

PERPETUAL CARE FOR WASTE MANAGEMENT FACILITIES

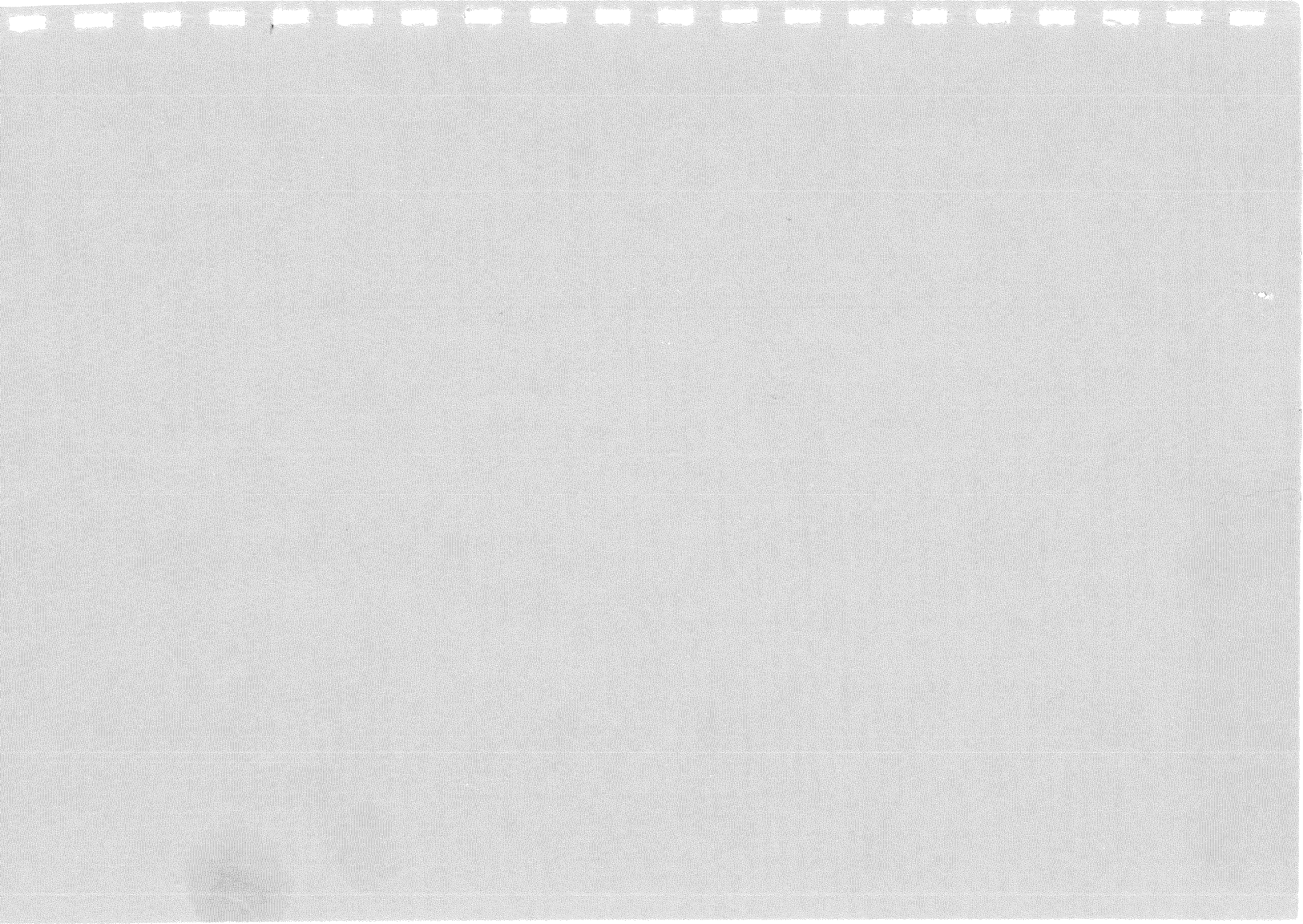
INTERIM REPORT

August 1979



Ministry
of the
Environment

STORAGE:
MINISTRY OF THE ENVIRONMENT,
Perpetual care for waste
management facilities: interim
report. ... 9N5829



