION OF PLASTICS IS USEFUL FOR PRODUCTS SUCH AS AGRICULTURAL MULCH AND SOME SURFACE LITTER.

WITH REGARD TO AGRICULTURAL MULCH THERE IS SOME CONCERN FOR THE EFFECTS OF FINE PARTICLES OF DEGRADED MATERIAL BUILDING UP IN THE SOIL. SOME PROPONENTS OF THE TECHNIQUE STATE THAT THE PHOTOCHEMICAL BREAKDOWN IS OF SUCH MAGNITUDE THAT THE RESIDUES ARE SUSCEPTIBLE TO BIODEGRADATION BY MICROBES. GUILLET HAS PROVIDED SOME LABORATORY EVIDENCE THAT THIS IS SO BUT AS YET THERE IS LITTLE FIELD EXPERIENCE TO SUGGEST THAT THE PROCESS WORKS IN A REASONABLE TIME FRAME OUT OF DOORS.

LIMITATIONS OF PHOTODEGRADATION

THE USE OF PHOTODEGRADEABLE PLASTICS IS STRICTLY LIMITED TO APPLICATIONS WHERE THE ARTICLE WILL BE EXPOSED TO ADEQUATE SUNLIGHT TO PROMOTE THE DECAY PROCESS. SUCH APPLICATIONS MIGHT EMBRACE ITEMS WHICH CONTRIBUTE TO ROADSIDE LITTER IN GEOGRAPHICAL AREAS WHERE THE LITTER WILL BE FREE OF SNOWCOVER AND OTHER ITEMS WHICH WILL FLOAT ON THE SURFACE OF LAKES AND OCEANS CAUSING DAMAGE TO MARINE LIFE AND TRASH ACCUMULATIONS ON BEACHES. OF COURSE IN THE MARINE ENVIRONMENT ONE CAN ONLY REDUCE THE PROBABILITY OF INGESTION BY FISH. LITTER INGESTED IMMEDIATELY AFTER DUMPING AT SEA WILL BE AS MUCH A HAZARD AS IT EVER WAS. LITTERING IS A BEHAVIOURAL PROBLEM WHICH CAN ONLY BE ADDRESSED BY THE AWAKENING OF SOCIAL CONSCIOUSNESS.

THE TECHNOLOGY OF BIODEGRADATION

BIODEGRADATION IS THE ASSIMILATION OR CONSUMPTION OF SUBSTANCES BY LIVING MICRO-ORGANISMS SUCH AS BACTERIA OR FUNGI. THE PROCESS IS CATALYSED BY ENZYMES SECRETED BY THE MICRO-ORGANISM AND ITS RATE DEPENDS UPON ENVIRONMENTAL CONDITIONS SUCH AS TEMPERATURE, MOISTURE, OXYGEN AND A POPULATION OF SUITABLE MICRO-ORGANISMS. FOR BIODEGRADATION TO PROCEED THE ENZYME MUST BREAK DOWN THE MATERIAL UNDER ATTACK TO PRODUCTS SMALL ENOUGH TO BE ASSIMILATED BY THE MICRO-ORGANISM. WHILE NATURAL POLYMERS SUCH AS STARCH AND OTHER POLYSACCHARIDES OF THE CELLULOSE FAMILY ARE BIODEGRADABLE MOST SYNTHETIC POLYMERS ARE NOT. A VERY FEW SYNTHETICS SUPPORT MICROBIAL GROWTH BUT THESE MATERIALS POSSESS NEITHER THE PROPERTIES NOR ECONOMICS FOR PACKAGING APPLICATIONS.

IT IS ONLY VERY RECENTLY THAT INFORMATION HAS COME TO LIGHT ON A NEW POLYMERIC SPECIES, A BACTERIAL ALIPHATIC POLYESTER KNOWN AS POLY (3 HYDROXYBUTYRATE -3 HYDROXYVALERATE) (PHBV).

THIS MATERIAL, MANUFACTURED BY A SUBSIDIARY OF ICI, IS EXTRACTED FROM THE CELLS OF BACTERIA GROWN ASEPTICALLY IN A CONVENTIONAL FERMENTATION PROCESS USING A SUGAR FEEDSTOCK. THE BACTERIA GENERATE THE POLYMER AS A MEANS OF STORING ENERGY MUCH IN THE WAY AS PLANTS STORE ENERGY IN STARCH AND ANIMALS IN FAT AND GLYCOGEN.

ICI BY VARYING THE NUTRIENTS SUPPLIED TO THE FERMENTATION PROCESS HAS BEEN ABLE TO CREATE A FAMILY OF COPOLYMERS WITH PROPERTIES RESEMBLING THOSE OF POLYPROPYLENE. THE MATERIAL MAY BE HANDLED AS A CONVENTIONAL THERMOPLASTIC AND CAN BE EXTRUDED AND BLOW MOULDED TO PRODUCE BOTH SHEET AND BOTTLES.

PHBV IS COMPLETELY AND SAFELY BIODEGRADABLE. WHEN PLACED IN SOIL THE NATURAL POPULATION OF MICRO-ORGANISMS RECOGNIZE IT AS FOOD (WHICH IT TRULY IS) AND ASSIMILATE IT YIELDING IN EFFECT CARBON DIOXIDE AND WATER FREE OF ANY TOXIC METABOLITES OR RESIDUES. THIS IS AN EXAMPLE OF TRUE BIODEGRADATION AS BROUGHT ABOUT BY FUNGI AND BACTERIA. IT IS IMPORTANT IN THE DISCUSSION WHICH FOLLOWS TO DISTINGUISH BETWEEN THE BREAKDOWN OF A PLASTIC OBJECT INTO FRAGMENTS BY THE ACTION OF MICRO-ORGANISM ON STARCH WHICH ONE AUTHOR HAS TERMED BIODISINTEGRATION AND THE TRUE BREAKDOWN OF THE POLYMER TO NATURAL END PRODUCTS WHICH SAFELY ENTER THE ECOSYSTEM.

AT PRESENT PHBV IS PRODUCED IN QUANTITIES OF 100'S OF TONNES PER YEAR AND AS SUCH IS SCARCELY A COMMODITY RESIN. IT IS HOWEVER A POLYMER WHICH IF THE ECONOMICS ARE PROPERLY POSITIONED COULD FILL A MARKET NICHE.

THE OTHER PATH WHICH HAS BEEN FOLLOWED TO MAKE PLASTICS BIODEGRADEABLE HAS BEEN TO INCORPORATE BIODEGRADEABLE ADDITIVES SUCH AS STARCH. THE U.S. DEPARTMENT OF AGRICULTURE (USDA) AND ST. LAWRENCE STARCH A CANADIAN COMPANY HAVE DEVELOPED PRODUCTS BASED ON STARCH.

THE USDA SYSTEM UTILIZES STARCH AND CERTAIN ADDITIVES TO MAKE STARCH COMPATIBLE WITH POLYETHYLENE AT LEVELS OF 40 - 60% STARCH TO MANUFACTURE FILM. IT IS EXPECTED THAT MICRO-ORGANISMS WILL CONSUME THE STARCH PARTICLES LEAVING A POROUS PLASTIC ARTICLE WHICH MAY DISINTEGRATE OR DETERIORATE SO IT, TOO, MAY BECOME BIODEGRADABLE.

THE ST. LAWRENCE STARCH "ECOSTAR" SYSTEM IS SOMEWHAT DIFFERENT. THE TECHNOLOGY EMPLOYS STARCH TREATED WITH A SILICONE COUPLING AGENT TO MAKE THE MATERIAL COMPATIBLE WITH POLYETHYLENE. A SMALL AMOUNT OF AN UNSATURATED ESTER SUCH AS CORN OIL IS ALSO ADDED TO FUNCTION AS AN AUTOXIDANT. WHEN AN ARTICLE MADE FROM THIS MIXTURE IS BURIED SOIL FUNGI ATTACK THE STARCH LEAVING A POROUS STRUCTURE. THE CORN OIL REACTS WITH METAL SALTS IN THE SOIL TO FORM PEROXIDES WHICH PURPORTEDLY BREAK THE POLYMER MOLECULES INTO FRAGMENTS SMALL ENOUGH TO BE BIODEGRADED. ST. LAWRENCE ESTIMATE THAT A GROCERY CARRYOUT BAG CONTAINING 6% OF THEIR STARCH SYSTEM WOULD DEGRADE IN 3 TO 6 YEARS IF THE CONDITIONS IN THE LANDFILL SITE ARE APPROPRIATE. ALTHOUGH CLAIMS HAVE BEEN MADE THAT THE PRODUCTS OF BIODEGRADATION WOULD BE SOLELY CARBON DIOXIDE AND WATER THERE IS LITTLE PUBLISHED DATA TO SUPPORT THIS. IN MID 1987 ST. LAWRENCE STATED THAT LATER IN THE YEAR THEY WOULD START A LARGE SCALE, TWO TO THREE YEAR, COMPREHENSIVE STUDY OF THE PARAMETERS AFFECTING BIODEGRADABILITY OF STARCH FILLED MATERIALS. THIS STUDY WOULD INVESTIGATE THE EFFECTS OF MATERIAL THICKNESS AND TYPE, ACTIVE INGREDIENT LOADING AND ENVIRONMENT.

LIMITATIONS OF BIODEGRADATION

BIODEGRADATION IS NOT A FAST PROCESS IN MOST NATURALLY OCCURRING ENVIRONMENTS. IT IS DEPENDENT ON MANY FACTORS WHICH HAVE BEEN PREVIOUSLY DISCUSSED.

A POLYMER SUCH AS PHBV WILL UNDOUBTEDLY BIODEGRADE IF IN THE RIGHT ENVIRONMENT.

THE BIODEGRADATION OF STARCH FILLED MATERIALS TO CLEAN METABOLITES SUCH AS CARBON DIOXIDE AND WATER IS NOT WELL DOCUMENTED FOR ENVIRONMENTS SUCH AS LANDFILL.

A PACKAGING MATERIAL WHICH IS CAPABLE OF SUPPORTING THE GROWTH OF BACTERIA OR FUNGUS SHOULD BE HANDLED VERY CAREFULLY IF IT IS TO BE USED IN THE PACKAGING OF FOOD STUFFS HAVING LONG SHELF LIVES. IMPROPER STORAGE OR EXPOSURE OF THE PACKAGING MATERIAL COULD LEAD TO CONTAMINATION WHICH WOULD TRANSFER TO THE FOOD.

SUMMARY AND CONCLUSIONS

PLASTICS WITH FEW EXCEPTIONS ARE NOT NATURALLY BIODEGRADABLE. THEY CAN BE CAUSED TO DISINTEGRATE BY PHOTOCHEMICAL (EXPOSURE TO ULTRAVIOLET LIGHT) MEANS OR THROUGH THE ADDITION OF MATERIALS SUCH AS STARCH WHICH CAN SERVE AS A HOST FOR MICROBIAL ATTACK.

PHOTODEGRADATION HAS SOME APPLICATION IN RENDERING INVISIBLE THE PRODUCTS OF THE SOCIAL PROBLEM OF LITTERING. PHOTODEGRADABLE PLASTICS WILL NOT SOLVE THE PROBLEM OF LITTER PARTICULARLY SINCE MOST LITTER IS NOT PLASTIC.

PHOTODEGRADABLE TRASH BAGS ARE TECHNICALLY FEASIBLE BUT THE PUBLIC HEALTH ISSUE OF DETERIORATION AND RELEASE OF CONTENTS IF THE BAG IS NOT IMMEDIATELY DISPOSED OF COULD BE A SEVERE DISADVANTAGE.

PHOTODEGRADATION WILL NOT FUNCTION WHEN A MATERIAL IS BURIED IN A LANDFILL SITE.

BIODEGRADATION OF ALL WASTES IN A LAND FILL SITE DEPENDS ON FACTORS SUCH AS MOISTURE, TEMPERATURE, pH AND THE PRESENCE OF SUITABLE BACTERIA. ALL BIODEGRADATION IN LANDFILL IS SLOW, TAKING 10 TO 20 YEARS UNDER IDEAL CONDITIONS. RENDERING MORE OF THE GARBAGE BIODEGRADABLE DOES NOT PROVIDE MORE IMMEDIATE CAPACITY IN A SITE. ONLY A REDUCTION IN THE QUANTITY DUMPED WILL PROVIDE LONGER USE.

BIODEGRADATION IN LANDFILL YIELDS MORE THAN THE IDEAL PRODUCTS CARBON DIOXIDE AND WATER. THE PRESENCE OF METHANE IS WIDELY OBSERVED AS ARE NOXIOUS LEACHATES AND OTHER PRODUCTS OF PUTREFACTION.

THE TECHNIQUES DEMONSTRATED TO DATE IN RENDERING PLASTICS BIODEGRADABLE THROUGH THE USE OF ADDITIVES ARE SUPPORTED WITH FEW DATA ON THE ACTUAL PROCESS OF BIODEGRADATION. DATA ARE AVAILABLE ON BIODISINTEGRATION BUT MUCH WORK NEEDS TO BE DONE ON THE STRICTLY BIOLOGICAL PROCESSES.

QUESTIONS HAVE BEEN RAISED WITH REGARD TO SAFETY TO PUBLIC HEALTH OF PACKAGING MATERIALS WHICH THEMSELVES CAN SUPPORT BACTERIAL GROWTH.

AS REPEATEDLY STATED THE SOLUTION TO OUR GARBAGE PROBLEM IS NOT DISINTEGRATION BUT RATHER REDUCTION IN QUANTITY.

REDUCTION IN QUANTITY MEANS REMOVAL OF PRODUCTS FROM THE WASTE STREAM SO THAT THEY MAY BE REUSED, RECYCLED OR HAVE THEIR ENERGY VALUE RECOVERED.

IF OUR SOCIETY MOVES TO LEGISLATE DISINTEGRATABLE MATERIALS IT WILL NOT SOLVE ITS PROBLEM, AND WILL COMPOUND THE DIFFICULTY OF RECYCLING VALUABLE MATERIALS BY CONTAMINATING THE WASTE STREAM WITH MATERIALS OF LOW VALUE AND NO RECYCLABLE POTENTIAL BECAUSE OF THEIR SELF DESTRUCTIVE NATURE.

STATEMENT ON DEGRADABLE PLASTICS

INTRODUCTION

Technology now exists to make many plastics degradable photodegradable, biodegradable or even both.

In this era when the problem of disposing of societies wastes is nearing crisis proportions, some citizens, politicians, special interest groups and municipal officials see degradable plastics as "the answer" - the solution to the waste management problem.

Increasingly under attack as the culprit (scapegoat?) in the dilemma of growing volumes of waste, it would be such an easy out for the plastics industry to embrace degradability as the solution. Although there are many useful applications for degradable plastics, widespread use in no way solves the solid waste problem and in fact, introduces some new ones.

The plastics industry hopes to be around for a long time serving society with a wide range of useful and versatile products that do minimal harm to the environment and use resources efficiently. Responsible long range decisions, not expedient quick fixes, are in our opinion more likely to achieve that goal.

BACKGROUND

The plastics industry uses about 2% of all the oil and gas consumed in Canada each year to make the vast array of products for consumer and industrial markets. If these same products were made from other non-plastics materials, it would take even more of Canada's energy resources to produce them.

When examining the environmental impact of any given product, it is most often done as a snapshot at a specific point in its' life cycle. But impacts occur at every stage from resource extraction through manufacturing, distribution, use and disposal. Studies comparing the life cycle impacts of plastics containers versus the likely non-plastics material quite clearly show that plastics do less harm to the environment.

DISPOSAL AND DEGRADEABILITY

Plastics account for approximately 7% by weight of all municipal solid waste. All other materials account for 93%. Arguments have been made that by volume plastics represent a much higher percentage, but studies supporting this hypothesis have not been located.

The contrary is true of plastic films like the supermarket bag, dry cleaning bag or meat wrap, a large percentage of plastics packaging, which obviously takes up less space than any alternate material.

In a landfill, garbage is spread by a bulldozer and repeatedly run over to compact the mass. It is hard to imagine plastics bottles or containers remaining any more intact or occupying more cubic space than the alternatives of glass or metal.

Plastics in landfills are relatively inert and although they occupy space, contribute no further pollution in the form of explosive flammable methane gas generation or the production of leachate with the potential for polluting ground and surface water. Methane gas and toxic leachate are the inevitable by-products of biodegradation and are the major problems associated with landfills.

(A) Photodegradeability

This technology causes plastics exposed to sunlight or ultra violet light to become brittle more quickly. Under the affects of the elements (wind, rain) they break into increasingly smaller pieces, becoming less and less visible. It is claimed that at this stage the plastic material becomes susceptible to biodegradation. This technology, since it requires exposure to ultra violet light to trigger the reaction, is therefore of value mainly for litter. There is no value in incineration or in a landfill. Since it is impossible to know which specific item will be carelessly littered, to be effective 100% of production must be treated to address the minute amount (1/10 of 1%) that may become litter. It adds significantly to the cost of all production with little benefit. A strong litter education program coupled with regulation and an enforcement program would be far more cost-effective.

(b) Biodegradeability

There is a perception that things which biodegrade simply vanish with no harmful side-effects.

In this era when cities, town and municipalities all seem simultaneously to face a waste management crisis, the notion that making things biodegradeable is perceived to be "the solution". Certainly in less complex times our rural ancestors spread their waste thinly over the fields and that practice contributed to renewing life cycle. The process of decaying, rotting, decomposing (alternate words for biodegradeing) and the resulting harmful by-products of biodegradation caused little problem for our then sparsely populated planet. And so the perception of ashes to ashes, dust to dust, nature's way of disposing of waste, became fixed in peoples' minds as an unmixed blessing.

Today, earth's 5 billion inhabitants live in an urban society. Life styles have changed. Both men and women go out to work and both speed and convenience have become essential. Volumes of waste mount and space to put them diminishes and we still dispose of most of our wastes on or in the land. But no longer is it spread thinly promoting new life cycles. It is now concentrated in relatively small landfills as close to our urban living space as possible to minimize transportation costs. And the biodegradation process once useful begins to go bad. Packed tightly in a landfill where little air can penetrate, the anerobic decomposition process takes over. Methane gas, which is both explosive and flammable, is generated. Anyone living adjacent, even to an old decommissioned landfill, has nightmares about a spark triggering an explosion or fire. Efforts to capture and use the methane as a fuel can never eliminate this fear completely.

Simultaneously, leachate is produced which percolates through the landfill site and must be contained or ground water pollution can occur. The logic of suggesting that plastics destined for landfill be made biodegradeable is highly questionable when the by-products of biodegradation are the cause of most of the problems associated with today's landfills. Landfills reserved for inert non-biodegrading wastes are likely to receive little objection from nearby residents.

With both photo and biodegradeable plastics, recycling becomes increasingly difficult and complex. The durability of recycled products becomes unknown when recovered materials may or may not contain degradable triggers.

Although useful and appropriate applications exist for degradable plastics, their widespread use creates additional problems and costs and is not recommended.

BACKGROUND PAPER - DEGRADABILITY

. There is presently a high level of interest in degradable polymers, driven to a significant degree by legislative actions seeking quick solutions to the waste disposal and litter problems. For some products which seem particularly prone to indiscriminate disposal, such as ring connectors for beverage cans, designing-in degradability may prove beneficial in reducing litter. Serious technical obstacles exist, however, to making most plastics degradable, while retaining the unique properties which provide broad utility. Waste reduction, recycling and resource recovery promise more general gains in reducing waste volume without sacrificing utility.

Polymers with enhanced degradability have been and are being developed. Du Pont has committed resources to staying current in the technology and assessing possible specialty application areas where plastics with enhanced degradability may make a sound business and technical contribution.

We believe that plastics with enhanced degradability will be useful in limited application areas, but will not play a major role in solving the plastics waste issue. The use of ethylene/carbon monoxide copolymers for six-pack beverage connector rings has been well established since the early 1970's. Most other applications presently envisioned for degradable polymers are in the commodity plastics areas such as trash and grocery bags, mulch film and fast food type packaging. Some high value specialty application areas, such as medical and pharmaceutical, are expected to emerge.

Photodegradation and biodegradation are currently the two principal routes to degradation of plastics.

Photodegradation is the process whereby ultraviolet radiation attacks a link in the polymer chain or chemical structure. Polymers with enhanced photodegradability are available and development work is continuing.

Photodegradable plastics presently involve carbonyl photochemistry or transition metal-induced photo oxidation. The carbonyl photochemistry incorporates carbon monoxide and/or vinyl ketone monomers in various polymer backbones. Du Pont, Dow Chemical, and Union Carbide market ethylene/carbon monoxide copolymers. Ecoplastics, Inc., Ontario, Canada, currently markets 2-5% vinyl ketone containing polymers in concentrate form for blending. Transition metal-induced photo oxidation uses metal salt additives such as iron, nickel and cobalt either alone or in combination with other transition metal or organic additives. Ampacet Corp., Mt. Vernon, New York and Ideamasters, Inc., Miami, Florida, market transition-metal additive packages for polymer blending.

Biodegradation is a complex process whereby microorganisms chemically break down the material which is usually buried, such as in a landfill.

Biodegradable systems for plastics presently involve either modified starch polymers or certain aliphatic polyester and copolyesters. The modified starch technology uses either silane treated starch for improved compatibility with polymers, or starch modified with an ethylene/acrylic acid copolymer compatibilizer. St. Lawrence Starch Co., Mississauga, Ontario, and Agri-Tech Industries, Gibson City, Illinois, currently market modified starch polymers. Du Pont of Canada has evaluated some of the starch based systems for possible use in the "Sclair" product line, but have no commercial plans at present.

Aliphatic polyester/copolyester systems are being investigated but lag behind starch technology in degradable polymer development. ICI markets "Biopal", a polyhydroxybutyrate-valerate copolymer, which has limited application due to the current high cost of approximately \$15/lb. Other systems are based on polylactides and polyglycolides, derived from lactic acid and glycolic acid and are targeted for high value-in-use applications such as medical and pharmaceutical devices. "Hedisorb", a bioresorbable polymer, is being evaluated in these markets by the C&P Department.

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Degradability: It's getting out of hand

The concept of degradability needs to be defined quickly before it blows up in our faces.

Even though they know better, or at least ought to know better, many plastics manufacturers are anxiously eyeing the opportunity to stamp the word "degradable" on their products to take advantage of a perceived public interest. More likely, they are trying to fend off legislative parries aimed at plastics packaging materials. In at least one case I've heard about, a shopping sack labeled degradable has poorer degradation characteristics than a bag that has received no special treatment. The converter feels the degradable label is warranted because he added a certain amount of additive that initiates photodegradation. He ignored the impact of titanium dioxide loading, which in this case made his bag less degradable than an untreated bag with no pigmentation.

Except in one or two states, there is a total absence of definition of what constitutes degradability. Any quick-buck huckster with a slim claim has the potential to meet requirements established by often poorly informed legislative bodies. Harm may be done to responsible suppliers whose products may have far superior environmental impact than the ones billed as environmentally safe.

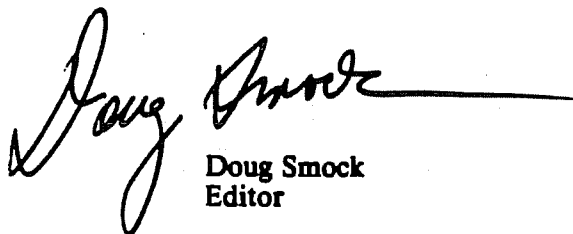
Even claims by paper bag purveyors that their bags are biodegradable are suspect in light of new evidence from researchers at the Universities of Cincinnati and Arizona. The Cincinnati study, done for the Environmental Protection Agency over a 10-year period, showed that biodegradation occurs very slowly in landfills because they typically contain low moisture levels. Landfill excavations by the Arizona "garbologists" show that newspapers (which constitute up to 10% of landfills) can still be read easily after 10 years of landfill burial!

These tests clearly show that use of the degradability label by paper or plastics interests is just a marketing ploy and is no way aimed at improving our environment.

At the very least, we need quick industry agreement on what constitutes degradability. If the goal is to reduce litter, then the standard needs to be based on exposure to sunlight. Do we want complete molecular decomposition or do we want breakdown into nonvisible particles? How fast should this take place?

If our goal is to solve the landfill problems, the Arizona and Cincinnati work show that we need to go back to the drawing boards and come up with all new answers.

As responsible members of the plastics industry, we have to avoid quick-fix solutions that satisfy poorly conceived public interests. And let's find the answers ourselves rather than wait for the next dictum from the Berkeley, Calif. City Council.


Doug Smock
Editor

OPINION

THE BIODEGRADABLE MYTH!

Biodegradable has been rediscovered by the retail marketing sector as the latest gimmick with which to con the consumer and befuddle the politician. The word has been used on detergents and household cleaning products since the mid-1970s, but now biodegradable is also being used to describe plastic shopping bags, diapers and magazine wrappers. The public's desire to do something good for the environment has finally caught the attention of the advertisers, but, as seems common in advertising, neither the real meaning of the word biodegradable nor the products advertised as being biodegradable have anything to do with protection of the environment.