PERPETUAL CARE FOR WASTE MANAGEMENT FACILITIES

INTERIM REPORT

Summary and interim conclusions and recommendations

1. A Perpetual Care Task Force was set up within the Ministry in early 1979 arising out of the Minister's seven-point program on liquid and hazardous waste.
2. The basic premise of the Terms of Reference of the Task Force was that an assured source of funding, and authority to make prompt use of this funding, were necessary both during the lifetime of a waste disposal site, and in the long term after its closure.
3. The Task Force has concluded that measures are required in three major sectors:
 - 1) Operational: - during operation and closure, and for subsequent monitoring and maintenance;
 - 2) Liability Insurance: - to provide off-site protection for third parties during this period; and
 - 3) Perpetual Care - to provide long-term maintenance and protection, and for any contingencies not covered by other measures.
4. It is noted that precedents have already been set in existing or proposed legislation, and that operational funding has been required by the Director of

Approvals as a condition of Certificates of Approval. However, new legislative authority will be necessary to provide the protection considered necessary by the Task Force.

5. All funding provisions should be applicable to municipal solid waste disposal as well as liquid industrial and hazardous waste facilities.

6. The government administered perpetual care fund should be limited as far as possible to long-term protection and emergency use, with provision to recover expenditures where appropriate. Site operators should be directly responsible, through operational funding and liability insurance, for all obligations during the life of the site and for a subsequent specified period.

7. The principal characteristics of each funding sector are discussed and the necessary authority to be provided by legislation outlined.

8. Details of both operational and perpetual care funding requirements are largely dependent on the availability of liability insurance, the maximum amount payable on the policy, and the premiums to be paid. The Task Force has arranged for the necessary information to be obtained for two sample sites, one for solid municipal, and one for liquid industrial waste.

PERPETUAL CARE FOR WASTE MANAGEMENT FACILITIES

INTERIM REPORT

Preamble

The Minister's seven-point program to deal with liquid and hazardous industrial wastes referred to the need for "perpetual care" for disposal facilities. Arising out of this, a Ministry Task Force was set up early in 1979 to investigate the need for such a program and to prepare a report, with recommendations on the measures required and their means of implementation.

Members of the Task Force were drawn from the Waste Management Branch, the Environmental Approvals Branch, the Legal Branch, and the Central Regional Office of the Ministry.

The terms of reference of the Task Force are attached as Appendix 1. The basic premise of the terms of reference was that in order to fully protect the environment, the individual, and those sectors of public and private enterprise who are involved in waste management, an assured source of funding, and authority to make prompt use of this funding if necessary, is required both during the lifetime of a waste disposal site or a waste management facility and in the long term, after site closure.

General Background

In the opinion of the Task Force, the requirements imposed under the Environmental Protection Act on the location and operation of a landfill disposal site

and other waste management facilities, both for solid and liquid wastes, will generally ensure that public health and safety concerns are met, and that minimal off-site contamination results.

However, prior to 1971, essentially no controls were exercised over the disposal of waste, and even after the introduction of the Waste Management Act, several years were required to build up and organise an effective system to implement the legislative controls.

Apart from this, the technology of waste management is comparatively new, and the past decade has seen very rapid progress in our knowledge of the problems and of the technology needed to solve these problems.

From this, two conclusions can be drawn:

First, a large number of disposal sites were established, and in many cases closed down and forgotten before controls and proper records were required. Some of these may require action to prevent, or remedy, problems of gas or leachate production. However, it will be difficult to pin down responsibility and even more difficult to obtain remedial action, or compensation for any damages that may occur.

Second, the "state of the art" is unlikely to have reached as yet its final form. Consequently, despite the most sophisticated precautions, problems could still arise due either to inadequate operation, unforeseen contingencies, or to accidents, both during the lifetime of the site and in the long term, perhaps many years after the site has ceased to be used.