Dictionaries rarely keep up with current language use, and I found this to be true with the word biodegradable. I expected to find that biodegradable meant having the ability to break down under the action of natural organisms into basic substances like water and carbon dioxide. Indeed, I opened the dictionary expecting to find an environment-friendly definition with which I could lay a complaint of misleading advertising against a biodegradable bag promoter. Unfortunately, a hunt through many dictionaries came up with the definition "capable of decaying through the action of natural organisms." Decay is further defined as "a gradual falling into an inferior condition." In other words, biodegradable means very little!

Surely, people say to me, even if biodegradable only means "capable of falling apart," marketing disposable products biodegradable will at least help to alleviate our landfill problems. After all, landfills destroy neighborhoods, waste prime agricultural or development land, and, because of the uncontrolled mass of material dumped into them, threaten both air quality and water quality. Unfortunately, switching to biodegradable plastics and such products as biodegradable diapers will not help solve any of

these problems.

Biodegradable plastic is a mixture of starch and plastic blended together. The starch may be broken down by bacteria in the soil causing the plastic to fall apart. Unfortunately, small pieces of plastic are no better for the environment than "plastic sheet." Biodegradable hucksters claim that small pieces of plastic biodegrade more quickly than plastic sheet, but no less an authority than Dr. David Wiles, director of the National Research Council of Canada's division of chemistry, asserts plastics never break down, no matter what form they come in. In fact, Dr. Wiles goes on to say that it is just as well that plastic does not biodegrade, because breakdown would add to the already serious problem of gas and leachate production, possibly adding toxic chemicals much more damaging to the environment than the plastic wastes themselves.

Diapers are another contentious product. Both biodegradable and disposable diapers are made of a cellulose fibre or paper-like material and a plastic cover. In biodegradable diapers, the plastic is mixed with starch. Paper is one product that really does break down into basic materials under the action of naturally occurring bacteria: after all, that's how trees decay to maintain the viability of the forest. However, the breakdown does nothing to help our landfill situation, because the breakdown products of any throw-away diaper, disposable or biodegradable, take up just as much room in the landfill as the original, so we don't get to put more waste into the landfill, even if we wanted to. Worse still, the problem with diapers in landfills is the human waste. We don't allow medical waste and infectious waste into our landfills for obvious sanitary reasons, yet, each year, millions of tons of soiled diapers, possibly disease infected, are dumped into landfills not equipped to handle them. The environment is put at risk simply by the act of discarding them, even if they are biodegradable!

Biodegradable detergents are another market-

ing gimmick. Almost all detergent ingredients break down under the action of living organisms in water. Phosphates, often regarded as the environmentally damaging ingredient in detergents after they helped "kill" Lake Erie in the 1970s, are themselves biodegradable, and are actually consumed by living organisms so quickly as to cause runaway algal growth. This "algal bloom" can continue until all oxygen in the water has been used up, leading to the death through suffocation of most higher species such as fish. Phosphates are too biodegradable!

Wastes from some biodegradable products can cause problems because their breakdown products are toxic to higher species or because they contain additives or heavy metal salts which are released during the biological breakdown process. Concern of this kind exists for some types of printing ink and cleaning compounds, and for some of the additives included in plastics.

By giving a false sense of security, biodegradable products may remove part of the incentive for the environmentally sound 3Rs approach to waste management — reduce, reuse and recycle. It is clearly better not to produce waste in the first place, or to reuse it, or to recycle it into new products than it is to continue dumping it into landfill sites. Further, biodegradable wastes, especially biodegradable plastic, may pose an even greater threat than just removing the incentive for recycling. Recyclers are being told that plastic waste containing even a fraction of starch will not be accepted for recycling, because the starch interferes with the recycling process and damages the quality and consistency of the recycled product. Plastics are difficult enough to recycle without this added problem! Unlike metal and glass containers, which can be recycled into brand-new containers, recycled plastics are generally used only for secondary products like fence posts or car bumpers where biodegradability is not wanted. Mixing biodegradable plastics into the waste stream will make it even more difficult to find recycling opportunities for waste plastics.

The word biodegradable is rapidly turning into the marketing manager's dream, once again to the detriment of the environment. When the plastic components on your next car fall apart, it might just be due to society's gullibility for the word.

Colin Isaacs is the executive director of the Pollution Probe Foundation.

resources

Degradable Plastics: Standards, Research and Development (Report to the Chairman, Committee on Governmental Affairs, U.S. Senate, U.S. General Accounting Office, September 1988, 37 pages.)

This report exhorts all those who are rushing headlong to support degradable plastics to proceed with caution. Undertaken at the request of former astronaut John Glenn (now a member of the U.S. senate) the report identifies the extent of federal and private sector activities relevant to developing standards for degradable plastics and describes federal agencies' support of degradable plastics R & D. It concludes that little is being done but there is a strong consensus on the need to rectify this.

While accepting that degradable plastic technologies may be beneficial if applied selectively, the current situation is "in a state of chaos." Many initiatives have been taken by local, state and federal governments to promote the use of degradable plastics. Yet very little testing of degradable plastics has been done to support the development of standards and to resolve basic technical questions about the rate of degradation and the safety of the end products. These technical uncertainties have called into question the ability of degradable plastics to alleviate litter and landfill problems.

The first five copies of the report (GAO/RCED-88-208) are free. Additional copies are \$2.00 each. Order from: U.S. General Accounting Office, P.O. Box 6015, Gaithersburg, Maryland, 20877; (202) 275-6241.

Container Recycling in Manitoba (David Tomlinson, Recycling Council of Manitoba, September 1988, 47 pages.)

The Manitoba soft drink industry and the government have an informal agreement that if industry can recycle 30 percent of the aluminum cans sold, deposit legislation will not be introduced. An industry-sponsored buy back system has been operating since September 1986 for aluminum and PET but assessing its progress is difficult because sales figures are not being made available. The Recycling Council of Manitoba, for its part, believes that much more could be done to improve recycling rates in the province and has produced this report in the hope that it will act as a stimulus for further action by government.

Container Recycling in Manitoba

sets out four options for the recovery of beverage containers in the province and evaluates each on the basis of its impact on litter, waste reduction, resource conservation and educational value. The markets for various materials are examined with an emphasis on the situation in Winnipeg. The report concludes that a combination of systems will achieve the best results and that the provincial government should take the lead to establish a Recycling Development Fund to support the development of markets, industries, collection networks and educational programs. In reading the report, one gets a good overview of the status of recycling and waste management in Manitoba.

For information, write: Recycling Council of Manitoba, 1329 Niakwa Road, Winnipeg, Manitoba, R2J 3T4 or phone Peter Miller, (204) 786-9395.

Economic Assessment of Management Options for Waste Oil (prepared by Victor & Burrell, Heeney Associates, and Pilorosso Research Associates for Environment Ontario, Policy and Planning Branch, Corporate Resources Division, August 1988, 58 pages.)

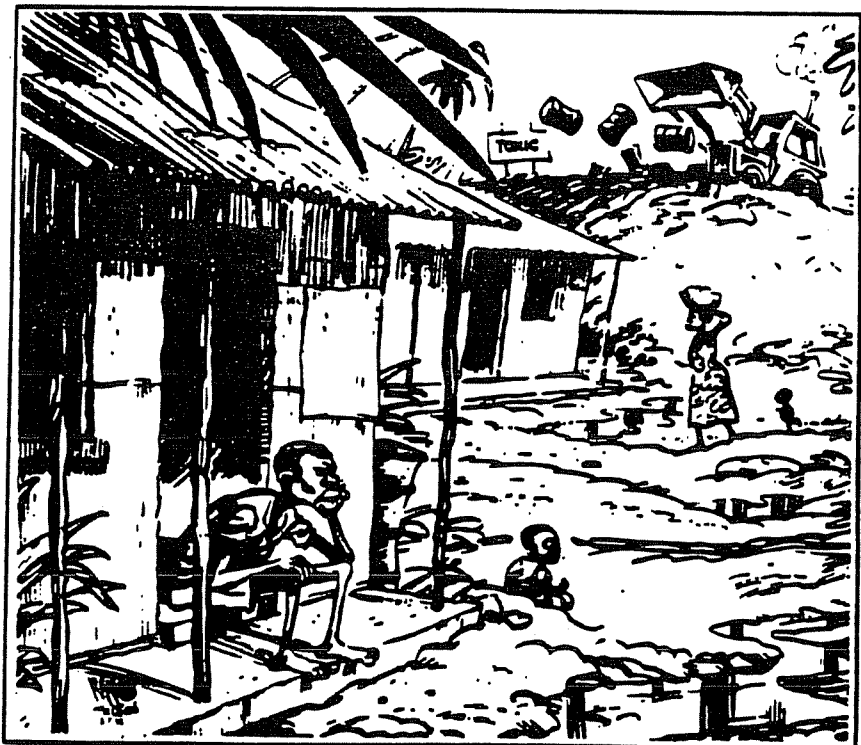
The Ontario Ministry of the Environment is currently looking at options pertaining to the management of waste oil.

This study identifies and assesses the economic implications of various alternatives such as more stringent specifications for using waste oil as a dust suppressant on roads, an outright ban on road oiling, a ban on burning waste oil, financial assistance to re-refiners and incentives for waste oil collection. It gives an account of the quantities and fates of used oil and the number and types of firms engaged in the management of waste oil in Ontario.

In ranking the preferred fates of waste oil, the authors list re-refining as the first choice, yet they do not come out in favour of providing financial assistance to re-refiners. They conclude that without subsidies, two of three re-refiners will continue to operate, with adequate capacity to handle all the Ontario oil currently being re-refined. Also, subsidies would not in themselves, encourage the development of the infrastructure to collect oil from underserved segments (i.e., Northern Ontario and the Do-It-Yourself oil changers.)

Since this report was published, the MOE has banned the use of waste oil as a dust suppressant.

Report available from: Ministry of the Environment, Public Information Centre, 135 St. Clair Ave. West, Toronto, Ontario, M4V 1P5; (416) 323-4321.



'Slavery, colonialism, proxy wars, debt... What's next?'

Tokens of good
faith but
bad sense

The municipal solid waste crisis mounts so quickly that plastics companies are taking a second look at degradables. They reason that, by offering some products in degradable versions, they can buy time needed before recycling and waste-to-energy can be made commonplace. So profound is public belief in degradability (amounting to a fantasy of utter disappearance) that even token satisfaction of this wish would show good faith.

The problem-solving power attributed to degradables is on the rise. Now they're said to help farmers too. The magic word is *cornstarch*. Corn growers promote and lobby for cornstarch as the ideal additive for biodegradability. Legislators make sure to single it out when they demand that government buy degradable plastics and foster use of such products by other sectors of society.

This is double tokenism—tossing bones to municipalities and to farmers. Neither benefit. That plastics could consume enough cornstarch to help farmers is a daydream. That plastics should be degradable at all, on any large scale, makes no ecological or economic sense.

Degradables can solve certain litter problems, but they actually worsen the far vaster problem of municipal waste. Landfills are for materials that do *not* degrade; in them, even newsprint can stay intact for years. No one knows the consequences, moreover, of introducing bioactive materials into end uses based on inert ones, or into a waste stream that will one day be the source for extensive plastics recycling. Finally, there is the folly of building degradability into products that would be valuable as reused material or as fuel.

Token offerings of degradable goods are dangerous. People looking for a quick fix can never regard a little degradability as enough. Better to oppose degradability, other than for a few highly specific uses, and show people why other strategies make more sense, not just for us but for the rest of society.

Bob Martino



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SIX-PACK YOKE FACT SHEET

WHY ISN'T THE EXISTING LAW ADEQUATE?

The existing law is unenforceable. Current law purports to ban non-degradable plastic connectors, but because it only requires that connectors degrade "within a reasonable period of time" it is virtually meaningless in practice.

Plastic connectors still litter our beaches and pose a threat to wildlife. There is no question that plastic connectors, even those that comply with current law, pose a significant threat to wildlife and remain a litter problem on Maine beaches and in our parks and roadsides. In the 1988 State Planning Office coastal clean-up, 275 plastic six-pack yokes were collected in one weekend along 114 miles of Maine coastline. A study of Double-crested cormorant nests on Freeman Rock off Jonesport found that sixty had plastics, including plastic connectors, woven into the nests.¹

It is well established that birds and marine mammals become entangled in plastic connectors and die. The National Wildlife Federation estimates that over one million birds and 100,000 marine mammals die each year as a result of ingesting plastic or becoming entangled in it. Moreover, litter from plastic connectors and other packaging blights our beaches. While this is an aesthetic concern for Mainers, it is also an economic concern for a state like Maine that depends on tourism as a mainstay of its economy.

WHY IS A BAN NECESSARY?

Even degradable yokes kill wildlife. A clear-cut ban is the only effective way to insure that plastic connectors do not remain a threat to marine wildlife and continue to contribute to a significant litter problem. Even if a plastic connector degraded fully after a specific period of time, such as 90 days, that's still three long months during which the connectors could be injuring or killing marine wildlife.

¹ "Plastic world -- ask a cormorant," Maine Times, June 17, 1988.

Under real-life conditions, yokes degrade slowly. Current law requires connectors to be photo-degradable, that is, degradable by sunlight. A plastic connector that ends up in the ocean itself (where it can do the most harm) or out of direct sunlight won't degrade for a much longer period of time. Algae can quickly coat yokes submerged in seawater, preventing the light-sensitive particles from reacting. Cold water temperatures, such as off the Maine coast, can also slow the degrading process.

Even when a connector "degrades" it can still threaten wildlife. "Degradable" connectors deteriorate into small pieces of plastic which may be mistaken for food by marine animals, causing serious digestive problems and possibly death.

Low Density Polyethylene (LDPE)

U.S. Sales in 1987: 9499 million pounds.

Characteristics: LDPE is the largest volume resin used for packaging. Noted for its moisture barrier properties, inertness, sealability, and toughness. Like HDPE, easy to fabricate with low production costs. Compared to HDPE, the lower density of LDPE results in greater clarity and flexibility. making it especially favorable for clear plastic film.

Principal Raw Materials: Ethylene gas (monomer). Sometimes copolymerized with butene, hexane, octene, or vinyl acetate.

Products: The major use of LDPE is high-clarity extruded film, accounting for 5124 million pounds per year. Other applications include coating for paper, foil, and other films; pipe; and wire and cable coating. Injection molded LDPE items include certain housewares, pails, lids, packaging materials, and toys. Blow-molded LDPE bottles are used where flexibility is required.

Industry Description: There are 10 major suppliers of LDPE resins with most plants concentrated in Texas, Louisiana, and Illinois.

<u>Supplier</u>	<u>1988 Capacity</u> (million lbs.)
U.S.I	1615
Dow	960
Chevron	920
Du Pont	760
Eastman	625
Exxon	530
Mobil	500
Union Carbide	495
El Paso	410
Westlake	200

Source: Modern Plastics, January 1988.

Toxic Chemicals Used in Production: Benzene (solvent), chromium oxide (catalyst), cumene hydroperoxide (radical initiator). tert-butyl hydroperoxide (radical initiator). See Appendix B.

Source: Wrapped in Plastics
Environmental Action Foundation
(1988) Appendix A.

Polystyrene (PS)

U.S. Sales in 1987: 4857 million pounds.

Characteristics: There are two kinds of polystyrene: general purpose polystyrene (GPPS) and impact polystyrene (IPS). While GPPS is made of pure polymer. IPS is modified with rubber and used where greater strength is required. In 1980, GPPS accounted for about 49 percent of polystyrene produced. GPPS, used for most packaging applications, is brittle, clear, and rigid, with excellent thermal properties.

Principal raw materials: Styrene (monomer). Most styrene is produced from from ethylbenzene, which is itself made from benzene and ethylene.

Main processing methods: injection-molding. expandable bead foam molding ("styrofoam"). and extrusion of solid and foamed sheet.

Products: Packaging and disposables (including dishes, cups, and bowls); dairy containers and egg cartons; "oriented" sheet for clear "clam-shell" take-out containers; toys. foam insulation, appliances. and housewares.

Description of the Industry: There are 16 major suppliers of PS resins with plants in Ohio, Michigan, Illinois, Pennsylvania. and California.

<u>Supplier</u>	<u>1988 Capacity</u> (million lbs.)
Huntsman	1123
Dow	1040
Polysar	700
Arco	545
Fina	500
Chevron	440
Mobil	440
Amoco	310
BASF Wyandotte	175
Textstyrene	120
Goodson	78
American Polymers	70
Dart	65
A&E Plastics	55
Kama	35
Vititek	5

Source: Modern Plastics. January 1987

Toxic Chemicals Used in Production: Styrene (monomer), Benzene (raw material for styrene), carbon tetrachloride (chain transfer agent), polyvinyl alcohol (suspension stabilizer), antimony oxide (flame retardant), tert-butyl hydroperoxide (free radical initiator). and benzoquinone (retardant). See Appendix B.

MEMORANDUM

TO: Members, Energy & Natural Resources Committee
FROM: Hartley Palleschi, Legislative Analyst
DATE: 6/6/89

SUBJECT: Recycling Program: Structure and Components

The accompanying side-by-side (buff colored paper) contains proposals for organizing and expanding current recycling activity at the state and local levels. Members of the study committee are familiar with many of the concepts presented here. Much of the language presented is boilerplate in the sense that the same types of programs have been proposed in more than one bill. It is important to keep in mind the relationships between your overall solid waste management system and the options presented here. Issues that the committee can choose to address include:

STATE GOVERNMENT LEVEL

1. Where should state-level recycling and waste reduction administrative functions be placed? (p. 2)
2. Choices among various state-level assistance programs and criteria for participation. (p. 2-8)

Programs might include:

- * Technical assistance
 - * Financial assistance
 - * Information and education programs
 - * Feasibility studies
 - * Market development
 - * Brokering services
 - * Arranging contracts
 - * Assist private sector collection programs
3. Establish recycling goals for the state and its political subdivisions. (p. 9-10)
 4. Retain or change recycling advisory council. (p. 18-19)
 5. Public recycling and waste reduction efforts. (p. 19)
- State agencies, University System, Capitol Complex

LOCAL GOVERNMENT

6. Set implementation schedules and operating guidelines for local recycling programs. (p. 11-14)
7. Directives limiting the disposal of recyclables at landfills and incinerators. (p. 14-17)
8. Relationship of local groups such as refuse disposal districts, regional planning groups, interlocal compacts and individual municipalities to the State Waste Authority and the state plan. (p. 20-21)

PRIVATE SECTOR

9. Private sector recycling requirements. (p. 22-23)
10. FAME - loan fund for private sector waste recycling & reduction programs. (p. 24-29)
11. Tax incentives. (p. 29-30) Credits against income tax for machinery and equipment used solely for recycling and waste reduction.

RECYCLE II

June 8, 1989

TO: Members, Energy & Natural Resources Committee
FROM: Hartley Palleschi, Legislative Analyst
RE: Recycling Package and outline of local goals and responsibilities program

The attached package reflects my understanding of the choices the committee made on Tuesday. The first section, Recycling Office and Responsibilities, contains at least one version of each state program proposed in legislation. Two versions dealing with Market Development are provided because of substantial differences between the approaches.

The section on Local Goals and Responsibilities is presented in rough outline and was drafted to reflect three factors which the majority of the committee appeared to desire. These factors are:

Establish an initial minimum recycling goal for municipalities that would help reduce the waste stream, but is achievable.

Allow municipalities flexibility in meeting the initial goal.

Create incentives beyond the minimum goal to encourage higher levels of recycling by municipalities.

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Recycling Office

§1. Office of Waste Reduction and Recycling; established

The Office of Waste Reduction and Recycling is established to carry out the purposes of this subchapter. The director of the office shall administer the office in accordance with the policies of the authority and consistent with the state waste management and recycling plan. The director shall serve at the pleasure of the executive director. The office shall:

1. Local assistance program. Administer programs of financial, technical and planning assistance to regions, local governments, and state agencies in planning for and achieving waste reduction and recycling objectives;

2. Incentive programs.

3. Technical assistance and special services.

4. Market development. Identify and develop markets for materials to be recycled and assist both businesses and regions in market research and development;

5. Recycling feasibility studies.

6. Waste reduction.

7. Procurement

8. Regional and national initiatives.

9. Recycling capital investment grants.

10. Public education. Develop and conduct general and specific educational and informational programs;

11. Recycling avoided-cost program.

12. State Government recycling and waste reduction. Design, promote and coordinate, in cooperation with the Department of Administration, State Government recycling and waste reduction programs;

13. Broker of last resort. Serve as the broker of last resort for items to be recycled collected within the district through regional recycling initiatives.

14. Business assistance program. Administer programs of financial, technical and other types of assistance to businesses to assist in achieving the goals and requirements of this subchapter;

§2. Technical and financial assistance program

The office shall develop a program of technical and financial assistance for municipalities and regions. This program shall include, without limitation:

1. Technical assistance necessary for municipalities and regions to meet the requirements of this chapter. The authority shall ensure that all its technical reports and planning documents are made available to municipalities and regions on a timely basis;

2. Grants to regions to hire the recycling coordinators required under this chapter;

3. Grants to fund the development of the recycling component of the regional plan, to initiate and conduct recycling feasibility studies, to coordinate regional recycling activities, to identify markets and develop a public education campaign; and

4. Grants to purchase collection and storage equipment and to fund activities which are consistent with the state plan and which primarily serve recycling or source reduction objectives and which are not duplicative of existing municipal efforts. Regional materials processing centers are eligible for funding under this section where the private sector is not adequately addressing regional needs.

§3. Incentive programs

The office shall adminiister the recycling incentives program established in section XXXX. The office may reimburse municipalities that have designed or implemented recycling programs prior to the enactment of this Act. The office may also offer an incentive program for municipalities that implement a local or regional recycling program prior to their target date.

§4. Technical assistance and special services

The division shall develop a pilot program to provide grants for the identification, design and development of tire and white goods recycling and disposal facilities, including pickup of these items, and stump and demolition debris disposal facilities by municipalities, county governments and regional planning agencies.

OPTION I

§5. Market development

The office shall design and implement a market development strategy, consistent with the recycling component of the state solid waste management plan, which shall include, without limitation, the following elements:

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

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

3. Marketing. A program for facilitating the marketing of materials to be recycled consistent with this section. The program may include a clearinghouse of information for municipalities, regions and recycling businesses to improve the flow of marketing materials to be recycled, as well as direct state involvement in marketing materials to be recycled when private sector capacity is inadequate; and

4. Reuse of waste. Assisting industries in promoting the reuse of industrial wastes that are suitable raw materials for other processes. The office shall coordinate those efforts with waste exchanges in the northeastern United States.

OPTION II

§5. Market development and assistance

There is established within the office a program of market development and assistance.

1. The office shall establish and administer a clearinghouse on recycling markets information. The office shall maintain a current list of municipal and regional recycling programs together with a description of the recyclables available through the programs. The office shall also maintain listings of brokers, handlers, processors, transporters and other persons providing services and potential markets for recyclables. The office shall actively promote the services of the clearinghouse and shall seek to match municipal recycling programs with appropriate recycling businesses. The office shall make its information on recycling services available to private solid waste generators seeking markets or services for recyclables.

2. The office shall provide direct marketing and brokering services for recyclables to municipalities and regions where private sector efforts and the information clearinghouse established in paragraph A are inadequate.

3. On or before July 1, 1990, the office shall submit to the joint standing committee of the Legislature having jurisdiction over natural resources a market development report. The report shall be utilized in preparing the state waste management and recycling plan. The report shall include:

A. The current and projected capacity of existing markets to absorb materials generated by municipal recycling programs in the State;

B. Market conditions that inhibit or affect demand for materials generated by municipal recycling programs;

C. Potential opportunities to increase demand for and use of materials generated by municipal recycling programs;

D. Market opportunities in Canada and other export markets;

E. Recommendations for specific actions to increase and stabilize the demand for materials generated by regional and municipal recycling programs, including, but not limited to, proposed legislation if necessary;

F. Specific recommendations on markets for recycled materials for each district.

By July 1, 1993, the office shall complete and submit an update of the study to the same joint standing committee of the Legislature, taking into account information developed since its completion.

The office shall adopt rules to implement the recommendations of the market development study required by this paragraph.

END OF OPTION II

§6. Recycling feasibility studies

The office shall provide professional technical assistance to municipalities or groups of municipalities in the planning and design of local and regional recycling programs. The purpose of this assistance program is to further the goals established in the state recycling plan. The office may contract with regional councils and individual municipalities to provide services under this subsection in order to encourage regional strategies for recycling. The office shall give priority to applications that involve regional approaches. This assistance shall include:

1. The assessment of economically feasible recycling potential including the supply of materials which can be recycled, probable markets for these materials and the avoided costs of solid waste disposal;

2. The planning for the logistical, administrative and financial management requirements of a recycling program;

3. The design of any flow-control or other ordinances necessary for the implementation of a recycling program;

4. The coordination of the proposed recycling program with overall solid waste management; and

5. The assessment of the advantages of participation in a regional recycling effort versus a local recycling program.

The office may develop a priority list of municipalities and regions of the State in need of assistance under this subsection. The office shall consult with the Recycling Advisory Council in the development of the priority list.

§7. Waste reduction

By July 1, 1990, the office shall submit to the joint standing committee of the Legislature having jurisdiction over natural resources a waste reduction report. The report shall be utilized in preparing the state waste management and recycling plan.