Although no serious hazards resulting from leachate have been identified, in Ontario, in a number of instances contamination of ground or surface waters has occurred. Gas production has, up to the present, been a more serious problem, and methane gas moving laterally beyond the boundaries of landfill disposal sites has been measured in explosive quantities on adjacent property. Explosions have in fact occurred in several instances.

There is no doubt that a potential problem does exist, though it appears unlikely that incidents such as a "Love Canal" will be uncovered in Ontario.

Methods of identifying potential problem areas, and the development of any remedial measures necessary, are already being dealt with by the Ministry. The purpose of this Task Force is essentially to recommend measures which will ensure that adequate funds are available for the proper operation and closure of disposal sites, for any remedial measures necessary, and to provide compensation for any damage that may be incurred even if the legal responsibility is not clear.

Funding Sectors

The Task Force has concluded that measures are required in three major sectors with differing characteristics:

- 1) To ensure that funding is available for use during the operation and closure of a disposal facility, and for subsequent monitoring and maintenance;
- 2) To provide off-site protection for third parties during this period; and
- 3) For "perpetual care" and for any contingencies not covered by other measures.

It should be noted that precedents have already been set to some degree in all of these areas.

For example, the present statute requires persons, other than municipalities, to establish financial responsibility by posting security, to ensure that the operation will be conducted properly. Although this provision was not found workable, and has not been used, in a number of instances an equivalent result has been achieved by imposing conditions on certificates of approval requiring that funds be established for specified purposes.

Another example is the Deep Well Disposal Fund set up under the legislation, which is built up by a surcharge on the volume of waste discharged into a deep well, and which can be used to provide alternative water supplies in case an existing supply is rendered unusable by contamination from the disposal well.

In addition, the new spill legislation now under consideration is a parallel approach with similar though more limited objectives.

General Principles

Before discussing in detail requirements in each of the three sectors, some of the principles upon which the approach is based should be examined.

The Task Force has concluded that any measures introduced should apply not only to liquid and hazardous industrial waste, but also to solid municipal waste. Obviously, the potential risks involved in the case of municipal waste are limited, but as previously noted, they cannot be ignored and it is considered that all types of

waste should be covered. It should also be noted that the situation in Ontario is very different from that in the U.S. whose proposed legislation deals only with liquid and hazardous wastes. The number of liquid and hazardous disposal facilities in Ontario will be limited. Consequently, if only these were to be considered, it would be preferable to deal with them on an individual case-by-case basis. However, if this approach were taken, it would be difficult to set up a realistic fund for perpetual care and contingencies, except by government funding, or a general surcharge on all industries producing such wastes.

In the view of the Task Force the better approach is to include all types of waste, recognising that public concern makes only a limited distinction between them as a cause for opposition to the establishment of facilities.

A second principle which must be emphasized is that the availability of remedial funding should have no direct bearing on decision making with regard to the approval process. In other words, there must be no question of any relaxation of the standards required for locating and operating a site because of these measures.

Finally, it was concluded that the sector three funding for perpetual care should be limited, as far as possible, to long term protection commencing at some reasonable period after site closure, and for emergency use. In the latter case, expenditures would be considered recoverable from the party responsible, through legal action if necessary.

Sector I Funding - Operational

This is intended to ensure that funds are available for immediate use for all operational costs, including day-to-day operation, monitoring, remedial measures, closure, and continued monitoring and the provision of any remedial measures found necessary for some reasonable period after closure.

Although, as has been pointed out, in certain cases the Director in issuing a certificate of approval has imposed conditions on the certificate requiring site-specific funds or security to be established for particular purposes, his ability to do so could be questioned on the basis that the statute already makes specific provisions for such funds or security and therefore the Director cannot impose different conditions. This issue has not yet been raised in the courts or otherwise, so no firm opinion can be given on the chances of the success of a person objecting to the validity of such a condition.

Two of the chief reasons for the difficulty in applying the present statutory provisions are that the money or security must be provided by the operator before he obtains a certificate of approval, which in many cases is a financial impossibility if a realistic amount is to be secured. The requirements for each site will vary depending on its location, the type of soil, the type of waste, the proposed method of operation, and many other factors which cannot be sufficiently determined in advance for a regulation of general application to be developed.

In addition, the present statute does not apply to municipalities and the smaller municipalities may have difficulty in obtaining funds to implement proper operation

of a site, or proper closure and the development of a satisfactory new site. The difficulties would be alleviated if they could be required to establish a fund which could be built up over a period of time to cover the necessary expenses.

Specific purposes of such a fund would be:

- 1) To provide for capital expenses to be incurred in the future such as the installation of gas or leachate control and treatment systems;
- 2) To provide for the costs of closure of a site, including the provision of cover material and the maintenance of the cover until soil settlement has stabilized;
- 3) To cover the costs of liability insurance premiums for a period of time (say five years) after closure;
- 4) Operating leachate and gas monitoring, control, and treatment systems after closure.

As the expenses for which a fund for a site is established will be uncertain at the time it is established, there should be provision to review and modify the amount of the fund from time to time.

It should be possible to build up the fund or part of it over a period of time during the life of the site to reduce the need for heavy up-front expenditures.

Further consideration is required on the means of administration of these site-specific funds. However, it does not appear necessary that they should be administered by the Province as long as there is some mechanism by which the Province can be assured that they in fact exist and are being maintained properly.

The following statutory provisions appear necessary to implement sector 1 funding:

- 1) Authority to make regulations requiring different classes of site or systems to post security, or establish funds, or both;
- 2) Authority for regulations and certificates of approval to prescribe amounts, terms and conditions for such security and funds on the basis of classes of site or system (regulations) and for individual sites or systems (regulations or certificates of approval);
- 3) Requirement by regulation for filing evidence of compliance with Director;
- 4) Authority to prescribe by regulation or certificate of approval who will hold security or funds;
- 5) Authority, if the funds are held by the Province, to prescribe interest rates;
- 6) Authority by regulation or certificate of approval to prescribe terms and conditions for repayment of funds or release of security;
- 7) Authority for the Director to spend funds or require that they be spent, or delivered to him for such purpose if the operator does not carry out necessary work;
- 8) Authority for regulations or certificates of approval to specify form of security;
- 9) Authority for regulation to require owners or operators of various classes to belong to an association which would be responsible for administering funds or security. A similar provision may be required under sector 2 funding, and the same associations could be involved in both cases.

Since sector 1 funding is highly site-specific, it is envisaged that proponents of a proposed site would include sector 1 funding proposals as part of their applications for a certificate of approval. Consequently, funding proposals would be presented at

an environmental hearing with the opportunity for public input, and would be assessed by the Board, and by the Director in due course.

Sector 2 Funding - Liability Insurance

To achieve the objectives for which the Task Force was set up, it is necessary to ensure that operators are financially stable and therefore able to operate their sites properly and meet their obligations to the environment and to adjacent property owners. One cause of financial instability could be claims made by persons whose interests are damaged by the operation. Protection against this cause of financial instability is generally obtained by liability insurance, which also provides a more or less direct protection to third parties who make claims. These can be persons who suffer personal or property damage as a result of improper operation, or a person who has to take action pursuant to a statute to clean up the results of improper operation.

Generally, the risks that can be protected by insurance are subject to three major qualifications:

- 1) Insurance policies generally have a deductible. The deductible serves two purposes. It eliminates the payment of premiums to cover the cost of small claims which can be expected to occur on a relatively frequent basis, and which the operator should be able to meet as part of the regular costs of doing business, and also to cover the administrative costs of the insurer having to settle the numerous small claims;

- 2) Certain risks are not covered, either because the insurance covers a list of specified risks and the list is not all-inclusive, or because it is written as all-risk

insurance with specified exclusions. Two principal reasons for such limited coverage are that some risks may be ordinarily covered under other policies of insurance, and other risks may be so hazardous that the premium would be inordinately high if they were covered;

3) Insurance policies have a maximum amount payable which may be determined on one or more of the following bases: - the type of loss; per time period of the policy; or per incident.