1. The report shall include:

A. A description of various mechanisms that could be utilized to stimulate and enhance waste reduction, including their advantages and disadvantages. The mechanisms to be analyzed shall include, but are not limited to, incentives for prolonging product life, methods for ensuring product recyclability, taxes for excessive packaging, tax incentives, prohibitions on the use of certain products and performance standards for products.

B. Recommendations to stimulate and enhance waste reduction, including, but not limited to, proposed legislation if necessary.

2. By July 1, 1993, the office shall update the study, taking into account information developed since its completion.

§8. Procurement

Coordinating procurement of recycled materials, recycling and waste reduction efforts among state agencies.

§9. Participation in regional and national recycling and waste reduction initiatives

The Legislature supports cooperative activities among the department, other states and the Federal Government for the improved management of solid waste, recycling and waste reduction initiatives; improvement and, when practicable, adoption of uniform state laws relating to the management, recycling and reduction of solid waste; and compacts between the State and other states for the improved management, recycling and reduction of solid waste.

§10. Public education

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

1. Media campaign. The office shall develop and disseminate educational material designed to establish broad public understanding and compliance with the State's recycling and waste reduction goals.

2. Kindergarten to grade 12 curriculum. In cooperation with the Department of Educational and Cultural Services, the office shall develop a curriculum suitable for use in programs at various grade levels, kindergarten through high school.

§11. Recycling capital investment grants

The office may make grants to eligible municipalities and regional councils for the construction of public recycling facilities and the purchase of recycling equipment. The office may establish requirements for local cost sharing of up to 25% of the total grant amount. The local share of costs may include in-kind services provided by the grant recipient. The office shall encourage recycling programs which require the participation of the waste generators served.

1. The office shall establish grant priorities based on the following objectives:

A. The development of regional recycling programs to capture the economies of scale in both materials handling and marketing;

B. The expansion of existing, successful recycling programs at the levels of both individual municipalities and regions; and

C. The promotion of the recycling goals and any other factors identified in the state recycling plan as necessary for successful implementation.

2. The office shall structure the grants program to ensure the development of successful recycling programs which represent:

A. Rural, suburban and urban areas of the State;

B. Curbside pick-up and drop-off systems of solid waste collection; and

C. Mandatory and voluntary forms of recycling program participation.

3. The office may develop a priority list of municipalities and regions of the State in need of assistance under this subsection. The office shall consult with the Recycling Advisory Council in the development of the priority list.

§12. Recycling avoided-cost program

The office may enter into annual agreements with a municipality or group of municipalities to reimburse a portion of the direct costs of transporting material to a recycling facility for intermediate processing or final use.

1. The office, in consultation with the Recycling Advisory Council, shall designate specific materials which are eligible for the program established by this subsection. In making these designations, the office shall rely on the goals and objectives identified in the state recycling plan.

2. The office shall determine the difference between the projected costs of recycling the material, including transportation costs, and the avoided costs of disposing of the same material at a solid waste disposal facility which is operated in substantial compliance with the requirements of this chapter. If the costs of recycling, including transportation, are less than the avoided disposal costs, the office shall not make any reimbursement. The office shall review the cost differentials established for each agreement at least quarterly.

3. The office shall limit reimbursements to the lesser of the following amounts:

A. The amount derived under subsection 2; or

B. Thirty percent of the actual transportation costs.

4. If the office is unable to determine the cost differential under subsection 2 because no suitable solid waste disposal facility exists within the State, the office may make matching grants in an amount which matches the disposal or acceptance fee imposed by the municipality originally accepting the material to be recycled. The office shall condition matching grants under this paragraph on the use of the fee and the matching grant to recycle the material in question.

5. The costs of transporting unseparated or mixed municipal solid waste are not eligible for reimbursement under this subsection.

6. The office shall adopt rules, in consultation with the Recycling Advisory Council, necessary for the implementation of this subsection, including procedures for the determination of cost differentials under paragraph B.

§13. Recycling Advisory Council

There is established a Recycling Advisory Council, referred to as the "council" in this section, to provide the authority 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 4 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 5 members shall be appointed for a term of 3 years. A vacancy shall be filled for the unexpired portion of the term. The council shall annually elect a chair from its membership.

2. Compensation. Members shall be compensated according to Title 5, section 12004-I, subsection 22.

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 times 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 agency shall provide the council with all necessary staff support.

Sec. 25. Office of Waste Reduction and Recycling; Recycling Advisory Council. The existing staff of the Office of Waste Recycling and Reduction in the Department of Economic and Community Development shall continue as staff to the Office of Waste Reduction and Recycling in the Department of Waste Management created by this Act. The existing membership of the Recycling Advisory Council appointed under the Maine Revised Statutes, Title 38, section 1310-L, as repealed in this Act, shall serve the remainder of their terms as members of the Recycling Advisory Council created by this Act. The 4th public member of the Recycling Advisory Council added by this Act shall be appointed to a term expiring in 2 years.

NOTE: The committee voted on Wednesday, June 7, to include language from the Recycled Product Procurement package which directs the Office of Waste Reduction and Recycling to coordinate State agency recycling efforts, directs State agencies and the University of Maine to establish waste reduction and recycling programs and directs the DOT to perform various demonstration projects involving use of recycled materials. The committee is also directing the agency to follow-up on the use of plastic bags as an option at retail stores.

RECYCLING GOALS AND LOCAL RESPONSIBILITIES

§ . State Goal

Establish initial statewide goal of recycling 25% of the municipal solid waste generated in 1988 by January 1, 1993 according to the Capacity Needs Analysis data.

Bulky goods, bottle bill and commercial recycling efforts are not included in the generated data and recycling of these items would not be counted toward achieving the state or local goals. Current commercial recycling of office paper and other residential types of waste could be included if the materials are presently handled by the municipality.

§ . Municipal recycling

All municipalities would be required to recycle 25% by January 1, 1993.

Allow a municipality to count current recycling activities (except bulky goods) as part of the 25%.

Municipalities documenting a waste generation rate different from the Capacity Needs data would use that rate in calculating their recycling rate.

Municipalities could recycle anything.

If a municipality achieves a recycling level (Choose 1 or more levels between 35%-50%) they would qualify for some state supplied bonus (to be determined).

§ . Private sector recycling program

Establish private sector recycling programs separate from the initial state goal.

§ . Goal setting study

Have the Office of Waste Reduction and Recycling initiate a study to recommend revisions to the initial state goal (if needed) based on data and experience. Reporting date of January 1, 1993 and revised goal to be met by January 1, 1995 if adopted by Legislature.

Require municipal and private sector annual reports on waste generation and recycling to the office. This data is needed to establish baseline generation, calculate recycling rates, determine costs of recycling and is needed for state planning efforts.

RECYCLING AND WASTE MANAGEMENT CONTRACTS

Sec. 10. 38 MRSA §1304-B, sub-§4-A, ¶¶A and B, as enacted by PL 1987, c. 517, §17, is amended to read:

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.

Sec. 11. 38 MRSA §1304-B, sub-§4-A, ¶¶D and E are enacted to read:

D. Notwithstanding paragraphs A, B and C, a municipality or district that contracts with an incineration facility for waste disposal, transportation or handling services shall not be required to meet any minimum BTU content level or minimum tonnage level required by contract, provided that:

(1) The municipality or district is or will be unable, as the direct result of recycling or source reduction efforts, to meet the obligations; and

(2) The agency provides solid waste sufficient to meet minimum BTU content level or minimum tonnage requirements. The agency is liable for any damages caused by any solid waste it relies upon to satisfy the provisions of this paragraph.

E. No renewal of any contract upon termination or expiration of the original term and no new contract for municipal waste disposal, processing or collection may be entered into after the effective date of this chapter, if the renewed or new contract fails to conform to the applicable provisions of this chapter or (CITATION).

Private Sector Recycling Requirements

Business Recycling and Waste Reduction

§1764-D. Business recycling and waste reduction program

1. Office paper recycling mandated. Companies within the State shall recycle office paper and corrugated cardboard at sites with 15 or more employees according to the following schedule.

A. Companies employing 200 or more persons at a site shall have an office paper recycling program by July 1, 1991;

B. Companies employing 50 or more persons at a site shall have an office paper recycling program by July 1, 1992; and

C. Companies employing 15 or more persons at a site shall have an office paper recycling program by July 1, 1993.

The office shall provide technical and market development assistance and direction to businesses within the State in order to assist those businesses in meeting this schedule. Municipalities may assist businesses in attaining the objectives of this section.

2. Office paper. For the purposes of this section "office paper" includes, but is not limited to, ledger, computer and bond paper.

3. Compliance with local ordinances. Any employer shall comply with local source separation and recycling ordinances established under section 1304-B and (CITATION).

4. Certification of tax credit. The office, in cooperation with the State Tax Assessor, shall assist in the administration of tax credits for the purchase of machinery, equipment and materials used by businesses in new or expanded waste reduction, reuse or recycling programs pursuant to Title 36, section 5219-C by certifying that the machinery, equipment and materials are eligible for the credit.

5. Financial assistance programs. The office shall administer other financial assistance programs for projects which reduce the waste stream or increase recycling that the authority determines appropriate, including assisting the Finance Authority of Maine in determining eligible projects for low-interest loans.

6. Technical assistance program. The office shall provide technical assistance to businesses to assist them in meeting the requirements of this subchapter and to further the purposes of this Act.

7. Technology transfer. The office, in cooperation with the Maine Science and Technology Commission, shall develop recommendations and a strategy for technology transfer. The office may offer financial and technical assistance in the form of pilot or innovative grants to businesses or individuals engaged in waste reduction or recycling product development or application.

8. Industrial sludge reduction. The office shall consult with the private sector to identify and examine acceptable solutions to the problems of industrial sludge, the first priority being to reduce its volume and toxicity.

FAME

Sec. 4. 10 MRSA §963-A, sub-§10, ¶J, as amended by PL 1987, c. 846, §2, is further amended to read:

J. Any underground oil storage facility replacement project; ~~or~~

Sec. 5. 10 MRSA §963-A, sub-§10, ¶K, as enacted by PL 1987, c. 846, §3, is amended to read:

K. Any overboard discharge replacement project; or

Sec. 6. 10 MRSA §963-A, sub-§10, ¶L is enacted to read:

L. Any hazardous waste or solid waste recycling or reduction project.

Sec. 7. 10 MRSA §963-A, sub-§32, as enacted by PL 1985, c. 344, §7, is amended to read:

32. Manufacturing enterprise. "Manufacturing enterprise" means knowledge, skill or labor applied to giving of new shapes, new qualities or new combinations to matter as material products and includes assembling, fabricating, making, creating, working, preparing, milling, processing, recycling, manufacturing, finishing, fashioning, producing, storing, warehousing, preserving, distributing, handling or transporting in any manner goods, wares, merchandise, metals, fabrics, materials, substances, product or matter of any kind or nature including materials recovered from solid and hazardous wastes.

Sec. 8. 10 MRSA §963-A, sub-§45-A is enacted to read:

45-A. Recycling or waste reduction project. "Recycling or waste reduction project" means any building, structure, machinery, equipment or facility which may be considered necessary for recovery, separation, remanufacture or reuse of materials contained in solid or hazardous waste or for the reduced generation of solid or hazardous waste, together with all land, property, rights, rights-of-way, franchises, easements and interests in lands necessary or convenient for the construction or operation of the project.

Sec. 9. 10 MRSA §1023-F is enacted to read:

§1023-F. Waste Reduction and Recycling Loan Fund

1. Creation. The Waste Reduction and Recycling Loan Fund is created under the jurisdiction and control of the authority.

2. Sources of money. There shall be paid into the fund the following:

A. All money appropriated for inclusion in the fund;

B. Subject to any pledge, contract or other obligation, all interest, dividends or other pecuniary gains from investment of money of the fund;

C. Subject to any pledge, contract or other obligations, any money which the authority receives in repayment of advances from the fund; and

D. Any other money available to the authority and directed by the authority to be paid into the fund.

3. Application of fund. Money in the fund may be used for direct loans for all or part of any project when the authority determines that:

A. The project is:

(1) Designed to substantially reduce or eliminate the production in a trade or business of solid waste or hazardous waste as defined in Title 38, section 1303;

(2) A manufacturing project devoted to resource recovery, as defined in Title 38, section 1303, subsection 8, except that the combustion of solid or hazardous waste shall not be considered resource recovery for the purposes of this section; or

(3) A manufacturing project devoted to the reuse of post-consumer materials;

B. There is a reasonable likelihood that the applicant will be able to repay the loan;

C. The amount and terms of the loan are reasonable in order to provide an incentive to the applicant to undertake the project, which may include a below-market interest rate, and the project will not result in a net increase in solid or hazardous waste to be disposed within the State; and

D. The project will contribute to the achievement of the goals identified in the state solid waste management plan adopted under (CITATION) and is determined by the Department of Waste Management to be consistent with that plan. Prior to adoption of the state solid waste management plan the fund may be used for projects that help achieve the goals identified in the state recycling plan approved under Title 38, section 1310-M.

The authority, pursuant to Title 5, chapter 375, subchapter II, shall adopt rules for determining eligibility, feasibility, terms, conditions and security for the loans. Money in the fund not needed currently to meet the obligations of the authority as provided in this section may be invested in such a manner as permitted by law.

4. Accounts within fund. The authority may divide the fund into separate accounts as it determines necessary or convenient for carrying out this section, including, but not limited to, accounts reserved for direct loan funds.

5. Revolving fund. The fund shall be a nonlapsing, revolving fund. All money in the fund shall be continuously applied by the authority to carry out this section.

Sec. 10. 10 MRSA §1041, sub-§§16 and 17, as enacted by PL 1985, c. 344, §61, are amended to read:

16. **Energy conservation.** Provide financial assistance for energy conservation. The Office of Energy Resources shall provide assistance to the authority in determining technical eligibility and merit of applications for energy conservation loans. Each recipient of a loan under this section shall provide the authority, within one year, with detailed information on energy consumption before and after the completion of the energy conservation project; and

17. **Electricity.** Provide financial assistance for electricity generation projects. Any municipality, firm or corporation producing electricity by means of projects described in section 1044, subsection 12, or by means of a pollution-control project, recreational project, multi-level parking facility or combined project may, without the approval of and regulation by the Public Utilities Commission, generate and distribute electricity solely for its own use or the use of its tenant, but may not, without proper approval, sell electricity to other than an electric public utility corporation or cooperative authorized to make, generate, sell and distribute electricity-; and

Sec. 2. 10 MRSA §1041, sub-§18 is enacted to read:

18. Recycling and waste reduction. Provide financial assistance to businesses for recycling and waste reduction projects that are consistent with the management goals and objectives outlined in state plan under (CITATION). The Department of Waste Management shall provide assistance to the authority in determining consistency, technical eligibility and merit of application for recycling loans.

Sec. 3. 10 MRSA §1043, sub-§ 2, ¶E-1 is enacted to read:

E-1. In the case of recycling and waste reduction projects, the proposed facility must be consistent with the state plan under (CITATION) and will reduce the amount of solid or hazardous waste requiring disposal.

Sec. 4. 10 MRSA §1063, sub-§ 2, ¶I-1 is enacted to read:

I-1. In the case of recycling and waste reduction projects, the proposed facility is consistent with and will contribute to the management goals and objectives outlined in the state plan under (CITATION) and will reduce the amount of solid or hazardous waste requiring disposal. The Department of Waste Management shall provide assistance to the authority in determining consistency, technical eligibility and merit of applications for assistance under this subchapter.

Tax Incentives

Sec. 13. 36 MRSA §5219-C is enacted to read:

§5219-C. Solid waste reduction investment tax credit

1. Credit allowed. A taxpayer constituting an employing unit who purchases waste reduction, reuse or recycling equipment, or other equipment used exclusively by that unit, in the implementation of a solid waste reduction, reuse or recycling program, shall be entitled to a credit against the tax imposed by this Part equal to 30% of the cost of the machinery or equipment.

2. Eligible machinery and equipment. Purchases eligible for the credit allowed by this section include machinery and equipment used exclusively for the purpose of reducing, reusing or recycling solid waste generated principally by the employing unit. Machinery and equipment associated with the separation of wastes prior to incineration are eligible when the Department of Waste Management certifies the separated wastes are being recycled..

3. Definitions. As used in this section, the following terms have the following meanings:

A. "Employing unit" has the same meaning as in Title 26, section 1043;

B. "Solid waste" has the same meaning as in Title 38, section 1760-C;

C. "Waste reduction, reuse or recycling equipment" means structures, machinery or devices, singly or in combination, designed and required to separate, process, modify, convert, treat or repair solid waste generated by the employing unit so that component materials or substances or recoverable resources may be used as a raw material or for productive use and includes:

(1) Add-ons or trailers designed to modify collection vehicles and dedicated to sorting and separating of collected wastes generated by the employing unit and held for the purpose of recycling; or

(2) Containers for the source separation and temporary storage of recyclable wastes by the employing unit or its employees.

4. Carryover; carryback. The amount of the credit that may be used by a taxpayer for a taxable year may not exceed the amount of tax otherwise due under this section. Any unused credit may be carried over to the following year or years for a period not to exceed 15 years or may be carried back for a period not to exceed 3 years.

RECYCLE III

June 10, 1989

TO: Members, Energy & Natural Resources Committee
FROM: Hartley Palleschi, Legislative Analyst
RE: Recycling Package and outline of local goals and responsibilities program

The attached package still reflects my understanding of the choices the committee made on Tuesday. However, this version reorganizes the information you received on Thursday and provides a structure more consistent with the bill sections on the Agency, etc.

Some questions the committee may wish to address in reviewing this package are:

What general parameters should municipalities meet in order to qualify for assistance programs?

What levels of recycling should municipalities achieve to receive incentives?

What incentives should be used? How will it be paid for?

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SUBCHAPTER III

OFFICE OF WASTE REDUCTION AND RECYCLING

§2124. Office of Waste Reduction and Recycling; established

The Office of Waste Reduction and Recycling is established to carry out the purposes of this subchapter. The director of the office shall administer the office in accordance with the policies of the agency and consistent with the state waste management and recycling plan. The director shall serve at the pleasure of the executive director. The office shall:

1. Public assistance. Administer programs of financial, technical and planning assistance to municipalities, districts, and state agencies in planning for and achieving the waste reduction and recycling objectives of this chapter. Programs shall include:

- A. Waste reduction;
- B. Incentive programs;
- C. Recycling feasibility studies.
- D. Recycling capital investment grants.
- E. Market development;
- F. Broker of last resort;
- G. Technical assistance and special services;
- H. Recycling avoided-cost program.
- I. State Government recycling and waste reduction;
- J. Coordinating procurement of recycled materials, recycling and waste reduction efforts among state agencies.

2. Business assistance.

3. Public education. Develop and conduct general and specific educational and informational programs; and

4. Regional and national initiatives.

§2125. State Goal

Establish initial statewide goal of recycling 25% of the municipal solid waste generated in 1988 by January 1, 1993 according to the Capacity Needs Analysis data.

Bulky goods, bottle bill and commercial recycling efforts are not included in the generated data and recycling of these items would not be counted toward achieving the state or local goals.

§2125-A. Municipal recycling

All municipalities would be required to recycle 25% by January 1, 1993.

1. Commercial waste. Current commercial recycling of office paper and other residential types of commercial waste could be included as part of the 25% if the materials are presently handled by the municipality.

Municipalities documenting a waste generation rate different from the Capacity Needs data would use that rate in calculating their recycling rate.

Municipalities could recycle anything.

2. Goal setting study. Have the Office of Waste Reduction and Recycling initiate a study to recommend revisions to the initial state goal (if needed) based on data and experience. Reporting date of January 1, 1993 and revised goal to be met by January 1, 1995 if adopted by Legislature.

Municipalities and the private sector would submit annual reports on waste generation and recycling to the Office of Planning. This data is needed to establish baseline generation, calculate recycling rates, determine costs of recycling and for other planning purposes.

§2125-B. Recycling Incentives

If a municipality achieves a recycling level (Choose 1 or more levels between 35%-50%) it would qualify for some state supplied bonus (to be determined).

NOTE:

Keep private sector recycling programs separate from the initial state goal.

§2126. Technical and financial assistance program

The office shall develop a program of technical and financial assistance for municipalities and regions. This program shall include, without limitation:

1. Technical assistance necessary for municipalities and regions to meet the requirements of this chapter. The authority shall ensure that all its technical reports and planning documents are made available to municipalities and regions on a timely basis;

2. Grants to regions to hire the recycling coordinators required under this chapter;

3. Grants to fund the development of the recycling component of the regional plan, to initiate and conduct recycling feasibility studies, to coordinate regional recycling activities, to identify markets and develop a public education campaign; and

4. Grants to purchase collection and storage equipment and to fund activities which are consistent with the state plan and which primarily serve recycling or source reduction objectives and which are not duplicative of existing municipal efforts. Regional materials processing centers are eligible for funding under this section where the private sector is not adequately addressing regional needs.

§2126-A. Waste reduction

By July 1, 1990, the office shall submit to the joint standing committee of the Legislature having jurisdiction over natural resources a waste reduction report. The report shall be utilized in preparing the state waste management and recycling plan.

1. The report shall include:

A. A description of various mechanisms that could be utilized to stimulate and enhance waste reduction, including their advantages and disadvantages. The mechanisms to be analyzed shall include, but are not limited to, incentives for prolonging product life, methods for ensuring product recyclability, taxes for excessive packaging, tax incentives, prohibitions on the use of certain products and performance standards for products.

B. Recommendations to stimulate and enhance waste reduction, including, but not limited to, proposed legislation if necessary.

2. By July 1, 1993, the office shall update the study, taking into account information developed since its completion.

§2126-B. Incentive programs

The office may reimburse municipalities that have designed or implemented recycling programs prior to the enactment of this Act. The office may also offer an incentive program for municipalities that implement a local or regional recycling program prior to their target date.

§2126-C. Recycling feasibility studies

The office shall provide professional technical assistance to municipalities or groups of municipalities in the planning and design of local and regional recycling programs. The purpose of this assistance program is to further the goals established in the state recycling plan. The office may contract with regional councils and individual municipalities to provide services under this subsection in order to encourage regional strategies for recycling. The office shall give priority to applications that involve regional approaches. This assistance shall include:

1. The assessment of economically feasible recycling potential including the supply of materials which can be recycled, probable markets for these materials and the avoided costs of solid waste disposal;

2. The planning for the logistical, administrative and financial management requirements of a recycling program;

3. The design of any flow-control or other ordinances necessary for the implementation of a recycling program;

4. The coordination of the proposed recycling program with overall solid waste management; and

5. The assessment of the advantages of participation in a regional recycling effort versus a local recycling program.

The office may develop a priority list of municipalities and regions of the State in need of assistance under this subsection. The office shall consult with the Recycling Advisory Council in the development of the priority list.

§2126-D. Recycling capital investment grants

The office may make grants to eligible municipalities and regional councils for the construction of public recycling facilities and the purchase of recycling equipment. The office may establish requirements for local cost sharing of up to 25% of the total grant amount. The local share of costs may include in-kind services provided by the grant recipient. The office shall encourage recycling programs which require the participation of the waste generators served.

1. The office shall establish grant priorities based on the following objectives:

A. The development of regional recycling programs to capture the economies of scale in both materials handling and marketing;

B. The expansion of existing, successful recycling programs at the levels of both individual municipalities and regions; and

C. The promotion of the recycling goals and any other factors identified in the state recycling plan as necessary for successful implementation.

2. The office shall structure the grants program to ensure the development of successful recycling programs which represent:

A. Rural, suburban and urban areas of the State;

B. Curbside pick-up and drop-off systems of solid waste collection; and

C. Mandatory and voluntary forms of recycling program participation.

3. The office may develop a priority list of municipalities and regions of the State in need of assistance under this subsection. The office shall consult with the Recycling Advisory Council in the development of the priority list.

Option I§2126-E. Market development

The office shall design and implement a market development strategy, consistent with the recycling component of the state solid waste management plan, which shall include, without limitation, the following elements:

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

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

3. Marketing. A program for facilitating the marketing of materials to be recycled consistent with this section. The program may include a clearinghouse of information for municipalities, regions and recycling businesses to improve the flow of marketing materials to be recycled, as well as direct state involvement in marketing materials to be recycled when private sector capacity is inadequate; and

4. Reuse of waste. Assisting industries in promoting the reuse of industrial wastes that are suitable raw materials for other processes. The office shall coordinate those efforts with waste exchanges in the northeastern United States.

Option II§2126-E. Market development and assistance

There is established within the office a program of market development and assistance.

1. The office shall establish and administer a clearinghouse on recycling markets information. The office shall maintain a current list of municipal and regional recycling programs together with a description of the recyclables available through the programs. The office shall also maintain listings of brokers, handlers, processors, transporters and other persons providing services and potential markets for recyclables. The office shall actively promote the services of the clearinghouse and shall seek to match municipal recycling programs with appropriate recycling businesses. The office shall make its information on recycling services available to private solid waste generators seeking markets or services for recyclables.

2. The office shall provide direct marketing and brokering services for recyclables to municipalities and regions where private sector efforts and the information clearinghouse established in paragraph A are inadequate.