These limits are imposed for two reasons, the difficulty of finding persons willing or financially able to underwrite the level of risk, and the high level of premium which it could be necessary to pay even if such a person were found.

If liability insurance is imposed as a statutory requirement, several benefits can arise:

- 1) The deductible can be kept to a reasonable level;
- 2) The risks that are covered can be kept reasonably broad;
- 3) Minimum amounts of coverage can be kept at a reasonably high level.

It should be noted that insurance companies in Ontario have generally shown reluctance to write comprehensive liability coverage that does not exclude most environmental risks. However, this attitude might change if a large number of such policies were to be written.

A fourth type of benefit which can be achieved by a statutory requirement of coverage is that a third party who has a claim can be given a claim directly against

the liability insurer. Unless different provision is made by statute, an injured third party first has to successfully press his claim against the persons responsible for the loss, and then he may still be faced with a refusal of the insurer to pay the claim perhaps on the basis that the insurance policy is not valid or is not enforceable because of some act by the insured person. Automobile liability insurers by statute cannot raise as a defence against paying a successful third party a matter that they could raise against their own insured, except for that part of the claim in excess of the minimum required coverage.

An indirect advantage of insurance is that if the government is to assume liability for damages and costs beyond the means of an operator and sets up an account funded by operators for such purposes, the fund may be maintained at a smaller size, and payments by operators kept at a lower rate if a substantial part of the risk is underwritten by private insurance.

One group of insurers has indicated that if a particular type of coverage were required by statute, they would write a policy to give the required coverage provided a reasonable number of policies were to be written. Other information received indicates that:

- 1) they would be willing to issue policies which provide direct protection to third parties;
- 2) policies could provide coverage for losses occurring up to five years after the last premium was paid;
- 3) a single policy could cover a number of different interests in an operation, for example, a site operator, the owner of the site, and the municipality using the site for the disposal of its waste;

4) the policy could be transferrable to a new operator or owner, subject to approval by the insurer.

It was also indicated that the premiums for the policies would be substantially higher if all operators were not required to have insurance, and especially if only a small part of the industry such as the haulers of liquid industrial waste which is considered to be particularly hazardous were required to insure. The insurers would also retain the right to refuse to issue policies in individual cases and would assess premiums on an individual basis.

It would be difficult to have insurance policies issued if all persons who would eventually be required to obtain insurance were required to obtain it at the same time. Consequently, detailed procedures would include methods of phasing in different types of disposal facilities, giving priority first to liquid and hazardous waste facilities and next to the larger municipal waste disposal sites.

As pointed out, it would be necessary to provide by statute for insurance of the type suggested above. Some of the provisions should be direct statutory requirements; the statutes should permit others to be established by regulation or condition in certificates of approval.

The statute should:

- 1) require liability insurance to be obtained by operators, owners or others with respect to waste disposal sites and waste management systems;
- 2) provide for implementation of this requirement by dates set by regulation for different classes of existing sites and systems;

- 3) provide for regulations to set dollar limits, risks to be covered and permissible exclusions of risks by class;
- 4) permit higher limits or broader risks to be imposed as conditions in certificates of approval;
- 5) require that the Director of Approvals be notified if insurance coverage is cancelled;
- 6) provide direct protection for third parties;
- 7) provide for regulations to require proof of insurance;
- 8) provide for regulations requiring certain operators to belong to associations and prescribing certain requirements for such associations;
- 9) provide for regulations to prescribe, and permit certificates to prescribe periods after closure for which insurance must be kept in force.

As previously discussed, the availability of insurance of this type, the maximum amount payable on the policy and the premiums to be paid will be significant factors in determining the details of other funding sector requirements, and particularly the amount of surcharge against operators for the perpetual care funding.

Recognising this, the Task Force has arranged with a company providing environmental impairment liability insurance of the type required to develop premiums for two types of site; a large municipal landfill site, and a liquid and hazardous waste disposal facility.

This will require an engineering evaluation of the facilities by the insurance company's consultant. It has been agreed that this study will be funded by the Ministry through the Provincial Lottery. It has also been agreed that since in this instance the principal interest of the Ministry is in determining the availability of

policies, and the cost of premiums, the details of the consultant's evaluation will be kept confidential.

Sector 3 Funding - Perpetual Care

A perpetual care fund for waste disposal would cover risks not met by an operator or an operator's insurance for present and future operations, and for old operations now no longer in use for waste disposal. The fund would also be available to provide immediate action, or payment of damages, where it appeared there would be delay in an operator or his insurer responding.

This fund would be similar to the waste well disposal fund, which would probably be collapsed into the new fund.

The fund should be able to recover its disbursements from the persons ultimately responsible, that is, owners and operators, and from persons who have caused damage for which they are responsible at common-law or by statute (such as the proposed spill legislation). However, it appears desirable to consider putting a limit on the period after site closure when reimbursement could still be sought.

Mechanisms for having payments made into the fund, and for making payments out of the fund remain to be determined.

Payments out of the fund could be left as discretionary in the hands of the Minister or Director or placed under a board established for such purposes, but it appears preferable to give persons a right to payment from the fund, enforceable in court if the administrator will not agree to the liability of the fund to make a payment or on the size of the payment.

An important aspect which will be further examined is the development of criteria to be used by the administrator in determining whether payments should be made and the amount of payment. For example, it would appear desirable to exclude, or strictly limit, liability for compensation for the alleged devaluation of property adjacent to a disposal facility. The Task Force is concerned that the existence of a government 'blank cheque' does not lead to inflated claims for damages, or to an unreasonable expansion of the concept of damage.

The Task Force will examine how payments are to be made into the fund and on what basis, for example whether the surcharge should vary depending on the type and the toxicity of waste, and whether it should be based on the weight if scales are available or on a per-capita basis if they are not. The site operators would be made responsible for providing the necessary data, and in this connection other initiatives now underway in the Ministry may be of considerable assistance in reducing the administrative workload imposed on the administrator of the fund. An EDP system is under development for waste sites which could be modified to incorporate perpetual care fund requirements. Also, a municipal waste management information system is now being tested which might be utilized as a data recording mechanism by municipalities, and extended with modifications to include private operations.

Generally, it should be noted that the number of claims against the fund and therefore the necessary size of payments required into the fund and the amount of resources spent in administering it will be reduced if sites and systems are properly operated and closed. Therefore a sound liability insurance program, and the funding of operating requirements are closely related to the establishment of the fund.

The question of resources required will be examined by the Task Force, but it would appear that providing an EDP system can be adapted to handle the data these will be limited. Some work, such as detailed evaluation of claims, might have to be handled by consultants under contract with fees paid from the fund.

The statutory amendments necessary to provide for the fund include:

- 1) Establish the fund;
- 2) Collapse the waste well disposal fund into it;
- 3) Provide for interest (by order in council) on balances in the fund;
- 4) Establish different rates, by regulation, for different types of operation;
- 5) By regulation provide for payment and collection of rates and interest on overdue payments;
- 6) Prescribe the claims for which the fund would be available with an ability to extend by regulation (these would include clean-up expenses of crown and perhaps others);
- 7) Establish liability to reimburse fund;
- 8) Enable regulations to be made limiting liability to reimburse, both excluding claims for low amounts and putting ceilings on claims;
- 9) Provide "subrogation" procedures as in recent proposed spill legislation procedures;
- 10) Enable regulations to be passed limiting liability of fund by dollars and risk;
- 11) Enable interest bearing advances to be made to fund by Treasurer, in case payments in excess of balance in fund at any time have to be made;
- 12) Authorise fund to sue in Ontario a non-resident of Ontario.