3. On or before July 1, 1990, the office shall submit to the joint standing committee of the Legislature having jurisdiction over natural resources a market development report. The report shall be utilized in preparing the state waste management and recycling plan. The report shall include:

A. The current and projected capacity of existing markets to absorb materials generated by municipal recycling programs in the State;

B. Market conditions that inhibit or affect demand for materials generated by municipal recycling programs;

C. Potential opportunities to increase demand for and use of materials generated by municipal recycling programs;

D. Market opportunities in Canada and other export markets;

E. Recommendations for specific actions to increase and stabilize the demand for materials generated by regional and municipal recycling programs, including, but not limited to, proposed legislation if necessary;

F. Specific recommendations on markets for recycled materials for each district.

By July 1, 1993, the office shall complete and submit an update of the study to the same joint standing committee of the Legislature, taking into account information developed since its completion.

The office shall adopt rules to implement the recommendations of the market development study required by this paragraph.

END OF OPTION II

§2126-F. Broker of last resort.

The office shall serve as the broker of last resort for items to be recycled that have been collected by a municipality or district.

§2126-G. Technical assistance and special services

The division shall develop a pilot program to provide grants for the identification, design and development of tire and white goods recycling and disposal facilities, including pickup of these items, and stump and demolition debris disposal facilities by municipalities, county governments and regional planning agencies.

§2126-H. Recycling avoided-cost program

The office may enter into annual agreements with a municipality or group of municipalities to reimburse a portion of the direct costs of transporting material to a recycling facility for intermediate processing or final use.

1. The office, in consultation with the Recycling Advisory Council, shall designate specific materials which are eligible for the program established by this subsection. In making these designations, the office shall rely on the goals and objectives identified in the state recycling plan.

2. The office shall determine the difference between the projected costs of recycling the material, including transportation costs, and the avoided costs of disposing of the same material at a solid waste disposal facility which is operated in substantial compliance with the requirements of this chapter. If the costs of recycling, including transportation, are less than the avoided disposal costs, the office shall not make any reimbursement. The office shall review the cost differentials established for each agreement at least quarterly.

3. The office shall limit reimbursements to the lesser of the following amounts:

A. The amount derived under subsection 2; or

B. Thirty percent of the actual transportation costs.

4. If the office is unable to determine the cost differential under subsection 2 because no suitable solid waste disposal facility exists within the State, the office may make matching grants in an amount which matches the disposal or acceptance fee imposed by the municipality originally accepting the material to be recycled. The office shall condition matching grants under this paragraph on the use of the fee and the matching grant to recycle the material in question.

5. The costs of transporting unseparated or mixed municipal solid waste are not eligible for reimbursement under this subsection.

6. The office shall adopt rules, in consultation with the Recycling Advisory Council, necessary for the implementation of this subsection, including procedures for the determination of cost differentials under paragraph B.

§2126-I. State government recycling and waste reduction.

NOTE: The committee voted on Wednesday, June 7, to include language from the Recycled Product Procurement package which directs the Office of Waste Reduction and Recycling to coordinate State agency recycling efforts, directs State agencies and the University of Maine to establish waste reduction and recycling programs and directs the DOT to perform various demonstration projects involving use of recycled materials. The committee is also directing the agency to follow-up on the use of plastic bags as an option at retail stores.

§2126-J. Business recycling and waste reduction program

1. Office paper recycling mandated. Companies within the State shall recycle office paper and corrugated cardboard at sites with 15 or more employees according to the following schedule.

A. Companies employing 200 or more persons at a site shall have an office paper recycling program by July 1, 1991;

B. Companies employing 50 or more persons at a site shall have an office paper recycling program by July 1, 1992; and

C. Companies employing 15 or more persons at a site shall have an office paper recycling program by July 1, 1993.

The office shall provide technical and market development assistance and direction to businesses within the State in order to assist those businesses in meeting this schedule. Municipalities may assist businesses in attaining the objectives of this section.

2. Office paper. For the purposes of this section "office paper" includes, but is not limited to, ledger, computer and bond paper.

3. Compliance with local ordinances. Any employer shall comply with local source separation and recycling ordinances established under section 1304-B and (CITATION).

4. Certification of tax credit. The office, in cooperation with the State Tax Assessor, shall assist in the administration of tax credits for the purchase of machinery, equipment and materials used by businesses in new or expanded waste reduction, reuse or recycling programs pursuant to Title 36, section 5219-C by certifying that the machinery, equipment and materials are eligible for the credit.

5. Financial assistance programs. The office shall administer other financial assistance programs for projects which reduce the waste stream or increase recycling that the authority determines appropriate, including assisting the Finance Authority of Maine in determining eligible projects for low-interest loans.

6. Technical assistance program. The office shall provide technical assistance to businesses to assist them in meeting the requirements of this subchapter and to further the purposes of this Act.

7. Technology transfer. The office, in cooperation with the Maine Science and Technology Commission, shall develop recommendations and a strategy for technology transfer. The office may offer financial and technical assistance in the form of pilot or innovative grants to businesses or individuals engaged in waste reduction or recycling product development or application.

8. Industrial sludge reduction. The office shall consult with the private sector to identify and examine acceptable solutions to the problems of industrial sludge, the first priority being to reduce its volume and toxicity.

§2126-K. Public education

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

1. Media campaign. The office shall develop and disseminate educational material designed to establish broad public understanding and compliance with the State's recycling and waste reduction goals.

2. Kindergarten to grade 12 curriculum. In cooperation with the Department of Educational and Cultural Services, the office shall develop a curriculum suitable for use in programs at various grade levels, kindergarten through high school.

§2126-K. Regional and national initiatives

The Legislature encourages cooperative activities among the agency, other states and the Federal Government for the improved management of solid waste, recycling and waste reduction initiatives; improvement and, when practicable, adoption of uniform state laws relating to the management, recycling and reduction of solid waste; and compacts between the State and other states for the improved management, recycling and reduction of solid waste.

§2127. Recycling Advisory Council

There is established a Recycling Advisory Council, referred to as the "council" in this section, to provide the authority with information and advice concerning the recycling needs and opportunities of the State.

1. Membership; terms. The Governor shall appoint 12 members as follows:

A. Three members from the general public;

B. Two members each representing;

(1) Municipal governments;

(2) Statewide and local environmental organizations;

(3) The recycling industry and the waste disposal industry; and

C. One member representing industrial waste generators.

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. The council shall annually elect a chair from its membership.

2. Compensation. Members shall be compensated according to Title 5, section 12004-I, subsection 22.

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 times 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 agency shall provide the council with all necessary staff support.

Sec. XX. Office of Waste Reduction and Recycling; Recycling Advisory Council. The existing staff of the Office of Waste Recycling and Reduction in the Department of Economic and Community Development shall continue as staff to the Office of Waste Reduction and Recycling in the Department of Waste Management created by this Act. The existing membership of the Recycling Advisory Council appointed under the Maine Revised Statutes, Title 38, section 1310-L, as repealed in this Act, shall serve the remainder of their terms as members of the Recycling Advisory Council created by this Act.

Sec. XX. Study on the Impact of Optional Plastic Bags. The Office of Waste Reduction and Recycling of the Maine Waste Management Agency shall study the impact on the relative number of plastic versus paper bags used by retail outlets as a result of the enactment of Title 38, section 1605. The office shall submit a report on their findings to the joint standing committee of the Legislature with jurisdiction over natural resource matters by March 1, 1991.

RECYCLING AND WASTE MANAGEMENT CONTRACTS

Sec. 10. 38 MRSA §1304-B, sub-§4-A, ¶¶A and B, as enacted by PL 1987, c. 517, §17, is amended to read:

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.

Sec. 11. 38 MRSA §1304-B, sub-§4-A, ¶¶D and E are enacted to read:

D. Notwithstanding paragraphs A, B and C, a municipality or district that contracts with an incineration facility for waste disposal, transportation or handling services shall not be required to meet any minimum BTU content level or minimum tonnage level required by contract, provided that:

(1) The municipality or district is or will be unable, as the direct result of recycling or source reduction efforts, to meet the obligations; and

(2) The agency provides solid waste sufficient to meet minimum BTU content level or minimum tonnage requirements. The agency is liable for any damages caused by any solid waste it relies upon to satisfy the provisions of this paragraph.

E. No renewal of any contract upon termination or expiration of the original term and no new contract for municipal waste disposal, processing or collection may be entered into after the effective date of this chapter, if the renewed or new contract fails to conform to the applicable provisions of this chapter or (CITATION).

FAME

Sec. 4. 10 MRSA §963-A, sub-§10, ¶J, as amended by PL 1987, c. 846, §2, is further amended to read:

J. Any underground oil storage facility replacement project; ~~or~~

Sec. 5. 10 MRSA §963-A, sub-§10, ¶K, as enacted by PL 1987, c. 846, §3, is amended to read:

K. Any overboard discharge replacement project; or

Sec. 6. 10 MRSA §963-A, sub-§10, ¶L is enacted to read:

L. Any hazardous waste or solid waste recycling or reduction project.

Sec. 7. 10 MRSA §963-A, sub-§32, as enacted by PL 1985, c. 344, §7, is amended to read:

32. Manufacturing enterprise. "Manufacturing enterprise" means knowledge, skill or labor applied to giving of new shapes, new qualities or new combinations to matter as material products and includes assembling, fabricating, making, creating, working, preparing, milling, processing, recycling, manufacturing, finishing, fashioning, producing, storing, warehousing, preserving, distributing, handling or transporting in any manner goods, wares, merchandise, metals, fabrics, materials, substances, product or matter of any kind or nature including materials recovered from solid and hazardous wastes.

Sec. 8. 10 MRSA §963-A, sub-§45-A is enacted to read:

45-A. Recycling or waste reduction project. "Recycling or waste reduction project" means any building, structure, machinery, equipment or facility which may be considered necessary for recovery, separation, remanufacture or reuse of materials contained in solid or hazardous waste or for the reduced generation of solid or hazardous waste, together with all land, property, rights, rights-of-way, franchises, easements and interests in lands necessary or convenient for the construction or operation of the project.

Sec. 9. 10 MRSA §1023-F is enacted to read:

§1023-F. Waste Reduction and Recycling Loan Fund

1. Creation. The Waste Reduction and Recycling Loan Fund is created under the jurisdiction and control of the authority.

2. Sources of money. There shall be paid into the fund the following:

A. All money appropriated for inclusion in the fund;

B. Subject to any pledge, contract or other obligation, all interest, dividends or other pecuniary gains from investment of money of the fund;

C. Subject to any pledge, contract or other obligations, any money which the authority receives in repayment of advances from the fund; and

D. Any other money available to the authority and directed by the authority to be paid into the fund.

3. Application of fund. Money in the fund may be used for direct loans for all or part of any project when the authority determines that:

A. The project is:

(1) Designed to substantially reduce or eliminate the production in a trade or business of solid waste or hazardous waste as defined in Title 38, section 1303;

(2) A manufacturing project devoted to resource recovery, as defined in Title 38, section 1303, subsection 8, except that the combustion of solid or hazardous waste shall not be considered resource recovery for the purposes of this section; or

(3) A manufacturing project devoted to the reuse of post-consumer materials;

B. There is a reasonable likelihood that the applicant will be able to repay the loan;

C. The amount and terms of the loan are reasonable in order to provide an incentive to the applicant to undertake the project, which may include a below-market interest rate, and the project will not result in a net increase in solid or hazardous waste to be disposed within the State; and

D. The project will contribute to the achievement of the goals identified in the state solid waste management plan adopted under (CITATION) and is determined by the Department of Waste Management to be consistent with that plan. Prior to adoption of the state solid waste management plan the fund may be used for projects that help achieve the goals identified in the state recycling plan approved under Title 38, section 1310-M.

The authority, pursuant to Title 5, chapter 375, subchapter II, shall adopt rules for determining eligibility, feasibility, terms, conditions and security for the loans. Money in the fund not needed currently to meet the obligations of the authority as provided in this section may be invested in such a manner as permitted by law.

4. Accounts within fund. The authority may divide the fund into separate accounts as it determines necessary or convenient for carrying out this section, including, but not limited to, accounts reserved for direct loan funds.

5. Revolving fund. The fund shall be a nonlapsing, revolving fund. All money in the fund shall be continuously applied by the authority to carry out this section.

Sec. 10. 10 MRSA §1041, sub-§§16 and 17, as enacted by PL 1985, c. 344, §61, are amended to read:

16. Energy conservation. Provide financial assistance for energy conservation. The Office of Energy Resources shall provide assistance to the authority in determining technical eligibility and merit of applications for energy conservation loans. Each recipient of a loan under this section shall provide the authority, within one year, with detailed information on energy consumption before and after the completion of the energy conservation project; and

17. Electricity. Provide financial assistance for electricity generation projects. Any municipality, firm or corporation producing electricity by means of projects described in section 1044, subsection 12, or by means of a pollution-control project, recreational project, multi-level parking facility or combined project may, without the approval of and regulation by the Public Utilities Commission, generate and distribute electricity solely for its own use or the use of its tenant, but may not, without proper approval, sell electricity to other than an electric public utility corporation or cooperative authorized to make, generate, sell and distribute electricity-; and

Sec. 2. 10 MRSA §1041, sub-§18 is enacted to read:

18. Recycling and waste reduction. Provide financial assistance to businesses for recycling and waste reduction projects that are consistent with the management goals and objectives outlined in state plan under (CITATION). The Department of Waste Management shall provide assistance to the authority in determining consistency, technical eligibility and merit of application for recycling loans.

Sec. 3. 10 MRSA §1043, sub-§ 2, ¶E-1 is enacted to read:

E-1. In the case of recycling and waste reduction projects, the proposed facility must be consistent with the state plan under (CITATION) and will reduce the amount of solid or hazardous waste requiring disposal.

Sec. 4. 10 MRSA §1063, sub-§ 2, ¶I-1 is enacted to read:

I-1. In the case of recycling and waste reduction projects, the proposed facility is consistent with and will contribute to the management goals and objectives outlined in the state plan under (CITATION) and will reduce the amount of solid or hazardous waste requiring disposal. The Department of Waste Management shall provide assistance to the authority in determining consistency, technical eligibility and merit of applications for assistance under this subchapter.

Tax Incentives

Sec. 13. 36 MRSA §5219-C is enacted to read:

§5219-C. Solid waste reduction investment tax credit

1. Credit allowed. A taxpayer constituting an employing unit who purchases waste reduction, reuse or recycling equipment, or other equipment used exclusively by that unit, in the implementation of a solid waste reduction, reuse or recycling program, shall be entitled to a credit against the tax imposed by this Part equal to 30% of the cost of the machinery or equipment.

2. Eligible machinery and equipment. Purchases eligible for the credit allowed by this section include machinery and equipment used exclusively for the purpose of reducing, reusing or recycling solid waste generated principally by the employing unit. Machinery and equipment associated with the separation of wastes prior to incineration are eligible when the Department of Waste Management certifies the separated wastes are being recycled..

3. Definitions. As used in this section, the following terms have the following meanings:

A. "Employing unit" has the same meaning as in Title 26, section 1043;

B. "Solid waste" has the same meaning as in Title 38, section 1760-C;

C. "Waste reduction, reuse or recycling equipment" means structures, machinery or devices, singly or in combination, designed and required to separate, process, modify, convert, treat or repair solid waste generated by the employing unit so that component materials or substances or recoverable resources may be used as a raw material or for productive use and includes:

(1) Add-ons or trailers designed to modify collection vehicles and dedicated to sorting and separating of collected wastes generated by the employing unit and held for the purpose of recycling; or

(2) Containers for the source separation and temporary storage of recyclable wastes by the employing unit or its employees.

4. Carryover; carryback. The amount of the credit that may be used by a taxpayer for a taxable year may not exceed the amount of tax otherwise due under this section. Any unused credit may be carried over to the following year or years for a period not to exceed 15 years or may be carried back for a period not to exceed 3 years.

MARTHA E. FREEMAN, DIRECTOR
WILLIAM T. GLIDDEN, PRINCIPAL ANALYST
JULIE S. JONES, PRINCIPAL ANALYST
DAVID C. ELLIOTT, PRINCIPAL ANALYST
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ROBERT W. DUNN, RES. ASST.
HARTLEY PALLESCHI, JR., RES. ASST.

MEMORANDUM

TO: Senator Judy Kany, Senate Chair
Representative Mike Michaud, House Chair
Members, Energy & Natural Resources Committee

FROM: Tim Glidden, Principal Analyst *TG*

DATE: 5/17/89

SUBJECT: Options for Waste Management in Maine

The committee has received 30 bills on the subject of solid waste as of this date. At least 19 bills related to some aspect of the solid waste problem have been referred to other committees. The committee's difficult task is to sort through the concepts presented in these bills and report out legislation that comprehensively addresses Maine's solid waste problems. This memo lays out, for your consideration, an approach to the job.

In order to do this, I recommend that the committee agree to break down the wide variety of ideas into organized, manageable portions. You can then systematically work through them one at a time. It is possible to identify a set of issues which cover all aspects of the proposals made to the committee along with those ideas the committee may itself generate. While each of the issues can be considered and judged on its own, there are clearly important relationships between topics.

I have tried to organize these issues in a way that which allow you to proceed in a methodical manner without losing sight of the "big picture". This particular organization is proposed for your consideration. In some instances, the policy choices are relatively straightforward. These include proposals regarding the bottle bill, state procurement of recycled materials, coding of plastic containers, packaging bans, and revenue raisers (taxes or fees). I emphasize "relatively" since your deliberations may be difficult even where the choices may be clear.

For other topics, however, the committee needs to consider some fundamental issues before moving on to detailed consideration of statutory language. This is particularly the case for choices you will make regarding the relationship between the roles of the state, municipalities, existing waste disposal groups (public & private) and the private waste management sector generally (including transportation and recycling).

I propose that the committee tackle the following issues in roughly the order in which they are listed below. Your adoption of some form of this outline as a working agenda will greatly assist your staff in organizing the many pages of material before you. Hartley and I have prepared materials that cover the first four issues and start on the fifth.

Please note that there are a host of subsidiary issues for most of these topics, particularly under "Responsibilities", where I have provided more detail. However, your decisions on these subsidiary issues are likely to follow directly from your decisions on the primary issues.

Finally, I would note that, in most cases, you should be able to move beyond an impasse on any given issue and return to it after discussion of subsequent issues clarifies the nature of the original disagreement.

Proposed Outline of Solid Waste Issues

- A. Bottle Bill
- B. Recycled Product Procurement
- C. Plastic Container Coding
- D. Packaging Bans
- E. State, Regional & Local Responsibilities in Waste Management
 - 1. Institutions
 - a. Establish framework for allocation basic responsibilities
 - 2. Solid Waste Planning
 - a. Management hierarchy
 - b. Content of plans
 - c. Recycling
 - d. Disposal capacity
 - e. Other management options
 - f. Implementation schedules
 - 3. Recycling Goals

[Issue outline continued]

- 4. Recycling Program Operation
 - a. Responsibilities
- 5. State Recycling Assistance & Incentives
 - a. Financial & technical assistance to towns & businesses
 - b. Market development
 - FAME
 - Tax incentives
 - State & private brokering role
 - c. Information & education
- 6. Disposal Facility Siting
 - a. Responsibility
 - b. Siting criteria (incl. relationship to environmental criteria)
 - c. Process
 - d. Public participation
- 7. Disposal Facility Ownership & Operation
 - a. Private sector involvement
 - b. Access to capacity
 - c. Liability
- F. Environmental Regulation of Facility Siting & Operation
- G. Host Community & Adjacent Property Owner Benefits
- H. Rate Regulation
- I. Proposal Costs
 - 1. State
 - 2. Local
 - 3. Private
- I. Taxes & Revenues
 - 1. Packaging tax
 - 2. Advance disposal fees
 - 3. Disposal Surcharge Fees

2664m

Questions on Rep. McGowan's Bottle Bill Proposal

1. What new types of beverages would be included?
2. Why is the minimum refund value reduced to 3-cents?
3. What happens to the handling fee currently charged to distributors?
4. Would each municipality have a resource recovery center?
5. How much of the cost associated with recycling returnable beverage containers is included in the Administration's \$15 million estimate in recycling program costs?
6. How would the collection of returnables from people with municipal or private trash collection occur? More specifically, would people go to their resource recovery center or rely on some sort of curb-side pick-up program?
- 6-A. Are costs associated with the curb-side pick-up of returnable containers included in the administration's estimate of \$15 million in recycling program costs in 1993-94.
7. What prices for recycled materials are assumed in estimating \$14.5 million in recycling income?
8. Are price guarantees for the scrap value of recycled container material envisioned (i.e. California system)?
9. Unclaimed deposits and revenues from recycled materials don't cover industry costs of handling returnable containers now. How much will municipalities have to pay to cover the cost of handling returnable containers?
10. With handling costs no longer paid by the grocers, distributors and manufacturers how much could the price of beverages be expected to decrease?
11. What impact will this proposal have on the use of refillable containers?
12. Will there be an impact on container return rates?

MAY 16 1989

Alice
Knapp
5-17-89

PRESS RELEASE

For Immediate Release
Thursday, May 11, 1989

Contact:
Dr. Paul Frederic
(207) 778-9538

FOUR COUNTY SOLID WASTE SURVEY COMPLETED

During March, the Western Mountains Alliance conducted a survey of the 110 municipalities in Franklin, Oxford, Piscataquis and Somerset Counties asking them for some basic background information on their current solid waste management practices and querying them about their attitudes toward potential future waste management options. It also provided an opportunity to ask for their opinions regarding elements of solid waste legislative proposals, presently before the legislature. Rob Iserbyt, a University of Maine at Farmington geography/geology student and Mark Sullivan, Executive Director, designed and conducted the survey.

Western Maine is essentially rural Maine. The four counties which comprise the region represent 38 percent of the state's area, yet fewer than 145,000 people, about 12 percent of Maine's population, live in Western Maine.

Western Maine people generally reside in small towns and villages, in remote settlements, the open countryside, or on farms. There is not a single incorporated city in the region. The area's largest towns (Skowhegan, Farmington and Rumford) each have populations numbering between 7,000 and 8,000. No town has

more than 9,000 people.

Exactly 50 percent of those sent surveys... 55 towns and plantations, have completed and returned them to date. While it is not a scientific opinion poll, it does represent the reactions of those on the "front lines" of solid waste management in rural Western Maine: Town Managers and/or Selectmen.

The questionnaire addressed four aspects of the solid waste issue: 1. General Practices, 2. Local Disposal Options, 3. Recycling , and 4. Opinions on Legislative proposals. The highlights of each of these are:

1. General Practices: Two-thirds of the responding municipalities use sanitary landfills to dispose of their solid waste; half of the towns enjoy house-to-house collection provided by the town or through private collection; and many communities, one-third, report that over 25 percent of their solid waste stream comes from seasonal residents.

2. Local Disposal Options: Forty-three percent of the communities indicated that their present disposal sites have less than three years of use left, whereas, only five percent have alternative landfills ready for use; most communities (72%) are interested in working with other municipalities to find solutions, however, only five percent of the towns indicated a willingness to host a regional landfill.

3. Recycling: One-quarter of the towns are recycling newspapers and a few places are dealing with other materials: forty-seven percent of the communities believe that recycling drop-off centers would be desirable in their town and half the

respondents believe composting of biologically degradable materials should be part of local programs.

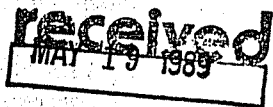
4. Opinions on Legislative Proposals: Fifty-five percent feel that recycling could reduce the waste stream by more than twenty-five percent by 1993, whereas, only seven percent thought more than fifty percent of the stream could be reached in that time; seventy-eight percent support an expanded bottle bill; about fifty percent support the concept of a solid waste authority with regional districts, broad powers to set policy, locate facilities, provide technical assistance, set fees, issue revenue obligation securities and securities for mortgage loans to finance solid waste management facilities and manage solid waste funds to meet technical and clean-up needs.

Dr. Paul Frederic, a member of the Alliance Board of Directors said, "this information indicates a critical need for the State of Maine to take action to deal with the solid waste issue. It is clearly beyond the ability of most towns in Western Maine to manage. Community leaders recognize this and support, to a significant degree, a stronger leadership role by the State."

The Western Mountains Alliance is an association of citizens from Franklin, Oxford, Piscataquis and Somerset (Maine) counties, devoted to research and public education that will encourage practical, appropriate and sustainable growth in Maine's Western Mountains region. The Alliance seeks to explore and expand public awareness about actions, strategies and policies that will foster a strong economy and improve employment opportunities for

Western Maine people, while protecting and enhancing the region's exceptional history, culture, natural resources and quality of life. Currently, the Alliance has projects underway targeted at tourism management and promotion, transportation, growth management and education.

Additional information may be obtained by contacting Paul Frederic, Board of Directors member, at the Western Mountains Alliance office (207) 778-9538, or by writing c/o P.O. Box 29, Farmington, ME 04938.



CAPITOL CONTAINER



"Committed to the Success of the Maine Returnable Bill"

(207) 623-2753

MAINE BEVERAGE RETRIEVAL

(207) 623-2753

152 Mt. Vernon Ave. Augusta, ME 04330

May 18, 1989

Energy & Natural Resources Committee
State Office Building
Room 120
Augusta, ME

To Whom It May Concern:

It has come to my attention, that during work session on bills 932 and 1431, concerns were raised about the ability of small stores or supermarkets to handle expansion of the returnable bottle bill, i.e. juices, wine, liquor bottles.