A significant point still to be established is the maximum amount at which the funds could be set, and the period of time considered reasonable by which this amount is to be developed from the surcharge on operators. A further point to be considered is the action to be taken when the fund reaches this required amount. Options are for example to relieve operators of existing sites of the requirement for payment, or to make provisions for the use of the surplus to improve waste management facilities which might include subsidization of processing plants which would reduce the risk associated with disposal sites.

Appendix 1

TERMS OF REFERENCE

GENERAL

In order to protect the environment, the individual and those sectors of public and private enterprise who are involved in waste management, an assured source of funding is necessary in three major areas; during operation and closure, and for subsequent monitoring and maintenance; off-site protection for third parties; and protection against unforeseen contingencies.

The Terms of Reference relate principally to establishing and administering a "Perpetual Care Fund" to cover unforeseen contingencies. However, this must be based on acceptance of a management strategy to ensure, through conditions on issue and/or re-issue of Certificates of Approval, that funding for operation and off-site liability protection for third parties is provided.

PREAMBLE

"Up-front" funding must be provided on private sites by bond, letter of credit, cash deposit, staggered payments, etc., for operational costs including daily operation, monitoring, remedial measures, closure and equipment, gas control facilities or other remedial measures. The amount would be determined and agreed to by proponent working with Regional staff using best data and technology available. This amount plus foreseen and predicted monitoring and remedial activities would be a condition on issue or re-issue of Certificate of Approval.

The same would apply to municipally-owned sites, however, because the municipal agency will be available in perpetuity and can, through budgeting and bonding procedures, offer proof of ability to operate properly and to provide remedial measures when and where necessary, provision of bond, letter of credit, etc., may be waived.

Emergency remedial measures may be carried out using "Perpetual Care Fund". Recovery of funding would be sought at a later date from responsible party (e.g., site operator who refuses to do work or causes undue delays in instituting remedial measures).

This "Operation Fund" is referred to as Sector 1 funding.

Off-site liability protection for third parties must be provided by all site owners. This will be done by contract between site owner and private insurance companies. This Ministry will not be directly involved in the negotiations, however, proof of adequate liability protection must be provided as part of the Certificate of Approval condition.

It is essential that the Ministry of the Environment adopt as a stated policy, the principles of Sector 1 and 2 funding, so that requirements for Sector 3 funding can be formulated definitively.

Sector 1 and 2 funding will be used whenever possible. Sector 3 funding, "Perpetual Care", will only be considered when other funding or avenues of recourse are not available.

The availability of the "Perpetual Care Fund" will have no direct bearing on decision making with regard to the approval process, but any implications with respect to marginally suitable sites must be given consideration.

1. Review and assess implementation of Sector 1 and 2 funding as they relate to the "Perpetual Care Fund" and advise on the need to formulate a Ministry policy statement relative to Sector 1 and 2 funding. Examine any legislative amendments required to implement the stated policy.
2. In addition to Sector 1 and 2 funding, assess the need for a "Perpetual Care Fund" for both liquid and solid waste disposal sites as a result of the various hearings held in the Province in recent years.
3. Review the experience of other jurisdictions who have incorporated compensation plans, perpetual care funds, insurance policies, bonding, etc.
4. Review the adequacy of current legislation and suggest appropriate amendments to incorporate whatever matters are required, relating to this subject.
5. Examine options for the establishment, maintenance and administration of Sector 1 and 3 funding.
6. Review Sector 2 funding regarding guidelines for amount of protection required based on such considerations as type of waste and degree of site security. Review life span of coverage and length of past closure protection required.

7. Review criteria relating to assessment of damage, allocation of funding, requirement for decision making body to be independent and what appeal process, if any, should be instituted.
8. Recommend those groups and agencies who should be invited to review and comment on any proposal prior to implementation.
9. Examine and assess any possible implications the availability of a "Perpetual Care Fund" will have on the approval process and decision making mechanism and what impacts the proposal will have on private and municipal operators.
10. Examine impact on resource requirements that implementation will place on the Ministry and other affected agencies. Prepare an Economic Impact Statement.