In my opinion, these are well founded concerns. However, store owners may remedy the problem by using a redemption center pick-up service to pick up all or some of their containers on a daily or weekly basis, as space and volume require. At this point, there are at least eight redemption centers providing this service throughout the state of Maine.

At Capitol Container, this is our primary business. We now provide service to over forty stores in the Augusta-Waterville area, from Shaw's and Shop 'N Save, to the smallest "mom & pop" stores, either picking up all or part of their containers. For example, at some stores we pick up just glass and the store sorts the cans and keeps the profits from their efforts. It really depends on the individual store's needs, as we are very flexible. We are committed to this system and provide excellent service to our customers.

In closing, my point is that throughout Maine, there is a great deal of flexibility available to the store owner through redemption pick-up services. It provides the store owner with a system to satisfy their customer by taking back all empties, without the burden of sorting and storing them.

If you have any further questions regarding this system, please feel free to call me.

Sincerely,

Gary Hilliard

jah



Flexible Packaging Association

1090 Vermont Avenue, NW
Suite 500
Washington, DC 20005
202/842-3880 (Office)
202/842-3841 (FAX)

Melanie Gness
Assistant Director
Government Relations

KEEP AMERICA BEAUTIFUL, INC.

MILL RIVER PLAZA 9 WEST BROAD STREET, STAMFORD, CT 06902 (203) 323-8987



April 17, 1989

Mr. William K. Stevens
The New York Times
229 West 43rd Street
New York, NY 10036

CC STANA COPPE
JOHNSON PPC
THORNBURG FPA
SHERMAN FPI
SHEA CSWS

CC GENSON
LEHRER
MITCHELL
STAVROPOULOS
BUMB
MACKAY
DRAPER
FARFONE
HAYES
REC'D GOVT
AFFAIR
MAULAN
HOCH

Dear Mr. Stevens:

In response to your article about biodegradable and photodegradable plastics in "Science Times" (Tuesday, April 11), we would like to make several points that we think offer insight into the issue of photodegradability and litter.

For 13 years Keep America Beautiful, Inc. (KAB) has been working at the grass-roots level to change the way people think about and handle their solid waste. KAB's major program, the Keep America Beautiful System, employs a tested behavioral change process to improve waste handling practices in 450 community and state programs nationwide.

The issue of degradability has become increasingly popular with government officials and civic leaders seeking a quick solution to the problem of disposing of 160 million tons of waste annually. Two basic assumptions (or possibly misconceptions) are being made with respect to degradation and solid waste. First, items that are biodegradable will save space in landfills and, second, items that are photodegradable will reduce litter.

In our opinion, your article addressed fairly the first assumption that biodegradable plastics may not help save landfill space. (Your banner headline, on the other hand, continues to fuel the assumption that biodegradable items are desirable and a panacea to the solid waste disposal problem.) It is the second assumption that we must challenge.

KAB's years of experience in preventing littering via attitude change has given cause for concern relating to photodegradable plastic products. From research conducted in the early 1970s KAB found that three situations allow and even encourage people to litter:

- o where people feel no sense of personal "ownership" for property,
- o where they know someone else will clean up after them and
- o where they see litter already accumulated.

Our concern is that telling people that products will "disappear" in sunlight may actually encourage the act of littering, adding a fourth item to the above list.

- cont'd. -

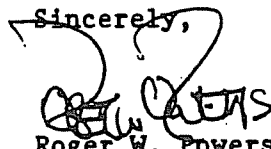
A GOOD
LETTER FROM
KAB!
KARL

If a photodegradable trash bag filled with household garbage is thrown on the roadside, the garbage will remain, even if the bag degrades. A recent Waste Age editorial makes the point, "Is a plastic bag photodegrading away on a city street any prettier on day 96 than on day one?" And, according to our research, while it's there it's attracting even more litter.

In a recent survey of KAB's local program coordinators, a fear that photodegradable products would be perceived as a panacea to litter was expressed. Statements like "Experts believe the major value of photodegradables is in reducing litter," which appeared in your article, only continue such perceptions.

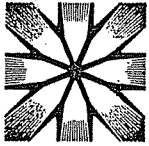
Rather than relying on the sun to clean up litter, KAB has proven that educating individuals to properly dispose of their waste in the first place is the only effective way to sustain litter reductions. Government, industry and citizens must work together at achieving a comprehensive solution to the solid waste disposal problem. Piecemeal efforts will have little effect. When a combination of source reduction, recycling, waste-to-energy and sanitary landfilling are employed over the long term, the puzzle of waste disposal will be solved.

Sincerely,


Roger W. Powers
President

cc: Jack Rosenthal
Phillip Shabecoff

Enclosures



Solid Waste

POLYSTYRENE PACKAGING COUNCIL

1025 CONNECTICUT AVE., NW SUITE 513 WASHINGTON, DC 20036 202/822-6424

R. JERRY JOHNSON

Biographical Data

R. Jerry Johnson, Executive Director, brings to the Polystyrene Packaging Council (PSPC) more than 40 years experience in the plastics industry. When, in 1987, polystyrene manufacturers, producers and end users decided to form a coalition to ensure the proper disposal of it's products, Johnson was chosen to spearhead the effort.

Prior to his appointment, Johnson spent 34 years at Dow Chemical Company, where he oversaw many positive changes in the plastics industry while involved in marketing and government relations, as well as business functions.

With a doctorate in Material Science from Ohio State University, Johnson was instrumental in the research and development of useful and environmentally safe plastics. In government affairs he served as an issue manager, monitoring legislative developments affecting the industry. He served as Manager for Specialty Plastics, Sales Manager in the New York area, and Manager for Dow's Toronto Flexible Packaging Operations.

In addition to his regular duties at Dow, Johnson served as a consultant to the Federal Emergency Management Agency (FEMA) concerning the National Strategic Stockpile. Earlier in his career he worked at Union Carbide and for the Battelle Institute.

BIO-SKETCH

Michael H. Levy is the Manager, Legislative & Regulatory Affairs for Mobil Chemical Company. He is responsible for all legislative and regulatory programs within Mobil Chemical's domestic and international operations - over \$3 billion in sales. Responsibilities include lobbying, technical and public relations efforts, and coordination with industry trade associations.

Mr. Levy has both technical and business background, as well as varied experience in the private and public sectors. He holds undergraduate civil engineering and graduate civil/environmental engineering degrees from Rennselaer Polytechnic Institute (RPI) in Troy, New York; and pursued an MBA degree at Fairleigh Dickinson University in Florham Park, New Jersey.

He is a licensed professional engineer in the state of New York and has had considerable government experience with the state of New York: first as a highway design chief with the New York State Department of Transportation, and then as a Water Pollution Engineer and a Senior Air Pollution Engineer with the New York State Department of Environmental Conservation in upstate and Western New York.

Prior to joining Mobil in 1979, Mr. Levy was a division engineer for the Allied Chemical Company in Morristown, New Jersey, and then became a plant superintendent at Allied's Semet Solvay Division Detroit, Michigan By-product Coke Oven facility.

Mr. Levy served as Energy Conservation Coordinator, Manager of Environmental & Consumer Affairs, and Manager of Environmental & Quality Control for Mobil Chemical's three plastics divisions in Rochester, New York, before becoming the Manager, Legislative & Regulatory Affairs for the entire company.

He is extremely active in several associations (Council on Plastics and Packaging in the Environment, Flexible Packaging Association, Foodservice and Packaging Institute, Polystyrene Packaging Council, Styrene Information Research Council, The Society of the Plastics Industry, Council for Solid Waste Solutions) and is a member of Chi Epsilon (Civil Engineering Honorary), Professional Engineering Society, Air Pollution Control Association, Water Pollution Control Federation, and Chemical Manufacturers Association.

Mr. Levy is a frequent speaker at industry, government, and independent policy forums and has written several papers and publications on plastics.

PRESENTATION TO JOINT STANDING COMMITTEE
ON ENERGY AND NATURAL RESOURCES
June 1, 1989 at 1:00 p.m.

Polystyrene Foam and Coding of Plastics

Introductions:

John D. Delahanty, Esq., Polystyrene Packaging
Council

David C. Maskewitz, Scott Paper Company

Harold C. Pachios, Esq., Council for Solid Waste
Solutions

Participants:

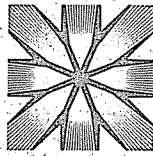
R. Jerry Johnson, Ph.D, Executive Director,
Polystyrene Packaging Council

Michael H. Levy, Ph.D, Manager, Legislative
& Regulatory Affairs, Mobil Chemical Company

Kimberlee A. Volbrecht, Northeast Regional
Government Affairs Manager, Council for
Solid Waste Solutions

Jean K. Yermakoff, Ph.D, D.A.B.T., Senior
Toxicologist, Amoco Corporation

Daniel P. Boyd, Ph.D, Chemical Engineering,
Daniel P. Boyd & Co., Consultant



Plastics Again Recycling Project QUESTIONS & ANSWERS

Q What is Plastics Again?

A Plastics Again is a joint venture of Genpak Corporation of Glens Falls, New York and Mobil Chemical Company of Stamford, Connecticut. The two have combined resources to build the first commercial U.S. plant designed to recycle used polystyrene foam products such as food trays, cups and containers as well as plastic cutlery. The plant, located forty miles west of Boston in Leominster, Massachusetts, is scheduled to open in late February.

Q What are the capabilities of this plant?

A The \$2 million facility, covering 21,000 square feet, can recycle 3 million pounds of used polystyrene per year. The plant has space to expand its recycling capacity to 6 million pounds per year. Three million pounds represents the amount of polystyrene used by about 1000 schools or similar institutions each year.

Q What effect will this plant have in reducing polystyrene in our solid waste stream?

A The Leominster plant will allow Massachusetts to reclaim 8% of the 18,750 tons of polystyrene foam food service waste it produces each year. A model project at a Lexington, Massachusetts school lunchroom also indicated that recycling of polystyrene foam products reduces the volume of solid waste by 50%.

According to EPA, packaging of all kinds accounts for 32.7% of the total solid waste stream. Foam food service products make up less than 1%. The Polystyrene Packaging Council promotes efforts to reduce even this small part of the solid waste stream.

Q How will the project operate?

A CRInc., a large, diverse recycling firm, will collect used source separated polystyrene products from school lunchrooms, fast food restaurants and institutions. The waste will be taken to Leominster where it will be cut into fluff, washed, melted and filtered into tiny pellets for reuse.

Q How will the recycled polystyrene be used?

A The recycled polystyrene pellets may be reused in products such as coat hangers, flower pots, wall and building insulation, and protective packaging.

Q. What problems still exist in the recycling of polystyrene foam products?

A. The main difficulty in recycling food service packaging is collection. This is true for all materials: paper, metal or foam. Disposables must be collected, separated from other trash, and then cleaned. Sufficient amounts of polystyrene do exist to operate effective recycling programs. And it is easier to recycle polystyrene as opposed to substitutes, many of which are made of composite materials like plastic or coated paper, whose components must be treated separately.

Q. What are the goals of Plastics Again?

A. Genpak and Mobil hope to increase public awareness of the recycling potential of plastics for both environmental benefits and as a commercial enterprise.

Though plastics make up only seven percent of our solid waste, the Polystyrene Packaging Council actively supports plastics recycling as part of a comprehensive solution to the disposal of solid waste.

Q. What is the Polystyrene Packaging Council?

A. The Polystyrene Packaging Council, Inc. is comprised of manufacturers of polystyrene foam products, raw materials suppliers, makers of molding, recycling and extrusion equipment and trade associations. The Council is dedicated to the effective use and recycling of polystyrene and to providing accurate, reliable information about environmentally sound solid waste disposal practices. We provide technical assistance to help public officials, consumers and local businesses effectively tackle this problem.

For further information contact:
Jerry Johnson
The Polystyrene Packaging Council, Inc.
1025 Connecticut Ave., NW Suite 513
Washington, D.C. 20036
202/822-6424



SPI's Voluntary Plastic Container Coding System

- What Is It?
- Why Is It Important?
- How Does It Work?

*Note: The information contained in this update of
"SPI's Voluntary Plastic Container Coding System"
supersedes all previous versions*



Introduction

The Society of the Plastics Industry, Inc. (SPI) has developed a voluntary coding system for plastic containers which identifies bottles and other containers by material type, thus assisting recyclers in sorting plastic containers by resin composition. Some plastic containers already are being recycled and many more are recyclable: more than 20 percent of the plastic soda bottles currently are being processed for new products. Other containers, such as milk and juice jugs, also are being reclaimed. But there is potential for increased recycling of bottles and other containers to further reduce the amount of waste to be landfilled or burned.

The plastics industry created the container coding system to provide a uniform system for coding that meets the needs of the recycling industry, as defined by the recyclers and collectors themselves. Given today's national marketplace, it is crucial that the coding system be *consistent* because the use of different coding systems by various companies or states could significantly disrupt the flow of commerce.

The SPI Voluntary Container Coding System, developed by SPI's Plastic Bottle Institute, is designed to be most convenient for the people involved in sorting containers, and is intended to avoid a complicated system which would require extensive worker training and possibly lead to confusion and/or mis-sorting.

Most of all, the system is the plastics industry's way of demonstrating its commitment to sound environmental policies and its concern about the issues that affect our customers and consumers. Development of this coding system is a concrete demonstration that we are committed to making our products part of the solution to the waste disposal crisis.

Why was this coding system developed?

The plastics recycling systems in place today are predominantly geared toward two resins, polyethylene terephthalate (PET) and high density polyethylene (HDPE) — largely because these resins are used in large-volume, easily identified containers such as the plastic soda bottle (PET) and the plastic milk and juice jug (HDPE). Early plastics recycling technology concentrated on processing these resins to aid in quality control of the end product and to derive the highest possible economic value from the recycled material.

Recycling centers can easily identify PET soda bottles and HDPE milk jugs. But there are other containers made of PET and HDPE; there are also containers made of vinyl, polystyrene, polypropylene, low density polyethylene and other resins which are candidates for recycling if they are identified — or “coded” — by their resin content.

New recycling technologies have been developed for commercial applications of mixed, or commingled, plastics of all resin types.

How does the coding system work?

The voluntary system that SPI has developed is the most convenient for the people involved in sorting containers. Based on a survey of the recycling industry — including some of the biggest processors of recycled plastics — the system has been designed to be easy to read, and easy to distinguish from existing marks put on plastic containers by manufacturers for use in processing and identification.

The code is a three-sided triangular arrow with a number in the center and letters underneath. The three-sided arrow was selected to isolate and distinguish the number code from other markings. The number inside and the letters indicate the resin from which the container is made; containers with labels or base cups of a different material may, if appropriate, be coded by their primary, basic material:

1 = PETE	(polyethylene terephthalate)	5 = PP	(polypropylene)
2 = HDPE	(high density polyethylene)	6 = PS	(polystyrene)
3 = V	(vinyl)	7 = Other	
4 = LDPE	(low density polyethylene)		

The code is intended for molding into or imprinting on or as near to the bottom of the bottle or container as is technically feasible. This is to achieve a consistent location and to avoid interference with other functional requirements. The minimum recommended size of the symbol is one-half inch which is the smallest size that can be easily read at a glance. Some containers with a special restrictive base design may have smaller codes, however.

Coding symbols reproduced actual size:

1/2" size



3/4" size



1" size



Which containers are recommended for coding?

It is recommended that the symbol be molded into or imprinted on all bottles and jars which have a capacity of 16 ounces or more, and other containers such as tubs or trays with a capacity of 8 ounces or more. These sizes have been chosen because recyclers indicated that the effort to sort smaller containers (which often couldn't accommodate a readable code) is disproportionate to their value. These smaller containers can still be recycled through mixed plastics recycling processes.

When could the system be phased in?

Based on the general practices of the plastic container industry, SPI expects that molds could be available for adding the code on the following timetable:

New bottle and container molds
During fabrication

Existing bottle and container molds
30% of molds coded within 12 months
60% of molds coded within 24 months
100% of molds coded within 36 months

Recommended mold modification techniques have been developed to assist container producers in implementing the coding program. SPI has published a technical bulletin which recommends the system and provides more information about these techniques.

How will the coding system be implemented?

SPI will disseminate information about the resin coding system as a public service. The plastics and packaging industries will be informed of the system through special briefings with the trade press and through news releases. In addition, informational materials have been prepared and a technical bulletin for manufacturers has been developed. As coded containers become available to consumers, an expanded education program will explain the significance of the coding system to the public through the general press.

Use of the system is voluntary and is available for use by anyone. SPI cannot be responsible for the implementation of the system by container manufacturers and container fillers. Proper use of the system is the sole responsibility of each manufacturer and recycler that chooses to use it.



Will all containers that bear the same code provide a uniform material when recycled together?

Neither the recommendation of SPI to code containers by material, nor the presence of a resin code on a container, conveys any guarantee, either expressed or implied, that any particular container is suitable for recycling into any particular product. The suitability of a recycled resin for a particular application will depend upon the demand of the application and the nature of any contamination resulting from prior container use. Furthermore, even within a resin type, virgin materials are manufactured with specific properties to meet the needs of specific applications. It is expected that the initial market for recycled resins will be for those applications that are tolerant of the variations in properties that exist among the various resins of each type that are represented in the waste stream.

How will recyclers be notified if a container for a particular product is changed from one resin type to another?

If a different resin is used, it is the responsibility of the manufacturer to change the code to match the new resin. As noted above, use of the symbols on packaging materials is totally voluntary, and manufacturers are free to change resin types as they see fit. The code relates solely to the resin type from which the container is made, and does not relate to the contents of the container, its shape or appearance.



The Society of the Plastics Industry, Inc.
1275 K Street, N.W.
Suite 400
Washington, DC 20005
(202) 371-5200

R-9/88

Printed on 100% recycled paper.

May 11, 1989

L.D. 1435
"An Act to Prohibit Possession of Improperly
Labeled Beverage Containers"

PROJECTED GENERAL FUND REVENUE BASED ON ESTIMATES

COMPLIANCE	SALES TAX	MALT EXCISE TAX	TOTAL
5%	\$ 45,000	\$ 29,625	\$ 74,625
10%	90,000	59,250	149,250
25%	225,000	148,125	373,125
35%	315,000	207,375	522,375
50%	450,000	296,250	746,250

May 24, 1989
TO JOHN WAREFIELD

Approximately 1,000,000 cases of beer are sold to Maine residents by New Hampshire stores. This results in a loss of revenue to Maine.

Excise & Premium Tax \$.79 a case	\$ 790,000
Sales Tax (5% at \$10 case)	500,000
TOTAL REVENUE LOSS	\$1,290,000

Approximately 1,500,000 cases of soft drinks are sold to Maine residents by New Hampshire stores. Sales Tax (5% at \$8 per case - \$400,000

Beer	\$1,290,000
Soft Drinks	<u>400,000</u>
	\$1,690,000

If deposit reduced to \$.03 per container (from \$.05) and handling fee of \$.02 per container is eliminated (as Rep. McGowan proposes) it is reasonable to assume that fewer Maine residents would go to New Hampshire to purchase beverages. If Rep. McGowan's bill to make it illegal to have containers without a deposit marked on them becomes law, more Maine citizens might stay home and enhance Maine's tax revenues.

from Ken MacLeod

BASED ON MacLEOD'S + DYER'S ESTIMATE:

SALES TAX

5% compliance	\$45,000	PER	ANNUAL
10% compliance	90,000	"	"
25% compliance	225,000	"	"
35% compliance	315,000	"	"
50% compliance	450,000	"	"

EXCISE + PREMIUM TAX (DEDICATED)

5%	39,500	PER	ANNUAL	(29,625 CF share)
10%	79,000	"	"	(59,250 " ")
25%	197,500	"	"	(148,125 " ")
35%	276,500	"	"	(207,375 " ")
50%	395,000	"	"	(296,250 " ")

* DIFFERENCE TO QUANTIFY VOLUME SOLD TO THE RESIDENTS
" " " NUMBER OF PEOPLE WHO WOULD NO LONGER PURCHASE OLS
" " ESTIMATE NO FIRST OFFENSE IS A VIOLATION

2209 May 8, 1989

COMMITTEE:

Energy & Natural Resources

[illegible]

ISSUES

[illegible]

Energy & Natural Resources

Energy & Natural Resources												
	LD	LD	LD	LD	LD	LD	LD	LD	LD	LD	LD	LD
STATUS	PH	PH	PH	PH	PH	PH	PH	PH	PH	PH	PH	PH
May 8	1307	1417	1422	1457	1493	1531	1540	1547	1548	1549		

ISSUES

[illegible]

[illegible]

ATTEMPTED PRE-EMPTION FLOW CHART

If you think that:

- (1) No pre-emption is necessary - stick with current law.
(See page 3)
- (2) Total pre-emption is necessary - draft a total pre-emption clause but leave in provisions for local inspectors authorized and trained to enforce state statutes and regulations.
- (3) Some pre-emption is necessary.
 - (A) Limited pre-emption - see "agreed upon" provisions.
 - (B) Moderate pre-emption - see current law and select from the list based on criteria of environmental or nuisance. Allow environmental ordinances aimed at protecting water quality and air quality but restrict ordinances dealing with nuisances such as noise, odor, litter or vice versa.
 - (C) Significant pre-emption - pre-empt all ordinances that duplicate state statutes and regulations and put in local inspector provisions. Allow ordinances that are not duplicative such as truck weights. Require ordinances to be reviewed and approved.

Above can be varied by applying different degrees of pre-emption to public facilities v. private facilities including owner generated facilities.

- (1) "Agreed Upon?" Provisions (meaning that I think no one will commit homicide, suicide, or lobbyisticide). Central filing of all local ordinances with the SWA within a specified number of days after enactment.
- (2) Consistent definitions with state laws and regulations.
- (3) Local ordinances must be consistent with and no stricter than state law in all areas including hydrogeological criteria and engineering criteria.
- (4) Prohibition of municipal ordinances that have the effect of banning the siting, licensing or operation of a solid waste facility.

Pre-emption of local authority/municipal ordinances.

Municipalities shall not enact or enforce any local ordinance that has the purpose or effect, either directly or indirectly, of banning or totally prohibiting the location, licensing or operation of a solid waste facility within the municipality.

(5) Streamline the permitting process by requiring local planning boards to coordinate any local application review with the state review timetable so that all local decisions must be completed within the state time frame.

(6) Training of local inspectors and authorization to enforce state laws and regulations (Private industry may object?).

Moderate Pre-emption Examples

Environmental

(A) A municipality may enact any ordinance designed to protect water quality and air quality from contamination that creates a public health risk.

Nuisance

(B) A municipality may enact any ordinance designed to control (1) levels of noise heard outside the facility; (2) litter; (3) odor not creating a public health risk.

Safety

(C) A municipality may enact any ordinance designed to promote fire and traffic safety. Can make a combination of 1, 2, & 3. Can provide for review and comment before ordinance enacted.

Zoning and Comprehensive Plans

(D) Zoning: (1) only advisory for public facilities. But if a municipality has a comprehensive plan certified under the growth management law then public facilities must be consistent with the plan. (2) Applicable to private facilities including generator owned facilities but such ordinances must allow or provide for the location of solid waste facilities in a number of locations within the municipality by (select a date). The SWA may eliminate the provision for solid waste facilities if a municipality applies for a waiver and demonstrates that no feasible sites exist within the municipality.

The existing law reads (38 MRSA section 1310-U):

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 municipality 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.

OPTIONS FOR STATE PREEMPTION OF LOCAL SOLID WASTE ORDINANCES

-- ALLOW LIMITED LOCAL ORDINANCES, WITH THE FOLLOWING RESTRICTIONS:

1. RETAIN CURRENT LIMITS IN 38 MRSA (1310-U ON HYDROGEOLOGICAL STANDARDS AND LANDFILL ENGINEERING STANDARDS

2. REQUIRE ANY LOCAL ORDINANCES TO BE CENTRALLY FILED WITH THE WASTE AGENCY OR BE DEEMED INVALID (THIS PROVISION IS IN STATE PESTICIDE LAW)

3. REQUIRE LOCAL ORDINANCES TO BE CONSISTENT WITH STATE LAW AND DEFINITIONS, AND NO MORE STRINGENT THAN STATE LAW

4. SPECIFICALLY STATE IN THE LAW THAT LOCAL ORDINANCES WILL BE DEEMED INVALID IF THE MUNICIPALITY'S INTENT IS TO BAN SOLID WASTE FACILITIES WITHIN TOWN BORDERS (EVEN IF THE BAN IS INDIRECT)

-- STREAMLINE THE PERMITTING PROCESS BY REQUIRING LOCAL PLANNING BOARDS ETC. TO COORDINATE ANY APPLICATION REVIEW WITH THE STATE REVIEW TIMETABLE AND TO COMPLETE ALL DECISIONS WITHIN THE STATE TIME FRAME

-- REQUIRE STATE AND PRIVATE SECTOR FACILITY COMPLIANCE WITH ORDINANCES MEETING THE STANDARDS SET OUT ABOVE, AND COMPLIANCE WITH COMPREHENSIVE PLANS ADOPTED BY MUNICIPALITIES

Prepared by Natural Resources Council of Maine
6-7-89

Sec. 32. 38 M.R.S.A. §1310-U is amended to read:

§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 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. Municipalities are further prohibited from enacting ordinances which regulate solid waste disposal facilities owned by the Authority or a regional association.

Under the municipal home rule authority granted by the Constitution of Maine, Article VIII, Part Second and Title 30-A, section 3001, municipalities, except as provided in this section, may enact ordinances with respect to solid waste facilities which contain such standards as the municipality 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; provided, however, such standards shall not be stricter than those contained in this chapter and in the solid waste management rules adopted pursuant to this chapter. Municipal ordinances shall use definitions consistent with those adopted by the department.

A municipality adopting an ordinance under this section shall forward a copy of the ordinance to the Department within 30 days of its adoption.

This draft assumes that "solid waste disposal facilities", "Authority" [agency?] and "regional associations" are defined terms in this bill and that Authority is the new agency created and regional association is limited to two or more municipalities.

Maine Waste Industries Association

185 State Street
Augusta, Maine 04333

MEMORANDUM

TO: Energy and Natural Resources Committee

FROM: Charles J. Micoleau, Counsel, MWIA

DATE: June 16, 1989

RE: Suggested Amendment re: Application of Waste Disposal, Inc. for DEP Waste Disposal Facility License

Attached is a letter from the president of Waste Disposal, Inc. addressing some of the questions raised by the Committee yesterday.

Also, following up on the proposal contained in the letter, we suggest the Committee may wish to consider the following additional language. This might address any concerns by the Committee that the Porter Land Fill, if approved by the DEP, ought to be potentially subject to acquisition and control by the new Maine Waste Management Agency.

The board shall not approve an application for a new commercial solid waste disposal facility after the effective date of this section except that the board may approve an application which was subject to the moratorium established pursuant to Sec. 1310-V and which is re-filed within 90 days of the effective date of departmental rules adopted pursuant to 1310-V.

A condition of any such approval shall be the grant of an option for the Maine Waste Management Agency to acquire the facility at the expiration of the initial license term or any subsequent relicensure term, pursuant to the Agency's authority under Sec. 2100 et. seq.

Suggested Amendment re: Application of Waste Disposal,. Inc.
for DEP Waste Disposal Facility
License

Sec. .38 MRSA 1310-X, is enacted to read:

ss**** Future commercial landfills

The board shall not approve an application for a new commercial solid waste disposal facility after the effective date of this section except that the board may approve an application which was subject to the moratorium established pursuant to Sec. 1310-V and which is re-filed within 90 days of the effective date of departmental rules adopted pursuant to 1310-V.

A condition of any such approval shall be the grant of an option for the Maine Waste Management Agency to acquire the facility at the expiration of the initial license term or any subsequent relicense term, pursuant to the Agency's authority under Sec. 2100 et. seq.



Waste Disposal Incorporated

The Honorable Judy C. Kany, Senate Chair
The Honorable Michael H. Michaud, House Chair
Energy and Natural Resources Committee
Maine State Legislature
Augusta, Maine 04333

Dear Senator Kany and Representative Michaud:

I appreciate the Committee's consideration of an Amendment to your proposed solid waste legislation which would allow Waste Disposal, Inc. to refile its landfill application for review by the DEP. I apologize for the seemingly last minute request, but I only learned of the Committee's decision with respect to future private landfills on Sunday.

First, I wish to assure you that this project is designed to meet the waste disposal needs of Main residents and businesses. The 18.1 acre facility can certainly rely upon Maine-only waste according to our studies. If it is the Committee's desire or the DEP's request, Waste Disposal, Inc. will certainly abide by any such limitations, as that is our intention.

Second, I understand a concern was expressed to the Committee that this Amendment would remove our landfill from the proposed statutory scheme of your legislation, namely State ownership of solid waste landfills, for twenty years or more.

Please be assured that my request is based only on the notion of fairness; that we be given an opportunity to have the project on which we have worked so long to be reviewed and, if acceptable, to be licensed to operate in accordance



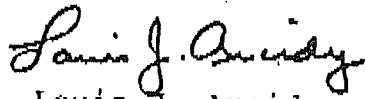
Waste Disposal Incorporated

with the new regulations of the DEP.

Therefore, if at the end of the initial or any subsequent five year license period, the new State agency wished to procure this landfill for purposes of State control, we would be prepared to sell and convey the facility.

I hope you find this information helpful. Again, thank you for your consideration.

Sincerely yours,


Louis J. Arcidy

SOLID WASTE LEGISLATION EXPENDITURES

1

	1989-90	1990-91	Future Costs/Explanation
MAINE WASTE MANAGEMENT AGENCY:			
Office of the Executive Director:			
Personal Services:			
Executive Director	\$49,880	\$70,278	
Business Manager II	\$25,819	\$37,157	
Administrative Assistant	\$21,891	\$31,875	
Per Diem - Waste Mgmt Adv. Council	\$2,640	\$2,640	
Personal Services - Total	\$100,230	\$141,950	
All Other:			
General Operating Expenses	\$3,000	\$3,000	
Council Expenses	\$4,400	\$4,400	
All Other - Total	\$7,400	\$7,400	
Capital Expenditures:	\$11,780	\$0	
Office - Total	\$119,410	\$149,350	
Office of Planning:			
Personal Services:			
Office Director	\$41,512	\$58,434	
Senior Planner	\$26,938	\$39,601	
Planner II	\$23,656	\$34,494	
Clerk/Typist III	\$15,022	\$21,887	
Personal Services - Total	\$107,128	\$154,416	
All Other:			
General Operating Expenses	\$35,000	\$10,000	
Data Collection/Systems Costs	\$40,000	\$50,000	
All Other - Total	\$75,000	\$60,000	
Capital Expenditures:	\$50,000	\$0	
Office - Total	\$232,128	\$214,416	
Office of Waste Reduction & Recycling:			
Personal Services:			
Office Director	\$41,512	\$58,434	See DECD costs: These funds will be partially offset by deappropriations totaling \$147,141 and \$214,005.
Senior Planner	\$26,938	\$39,601	
Planner II	\$23,656	\$34,494	
Planner II	\$23,656	\$34,494	
Clerk/Typist III	\$15,022	\$21,887	
Personal Services - Total	\$130,784	\$188,910	
All Other:			
General Operating Expenses	\$7,500	\$10,000	
Grants - Feasibility	\$25,000	\$75,000	
Grants - Capital Invest.	\$25,000	\$75,000	
Transportation Subsidy	\$25,000	\$75,000	
All Other - Total	\$82,500	\$235,000	
Capital Expenditures:	\$25,000	\$0	
Office - Total	\$238,284	\$423,910	
Office of Siting and Disposal Operations:			
Personal Services:			
Office Director	\$41,512	\$58,434	
Environmental Specialist IV	\$27,868	\$41,102	
Engineering Technician V	\$27,868	\$41,102	
Clerk/Typist III	\$15,022	\$21,887	
Per Diem - Facility Siting Board	\$1,500	\$2,000	
Personal Services - Total	\$113,770	\$164,525	
All Other:			
General Operating Expenses	\$12,500	\$17,500	
Consulting Services	\$0	\$500,000	For site selection consulting.
Facilities Operations	\$0	\$0	Significant future costs for contracts and payment in lieu of taxes.
All Other - Total	\$12,500	\$517,500	
Capital Expenditures:	\$25,000	\$25,000	
Office - Total	\$151,270	\$707,025	
MAINE WASTE MANAGEMENT AGENCY - TOTAL	\$741,092	\$1,494,701	

**MAINE WASTE MANAGEMENT AGENCY – TOTAL
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

Solid Waste Management – DEP

Positions (10.0)

Personal Services

All Other

Capital Expenditures

Total

OTHER MISCELLANEOUS COSTS

Expanded Bottle Bill

Department of Agriculture

Positions (2.0)

Personal Services

All Other

Capital Expenditures

Department of Agriculture – Total

Bureau of Alcoholic Beverages

Expanded Bottle Bill – Total

Recycling Costs:

Department of Administration (Bureau of Purchases)

Department of Transportation

Other Departments and Agencies

Recycling Costs – Total

Recycling Loan Program – FAME

Capital Reserve Fund:

Revenue Collection Costs:

Bureau of Taxation

Positions 3.0(90) 8.0(91)

Personal Services

All Other

Capital Expenditures

Bureau of Taxation – Total

Siting Requirements – Local Plans

Land Use Regulation Commission

Positions (1.0)

Personal Services

All Other

Capital Expenditures

LURC – Total

General Enforcement

Judicial Department

Attorney General

Positions (1.0)

Personal Services

All Other

Capital Expenditures

Attorney General – Total

TOTAL EXPENDITURES

1989-90	1990-91	Future Costs/Explanation
\$741,092	\$1,494,701	See break-down previous page.
\$743,000	\$757,860	Provides funds for 10 new positions and
\$729,570	\$737,661	the transfer of 15 positions from the
\$48,000	\$48,960	Environmental Protection Fund (EPF). Also
\$1,520,570	\$1,544,481	includes reimbursement to the EPF.
\$28,170	\$40,860	Costs can be reduced if bottle
\$6,165	\$8,520	bill extended to liquor only.
\$770	\$0	
\$35,105	\$49,380	
\$0	\$0	Cost to be offset by price increase.
\$0	\$0	Costs Absorbed.
\$0	\$0	Costs Absorbed.
\$0	\$0	Costs Absorbed.
\$0	\$0	
\$0	\$400,000	
\$0	\$0	Potential Future Costs
\$72,440	\$172,023	
\$33,000	\$37,050	
\$23,000	\$27,235	Includes \$5,000 in FY91 for Tax Credit.
\$128,440	\$236,308	
\$31,028	\$35,008	These costs may not be incurred
\$2,500	\$2,500	in the 1990-91 biennium as the
\$4,410	\$0	siting of a State facility may not
\$37,938	\$37,508	for 3 or 4 years.
\$0	\$0	Costs Absorbed.
\$25,937	\$37,770	Cost of additional attorney.
\$2,500	\$2,500	
\$590	\$0	
\$29,027	\$40,270	
\$2,492,172	\$3,802,648	

SOLID WASTE MANAGEMENT LEGISLATION

ADVANCE DISPOSAL FEES

Items	Units	Unit Fee	Annual Revenue
Tires	1,070,000	\$1	\$1,070,000
Brown Goods	70,000	\$15	\$1,050,000
White Goods	205,000	\$15	\$3,075,000
Auto Batteries	220,000	\$1	\$220,000
Total Estimated Revenues			\$5,415,000

AVAILABLE
in
7/1/90

SPECIAL WASTE DISPOSAL FEES

Items	Units*	Unit Fee	Annual Revenue	Units**	Annual Revenue
Asbestos	96,768	\$2	\$193,536	72,000	\$144,000
Oil Spill Debris	148,926	\$4	\$595,704	143,000	\$572,000
WWFT Sludge	200,000	\$2	\$400,000	100,000	\$200,000
Ash	57,809	\$4	\$231,236	38,000	\$152,000
Papermill Sludge	900,000	\$1	\$900,000	18,000	\$18,000
Industrial Waste	3,413	\$6	\$20,478	3,400	\$20,400
Sandblast Grit	8,808	\$6	\$52,848	8,800	\$52,800
Misc Special Waste	300	\$4	\$1,200	300	\$1,200
Mun Solid Waste Ash	95,500	\$2	\$191,000	95,500	\$191,000
Total Estimated Revenues			\$2,586,002		\$1,351,400

* Based on all Special Waste

** Based on Waste to Commercial Facilities

	1989-90	1990-91
TOTAL SOLID WASTE EXPENDITURES:	(\$2,492,172)	(\$3,802,648)
TOTAL SOLID WASTE REVENUES:		
Advance Disposal Fees	\$0	\$5,415,000
Special Waste Disposal Fees	\$675,700	\$1,351,400
Application Fee (Bureau of Taxation)	\$0	\$162,500
Income Tax Credit	\$0	(\$499,933)
OTHER AVAILABLE RESOURCES:		
Part I Appropriations	\$147,141	\$214,005
Governor's Part II Recommendations	\$884,101	\$0
TOTAL SOLID WASTE RESOURCES:	\$1,706,942	\$6,642,972
NET FINANCIAL RESOURCES	(\$785,230)	\$2,840,324

2

SOLID WASTE LEGISLATION EXPENDITURES

	1989-90	1990-91	Future Costs/Explanation
MAINE WASTE MANAGEMENT AGENCY:			
Office of the Executive Director:			
Personal Services:			
Executive Director	\$49,880	\$70,278	
Business Manager II	\$25,819	\$37,157	
Administrative Assistant	\$21,891	\$31,875	
Per Diem - Waste Mgmt Adv. Council	\$2,640	\$2,640	
Personal Services - Total	\$100,230	\$141,950	
All Other:			
General Operating Expenses	\$3,000	\$3,000	
Council Expenses	\$4,400	\$4,400	
All Other - Total	\$7,400	\$7,400	
Capital Expenditures:	\$11,780	\$0	
Office - Total	\$119,410	\$149,350	
Office of Planning:			
Personal Services:			
Office Director	\$41,512	\$58,434	
Senior Planner	\$26,938	\$39,601	
Planner II	\$23,656	\$34,494	
Clerk/Typist III	\$15,022	\$21,887	
Personal Services - Total	\$107,128	\$154,416	
All Other:			
General Operating Expenses	\$35,000	\$10,000	
Data Collection/Systems Costs	\$80,000	\$90,000	
All Other - Total	\$115,000	\$100,000	
Capital Expenditures:	\$50,000	\$0	
Office - Total	\$272,128	\$254,416	
Office of Waste Reduction & Recycling:			
Personal Services:			
Office Director	\$41,512	\$58,434	See DECD costs: These funds will be partially offset by deappropriations totaling \$147,141 and \$214,005.
Senior Planner	\$26,938	\$39,601	
Planner II	\$23,656	\$34,494	
Planner II	\$23,656	\$34,494	
Clerk/Typist III	\$15,022	\$21,887	
Personal Services - Total	\$130,784	\$188,910	
All Other:			
General Operating Expenses	\$7,500	\$10,000	
Grants - Feasibility	\$100,000	\$250,000	
Grants - Capital Invest.	\$0	\$0	\$5 million bond issue. (Tentative)
Transportation Subsidy	\$25,000	\$75,000	
All Other - Total	\$132,500	\$335,000	
Capital Expenditures:	\$25,000	\$0	
Office - Total	\$288,284	\$523,910	
Office of Siting and Disposal Operations:			
Personal Services:			
Office Director	\$41,512	\$58,434	
Environmental Specialist IV	\$27,868	\$41,102	
Engineering Technician V	\$27,868	\$41,102	
Clerk/Typist III	\$15,022	\$21,887	
Per Diem - Facility Siting Board	\$1,500	\$2,000	
Personal Services - Total	\$113,770	\$164,525	
All Other:			
General Operating Expenses	\$12,500	\$17,500	
Consulting Services	\$0	\$500,000	For site selection consulting. Significant future costs for contracts and payment in lieu of taxes.
Facilities Operations	\$0	\$0	
All Other - Total	\$12,500	\$517,500	
Capital Expenditures:	\$25,000	\$25,000	
Office - Total	\$151,270	\$707,025	
MAINE WASTE MANAGEMENT AGENCY - TOTAL	\$831,092	\$1,634,701	

MAINE WASTE MANAGEMENT AGENCY - TOTAL
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Solid Waste Management - DEP

Positions (10.0)

Personal Services

All Other

Capital Expenditures

Total

OTHER MISCELLANEOUS COSTS

Expanded Bottle Bill

Department of Agriculture

Positions (2.0)

Personal Services

All Other

Capital Expenditures

Department of Agriculture - Total

Bureau of Alcoholic Beverages

Expanded Bottle Bill - Total

Recycling Costs:

Department of Administration (Bureau of Purchases)

Department of Transportation

Other Departments and Agencies

Recycling Costs - Total

Recycling Loan Program - FAME

Capital Reserve Fund:

Revenue Collection Costs:

Bureau of Taxation

Positions 3.0(90) 8.0(91)

Personal Services

All Other

Capital Expenditures

Bureau of Taxation - Total

Siting Requirements - Local Plans

Land Use Regulation Commission

Positions (1.0)

Personal Services

All Other

Capital Expenditures

LURC - Total

General Enforcement

Judicial Department

Attorney General

Positions (1.0)

Personal Services

All Other

Capital Expenditures

Attorney General - Total

TOTAL EXPENDITURES

1989-90	1990-91	Future Costs/Explanation
\$831,092	\$1,634,701	See break-down previous page.
\$743,000	\$757,860	Provides funds for 10 new positions and the transfer of 15 positions from the Environmental Protection Fund (EPF). Also includes reimbursement to the EPF.
\$404,570	\$737,661	
\$48,000	\$48,960	
\$1,195,570	\$1,544,481	
\$28,170	\$40,860	Costs can be reduced if bottle bill extended to liquor only.
\$6,165	\$8,520	
\$770	\$0	
\$35,105	\$49,380	
\$0	\$0	Cost to be offset by price increase.
\$0	\$0	Costs Absorbed.
\$0	\$0	
\$0	\$0	
\$0	\$0	
\$0	\$400,000	
\$0	\$0	Potential Future Costs
\$72,440	\$172,023	Includes \$5,000 in FY91 for Tax Credit.
\$33,000	\$37,050	
\$23,000	\$27,235	
\$128,440	\$236,308	
\$0	\$0	These costs will not be incurred in the 1990-91 biennium as the siting of a State facility may not for 3 or 4 years.
\$0	\$0	
\$0	\$0	
\$0	\$0	
\$0	\$0	Costs Absorbed.
\$25,937	\$37,770	
\$2,500	\$2,500	
\$590	\$0	Cost of additional attorney.
\$29,027	\$40,270	
\$2,219,234	\$3,905,140	

SOLID WASTE MANAGEMENT LEGISLATION

ADVANCE DISPOSAL FEES

Items	Units	Unit Fee	Annual Revenue
Tires	1,070,000	\$1	\$1,070,000
Brown Goods	70,000	\$15	\$1,050,000
White Goods	205,000	\$15	\$3,075,000
Auto Batteries	220,000	\$1	\$220,000
Total Estimated Revenues			\$5,415,000

SPECIAL WASTE DISPOSAL FEES

Items	Units*	Unit Fee	Annual Revenue	Units**	Annual Revenue
Asbestos	96,768	\$2	\$193,536	72,000	\$144,000
Oil Spill Debris	148,926	\$4	\$595,704	143,000	\$572,000
WWFT Sludge	200,000	\$2	\$400,000	100,000	\$200,000
Ash	57,809	\$4	\$231,236	38,000	\$152,000
Papermill Sludge	900,000	\$1	\$900,000	18,000	\$18,000
Industrial Waste	3,413	\$6	\$20,478	3,400	\$20,400
Sandblast Grit	8,808	\$6	\$52,848	8,800	\$52,800
Misc Special Waste	300	\$4	\$1,200	300	\$1,200
Mun Solid Waste Ash	95,500	\$2	\$191,000	95,500	\$191,000
Total Estimated Revenues			\$2,586,002		\$1,351,400

* Based on all Special Waste

** Based on Waste to Commercial Facilities

TOTAL SOLID WASTE EXPENDITURES:

1989-90	1990-91
(\$2,492,172)	(\$3,802,648)

TOTAL SOLID WASTE REVENUES:

Advance Disposal Fees	\$0	\$5,415,000
Special Waste Disposal Fees	\$675,700	\$1,351,400
Application Fee (Bureau of Taxation)	\$0	\$162,500
Income Tax Credit	\$0	(\$499,933)

OTHER AVAILABLE RESOURCES:

Part I Appropriations	\$147,141	\$214,005
Governor's Part II Recommendations	\$884,101	\$0

TOTAL SOLID WASTE RESOURCES:

\$1,706,942	\$6,642,972
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NET FINANCIAL RESOURCES

(\$785,230)	\$2,840,324
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SOLID WASTE MANAGEMENT LEGISLATION

ADVANCE DISPOSAL FEES

Items	Units	Unit Fee	Annual Revenue
Tires	1,070,000	\$1	\$1,070,000
Brown Goods	70,000	\$15	\$1,050,000
White Goods	205,000	\$15	\$3,075,000
Auto Batteries	220,000	\$1	\$220,000
Total Estimated Revenues			\$5,415,000

All special waste

special waste to commercial landfill

SPECIAL WASTE DISPOSAL FEES

Items	Units*	Unit Fee	Annual Revenue	Units**	Annual Revenue
Asbestos	96,768	\$6	\$580,608	72,000	\$432,000
Oil Spill Debris	148,926	\$6	\$893,556	143,000	\$858,000
WWFT Sludge	200,000	\$2	\$400,000	100,000	\$200,000
Ash	57,809	\$6	\$346,854	38,000	\$228,000
Papermill Sludge	900,000	\$6	\$5,400,000	18,000	\$108,000
Industrial Waste	3,413	\$6	\$20,478	3,400	\$20,400
Sandblast Grit	8,808	\$6	\$52,848	8,800	\$52,800
Misc Special Waste	300	\$6	\$1,800	300	\$1,800
Mun Solid Waste Ash	95,500	\$6	\$573,000	95,500	\$573,000
Total Estimated Revenues			\$8,269,144		\$2,474,000

* Based on all Special Waste

** Based on Waste to Commercial Facilities

	1989-90	1990-91
TOTAL SOLID WASTE EXPENDITURES:	(\$2,219,234)	(\$3,802,648)
TOTAL SOLID WASTE REVENUES:		
Advance Disposal Fees	\$0	\$5,415,000
Special Waste Disposal Fees	\$1,237,000	\$2,474,000
Application Fee (Bureau of Taxation)	\$0	\$162,500
Income Tax Credit	\$0	(\$499,933)
OTHER AVAILABLE RESOURCES:		
Part I Appropriations	\$147,141	\$214,005
Governor's Part II Recommendations	\$884,101	\$0
TOTAL SOLID WASTE RESOURCES:	\$2,268,242	\$7,765,572
NET FINANCIAL RESOURCES	\$49,008	\$3,962,924

SOLID WASTE LEGISLATION

EXPENDITURES

1

	1989-90	1990-91	Future Costs/Explanation
MAINE WASTE MANAGEMENT AGENCY:			
Office of the Executive Director:			
Personal Services:			
Executive Director	\$49,880	\$70,278	
Business Manager II	\$25,819	\$37,157	
Administrative Assistant	\$21,891	\$31,875	
Per Diem - Waste Mgmt Adv. Council	\$2,640	\$2,640	
Personal Services - Total	\$100,230	\$141,950	
All Other:			
General Operating Expenses	\$3,000	\$3,000	
Council Expenses	\$4,400	\$4,400	
All Other - Total	\$7,400	\$7,400	
Capital Expenditures:	\$11,780	\$0	
Office - Total	\$119,410	\$149,350	
Office of Planning:			
Personal Services:			
Office Director	\$41,512	\$58,434	
Senior Planner	\$26,938	\$39,601	
Planner II	\$23,656	\$34,494	
Clerk/Typist III	\$15,022	\$21,887	
Personal Services - Total	\$107,128	\$154,416	
All Other:			
General Operating Expenses	\$35,000	\$10,000	
Data Collection/Systems Costs	\$40,000	\$50,000	
All Other - Total	\$75,000	\$60,000	
Capital Expenditures:	\$50,000	\$0	
Office - Total	\$232,128	\$214,416	
Office of Waste Reduction & Recycling:			
Personal Services:			
Office Director	\$41,512	\$58,434	See DECD costs: These funds will be partially offset by deappropriations totaling \$147,141 and \$214,005.
Senior Planner	\$26,938	\$39,601	
Planner II	\$23,656	\$34,494	
Planner II	\$23,656	\$34,494	
Clerk/Typist III	\$15,022	\$21,887	
Personal Services - Total	\$130,784	\$188,910	
All Other:			
General Operating Expenses	\$7,500	\$10,000	
Grants - Feasibility	\$25,000	\$75,000	
Grants - Capital Invest.	\$25,000	\$75,000	
Transportation Subsidy	\$25,000	\$75,000	
All Other - Total	\$82,500	\$235,000	
Capital Expenditures:	\$25,000	\$0	
Office - Total	\$238,284	\$423,910	
Office of Siting and Disposal Operations:			
Personal Services:			
Office Director	\$41,512	\$58,434	
Environmental Specialist IV	\$27,868	\$41,102	
Engineering Technician V	\$27,868	\$41,102	
Clerk/Typist III	\$15,022	\$21,887	
Per Diem - Facility Siting Board	\$1,500	\$2,000	
Personal Services - Total	\$113,770	\$164,525	
All Other:			
General Operating Expenses	\$12,500	\$17,500	
Consulting Services	\$0	\$500,000	For site selection consulting.
Facilities Operations	\$0	\$0	Significant future costs for contracts and payment in lieu of taxes.
All Other - Total	\$12,500	\$517,500	
Capital Expenditures:	\$25,000	\$25,000	
Office - Total	\$151,270	\$707,025	
WASTE MANAGEMENT AGENCY - TOTAL	\$741,092	\$1,494,701	

MAINE WASTE MANAGEMENT AGENCY - TOTAL
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Solid Waste Management - DEP

Positions (10.0)

Personal Services

All Other

Capital Expenditures

Total

OTHER MISCELLANEOUS COSTS

Expanded Bottle Bill

Department of Agriculture

Positions (2.0)

Personal Services

All Other

Capital Expenditures

Department of Agriculture - Total

Bureau of Alcoholic Beverages

Expanded Bottle Bill - Total

Recycling Costs:

Department of Administration (Bureau of Purchases)

Department of Transportation

Other Departments and Agencies

Recycling Costs - Total

Recycling Loan Program - FAME

Capital Reserve Fund:

Revenue Collection Costs:

Bureau of Taxation

Positions 3.0(90) 8.0(91)

Personal Services

All Other

Capital Expenditures

Bureau of Taxation - Total

Siting Requirements - Local Plans

Land Use Regulation Commission

Positions (1.0)

Personal Services

All Other

Capital Expenditures

LURC - Total

General Enforcement

Judicial Department

Attorney General

Positions (1.0)

Personal Services

All Other

Capital Expenditures

Attorney General - Total

TOTAL EXPENDITURES

1989-90	1990-91	Future Costs/Explanation
\$741,082	\$1,494,701	See break-down previous page.
\$743,000	\$757,860	Provides funds for 10 new positions and the transfer of 15 positions from the Environmental Protection Fund (EPF). Also includes reimbursement to the EPF.
\$729,570	\$737,661	
\$48,000	\$48,960	
\$1,520,570	\$1,544,481	
\$28,170	\$40,860	Costs can be reduced if bottle bill extended to liquor only.
\$8,165	\$8,520	
\$770	\$0	
\$35,105	\$49,380	
\$0	\$0	Cost to be offset by price increase.
\$0	\$0	Costs Absorbed.
\$0	\$0	Costs Absorbed.
\$0	\$0	Costs Absorbed.
\$0	\$0	
\$0	\$400,000	
\$0	\$0	Potential Future Costs
\$72,440	\$172,023	Includes \$5,000 in FY91 for Tax Credit.
\$33,000	\$37,050	
\$23,000	\$27,235	
\$128,440	\$236,308	
\$31,028	\$35,008	These costs may not be incurred in the 1990-91 biennium as the siting of a State facility may not for 3 or 4 years.
\$2,500	\$2,500	
\$4,410	\$0	
\$37,938	\$37,508	
\$0	\$0	Costs Absorbed.
\$25,937	\$37,770	Cost of additional attorney.
\$2,500	\$2,500	
\$590	\$0	
\$29,027	\$40,270	
\$2,492,172	\$3,802,648	

SOLID WASTE LEGISLATION EXPENDITURES

	1989-90	1990-91	Future Costs/Explanation
MAINE WASTE MANAGEMENT AGENCY:			
Office of the Executive Director:			
Personal Services:			
Executive Director	\$49,880	\$70,278	
Business Manager II	\$25,819	\$37,157	
Administrative Assistant	\$21,891	\$31,875	
Per Diem - Waste Mgmt Adv. Council	\$2,640	\$2,640	
Personal Services - Total	\$100,230	\$141,950	
All Other:			
General Operating Expenses	\$3,000	\$3,000	
Council Expenses	\$4,400	\$4,400	
All Other - Total	\$7,400	\$7,400	
Capital Expenditures:	\$11,780	\$0	
Office - Total	\$119,410	\$149,350	
Office of Planning:			
Personal Services:			
Office Director	\$41,512	\$58,434	
Senior Planner	\$26,938	\$39,601	
Planner II	\$23,656	\$34,494	
Clerk/Typist III	\$15,022	\$21,887	
Personal Services - Total	\$107,128	\$154,416	
All Other:			
General Operating Expenses	\$35,000	\$10,000	
Data Collection/Systems Costs	\$80,000	\$90,000	
All Other - Total	\$115,000	\$100,000	
Capital Expenditures:	\$50,000	\$0	
Office - Total	\$272,128	\$254,416	
Office of Waste Reduction & Recycling:			
Personal Services:			
Office Director	\$41,512	\$58,434	See DECD costs: These funds will be partially offset by deappropriations totaling \$147,141 and \$214,005.
Senior Planner	\$26,938	\$39,601	
Planner II	\$23,656	\$34,494	
Planner II	\$23,656	\$34,494	
Clerk/Typist III	\$15,022	\$21,887	
Personal Services - Total	\$130,784	\$188,910	
All Other:			
General Operating Expenses	\$7,500	\$10,000	
Grants - Feasibility	\$100,000	\$250,000	
Grants - Capital Invest.	\$0	\$0	\$5 million bond issue. (Tentative)
Transportation Subsidy	\$25,000	\$75,000	
All Other - Total	\$132,500	\$335,000	
Capital Expenditures:	\$25,000	\$0	
Office - Total	\$288,284	\$523,910	
Office of Siting and Disposal Operations:			
Personal Services:			
Office Director	\$41,512	\$58,434	
Environmental Specialist IV	\$27,868	\$41,102	
Engineering Technician V	\$27,868	\$41,102	
Clerk/Typist III	\$15,022	\$21,887	
Per Diem - Facility Siting Board	\$1,500	\$2,000	
Personal Services - Total	\$113,770	\$164,525	
All Other:			
General Operating Expenses	\$12,500	\$17,500	
Consulting Services	\$0	\$500,000	For site selection consulting. Significant future costs for contracts and payment in lieu of taxes.
Facilities Operations	\$0	\$0	
All Other - Total	\$12,500	\$517,500	
Capital Expenditures:	\$25,000	\$25,000	
Office - Total	\$151,270	\$707,025	
MAINE WASTE MANAGEMENT AGENCY - TOTAL	\$831,092	\$1,634,701	

**MAINE WASTE MANAGEMENT AGENCY – TOTAL
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

Solid Waste Management – DEP

Positions (10.0)

Personal Services

All Other

Capital Expenditures

Total

OTHER MISCELLANEOUS COSTS

Expanded Bottle Bill

Department of Agriculture

Positions (2.0)

Personal Services

All Other

Capital Expenditures

Department of Agriculture – Total

Bureau of Alcoholic Beverages

Expanded Bottle Bill – Total

Recycling Costs:

Department of Administration (Bureau of Purchases)

Department of Transportation

Other Departments and Agencies

Recycling Costs – Total

Recycling Loan Program – FAME

Capital Reserve Fund:

Revenue Collection Costs:

Bureau of Taxation

Positions 3.0(90) 8.0(91)

Personal Services

All Other

Capital Expenditures

Bureau of Taxation – Total

Siting Requirements – Local Plans

Land Use Regulation Commission

Positions (1.0)

Personal Services

All Other

Capital Expenditures

LURC – Total

General Enforcement

Judicial Department

Attorney General

Positions (1.0)

Personal Services

All Other

Capital Expenditures

Attorney General – Total

TOTAL EXPENDITURES

1989-90	1990-91	Future Costs/Explanation
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\$0	\$0	Costs Absorbed.
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\$0	\$0	Potential Future Costs
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\$128,440	\$236,308	
\$0	\$0	These costs will not be incurred in the 1990-91 biennium as the siting of a State facility may not for 3 or 4 years.
\$0	\$0	
\$0	\$0	
\$0	\$0	
\$0	\$0	Costs Absorbed.
\$25,937	\$37,770	Cost of additional attorney.
\$2,500	\$2,500	
\$590	\$0	
\$29,027	\$40,270	
\$2,219,234	\$3,905,140	

SOLID WASTE MANAGEMENT LEGISLATION

ADVANCE DISPOSAL FEES

Items	Units	Unit Fee	Annual Revenue
Tires	1,070,000	\$1	\$1,070,000
Brown Goods	70,000	\$15	\$1,050,000
White Goods	205,000	\$15	\$3,075,000
Auto Batteries	220,000	\$1	\$220,000
Total Estimated Revenues			\$5,415,000

SPECIAL WASTE DISPOSAL FEES

Items	Units*	Unit Fee	Annual Revenue	Units**	Annual Revenue
Asbestos	96,768	\$6	\$580,608	72,000	\$432,000
Oil Spill Debris	148,926	\$6	\$893,556	143,000	\$858,000
WWFT Sludge	200,000	\$2	\$400,000	100,000	\$200,000
Ash	57,809	\$6	\$346,854	38,000	\$228,000
Papermill Sludge	900,000	\$6	\$5,400,000	18,000	\$108,000
Industrial Waste	3,413	\$6	\$20,478	3,400	\$20,400
Sandblast Grit	8,808	\$6	\$52,848	8,800	\$52,800
Misc Special Waste	300	\$6	\$1,800	300	\$1,800
Mun Solid Waste Ash	95,500	\$6	\$573,000	95,500	\$573,000
Total Estimated Revenues			\$8,269,144		\$2,474,000

* Based on all Special Waste

** Based on Waste to Commercial Facilities

TOTAL SOLID WASTE EXPENDITURES:

1989-90	1990-91
(\$2,219,234)	(\$3,802,648)

TOTAL SOLID WASTE REVENUES:

Advance Disposal Fees	\$0	\$5,415,000
Special Waste Disposal Fees	\$1,237,000	\$2,474,000
Application Fee (Bureau of Taxation)	\$0	\$162,500
Income Tax Credit	\$0	(\$499,933)

OTHER AVAILABLE RESOURCES:

Part I Appropriations	\$147,141	\$214,005
Governor's Part II Recommendations	\$884,101	\$0

TOTAL SOLID WASTE RESOURCES:

\$2,268,242	\$7,765,572
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NET FINANCIAL RESOURCES

\$49,008	\$3,962,924
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JULY 1986

WDI Requests Brief
Meeting w/ Porter
Planning Board
THEY Presented 800 pg.
application
TOLD WDI To Come
back at Aug. Meeting.

WDI CLAIMS this
meeting Constitutes Town Review

Sept 1986

Porter Planning Bld
Meets
Moratorium in effect
WDI told application
Cannot be reviewed

Aug. 1986

Planning Board
Reviews Application
FINDS 7+ Missing
Items (Including
title to property)
Application Returned
to WDI

End of Aug. 1986

Special town Meeting
Town of Porter votes
in Moratorium ON
LANDFILLS, Exempting
pending applications.
(If WDI application
had been complete
they would have
been exempt)

Oct 1986

STATE Moratorium
Passed
ON LAST Permitted DAY,
WDI Appeals
decision of planning
board, but requests
indefinite continuance
Just before STATE
Moratorium passes,
WDI Files Application
with DEP. (on same day)

March 1987

Porter Town
Meeting
Town Clarifies
Language of
its Land Use
Ordinance

Sept 1987

Town of Porter Passed
Local Licensing Ordin-
ances to Regulate
Landfills.

STATE Moratorium
Lifted

WDI Renews its Request
for an appeal, Challenging
the town's new
Licensing Ordinance
and Land Use Clarification

WDI is now free to
pursue its DEP Application
but application LACKS
Several Items and \$50,000
for intervenor fee.

JAN 1988

Newspapers Reveal that
WDI has struck deal
with Waste Management, Inc.
a MULTI-NATIONAL Company.
with felony convictions in
Several States and Numerous
Environmental VIOLATIONS.

MARCH 1988

Porter Board of appeals hears WDI appeal, and Rules in favor of Porter Planning Board. WDI appeals to Superior Court.

APRIL or MAY 1988

WDI still has not COMPLETED its Application at DEP, so DEP ASKS that they take it back as it is taking up space

Oct 1988

Superior Court hears WDI appeal and finds in favor of Porter (WDI was not treated unfairly by planning board and has to abide by new Licensing Ordinance)

WDI has 30 days to appeal.

They file their appeal in the last hour of the last day

FALL and Winter 1988-1989

Town of Porter Repeatedly calls DEP to find out whether or not WDI has filed. They do not file at DEP, They do not apply for review in Porter (under Land use ordinance) and they do not apply for license under licensing Ordinance.

MAY 1989

Supreme Court hears WDI Appeal.

June 1989

WDI has lobbyist propose amendment to new solid waste legislation to grandfather them, despite the fact that they had 3 years to act.

100TH CONGRESS
2D SESSION

H. R. 5117

To require that plastic ring carrier devices be degradable.

IN THE HOUSE OF REPRESENTATIVES

JULY 28, 1988

Mr. STUDDS introduced the following bill; which was referred jointly to the Committees on Energy and Commerce and Merchant Marine and Fisheries

A BILL

To require that plastic ring carrier devices be degradable.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 SECTION 1. The Congress finds that—

4 (1) plastic ring carrier devices have been found in
5 large quantities in the marine environment;

6 (2) fish and wildlife have been known to have
7 become entangled in plastic ring carriers;

8 (3) non-degradable plastic ring carrier devices can
9 remain intact in the marine environment for decades,
10 posing a threat to fish and wildlife; and

11 (4) sixteen States have enacted laws requiring
12 that plastic ring carrier devices be made from degrad-

4 SEC. 2. As used in this Act, the term—

(1) "regulated item" means any plastic ring carrier device that contains at least one hole greater than 1 $\frac{3}{4}$ inches in diameter which is made, used, or designed for the purpose of packaging, transporting, or carrying multipackaged cans or bottles, and which is of a size, shape, design, or type capable, when discarded, of becoming entangled with fish or wildlife; and

(2) "naturally degradable material" means a material which, when discarded, will be reduced to environmentally benign subunits under the action of normal environmental forces, such as, among others, biological decomposition, photo-degradation, or hydrolysis.

18 SEC. 3. Not later than twenty-four months after the en-
19 actment of this Act (unless the Administrator of the Environ-
20 mental Protection Agency determines that it is not feasible or
21 that the by-products of degradable regulated items present a
22 greater threat to the environment than non-degradable regu-
23 lated items), the Administrator of the Environmental Protec-
24 tion Agency shall require, by regulation, that any regulated
25 item intended for use in the United States shall be made of
26 naturally degradable material which, when discarded, decom-

1 poses within a period established by such regulation. The
2 period within which decomposition must occur after being
3 discarded shall be the shortest period of time consistent with
4 the intended use of the item and the physical integrity re-
5 quired for such use. Such regulation shall allow a reasonable
6 time for affected parties to come into compliance, including
7 the use of existing inventories.

○

DEGRADABLE SIX-PACK RING CARRIERS

SEPTEMBER 22, 1988.—Ordered to be printed

Mr. JONES of North Carolina, from the Committee on Merchant Marine and Fisheries, submitted the following

REPORT

[To accompany H.R. 5117 which on July 28, 1988 was referred jointly to the Committees on Energy and Commerce and Merchant Marine and Fisheries]

[Including cost estimate of the Congressional Budget Office]

The Committee on Merchant Marine and Fisheries, to whom was referred the bill (H.R. 5117) to require that plastic ring carrier devices be degradable, having considered the same, report favorably thereon without amendment and recommend that the bill do pass.

PURPOSE OF THE LEGISLATION

The purpose of this legislation is to reduce the threat to wildlife from entanglement in plastic ring carriers by requiring that they be made of degradable material.

BACKGROUND AND NEED

Plastic debris that finds its way into the marine environment poses a threat to fish and wildlife that ingest it or become entangled in it. One type of plastic debris that wildlife becomes entangled in is the plastic yoke that is used to hold together cans of soda-pop, beer or other canned products.

The Plastic Pollution Research and Control Act (Title II of Public Law 100-220), which implements an international convention prohibiting the disposal of plastic debris from ships, requires the Administrator of the Environmental Protection Agency (EPA) to undertake a study of the adverse effects of the improper disposal of plastic articles in the environment and to identify methods to reduce or eliminate the adverse effects. The Administrator is directed to report to Congress on the results of this study by June 29, 1989. The Administrator of EPA is directed to include in the study a list of specific plastic articles that occur in the environment with

sufficient frequency to cause death or injury to fish or wildlife. The Administrator is also directed to evaluate the feasibility of making these plastic articles from degradable materials. In evaluating that feasibility he must take into account: the risk to human health and the environment that may be presented by fragments of degradable plastic articles; the efficiency and variability of degradation due to differing environmental and biological conditions; and the costs and benefits of using degradable articles, including the duration for which such articles were designed to remain intact.

The report of the House Merchant Marine and Fisheries Committee on H.R. 940 (H. Rept. 100-360, Part 1) specifically notes that degradable six-pack rings should be analyzed to determine whether the remnant pieces of plastic that result from the disintegration are less hazardous to wildlife than the original products. H.R. 940 was subsequently enacted as part of Public Law 100-220.

STATE LEGISLATION

Sixteen states have passed legislation requiring that ring carrier devices be made of degradable materials. They are Alaska, California, Connecticut, Delaware, Florida, Iowa, Maine, Massachusetts, Michigan, Minnesota, New Jersey, New York, Oregon, Rhode Island, Vermont, and Wisconsin.

LEGISLATIVE BACKGROUND

H.R. 5117 was introduced on July 27, 1988, by Mr. Studds. As introduced, it would direct the Environmental Protection Agency to require by regulation that plastic ring carriers be degradable unless EPA makes certain findings.

The Subcommittee on Fisheries and Wildlife Conservation and the Environment held a hearing on July 26, 1988 jointly with the Subcommittee on Transportation, Tourism and Hazardous Materials of the Energy and Commerce Committee on S. 1986, legislation introduced by Senator Chafee and passed by the Senate, which would require that plastic ring carriers be degradable. Testimony was received from representatives of the Environmental Protection Agency; the U.S. Fish and Wildlife Service, the Society of the Plastic Industry, Illinois Tool Works, and the Defenders of Wildlife.

SUBCOMMITTEE ACTION

The Subcommittee on Fisheries and Wildlife Conservation and the Environment met on August 2, 1988 to consider H.R. 5117, adopted it by voice vote, and ordered it reported to the Full Committee.

The Committee on Merchant Marine and Fisheries met on August 4, 1988 to consider H.R. 5117, adopted it by voice vote, and ordered it reported to the House of Representatives.

SECTION-BY-SECTION

Section 1 contains the Congressional findings that plastic ring carriers entangle and pose a threat to fish and wildlife and that sixteen states have enacted laws requiring that these devices be made from degradable materials.

Section 2 defines terms used in the legislation. The types of ring carrier devices affected by this legislation are set forth in the definition of "regulated item". Only plastic ring carriers are included in this definition. It purposely does not include shrink wrap or hard plastic devices used to join together bottled beverages, because there is no evidence that those items entangle wildlife. 

Section 3 directs EPA to require by regulation within two years that plastic ring carriers be made of degradable material, unless EPA determines that the by-products from degradable ring carriers create a greater threat to the environment than non-degradable ring carriers do. As discussed in the background and need section of this report, EPA is required in Public Law 100-200 to study the adverse effects of the improper disposal of plastic articles on wildlife and report to Congress by June 29th, 1989. That law directs the Administrator to evaluate the feasibility of making articles from degradable plastic materials, taking into account the risk to human health and the environment, the properties of the end-products of the degradation of plastic materials, including biotoxicity, potential for bioaccumulation, persistence and fate within the environment under various physical conditions. The study of degradable plastics is also to address the efficiency and variability of degradation due to differing environmental and biological conditions. It is also to address the relative benefits and purposes of the plastic articles identified by the Administrator and their materials of construction, including the duration for which they were designed to remain intact, paying particular attention to the protection of human health technical considerations, and cost considerations. The EPA witness at the Subcommittee hearing noted that the report would be completed on time. If the Administrator determines, in the preparation of the report, that the by-products of degradable ring carriers do not pose a greater threat to wildlife than the non-degradable ring carriers do, the Agency will have over one year to promulgate the regulations required by this Act.

COMPLIANCE WITH CLAUSE 7, RULE XIII

In accordance with paragraph (d) of this clause, the provisions of this clause do not apply where a cost estimate and comparison prepared by the Director of the Congressional Budget Office has been prepared and is included in this report.

INFLATIONARY IMPACT STATEMENT

Pursuant to clause 2(1)(4) of Rule XI of the Rules of the House of Representatives, the Committee estimates that the enactment of H.R. 5117 would have no significant inflationary impact upon prices and cost in the operation of the national economy.

COMPLIANCE WITH CLAUSE 2(1)(3) OF RULE XI

Pursuant to the requirements of clause 2(1)(3) of Rule XI of the Rules of the House of Representatives:

(A) One hearing was held (July 26, 1988) on this legislation by the Subcommittee on Fisheries and Wildlife Conservation and the Environment.

(B) The requirements of section 308(a) of the Congressional Budget Act of 1974 are not applicable to this legislation.

(C) The Committee on Merchant Marine and Fisheries has received no report from the Committee on Government Operations of oversight findings and recommendations arrived at pursuant to clause 4(c)(2) of Rule X of the Rules of the House of Representatives.

(D) The Director of the Congressional Budget Office has furnished the Committee with an estimate and comparison of cost of H.R. 5117 pursuant to section 403 of the Congressional Budget Act of 1974.

The submission is as follows:

CONGRESSIONAL BUDGET OFFICE,
U.S. CONGRESS,
Washington, DC, August 16, 1988.

Hon. WALTER B. JONES,
Chairman, Committee on Merchant Marine and Fisheries, U.S.
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has reviewed H.R. 5117, a bill to require that plastic ring carrier devices be degradable, as ordered reported by the House Committee on Merchant Marine and Fisheries, August 4, 1988. Enactment of this bill would cost the federal government approximately \$900,000 over fiscal years 1989 and 1990 to promulgate regulations for plastic ring carriers, assuming that such regulations are found to be feasible and that the necessary funds are appropriated.

H.R. 5117 would direct the Environmental Protection Agency to require (if feasible and safe) the use of naturally degradable materials in the manufacture of items such as plastic ring carriers. In order to promulgate the necessary regulations, the agency would spend about \$200,000 in fiscal year 1989 and about \$700,000 in 1990, assuming that the results of studies now in progress indicate that the use of degradable materials is feasible and not harmful.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Deborah Reis, who can be reached at 226-2860.

Sincerely,

JAMES L. BLUM, *Acting Director.*

CONGRESSIONAL BUDGET OFFICE ESTIMATE

DEPARTMENTAL REPORTS

The Committee received no departmental reports on this legislation.

CHANGES IN EXISTING LAW

This legislation makes no changes in existing law.

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PLASTIC RING CARRIER DEVICES

OCTOBER 4, 1988.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. DINGELL, from the Committee on Energy and Commerce, submitted the following

REPORT

[To accompany H.R. 5117 which on July 28, 1988, was referred jointly to the Committee on Energy and Commerce and the Committee on Merchant Marine and Fisheries]

[Including cost estimate of the Congressional Budget Office]

The Committee on Energy and Commerce, to whom was referred the bill (H.R. 5117) to require that plastic ring carrier devices be degradable, having considered the same, report favorably thereon without amendment and recommend that the bill do pass.

PURPOSE AND SUMMARY

The purpose of this legislation is to reduce the threat to marine wildlife posed by entanglement in plastic ring carriers by requiring that they be made of degradable material. The legislation directs the U.S. Environmental Protection Agency (EPA) to require by regulation that plastic ring carriers be made of naturally degradable material so that, when discarded, they will decompose within a reasonable period of time.

BACKGROUND AND NEED FOR THE LEGISLATION

There is increasing evidence that the plastic debris that finds its way into the marine environment poses a threat to fish and wildlife that ingest it or become entangled in it. One specific plastic item that entangles various forms of wildlife is the plastic yoke that is used by beverage and other manufacturers to hold together bottles or cans of soft drinks, beer and other products. These ring carriers have been found around the necks of dead seals, sea lions, birds, and other animals. Some of the species that have been killed by the plastic rings, such as the northern fur seal, belong to deplet-

ed populations. Requiring the degradability of these plastic ring carriers is one way to reduce the threat they pose to marine wildlife.

In 1987, Congress passed the Plastic Pollution Research and Control Act (Title II of Public Law 100-220), which implements an international convention prohibiting the disposal of plastic debris from ships and requires the EPA to undertake a study of the adverse effects of improper disposal of plastic articles on the environment.

In the study required by that Act, EPA is to identify methods to reduce or eliminate the adverse effects of improper disposal of such articles, compile a list of specific plastic articles that occur in the environment with sufficient frequency to cause death to fish or wildlife, and specifically evaluate the feasibility of making these plastic articles from degradable materials. In evaluating the feasibility of requiring degradable plastics EPA must take into account: the risk to human health and the environment that may be presented by fragments of degradable plastic articles, the efficiency and variability of degradation due to differing environmental and biological conditions, and the costs and benefits of using degradable articles, including the duration for which such articles were designed to remain intact.

The report of the House Merchant Marine and Fisheries Committee on H.R. 940 (H. Rept. 100-360, Part 1) specifically notes that degradable six-pack rings should be analyzed to determine whether the remnant pieces of plastic that result from the disintegration are less hazardous to wildlife than the original products. H.R. 940 was subsequently enacted as part of Public Law 100-220. The Committee intends that EPA use the results of this analysis in preparing the regulations required by this legislation.

Sixteen States have already passed legislation requiring that ring carriers be made of degradable materials. They are Alaska, California, Connecticut, Delaware, Florida, Iowa, Maine, Massachusetts, Michigan, Minnesota, New Jersey, New York, Oregon, Rhode Island, Vermont, and Wisconsin.

The Committee endorses this legislation as a measure that addresses a specific marine wildlife concern and a specific type of plastic beverage packaging. The Committee expects EPA, as part of the study required by Public Law 100-220, to study and report specifically on (1) the impact of all types of plastic beverage packaging or other plastic devices used for the transporting or carrying of multipackaged cans or bottles on fish and wildlife habitat and human health or safety, and (2) the feasibility, cost, and benefits of making such packaging or devices degradable.

The legislation is not intended to address the larger question of the degradability of plastic materials in the solid waste stream. As to this larger issue, the Committee plans to await the results of the EPA study on plastics mentioned above and address this question in the context of reauthorizing the Resource Conservation and Recovery Act in the next Congress.

HEARINGS

The Committee's Subcommittee on Transportation, Tourism, and Hazardous Materials held a hearing on July 26, 1988, on S. 1986, legislation introduced by Senator Chafee and passed by the Senate, which would require that plastic ring carriers be degradable. Testimony was received from representatives of the Environmental Protection Agency, the U.S. Fish and Wildlife Service, the Society of the Plastics Industry, Illinois Tool Works, and the Defenders of Wildlife.

COMMITTEE CONSIDERATION

On September 16, 1988, the Subcommittee on Transportation, Tourism, and Hazardous Materials met in open session and ordered reported the bill H.R. 5117 without amendment, by voice vote, a quorum being present. On September 28, 1988, the Committee met in open session and ordered reported the bill H.R. 5117 without amendment by voice vote, a quorum being present.

COMMITTEE OVERSIGHT FINDINGS

Pursuant to clause 2(l)(3)(A) of rule XI of the Rules of the House of Representatives, no oversight findings or recommendations have been made by the Committee.

COMMITTEE ON GOVERNMENT OPERATIONS

Pursuant to clause 2(l)(3)(D) of rule XI of the Rules of the House of Representatives, no oversight findings have been submitted to the Committee by the Committee on Government Operations.

COMMITTEE COST ESTIMATE

In compliance with clause 7(a) of rule XIII of the Rules of the House of Representatives, the Committee concurs with the Congressional Budget Office estimate that the bill will cost the federal government approximately \$900,000 for fiscal years 1989 and 1990.

CONGRESSIONAL BUDGET OFFICE ESTIMATE

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, September 29, 1988.

Hon JOHN D. DINGELL,
*Chairman, Committee on Energy and Commerce,
House of Representatives, Washington, DC.*

DEAR MR. CHAIRMAN: The Congressional Budget Office has reviewed H.R. 5117, a bill to require that plastic ring carrier devices be degradable, as ordered reported by the House Committee on Energy and Commerce, September 23, 1988. Enactment of this bill would cost the federal government approximately \$900,000 over fiscal years 1989 and 1990 to promulgate regulations for plastic ring carriers, assuming that such regulations are found to be feasible and that the necessary funds are appropriated.

H.R. 5117 would direct the Environmental Protection Agency to require (if feasible and safe) the use of naturally degradable materials in the manufacture of items such as plastic ring carriers. In

order to promulgate the necessary regulations, the agency would spend about \$200,000 in fiscal year 1989 and about \$700,000 in 1990, assuming that the results of studies now in progress indicate that the use of degradable materials is feasible and not harmful.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Deborah Reis, who can be reached at 226-2860.

Sincerely,

JAMES L. BLUM,
Acting Director.

INFLATIONARY IMPACT STATEMENT

Pursuant to clause 2(l)(4) of rule XI of the Rules of the House of Representatives, the Committee makes the following statement with regard to the inflationary impact of the reported bill: the reported bill will have no significant inflationary impact upon prices and cost in the operation of the national economy.

SECTION-BY-SECTION ANALYSIS

Section 1 contains the Congressional findings that plastic ring carriers entangle and pose a threat to fish and wildlife and that sixteen States have enacted laws requiring that these devices be made from degradable materials.

Section 2 defines the terms used in the legislation. The types of ring carrier devices affected by this legislation are set forth in the definition of "regulated item." Only plastic ring carriers are included in this definition.

Section 3 directs EPA to require by regulation within two years that plastic ring carriers be made of degradable material, unless EPA determines that the by-products from degradable ring carriers create a greater threat to the environment than non-degradable ring carriers do. As discussed in the background and need section of this report, EPA is required in Public Law 100-220 to study the adverse effects of the improper disposal of plastic articles on wildlife and report to Congress by June 29th, 1989. That law directs EPA to evaluate the feasibility of making articles from degradable plastic materials, taking into account the risk to human health and the environment, the properties of the end-products of the degradation of plastic materials, including biotoxicity, potential for bioaccumulation, persistence and fate within the environment under various physical conditions.

The study of degradable plastics is also to address the efficiency and variability of degradation due to differing environmental and biological conditions. It is also to address the relative benefits and purposes of the plastic articles identified by EPA and their materials of construction, including the duration for which they were designed to remain intact, paying particular attention to the protection of human health technical considerations and cost considerations. The EPA witness at the Subcommittee hearing noted that the report would be completed on time. If EPA determines, in the preparation of the report, that the by-products of degradable ring carriers do not pose a greater threat to wildlife than the non-de-

gradable ring carriers do, the Agency will have one year to promulgate the regulations required by this Act.

Finally, the Committee expects EPA as part of this study to review and report specifically on the impact of all types of plastic beverage packaging on fish and wildlife, as well as human health and safety, and the feasibility, cost, and benefits of making such packaging degradable.

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sibility to protect the interests of the Government. I do feel that a commercial expendable launch vehicle industry can survive in this country and further that it would be most unwise not to take steps to permit this industry to develop. It is in our national interest, both economic and security, to have a healthy expendable launch vehicle industry and this bill is one mechanism that will permit that to occur.

The PRESIDING OFFICER. The question is on agreeing to the substitute amendment, as amended.

The substitute amendment, as amended, was agreed to.

The amendments were ordered to be engrossed and the bill to be read a third time.

The bill was read the third time and passed.

Mr. BYRD. Mr. President, I move to reconsider the vote by which the bill was passed, and I move to lay that motion on the table.

The motion to lay on the table was agreed to.

PROTECTION OF AQUATIC ENVIRONMENTS FROM PLASTIC MATERIALS

Mr. BYRD. Mr. President, I ask that the Chair lay before the Senate a message from the House of Representatives on S. 1986.

The PRESIDING OFFICER laid before the Senate the following message from the House of Representatives:

Resolved, That the bill from the Senate (S. 1986) entitled "An act to study, control, and reduce the pollution of aquatic environments from plastic materials, and for other purposes", do pass with the following amendments:

Strike out all after the enacting clause, and insert:

TITLE I—DEGRADABLE PLASTIC RING CARRIERS

SEC. 101. FINDINGS.

The Congress finds that—

(1) plastic ring carrier devices have been found in large quantities in the marine environment;

(2) fish and wildlife have been known to have become entangled in plastic ring carriers;

(3) nondegradable plastic ring carrier devices can remain intact in the marine environment for decades, posing a threat to fish and wildlife; and

(4) 16 States have enacted laws requiring that plastic ring carrier devices be made from degradable material in order to reduce litter and to protect fish and wildlife.

SEC. 102. DEFINITIONS.

As used in this title—

(1) the term "regulated item" means any plastic ring carrier device that contains at least one hole greater than 1 1/4 inches in diameter which is made, used, or designed for the purpose of packaging, transporting, or carrying multipackaged cans or bottles, and which is of a size, shape, design, or type capable, when discarded, of becoming entangled with fish or wildlife; and

(2) the term "naturally degradable material" means a material which, when discarded, will be reduced to environmentally benign subunits under the action of normal environmental forces, such as, among others, biological decomposition, photo-degradation, or hydrolysis.

ological decomposition, photo-degradation, or hydrolysis.

SEC. 103. REGULATION.

Not later than 24 months after the date of the enactment of this title (unless the Administrator of the Environmental Protection Agency determines that it is not feasible or that the byproducts of degradable regulated items present a greater threat to the environment than nondegradable regulated items), the Administrator of the Environmental Protection Agency shall require, by regulation, that any regulated item intended for use in the United States shall be made of naturally degradable material which, when discarded, decomposes within a period established by such regulation. The period within which decomposition must occur after being discarded shall be the shortest period of time consistent with the intended use of the item and the physical integrity required for such use. Such regulation shall allow a reasonable time for affected parties to come into compliance, including the use of existing inventories.

TITLE II—SAN FRANCISCO BAY NATIONAL WILDLIFE REFUGE

SEC. 201. ENLARGEMENT OF REFUGE.

Section 2 of the Act entitled "An Act to provide for the establishment of the San Francisco Bay National Wildlife Refuge", approved June 30, 1972 (16 U.S.C. 668dd note), is amended to read as follows:

"Sec. 2. There shall be included within the boundaries of the refuge the following:

"(1) Those lands, marshes, tidal flats, salt ponds, submerged lands, and open waters in the south San Francisco Bay area generally depicted on the map entitled "Boundary Map, Proposed San Francisco Bay National Wildlife Refuge", dated July 1971, and which comprise approximately twenty-one thousand six hundred and sixty-two acres within four distinct units to be known as Fremont (five thousand five hundred and twenty acres), Mowry Slough (seven thousand one hundred and seventy-five acres), Alviso (three thousand and eighty acres), and Greco Island (five thousand eight hundred and eighty seven acres). Said boundary map shall be on file and available for public inspection in the offices of the United States Fish and Wildlife Service, Department of the Interior.

"(2) Up to 20,000 acres in the vicinity of the areas described in paragraph (1), and similar to the areas described in paragraph (1), which the Secretary determines are necessary to protect fish and wildlife resources."

SEC. 202. TOTAL AREA OF REFUGE.

Subsection (a) of section 3 of such Act is amended in the second sentence by striking "twenty-three thousand acres" and inserting "43,000 acres".

SEC. 203. AUTHORIZATION OF APPROPRIATIONS.

Section 5 of such Act is amended—

(1) by inserting "(a)" before "There"; and

(2) by adding at the end the following new subsection:

"(b) There are authorized to be appropriated to the Secretary to acquire areas described in section 2(2) such sums as may be necessary, which shall remain available until expended."

Amend the title of the bill so as to read: "A bill to require that plastic ring carrier devices be degradable, and for other purposes."

Mr. MITCHELL. Mr. President, the establishment of the San Francisco Bay National Wildlife Refuge in 1972 represented an important step in preserving the fish and wildlife resources

in south San Francisco Bay, which is a major metropolitan area.

However, the development pressures in the vicinity of the refuge continue to increase, threatening valuable wildlife habitat, as well as areas that have served to buffer the human impacts on the wildlife resources within the refuge.

To address these threats, S. 1986 authorizes acquisition of up to 20,000 additional acres of lands and waters, which will nearly double the size of the San Francisco Bay National Wildlife Refuge.

Because it is important that we move quickly to enable these habitats and buffer areas to be protected, I and other members of the Committee on Environment and Public Works have agreed to the expeditious consideration of this bill without the normal process of review by the committee. I would, however, as chairman of the Committee's Subcommittee on Environmental Protection, offer the following section-by-section analysis of title II of S. 1986 in lieu of a report by the committee:

SECTION 201. ENLARGEMENT OF REFUGE

Section 201 directs that up to 20,000 additional acres of lands, marshes, tidal flats, salt ponds, submerged lands, and open waters in the south San Francisco Bay, which the Secretary determines are necessary to protect fish and wildlife resources, shall be included within the boundaries of San Francisco Bay National Wildlife Refuge.

The added lands and waters need not be adjacent to existing refuge holdings, but it is expected that they will be within a reasonable distance of such areas to facilitate management.

As introduced, the House and Senate bills to expand the refuge, H.R. 4272 and S. 2710, respectively, referred to a proposed map entitled "San Francisco Bay National Wildlife Refuge Additions—Proposed," dated March 1988, depicting lands and waters for inclusion in San Francisco Bay Wildlife Refuge. This reference is no longer included in section 201 of S. 1986. However, the lack of any reference to the March 1988 map in this legislation should not be interpreted as an expression of opposition either to the acquisition of any of the lands and waters depicted on that map, or to the preparation by the U.S. Fish and Wildlife Service of a map depicting those or other proposed additions of lands and waters to the refuge.

Under this legislation, the U.S. Fish and Wildlife Service should, one initiate an environmental review process to determine which uplands, marshes, tidal flats, salt ponds, submerged lands, and open water should be added to the refuge; two, prepare a map depicting proposed refuge additions; and three acquire properties for inclusion in the expanded refuge authorized under this bill.

The substantial destruction of tidal wetland habitat in the bay area provided much of the impetus for the passage of legislation to establish the refuge in 1972. However, it is not recognized that the loss of tidal wetlands has been overshadowed by the elimination of valuable seasonal marshes and other seasonal wetlands.

Consequently, the Service's environmental review should include careful consideration of the value of seasonal wetlands, and the rate at which they are disappearing. In setting its land acquisition priorities, the Service should consider the immediacy of development pressures on lands that will serve to buffer human impacts on fish and wildlife resources. The constraints provided by existing law, such as section 404 of the Clean Water Act, on the development of wetlands also should be considered, and the Service should determine whether the wildlife resources of those lands currently are threatened or are likely to become threatened in the foreseeable future.

Land and waters that are not currently being used, or are unlikely to be used in the foreseeable future, in a manner that is detrimental to the fish and wildlife resources of the refuge should be given lower priority for acquisition than other lands and waters whose use or development pose greater threats to these resources.

SECTION 202. TOTAL AREA OF REFUGE

Section 202 amends section 3 of the act establishing the San Francisco Bay National Wildlife Refuge to increase the total allowable area with the refuge's boundaries from 23,000 acres to 43,000 acres of land, marshes, tidal flats, salt ponds, submerged lands, and open waters.

SECTION 203. AUTHORIZATION OF APPROPRIATIONS

Section 203 of S. 1986 authorizes appropriation of such sums as may be necessary to the Secretary of the Interior, which are to remain available until expended, to acquire up to 20,000 acres of land, marshes, tidal flats, salt ponds, submerged lands, and open waters needed to protect fish and wildlife resources.

Finally, Mr. President, I want to extend my thanks to Senator CRANSTON and Representative EDWARDS for developing this important legislation. Their efforts have made it possible for us to act today to protect the fish and wildlife resources of San Francisco Bay.

Mr. CHAFEE. Mr. President, I am extremely pleased that today we have passed legislation which I authored 2 years ago, the Plastic Pollution Control Act of 1988, S. 1986. This legislation will help us reduce the amount of plastic waste that is literally choking our marine wildlife and fouling our coastal areas. Although there is much more to be done to reduce and eliminate plastic waste, the passage of this bill represents an important step in the right direction.

Plastic has become an integral part of life, and it is rare that we survey our surroundings without finding plastic items in use. Over the last 40 years plastic production has shown a hundredfold increase in the marketplace. In the past year, over 50 billion pounds of plastic were used to make a variety of products, products that we use daily and then discard. And the growth of plastics is expected to continue.

There is no denying that plastics are a valuable and essential part of our day-to-day lives. It is tough, reliable, and durable, and it lasts literally for decades, or even centuries. But while these attributes are ideal for industrial and social needs, they are lethal for the marine environment and its inhabitants.

Mr. President, it is well-documented that plastic debris kills thousands of birds, seals, turtles, sea lions, and fish each year. Discarded six-pack holders, packing bands, and fishing nets choke and entangle wildlife. Findings indicate that plastic products are responsible for the death of up to 90,000 northern fur seals and 1 to 2 million birds. Such events have prompted a growing concern among scientists, conservationists, and citizens about discarded plastic.

Across the country, local beach cleanup efforts have resulted in the collection of tons and tons of debris. Last year, 14 Rhode Island community beach cleanups netted over 10,000 pounds of waste. And in addition to the environmental harm it causes, this debris ruins the aesthetic quality of our beaches. It is difficult to enjoy and appreciate our beautiful natural coastal and open areas if they are littered with plastics. And again, plastics are forever.

My legislation will help combat this problem by requiring that six-pack holders be made from degradable materials. Such holders are made from photo-degradable materials that, when exposed to sunlight, become brittle and break down into microscopic pieces. Industry has already indicated it can meet the demand nationwide for such holders. Since the technology exists, and is already in use in several States—including my own—it is no longer necessary to see six-pack holders littering our beaches and parks and entangling birds and sea-lions.

Under the legislation, the Administrator of the Environmental Protection Agency will be given 24 months to issue a regulation, and will allow a reasonable time for affected parties to come into compliance, with an allowance for use of existing inventory stock.

Furthermore, I expect the EPA, as part of the study called for by section 2202 of Public Law 100-220, to study and report specifically on the impact of all types of plastic beverage packaging or other plastic devices used to transport cans or bottles on fish and wildlife habitat, as well as on human

health and safety. Secondly, I expect the EPA to analyze the feasibility, cost, and benefits, of making such packaging or devices degradable.

I realize that plastic six-pack holders represent only a small part of the overall amount of plastic in the solid-waste stream. However, the passage of the bill sends a strong and important message: degradability is a viable option, and can play a vital role in solving the plastic waste problem.

I applaud my colleagues for their support to this much-needed legislation.

Mr. WILSON. Mr. President, I would like to add my voice in support of this legislation which includes language to authorize the expansion of the San Francisco Bay Wildlife Refuge.

Bay area wildlife habitat has slowly been destroyed over the last century as the sprawling San Francisco metropolitan area has continued to grow. Before the few remaining wetlands that are left are sacrificed in the name of growth, we need to take action to preserve some of what remains. Land acquisition of the sort that is called for in this bill is the only way to ensure that this sensitive habitat will be protected for tomorrow's wildlife and tomorrow's visitors.

Over the last few years, California has had more than its share of problems with wildlife refuges. In particular, the Kesterson Wildlife Refuge that lies just over the inland hills from San Francisco has been virtually killed by selenium poisoning. It is sad but true that this poisoning has affected hundreds of birds and other animals at this refuge.

I do not propose that what we are doing today will make up for this tragedy, but it is a good start. Like the Kesterson Refuge, the San Francisco Refuge that is being expanded by this bill is a key stopping point for waterfowl in the Pacific Flyway. It is home to a wide variety of endangered and threatened species. The doubling of its size by up to 40,000 acres will appreciably enhance its wildlife habitat environment.

Mr. President, another thing that I like about this bill is precisely the fact that it authorizes a refuge enlargement in a major metropolitan area. I have long been a supporter of making wildlife experiences available to urban dwellers. As much as I support the creation of national parks and wilderness areas in the Sierra Nevadas and elsewhere, I am acutely aware that these outdoor experiences are not easily accessible to the average city resident.

Enlarging the San Francisco Wildlife Refuge will add to the open space opportunities available to the people of the bay area. Combining this benefit with the knowledge that we are improving a very valuable wetland habitat makes for a very worthwhile bill.

I commend all parties that have been involved in making this bill possible. The refuge area landowners have

been especially helpful in crafting a bill that I think we can justifiably be proud of. I can only hope that we will receive similar cooperation and understanding from all sides when we tackle other controversial land management issues in California in the years to come.

Mr. BOSCHWITZ. Mr. President, I would like to clarify one point on this legislation with Senator CRANSTON, who was the Senate sponsor of the bill enlarging the San Francisco Bay Wildlife Refuge.

Mr. CRANSTON. I would be happy to respond to the Senator from Minnesota.

Mr. BOSCHWITZ. It is my understanding that a map that was drafted as part of H.R. 4272 as it was originally introduced has now been dropped from this bill. Is that correct?

Mr. CRANSTON. Yes, that map is no longer associated with this legislation.

Mr. BOSCHWITZ. So the Fish and Wildlife Service must conduct a full environmental review and other procedural requirements as it moves to acquire properties for inclusion in the expanded refuge authorized under this legislation.

Mr. CRANSTON. That is correct.

Mr. BOSCHWITZ. I thank the Senator for his response, and for his work on this legislation.

Mr. CRANSTON. I thank the Senator.

Mr. BYRD. Mr. President, I ask unanimous consent that the Senate concur in the House amendments and that the motion to reconsider be laid on the table.

The PRESIDING OFFICER. Without objection, it is so ordered.

SAFE DRINKING WATER

Mr. BYRD. Mr. President, I ask unanimous consent that the Committee on Environment and Public Works be discharged from further consideration of H.R. 4939 and the Senate proceed to its immediate consideration.

The PRESIDING OFFICER. Without objection, it is so ordered.

The bill will be stated by title.

The assistant legislative clerk read as follows:

A bill (H.R. 4939) to amend the Safe Drinking Water Act to control lead in drinking water.

The PRESIDING OFFICER. Is there objection to the immediate consideration of the bill?

There being no objection, the Senate proceeded to consider the bill.

The PRESIDING OFFICER. The bill is before the Senate and open to amendment. If there be no amendment to be offered, the question is on the third reading and passage of the bill.

The bill (H.R. 4939) was ordered to a third reading, was read the third time, and passed.

Mr. BYRD. Mr. President, I move to reconsider the vote by which the bill was passed.

Mr. ARMSTRONG. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

CORRECTING ERRORS IN ENROLLMENT OF H.R. 4612

Mr. BYRD. Mr. President, on behalf of Senators HEFLIN and GRASSLEY I send to the desk a concurrent resolution correcting the enrollment of H.R. 4612 and ask for its immediate consideration.

The PRESIDING OFFICER. The clerk will state the resolution by title.

The legislative clerk read as follows:

A concurrent resolution (H. Con. Res. 164) to correct errors in the enrollment of the bill H.R. 4612.

The PRESIDING OFFICER. Is there objection to the immediate consideration of the concurrent resolution?

There being no objection, the Senate proceeded to consider the concurrent resolution.

Mr. HEFLIN. Mr. President, section 9 was added to H.R. 4612 to provide that the same protections enjoyed by other Federal employees under the bill should also be enjoyed by TVA employees. Although most of the bill was in the form of amendments to the Federal Tort Claims Act, the TVA provision was intended to be in the form of free-standing legislation, since TVA does not come under the Federal Tort Claims Act. This intent was carried out in subsections (a) and (b) of section 9. Unfortunately, due to a drafting error, the provisions of subsection (c) are cast in the form of an amendment to the Federal Tort Claims Act. This would render the provisions of subsection (c) meaningless, since: One, the FTCA does not apply to TVA and two, the phrase "with respect to any claim to which this section—that is, section 2674 of the FTCA—applies" could not apply to any claim against TVA. Therefore, I appreciate my colleagues' attention to the swift passage of this correction.

The PRESIDING OFFICER. The question is on agreeing to the concurrent resolution.

The concurrent resolution was agreed to, as follows:

Resolved by the Senate (the House of Representatives concurring), That in the enrollment of the bill (H.R. 4612), the Clerk of the House of Representatives shall make the following corrections:

(1) In section 9(c) of the bill, strike the words "Section 2674 of title 28, United States Code, is amended by adding at the end thereof the following new paragraph:"; and

(2) In section 9(c) of the bill, as corrected, strike the quotation marks and the words "under this chapter".

Mr. BYRD. Mr. President, I move to reconsider the vote by which the concurrent resolution was agreed to.

Mr. ARMSTRONG. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

AUTHORITY FOR ACTION TO BE TAKEN DURING ADJOURNMENT

Mr. BYRD. Mr. President, I ask unanimous consent that notwithstanding any recess or adjournment of the Senate the President of the Senate be authorized to receive any messages required to be transmitted to the Senate pursuant to Public Law 99-177 and Public Law 100-119.

The PRESIDING OFFICER. Without objection, it is so ordered.

AUTHORITY TO SIGN BILLS AND RESOLUTIONS

Mr. BYRD. Mr. President, I ask unanimous consent that the majority leader be authorized to sign all duly enrolled bills and resolutions following the adjournment sine die.

The PRESIDING OFFICER. Without objection, it is so ordered.

FEDERAL EMPLOYEES HEALTH BENEFITS PROGRAM

Mr. BYRD. Mr. President, I ask unanimous consent that the Committee on Governmental Affairs be discharged from further consideration of H.R. 5102 and that the Senate proceed to its immediate consideration.

The PRESIDING OFFICER. Without objection, it is so ordered.

The bill will be stated by title.

The legislative clerk read as follows:

A bill (H.R. 5102) To amend the provisions of title 5, United States Code, relating to the health benefits program for Federal employees and certain other individuals.

The PRESIDING OFFICER. Is there objection to the immediate consideration of the bill?

There being no objection, the Senate proceeded to consider the bill.

AMENDMENT NO. 3712

(Purpose: To provide that temporary Federal employees may elect coverage of health insurance under chapter 89 of title 5, United States Code)

Mr. BYRD. Mr. President, I send an amendment to the desk on behalf of Mr. PRYOR and ask for its immediate consideration.

The PRESIDING OFFICER. The amendment will be stated.

The legislative clerk read as follows:

The Senator from West Virginia [Mr. BYRD], for Mr. PRYOR, proposes an amendment numbered 3712.

Mr. BYRD. Mr. President, I ask unanimous consent that the reading of the amendment be dispensed with.

The PRESIDING OFFICER. Without objection, it is so ordered.

The amendment is as follows:

At the end of the bill, add the following new title: