Proposal to dispose of intractable wastes (PCBs and agricultural pesticides) from Western Australia

Brambles Australia Ltd

Report and recommendation
of the Environmental Protection Authority

Environmental Protection Authority
Perth, Western Australia
Bulletin 617
March 1992

THE PURPOSE OF THIS REPORT

This report contains the Environmental Protection Authority's environmental assessment and recommendations to the Minister for the Environment on the environmental acceptability of the proposal.

Immediately following the release of the report there is a 14-day period when anyone may appeal to the Minister against the Environmental Protection Authority's recommendations.

After the appeal period, and determination of any appeals, the Minister consults with the other relevant ministers and agencies and then issues his decision about whether the proposal may or may not proceed. The Minister also announces the legally binding environmental conditions which might apply to any approval.

APPEALS

If you disagree with any of the assessment report recommendations you may appeal in writing to the Minister for the Environment outlining the environmental reasons for your concern and enclosing the appeal fee of $10.

It is important that you clearly indicate the part of the report you disagree with and the reasons for your concern so that the grounds of your appeal can be properly considered by the Minister for the Environment.

ADDRESS

Hon Minister for the Environment
18th Floor, Allendale Square
77 St George's Terrace
PERTH WA 6000

CLOSING DATE

Your appeal (with the $10 fee) must reach the Minister's office no later than 5.00 pm on

17 APR 1992

ISBN 0 7309 4702 5
ISSN 1030 - 0120
Assessment Number 646

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Summary and recommendation

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The proposal was referred to the Environmental Protection Authority (EPA) in November 1991, and the Authority set the level of assessment at Public Environmental Review (PER). The PER was released for a 10-week public review period which commenced 25 November 1991 and closed on 31 January 1992.

The Authority has assessed the potential environmental impacts of the proposal, as described in the PER, and utilised additional information supplied by other government agencies, the public and the proponent. Additionally, a senior officer of the Environmental Protection Authority carried out a site inspection of the Ellesmere Port facility and discussed environmental issues with relevant local government authorities and Her Majesty's Inspectorate of Pollution in the United Kingdom.

The proponent has developed a comprehensive list of commitments covering the environmental issues raised during the assessment (Appendix 1).

Environmental issues relating to ownership, packaging, handling, transportation and emergency response procedures, interim storage, auditing and alternative options for disposal have been considered in this assessment. The proponent has addressed these issues by making a commitment to carry out all elements of the operation within the jurisdiction of the Government of Western Australia to the satisfaction of the Environmental Protection Authority, and outside that jurisdiction to the satisfaction of the relevant government agencies.

The Health Department is the agency with the responsibility for managing the disposal of industrial waste in Western Australia. The Health Department has put forward two proposals for the construction and operation of high temperature incinerators in Western Australia. The first was for a facility near Koolyanobbing in 1986, and the second near Mt Walton in 1988. The Environmental Protection Authority assessed both proposals, and in each case, advised Government that the proposals were environmentally acceptable, subject to certain requirements. In each case the Government has agreed with the proposal. Neither proposal has been implemented. Subsequently, the Health Department proposed to build a storage facility for organochlorine wastes (ie PCBs and certain pesticides) at the Mt Walton site. The Health Department also put forward a proposal for road transport of intractable wastes to the site. The Authority's advice was that both the latter proposals were environmentally acceptable. Currently, the access road is almost complete but no storage facility has been built. Thus, no substantive action has taken place on the disposal of organochlorine wastes within Western Australia.

In its submission to the Authority, the Health Department noted that this proposal for export of organochlorine wastes, as outlined in the PER, was acceptable.

The Authority has always held the position that to do nothing to dispose of PCBs is a poor environmental option, as much of the material could end up in uncontrolled landfill sites. Moreover, the Authority does not believe that storage of PCBs is a suitable long-term option, particularly if environmentally-sound options for destruction are available.

Given previous problems with establishing high temperature incinerators in New South Wales, Victoria and Western Australia, the Environmental Protection Authority does not expect a speedy resolution to the issue of disposal of intractable wastes in Australia.

The United Nations Environment Programme convention on the control of transboundary movements of hazardous wastes and their disposal (otherwise known as the Basel Convention), to which Australia is a signatory, expects developed countries to have their own disposal facilities. However, under the convention, where a country does not have its own facility, it is able to export such waste to developed countries which do have proper disposal facilities. The Convention regulates the transfrontier requirements for transport of hazardous waste including issues such as labelling, packaging and proof that the receiving country is able to dispose of the waste satisfactorily. The Minister for the Department of Arts, Sport, the Environment and Territories, Canberra, is the person who administers the Commonwealth Act (The Hazardous Waste {Regulations of Export and Imports}Act 1989) which covers the issuing of permits for the export and destruction of intractable waste. Before the Minister issues a permit to a company it is necessary for the Minister to be satisfied that the final disposal of the hazardous waste is environmentally acceptable. In this case the Department of Arts, Sport, the Environment and Territories has advised this Authority that it has issued a permit to the proponent to export the waste for destruction at Ellesmere Port in the United Kingdom.

The role of the EPA is to advise the Western Australian Government on environmental issues confined to the jurisdiction of the territory of the State. Many submissions raised ethical issues about the overseas disposal of intractable waste. The Authority notes the strength of the argument.

The EPA concludes that high temperature incineration is a proven method of disposal of intractable organochlorine wastes. The Authority also recognises the potential hazard this waste poses in its present storage if it were to catch fire. Such a fire could produce fumes containing dioxins and dibenzofurans, as well as cause containers to leak. The Authority notes that at the present time there are a number of alternative destruction technologies under trial in Australia, including the CSIRO plasma arc pilot plant in Melbourne. These indicate that other methods of waste destruction may become available at some time in the future. However, given that little or no action has occurred in recent years with respect to disposal of organochlorine wastes, the Authority does not believe that waiting for an alternative method of treatment to be developed some time in the future is sufficient reason for holding up approval for this proposal.

The Environmental Protection Authority has concluded that the component of this proposal that falls within the jurisdiction of the State, to collect and export existing organochlorine waste for high temperature destruction, is environmentally acceptable. The Authority also notes that the Commonwealth Government has granted export approval to the proponent. **The Environmental Protection Authority also concludes that the practice of exporting intractable waste from Western Australia should cease within five years from the release of this report, as the disposal of the backlog of waste should have been completed by then. If in the future, materials or processes producing new intractable waste were to be identified, the Environmental Protection Authority would expect waste minimisation practices to be employed to manage the waste stream. Additionally, the Authority would expect the owners of such intractable waste to thoroughly review new disposal techniques used in Australia for disposal methods with the long term objective of eliminating this type of waste.**

Recommendation 1

The Environmental Protection Authority has concluded that those components of the proposal within the jurisdiction of Western Australia to collect existing waste polychlorinated biphenyls (PCBs) and chlorinated pesticides which are

stored at various centres in Western Australia and export them to the United Kingdom for destruction by high temperature incineration at the Ellesmere Port facilities is environmentally acceptable. If the proponent were to use any other facility for high temperature incineration it would need to provide an Export Permit, issued by the Commonwealth Government, to this Authority nominating the incinerator facility to be used before the Authority would advise Government that the proposal was acceptable.

In reaching this conclusion, the Environmental Protection Authority identified the main environmental factors requiring detailed consideration as ownership, packaging, handling, transportation and emergency response procedures, interim storage and auditing.

Accordingly, the Environmental Protection Authority recommends that the proposal could proceed subject to the proponent's commitments given in the Public Environmental Review (PER) and during the assessment of this proposal.

1. Introduction

The proponent, Brambles Australia Ltd, proposes to collect an existing backlog of waste polychlorinated biphenyls (PCBs) and chlorinated pesticides which are stored at various centres in Western Australia and export them to Europe for destruction by high temperature incineration. The facility most likely to be used is at Ellesmere Port, near Liverpool in the United Kingdom, and is jointly owned by Brambles. The proposal does not cover waste which may be generated in the future as it is unlikely these materials would ever be used again in Western Australia.

The proposal was referred to the Environmental Protection Authority (EPA) in November 1991, and the Authority set the level of assessment at Public Environmental Review (PER). The PER was released for a 10-week public review period which commenced on 25 November 1991 and closed 31 January 1992.

During the environmental assessment of the proposal as described in the PER, the Authority utilised information supplied by other government agencies including the Health Department which manages the disposal of industrial waste in Western Australia. Additionally, a senior officer of the Environmental Protection Authority carried out a site inspection of the Ellesmere Port facility and discussed environmental issues with relevant local government authorities and Her Majesty's Inspectorate of Pollution in the United Kingdom.

The proponent has developed a comprehensive list of commitments covering the environmental issues raised during the assessment (Appendix 1).

Environmental issues relating to ownership, packaging, handling, transportation and emergency response procedures, interim storage, auditing and alternative options for disposal have been considered in this assessment. The proponent has addressed these issues by making a commitment to carry out all elements of the operation within the jurisdiction of the Government of Western Australia to the satisfaction of the Environmental Protection Authority, and outside that jurisdiction to the satisfaction of the relevant government agencies.

2. Description of the proposal

2.1 Background

The Australian Code for the Transport of Dangerous Goods by Road and Rail classifies dangerous goods into classes based on the type of hazard the materials pose. The Code provides prescriptions for the packaging, handling, transport and storage of these materials so that the risks posed by them are minimised.

The proponent specialises in management, export and destruction of intractable wastes. It has exported PCB waste from Australia to Ellesmere Port, near Liverpool in the United Kingdom, for high temperature incineration since 1984. It continues to holds an export permit from the Commonwealth Government to export such wastes to that facility. The proponent will take responsibility for all aspects of the proposal, including title to the wastes if the existing owner requires the company to do so.

The Environmental Protection Act, 1986 is applicable only to the State of Western Australia including coastal waters to a distance of three nautical miles from the coast. Therefore, the proponent only seeks approval for activities relevant to this jurisdiction. These activities include the handling, packaging, interim storage and transport of the waste and their loading onto ships at the Port of Fremantle.

2.2 Proponent's justification for the proposal

Intractable wastes are extremely difficult to destroy and cannot be disposed of by normal landfill or dilution. Holders of intractable wastes seek a service which will provide an environmentally acceptable and operationally efficient method of disposing of this material. To this end the proponent uses the following criteria for acceptability:

- proven status of the method of incineration;
- reliability;
- availability;
- complies with health regulations for the work force and the surrounding community; and
- suitability of process to specific waste types.

The proponent believes that only high temperature incineration meets all the above criteria and hence represents the best available technology for the destruction of intractable wastes. Consequently, the use of operating high temperature incineration facilities in Europe provides a permanent solution to the problem.

2.3 The proposal

The proposal is to collect intractable wastes (approximately 1200 tonnes of PCBs and pesticides) held throughout Western Australia and ship them to Europe for destruction by high temperature incineration. The majority of wastes will be shipped for disposal within a twelve to eighteen month period. The PCB waste include liquids, contaminated solids and solvents while the pesticides include DDT, chlordane, aldrin, dieldrin, heptachlor and chlorinated phenols.

The PCB wastes are held at a range of locations with the majority being at mining centres in the Pilbara, and in the metropolitan area. The pesticide wastes are held by the Department of Agriculture near Katanning, Merredin and Wongan Hills, all of which are within 300km of Perth.

2.3.1 Export permit

The proponent holds an Export Permit under the Hazardous Waste (Regulations of Exports and Imports) Act 1989. This permit nominates the Ellesmere Port high temperature incineration facility in England as the ultimate destination of all wastes shipped from Western Australia by the proponent. This facility is owned and operated by Cleanaway UK, a company owned by Brambles Industries Ltd in a joint venture arrangement.

The proponent is currently assessing other high temperature incinerator facilities in Europe with a view to providing alternative disposal facilities should, for any reason, access to Ellesmere Port not be available. This assessment ensures that such a facility would comply with requirements of the Commonwealth Government (specifically, the Minister for the Department of Arts, Sport, the Environment and Territories).

At such time that the proponent is satisfied that any particular facility meets these requirements an application to vary the details of the Export Licence will be submitted to the Commonwealth Government for approval.

2.3.2 Identification of wastes and ownership of wastes

The proponent intends to provide an option to assume ownership of the wastes. Whether or not this option is exercised, the proponent will be contractually bound to the current owners to take full responsibility for the safe and proper handling, packaging, labelling and transport operations. If transfer of ownership occurs, it will be on the basis of analysis and weight of the material.

2.3.3 Repackaging, labelling, inspection and temporary storage

All operations involving packaging, labelling and freight vehicles will be carried out in a manner which comply with the requirements of the Western Australian Dangerous Goods (Road Transport) Regulations 1983 and the Australian Code for the Transport of Dangerous Good by Road and Rail. Additionally all packaging and containment will meet with the requirements of the International Maritime Dangerous Goods (IMDG) Code.

Liquid wastes will be contained in Government approved steel 205 litre drums (closed head drums) and placed into welded steel bins as described in the PER. The bins will be loaded into shipping containers. Solids waste will be contained in 205 litre (open head drums) designed to hold hazardous cargo. Larger capacitors will be placed in Government approved steel bins and fastened with steel strapping to secure them during transport. Alternatively, the capacitors may be placed on a wooden pallet inside the bins and timber formers built around the insulators as described in the PER. Small capacitors will be either placed in bins as for the larger units, or packaged in steel "open head" drums of 205 litre capacity. Containerisation will then proceed as for the drummed solids. Transformers, having already been drained and plugged, and placed in open-top shipping container which will be covered with a sturdy tarpaulin. The transformers will be braced within the container to avoid movement.

Each consignment will be transported by road under escort to the already EPA approved central receival point located at Brambles warehouse at Dowd Street, Kewdale. There are currently five shipping containers of PCB wastes held in storage at the warehouse.

The central receival point will primarily function as a staging point for the labelling of shipping containers according to the IMDG Code which encompasses the International Convention for Safety of Life at Sea. The containers will then be transported to the Port of Fremantle for immediate loading onto the ship. However, some repackaging of small parcels of waste may take place in the warehouse in accordance with relevant Government requirements. All bins and containers will be inspected by the proponent prior to transport to ensure that they are all free from spills or leaks and are properly marked and labelled. Inspection is also open to officers of regulatory Government agencies.

2.3.4 Transport, notification and safety and emergency response

The proponent will utilise road transport, primarily because the Environmental Protection Authority has determined that road transport of intractable wastes to the Integrated Waste Storage Facility at Mt Walton is environmentally acceptable, given appropriate conditions.

The road routes proposed have been given in detail in the PER. Only those routes which meet with the approval of all relevant government agencies would be used.

The proposed route from the central receival point to the Port of Fremantle is as follows:

(a) Casino Street to Embden Street
(b) Embden Street to Dowd Street
(c) Dowd Street to Kewdale Road
(d) Kewdale Road to Welshpool Road
(e) Welshpool Road to Leach Highway
(f) Leach Highway to Stirling Highway
(g) Stirling Highway to Tydeman Road
(h) Tydeman Road to the Port of Fremantle.

This route provides the most direct connection using major highway links.

Prior notification of the quantities of wastes being transported in each consignment will be given to the Environmental Protection Authority, the Department of Mines, the Health Department, Police and Fire Brigade. The notification will also include point of departure, destination, description, route to be travelled and estimated departure and arrival times.

All truck drivers will be licensed to transport dangerous goods of the relevant classes, be competent and fully trained in the operation of safety equipment and in dealing with emergency situations involving chemical leakage and fire and trained. The trucks will have current certification as roadworthy by the police. All trucks will be accompanied by an escort vehicle, which will function as an emergency response vehicle to provide an effective response in the unlikely event of a leak or spillage during transport. In the case of an accident, spill or leak during transport, emergency response measures will be taken immediately as described in the PER and in accordance with the Western Australian Hazardous Materials Emergency Management Scheme protocol. During transport the load will be inspected every 100 minutes. Both the escort vehicle and the truck will be in radio contact. This radio equipment can also be used to summon assistance.

2.3.5 Shipment

The Port of Fremantle has been nominated as the export port for the following reasons:

- Fremantle is the only major purpose designed container port in Western Australia;
- Fremantle is close to the central receival point in Kewdale; and
- Fremantle is on the regular container shipping routes.

Containers will be loaded on to ships from the North Wharf with special arrangements made to avoid the need for the vehicles to join queues or be unnecessarily delayed in transit.

The wastes will be moved by truck from the central receival point to the Port of Fremantle and shipped to the port of receival in Europe (eg Felixstowe for disposal in the United Kingdom). All aspects of shipment of the wastes will be in accordance with the International Maritime Dangerous Goods Code. Wastes delivered to the port of receival in the UK or Europe will be transported to a high temperature incinerator facility by road. Some wastes comprising transformers and large capacitors, would be shredded first at Triton as described in the PER and then incinerated at Ellesmere Port.

Upon arrival at the incinerator facility, all wastes will be checked against the delivery schedule and assessed for conformity with the previously agreed specifications.

2.3.6 Timetable for transport

The timetable for transport and shipping of the wastes will be dependent upon the schedule of shipping of individual waste consignments from Fremantle. An acceptable container ship will be available approximately every two weeks and it is expected that the shipping of the approximately 1,200 tonnes of wastes will occur over a 12 to 18 month period between 1992 and 1993.

3. Potential environmental impacts and management as given in the Public Environmental Review

3.1 Introduction

The wastes that form the subject of this proposal are currently stored in a manner and under controls that effectively prevent their contact with the environment generally and with people. Provided this situation is maintained there should be no adverse effects from these materials.

If these wastes were released to the environment, they would not break down or only break down slowly and therefore have the potential to contaminate stormwater, surface water and groundwater, and accumulate in biota.

The proposal has been designed to minimise the potential of waste coming into contact with humans or the general environment. This will be achieved by ensuring that all liquid and most solid waste materials are triple-contained prior to any transport in accordance with the regulations governing the packaging, transport and disposal of dangerous goods.

The main potential for an environmental impact therefore relates to the spillage or leakage of intractable wastes. A spill or leak in itself does not represent a high risk to humans. This is because direct contact by ingestion, through the skin or by breathing airborne material for a long period is required before a health hazard is likely. As the wastes do not give off high levels of vapour at normal temperatures, exposure to airborne vapours is substantially restricted to the site of the spill. In the case of direct skin contact, the required treatment consists of thorough washing and proper disposal of contaminated water.

3.2 Potential environmental impacts and management

The management procedures proposed in the PER are largely dictated by relevant Government regulations and codes of practice which, if complied with, minimise the potential for waste contacting humans or the environment. To this end the proposal is designed to:

- minimise the potential of spills or leaks;
- contain and control any leaks or spills, if they were to occur, so as to prevent their contact with humans and the environment.;
- segregate wastes into lots that reduce the maximum volume of a spill or leak to a manageable quantity;
- provide a shipping strategy that centres on the movement of relatively small consignments of wastes in any one shipment;
- provide management and audit trail procedures that ensure full accountability and traceability of all wastes handled; and
- ensure proper training of personnel in appropriate emergency response procedures in the case of an accident.

3.2.1 Audit trail

The most effective way of ensuring that all wastes entering the programme are finally disposed of is to provide a documented audit trail of each item throughout the process. All operations involving packaging, labelling and freight vehicles will be carried out in a manner which comply with the requirements of the Western Australian Dangerous Goods (Road Transport) Regulations 1983 and the Australian Code for the Transport of Dangerous Good by Road and Rail. Additionally all packaging and containment will meet with the requirements of the International Maritime Dangerous Goods (IMDG) Code. In addition the proponent will have a system which will identify the existence and location of any item of waste at any time. This information will be accessible to authorised persons and agencies. The proponent will have an audit system which will allow the verification of the location and existence of the waste materials at any particular time. This formal documentation system and the proponent's audit system will allow authorities and the owners of the waste materials to be confident that the wastes have been destroyed and that all aspects of the proposal have been carried out according to all statutory requirements.

At the point of collection of each package of waste, a unique number identifying the original owner of the waste, the point of collection of the waste and the nature of the waste will be used. At each stage of the proposal, records will be kept to indicate that each item of waste, each steel bin and each shipping container has passed through that stage. The opportunity will be available for damage reports to be made at the completion of each major phase with corrective action also reported.

This primary audit trail will be co-ordinated with the various other transportation, import and export documentation normally required. Finally, a Certificate of Destruction will be issued for each consignment of waste with cross-referencing to the unique identification number.

To ensure adequate information is available to any party at any time it is proposed to submit quarterly reports to the EPA. These reports will provide a detailed account of all wastes entering the programme, major stages through which each item has been processed and current locations.

3.2.2 Emergency response

The proponent believes that the only significant potential environmental issue for this proposal within the jurisdiction of Western Australia is the potential impact from a spill during packaging, handling or transport. The reason for this belief is that all elements of the activity proposed are covered by extensive Western Australian and Commonwealth Government regulations, in addition to those of the United Kingdom and the Basel Convention. The Western Australian Hazardous Materials Emergency Management Scheme specifies procedures for coping with hazardous materials emergencies in Western Australia such as spills, or collisions or fires involving vehicles carrying the waste materials. It specifies the responsibilities of the relevant government agencies the owners of the material and the consignors. In essence the emergency procedures, as outlined in the PER, aim to minimise the spread of waste materials into the environment and to prevent humans coming into direct contact with the waste materials.

It is possible, but unlikely, that a small spills may occur during repackaging or loading. If a spill were to occur, the relevant government agencies would be notified and the spill would be managed to the satisfaction of all those agencies including the EPA. Additionally, the spillage site would be constantly supervised or suitably secured until the cleanup has been completed.

3.2.3 Staff monitoring

Although every precaution will be taken to prevent the exposure of personnel involved with the transport and handling of the waste materials, the proponent will ensure that the health of personnel is monitored. This will include medical checks and tests as advised by the Department of Occupational Health Safety and Welfare of Western Australia.

4. Summary of public and government agencies' submissions

4.1 Introduction

Sixty three public and government submissions on this proposal were received by the Environmental Protection Authority. A list of those who made submissions is given in Appendix 2. Many public submissions were from the United Kingdom, some in the form of a *pro forma,* concerning incineration at facilities which were not the subject of this proposal. The Authority specifically notes the high quality of the public submissions.

Several environmental organisations in Western Australia organised 1689 people to sign a *pro forma* submission to the Authority. Each signature was accompanied by an address.

Many submissions contained philosophical statements of position, and many issues raised were not environmental in nature.

4.2 Specific issues raised in submissions by the public and government agencies and the proponent's responses

Comments from submissions could be broadly classified as follows:

- queries as to why the Health Department does not incinerate wastes in Western Australia;
- support for the proposal;
- storage options;
- payment for storage for existing wastes;
- storage at the Port of Fremantle;
- public opposition to incineration in WA;
- ethics of exporting waste;
- timing of export given present reviews on a national strategy;
- safety during transport and delays at the ports;
- spillage during transport and at the incinerator;
- road versus rail transport;
- rail transport in the metropolitan area to Fremantle;
- packaging and labelling
- shipping accidents;
- adequacy of incineration and associated safety and health problems;
- production of greenhouse gases as a result of incineration;
- title of waste;
- adequacy of proponent and consultant;
- quality of commitments given by proponent; and
- no public participation in the granting of export permits.

The proponent has addressed the issues relating to the potential impacts with commitments, which are listed in Appendix 1, and in the answers to questions raised in submissions (Appendix 3). The key element of the proponent's response has been to assure the EPA that it intends to carry out its proposal in a manner which complies with all Government regulations and in a manner satisfactory to the EPA.

5. Environmental impacts and management identified by EPA

5.1 Introduction

The Authority has assessed the potential environmental impacts of the proposal as described in the PER, and utilised additional information supplied by other Government agencies, the public and the proponent. Additionally, a senior officer of the Environmental Protection Authority carried out a site inspection of the Ellesmere Port facility and discussed the environmental issues with relevant government authorities and Her Majesty's Inspectorate of Pollution in the United Kingdom.

During its assessment, the EPA gave particular consideration to the issues of ownership, packaging, handling, transportation and emergency response procedures, interim storage,

auditing and alternative methods of disposal. Specific emphasis was placed on the proponent's commitment to carry out the proposal to the satisfaction of the EPA, and to react to potential emergency situations in a manner which would minimise exposure of the waste to the public and the environment. All issues under the jurisdiction of the Government of Western Australia are already covered by regulations and emergency response procedures.

The proponent has developed a comprehensive list of commitments covering the environmental issues raised during the assessment (Appendix 1).

The Health Department is the agency with the responsibility for managing the disposal of industrial waste in Western Australia. The Health Department has put forward two proposals for the construction and operation of high temperature incinerators in Western Australia. The first was for a facility near Koolyanobbing in 1986, and the second near Mt Walton in 1988. The Environmental Protection Authority assessed both proposals, and in each case, advised Government that the proposals were environmentally acceptable, subject to certain requirements. In each case the Government has agreed with the proposal. Neither proposal has been implemented. Subsequently, the Health Department proposed to build a storage facility for organochlorine wastes (ie PCBs and certain pesticides) at the Mt Walton site. The Health Department also put forward a proposal for road transport of intractable wastes to the site. The Authority's advice was that both the latter proposals were environmentally acceptable. Currently, the access road is almost complete but no storage facility has been built. Thus, no substantive action has taken place on the disposal of organochlorine wastes within Western Australia.

In its submission to the Authority, the Health Department noted that this proposal for export of organochlorine wastes, as outlined in the PER, was acceptable.

The Authority has always held the position that to do nothing to dispose of PCBs is a poor environmental option, as much of the material could end up in uncontrolled landfill sites. Moreover, the Authority does not believe that storage of PCBs is a suitable long-term option, particularly if environmentally sound options for destruction are available.

Given previous problems with establishing high temperature incinerators in New South Wales, Victoria and Western Australia, the Environmental Protection Authority does not expect a speedy resolution to the issue of disposal of intractable wastes in Australia.

The United Nations Environment Programme convention on the control of transboundary movements of hazardous wastes and their disposal (otherwise known as the Basel Convention), to which Australia is a signatory, expects developed countries to have their own incinerator facilities. However, under the convention, where a country does not have its own facility, it is able to export such waste to developed countries which do have proper incineration facilities. The Convention regulates the transfrontier requirements for transport of hazardous waste including issues such as labelling, packaging and proof that the receiving country is able to dispose of the waste satisfactorily. The Minister for the Department of Arts, Sport, the Environment and Territories, Canberra, is the person who administers the Commonwealth Act (The Hazardous Waste {Regulations of Export and Imports}Act 1989) which covers the issuing of permits for the export and destruction of intractable waste. Before the Minister issues a permit to a company it is necessary for the Minister to be satisfied that the final disposal of the hazardous waste is environmentally acceptable. In this case the Department of Arts, Sport, the Environment and Territories has advised this Authority that a permit has been issued to the proponent to export the waste for destruction at Ellesmere Port in the United Kingdom.

The role of the EPA is to advise the Western Australian Government on environmental issues confined to the jurisdiction of the territory of the State. Many submissions raised ethical issues about the disposal of intractable waste. Whilst the Authority has reached no conclusion with respect to the ethical considerations, it notes the strength of the argument.

The EPA concludes that high temperature incineration is a proven method of disposal of intractable organochlorine wastes. The Authority also recognises the potential hazard this waste poses in its present storage if it were to catch fire. Such a fire could produce fumes containing dioxins and dibenzofurans, as well as cause containers to leak. The Authority notes that at the present time there are a number of alternative destruction technologies under trial in Australia, including the CSIRO plasma arc pilot plant in Melbourne. These indicate that other methods of waste destruction may become available at some time in the future. However, given that little or no action has occurred in recent years with respect to disposal of organochlorine wastes, the Authority does not believe that waiting for an alternative method of treatment to be developed some time in the future is sufficient reason for holding up approval for this proposal.

The Environmental Protection Authority has concluded that the component of this proposal that falls within the jurisdiction of the State, to collect and export existing organochlorine waste for high temperature destruction, is environmentally acceptable. The Authority also notes that the Commonwealth Government has granted export approval to the proponent. **The Environmental Protection Authority also concludes that the practice of exporting intractable waste from Western Australia should cease within five years from the release of this report, as the disposal of the backlog of waste should have been completed by then. If in the future, materials or processes producing new intractable waste were to be identified, the Environmental Protection Authority would expect waste minimisation practices to be employed to manage the waste stream. Additionally, the Authority would expect the owners of such intractable waste to thoroughly review new disposal techniques used in Australia for disposal methods with the long term objective of eliminating this type of waste.**

Recommendation

The Environmental Protection Authority has concluded that those components of the proposal within the jurisdiction of Western Australia to collect existing waste polychlorinated biphenyls (PCBs) and chlorinated pesticides which are stored at various centres in Western Australia and export them to the United Kingdom for destruction by high temperature incineration at the Ellesmere Port facilities is environmentally acceptable. If the proponent were to use any other facility for high temperature incineration it would need to provide an Export Permit, issued by the Commonwealth Government, to this Authority nominating the incinerator facility to be used before the Authority would advise Government that the proposal was acceptable.

In reaching this conclusion, the Environmental Protection Authority identified the main environmental factors requiring detailed consideration as ownership, packaging, handling, transportation and emergency response procedures, interim storage and auditing.

Accordingly, the Environmental Protection Authority recommends that the proposal could proceed subject to the proponent's commitments given in the Public Environmental Review (PER) and during the assessment of this proposal.

The Authority considers that it could be necessary or desirable to make minor and non-substantial changes to the designs and specifications of the proposal which were examined as part of the Authority's assessment. Accordingly, the Authority considers that subsequent statutory approvals for this proposal could make provision for such changes, where it can be shown that the changes are not likely to have a significant effect on the environment.

5.2 Consultation

As part of the preparation of the PER the proponent sought advice from the Social Impact Unit (SIU), a component of the Department of State Development, regarding public consultation. The SIU and the proponent arranged for various interested parties to be briefed on key aspects of the proposal to give them the opportunity to comment prior to completion of the PER. The groups contacted were:

- Officers of Fremantle City Council;
- Hon Jim McGinty MLA (Member for Fremantle);
- Greenpeace;
- Australian Conservation Foundation (Perth Branch); and
- Conservation Council of Western Australia.

6 Conclusion

Based on the information supplied in the PER and additional information supplied by the proponent during the assessment, the Environmental Protection Authority has concluded that the proposal could proceed subject to the commitments given by the proponent (Appendix 1) in this report.

Appendix 1

Brambles Australia Ltd
Consolidated list of environmental management commitments

Commitments

The Proponent undertakes to conduct all operations connected with the handling, packaging, labelling, transport and shipment of intractable wastes currently held in Western Australia in accordance with the details presented in this document and in accordance with the following commitments.

1. General

a) The collection, packaging, transport storage and ultimate disposal of all waste will be carried out according to the requirements of all relevant Government statutes and agencies, and to the satisfaction of the Environmental Protection Authority.

2. Responsibility for the waste

a) The Proponent will accept contractual obligations and responsibility whether or not title to the wastes has been relinquished by the source owners. Responsibility will remain with the Proponent until the material is destroyed. Upon destruction a Certificate of Destruction will be provided to the source owner and to the Environmental Protection Authority (if required).

b) The Proponent will establish the nature of all wastes so that the wastes can be labelled properly. This will be done prior to taking responsibility for the waste and to the satisfaction of the Environmental Protection Authority.

c) In the event of waste not being accepted by the operator of the incinerator because of inappropriate labelling or description, the Proponent commits itself to retaining responsibility for the waste to the satisfaction of the Environmental Protection Authority.

3. Packaging

a) All packaging at source, repackaging at temporary storage facilities and containerisation will be carried out to the satisfaction of the source owners of the waste, the Environmental Protection Authority and all other relevant government agencies.

4. Transport

a) Transport of all wastes will be carried out in a manner satisfactory to the source owners of the waste, the Environmental Protection Authority and all relevant government agencies.

b) In the case of a spill, all emergency procedures, as required, will be carried out to the satisfaction of the source owners of the waste, the Environmental Protection Authority and all relevant government agencies.

5. Potential environmental impacts

a) In the very unlikely event of a spill causing an environmental or associated social impact, the Proponent will carry out remedial work to minimise that impact to the satisfaction of the source owners of the waste and the Environmental Protection Authority.

6. Auditing

a) At all stages of transport from source to destruction an audit trail will be established for all wastes in a manner satisfactory to the source owners of the waste, the Environmental Protection Authority and all relevant government agencies.

7. Reporting

a) The Proponent will report on all its intractable waste disposal activities directly and indirectly relating to this proposal. This reporting will be done in a manner satisfactory to the source owners of the waste and the Environmental Protection Authority.

8. Storage

a) In the event that a consignment cannot be directly loaded into ship's stowage, to avoid on-wharf storage, the consignment will be returned to the Central Receival Point and placed in interim storage or held until the situation that caused the delay is resolved, and this commitment will be carried out to the satisfaction of the EPA

b) For the transport of wastes from the various storage locations the proponent commits itself to transport all the materials by a route satisfactory to EPA.

c) The proponent will provide specific training for relevant personnel within the Port of Fremantle. Port Authority personnel directly associated with the project will be provided with an understanding of the hazards associated with the consignment and given instructions on their role in case of emergency.

9. Other commitments

a) If the Environmental Protection Authority deems that unforeseen (by the EPA) problems arose or could arise, the Proponent will modify its modus operandi in a manner satisfactory to the Environmental Protection Authority.

b) The Proponent will be responsible for clean up of any temporary storage if a spill were to occur and will ensure that such facility is clean when the Proponent no longer has a licence to export intractable waste. Such cleanup will be carried out to the satisfaction of the Environmental Protection Authority.

c) The Proponent will provide assistance to the source owners of the wastes in the on-site preparation of the material to ensure the well being of all personnel remains a significant consideration and also to ensure the service is carried out in an exemplary manner, in accordance with the Proponent's Quality Assurance commitment.

Appendix 2

List of government agencies and members of the public who made a submission

City of Fremantle
Department of Mines
Department of the Arts, Sport, the Environment, Tourism and Territories, Canberra, ACT 2601
Fremantle Port Authority
Health Department of Western Australia

Australian Conservation Foundation
Boral Resources, South Guildford, WA 6055
Conservation Council of Western Australia
M Davey, M Davey and J Davey, Langford, WA 6147
W F Davenport, Gosnells, WA 6110
Greenpeace, East Perth, WA 6004
Hamersley Iron Pty Ltd, Dampier, WA 6713
C Heal, SAEP/Darling Range Forum, Maida Vale, WA 6057
P Hitt, Rivervale,WA 6103
E Horne, Statewide Action Groups, Mt Hawthorn, WA 6016
P Molloy, Swan Waste Action Group, Midland, WA 6056
O Mueller, Wembley Downs, WA 6019
K N Opie, Gidgegannup WA 6555
J Payne, Roleystone, WA 6111
Robe River Iron Associates, Wickham, WA 6720
D M Rose 20 Stanhope Road, Kalamunda, WA 6076
J Rosielle, Maddington, WA 6109

R Beesley, address not given, UK
F J Berry, Dorchester, UK
B Brewster, Hampshire, UK
R J Burnett, Councillor, Lyndhurst, UK
H M Butler, Southampton, UK
Dr K Caldicott, Gwent, UK
M and R Clarke, Southampton, UK
C and T Clarke, Southampton, UK
D Chidgey, Parliamentary Spokesman (LD), Alresford, UK
M Colvin, MP, House of Commons, London, UK
G Dawson, Councillor, Lyndhurst, UK
B Dash, Councillor, Southampton, UK
S Delemare, Southampton, UK
Y Fulton, Southampton Friends of the Earth, UK
H D Geary, Southampton, UK
T J Gent, Southampton, UK
B Hale, Councillor, Lyndhurst, UK
G Jenkins, Southampton, UK
P Kelly, Hampshire County Council, Winchester, UK
M Ledson, Bucks, UK
Mr Llewellyn Smith MEP, Gwent, UK
J Maynard, Councillor, Southampton, UK
J Milne, Southampton, UK
Mothers and Children Against Toxic Waste, Gwent, UK
P Murphy, MP, House of Commons, London
J I Newnham, New Milton, UK
J F Oade, Southampton, UK
S Osborne, Councillor, Southampton, UK
R Pawley, Southampton, UK
D Powell (STEAM), Gwent, UK
S Preece, Gwent, UK
M Robinson, Councillor, Lyndhurst, UK
K Sampson, New Millton, UK
C Schuman, New Forest 2000, Hampshire, R Somes, Southampton, UK

W and J Shore, Southampton, UK
The County Planning Officer, Hampshire County Council, Winchester, UK
D M Timlin, Welsh Office, Cardiff, UK
J W Turner, Councillor, Torfaen, UK
J Vernon-Jackson, Councillor, Lyndhurst, UK
M Wade, Councillor, Nr Southampton, UK
R A Williams, Lymington, UK

Appendix 3

Responses to public submissions

CLEANAWAY

An Enterprise of Brambles Australia Limited
A.C.N. 000 164 938

Suite 12,
41 Walters Drive,
Herdsman Business Park,
Osborne Park, W.A. 6017
Telephone: (09) 244 2000
Fax: (09) 244 2698

12 March 1992

Ref: MHPERQ&A

The Chairman,
Environmental Protection Authority,
Westralia Square,
38 Mounts Bay Road,
PERTH WA 6000

Attention: Dr. Victor Talbot

Dear Sir,

Ref: Responses to Public Submission to the P.E.R.

Attached please find responses to questions and comments made to our P.E.R. for the proposed disposal of intractable wastes from Western Australia.

Some of the submissions raised a further need for commitment by Brambles and they are also attached.

Brambles has developed this P.E.R. and presented it to the EPA to approve the proposal for those operations that take place in Western Australia.

Whilst the proponent does not believe it is a requirement to respond to questions relating to operations outside Western Australia, it is nevertheless providing answers to these questions in order to maintain the integrity of the overall proposal.

The proponent has discussed the issues in terms of International Conventions and ultimate disposal by incineration in Europe.

Brambles are holders of a permit allowing it to export polychlorinated biphenyls and stable pesticides overseas. A permit was issued by DASETT (Commonwealth Government) under the provisions of the Hazardous Wastes (Exports & Imports) The export permit (N° 10) was issued 14th February 1992 and is valid until 31st July 1992. Regulations, 1989, following evaluation by DASETT of a comprehensive application by Brambles to export material to the Cleanaway Ellesmere Port U.K. HTI.

CLEANAWAY

The Ellesmere Port HTI performs to all the requirements of the U.K. authorities, including Her Majesty's Inspectorate of Pollution (HMIP) and the conditions of a disposal licence issued by Cheshire County Council under the Control of Pollution Act 1974. The proponent has the performance of the HTI independently monitored and supplies the monitoring results as requested to the relevant regulatory authorities and has never had its permits or approvals withdrawn because of malfunction.

There is a common theme relating to Questions 38 through to 57 and the following includes a response to them.

Should there be any queries relating to these responses, we would be most happy to provide answers or clarification as required.

Yours faithfully,

S.C. Coulson
STATE MANAGER - W.A. & S.A.

ADDITIONAL COMMITMENTS TO THE P.E.R.

Ref: *Storage of Waste* *Question 9.*

- In the event that a consignment can not be directly loaded into ships stowage, to avoid on-wharf storage the consignment will be returned to the Central Receival Point and placed in interim storage or held until the situation that caused the delay is resolved, and this commitment will be carried out to the satisfaction of EPA.

Ref: *Storage or Waste* *Question 35.*

- For the transport of wastes from the various storage locations the proponent commits itself to transport all the materials by a route satisfactory to EPA.

Ref: *Storage of Waste* *Question 36*

- The proponent will provide specific training for relevant personnel within the Port of Fremantle. Port Authority Personnel directly associated with the project will be provided with an understanding of the hazards associated with the consignment and given instructions on their role in case of emergency.

Review of the national Strategy for the disposal of Hazardous Waste

Q1 Is the proponent aware that the Australian and New Zealand Environmental Conservation Council is preparing a national strategy for hazardous wastes and regulations for the management of hazardous waste?

A1 Brambles is aware of the ANZECC preparation of a national strategy for hazardous wastes and regulations for the management of those wastes.

The proponent will keep in touch with developments and the eventual outcome when it occurs.

Q2 Is the proponent aware of the Independent Panel on Intractable Wastes set up by the governments of New South Wales, Victoria and the Commonwealth to look at various aspects of intractable waste disposal? Is the proponent aware that this panel is likely to report its findings early this year?

A2 Yes. Brambles is aware the Independent Panel may report its findings in July 1992.

Q3 Is the proponent prepared to wait for the findings of the above groups before proceeding with its proposal?

A3 This proposal has been developed in response to requests from the various holders of the waste for the proponent to provide a responsible and cost effective service. This PER meets all current regulatory requirements consequently the proposal will proceed as planned.

Ethics of Exporting Intractable Wastes for Incineration

Q4 Given that the export of intractable waste could be seen as an ethical issue, what is the proponent's position on the issue?

A4 The moral and ethical issues have been dealt with by the Basel Convention and the Commonwealth Government. The Basel Convention infers that first world countries should have their own High Temperature Incinerator (HTI), however where that is not the case the Basel Convention permits export of waste to other first world countries which have the facilities. The requirement is these facilities perform to the expectations of the Basel Convention, all regulatory bodies and Brambles own commitment to Duty of Care.

Consequently Brambles believes it is in compliance with the moral expectations of International and National agreements and regulations.

Permits to Export Intractable Wastes

Q5 Does the proponent have a permit to export intractable waste and if so when will it expire? Is there a deadline for the export of intractable wastes to the United Kingdom?

A5 Brambles holds a current export licence which will expire 31/7/92. The licence is renewable, under Commonwealth Government Regulations, applications for renewal are submitted every six months essentially to provide continuity and for the Government to assess the situation on a regular basis.

Brambles has significant communication links with the Commonwealth Government and because of the importance of this proposal to proceed every endeavour has been made to determine political and community attitudes toward exporting the material. Whilst the situation can change for any number of reasons Brambles best assessment is that no deadline is pending for the export of intractable wastes to UK.

Q6 Is the proponent aware that a total ban on the export of intractable wastes from Australia may come into being in the next few years and as a consequence is the proponent trying to ensure it can beat the ban by getting approval to export as soon as possible?

A6 Pursuant to the Basel Convention and the lack of disposal facilities in Australia, Brambles is not aware that there may be a total ban and therefore is not trying to beat a timetable. (see question 4).

Brambles is aware that other Australian States have been satisfactorily exporting intractable material for some years and in many cases the clean-up is complete.

With respect to the perceived haste of this proposal Brambles points out that it is responding to a commercial demand to carry out a practice which it has been involved in since 1984 consequently this proposal has not been submitted to the Government to beat any deadlines.

The holders of the wastes in Western Australia have concerns about the prospect of Western Australia left holding the material in storage for an indeterminable period of time.

This proposal presents a solution to an already existing problem and one which will eliminate the need for indeterminate storage.

Present Research and Storage of Waste

Q7 Is the proponent aware that research (chemical, fungal, genetic, bacterial and plasma arc treatment) into the destruction of intractable wastes indicates that there may be a solution to

the problem of disposal within five years? Does the proponent know the likely time that these projects will be concluded. Is the proponent prepared to await the results of these research projects before proceeding with the proposal?

A7 Many of these research projects are small proto-type projects dealing with either one or a very restricted number of types of waste. We have in Western Australia a situation where the nature of currently stored waste is wide ranging and includes a lot of contaminated material which is not necessarily pure solution or pure solids. There is also significant volumes of various types of contaminated containers and receptacles. Our proposal includes the complete destruction of these containers to an acceptable level.

Whilst progress has been made in some areas it is highly unlikely that a solution dealing with such a wide range of contaminated materials is imminent albeit good progress is being made for specific materials.

With respect to the perceived haste of this proposal Brambles points out that it is responding to a commercial demand to carry out a practice which it has been involved in since 1984 consequently this proposal has not been submitted to the Government to beat any deadlines.

Storage of Waste

Q8 The PER indicates that storage is safe. The proponent, however, indicates that the main reason for the proposal is the potential for fire at the existing stores. Could the proponent clarify whether present storage is or is not a problem and what is the need for the proposal if storage is safe?

A8 The PER advises the material is currently stored in a manner and under controls that effectively prevent their contact with the environment generally and with people.

Whilst the materials are stored under controls the packaging is deteriorating and repacking is required, or will be in the near future, because of the corrosive nature of some of the materials. It is for these reasons that the PER also advises that medium to long term storage is not desirable as it does not address the need for the wastes to be destroyed.

Brambles also recognises that while the material remains in storage there is a possibility the current storages may be involved in fires resulting in hazardous emissions exposing personnel, the public at large and the environment in general to unnecessary risk.

Q9 Is the proponent willing to make a commitment that on-wharf storage (at Fremantle Port) will not be required?

A9 It is not Brambles intention to have on wharf storage and Brambles is willing to make a commitment that on-wharf storage would not take place. Brambles will develop and maintain close liaison with the Fremantle Port Authority to ensure that situations arising from time to time are accurately communicated and consequently wharf storage will not become an issue. Arrangements with the shipping line have been made to co-ordinate delivery of the containers to the wharf and have them lifted from the transport vehicle directly to below deck stowage. Only unforseen circumstances would alter this arrangement and if it did occur the consignments would be returned to the central receival point rather than store on-wharf.

Brambles is in a position to make this essential commitment as the Central Receival Point (ref PER 3.5) is designed and approved for interim storage negating the need for on-wharf storage.

Q10 Are any wastes which are the subject of this proposal stored in the Municipality of Fremantle?

A10 Studies of the waste volumes currently in storage in the Perth Metropolitan area indicate the large majority is held in storage in the Kewdale Industrial area, and therefore outside the Municipality of Fremantle.

Over a period of time some small quantities have been identified by various industries and organisations who have contacted HDWA and have been advised on safe handling and containerisation procedures and also material to be held on site until an acceptable disposal method becomes available.

Maybe some of these wastes are held in storage in the Municipality of Fremantle, Brambles is unaware of specific volumes and types of material if this is the case.

However if we are made aware of them, they will be considered as part of this proposal. (Refer Q8)

Q11 Is the proponent aware that if it takes ownership of waste in the Municipality of Fremantle and stores it in the Municipality, it will have to notify the Council as soon as possible?

A11 Brambles is aware that if it intended to store the material in the Municipality it would notify the Municipality of Fremantle. However storage within the Municipality is not proposed essentially as the Central Receival Point is the nominated approved storage site.

Q12 Is the proponent aware that the owner of any premises in the Municipality of Fremantle which is currently used as a warehouse/storage of intractable waste is required to notify the

Fremantle Council as soon as possible and have it approved.

A12 Brambles is aware of Council's requirements.

Q13 Has the proponent considered encasing the waste and storing the waste as is the practice in the nuclear industry?

A13 Encasing the waste does not destroy it. Brambles has considered many options and variations of dealing with the intractable waste disposal problem, including encasing the waste and storing it as practiced in the nuclear industry. Brambles believes that the Basel Convention provides Western Australia with an opportunity to utilise a method of destruction which is preferable environmentally and commercially to long term storage.

It believes, to encapsulate the material, together with the majority of its packaging, would require extensive development and research, additional storage capacity, further development of transportation methodology, all of this without providing a solution to the problem. Brambles's conclusion is that High Temperature Incineration is a proven destruction method and can be utilised for the material currently held in WA thereby providing a solution now rather than leaving it for future generations to solve.

Q14 Could the proponent detail the contents and packaging of the five shipping containers of waste at the Brambles store in Welshpool?

A14 The material currently stored at Brambles' store in Welshpool consists of drummed liquids and contaminated solid materials, a containerised transformer and a variety of capacitors.

The liquids are essentially PCB contaminated flushing fluids drummed and stored following retro-filling of transformers.

The contaminated solid materials consist of clothing and cleaning materials used by personnel during the clean-up phase of retro-filling and site decontamination.

The store also contains a quantity of capacitors packed in steel bins and crates and locked inside dedicated shipping containers.

All of the materials are contained and stored with the approval of the Department of Mines and EPA.

The same store has been nominated by Brambles as the Central Receival Point. It is an approved storage site, manned by security/caretaker 24-hours a day and provides a functional location for consolidating packaging and loading requirements.

New Wastes

Q15 Is there any provision for dealing with new wastes (as yet unidentified) within this proposal?

A15 This P.E.R. has been developed for the proponent to dispose of intractable wastes. As yet unidentified intractable wastes will be included provided they are approved for HTI by all regulatory agencies.

Q16 After exporting the wastes subject to this proposal, is it likely that the proponent will submit another proposal to the EPA to export other types of intractable waste for disposal overseas.

A16 It is unlikely Brambles will be required to submit another proposal to the EPA for the export of intractable wastes. The Current PER is generic and therefore sufficiently comprehensive to include the quantities of other materials which come to light provided they have been evaluated to determine suitability and wastes which may become available as a consequence of the approval of this proposal. Refer Q15.

Ownership of Waste

Q17 The issue of ownership is of general concern. Given the diversity of owners and natures of the waste, and the possibility that a whole consignment could be rejected because some waste is off-specification, could the proponent explain how it would manage the return of the waste to Australia, who would own it upon its return and how the waste would be redistributed to the original sources.

A17 Brambles has developed this PER and incorporated the commitments as a means of providing definite assurances to all parties. These assurances include the acceptance and commitment to the regulations of the EPA, Commonwealth Government and agreements contained within the Basel Convention. In so doing Brambles accepts its obligations to comply within all regulations and to manage procedures which ensure that off-specification material is not exported. Transfrontier Shipment Documentation requires written approval by competent authorities before the waste may be shipped. Testing of currently on-site waste material would be managed by the proponents own NATA registered laboratory to establish its composition. This information will be communicated to the HTI where acceptance or otherwise is confirmed. If not acceptable the material will be removed and would not be sent as an export item. In the unlikely event that a part or whole consignment is returned, the procedure to do so would be as required and directed by the EPA.

Q18 If a whole consignment of waste were rejected because some was

off-specification, how would the proponent explain to those owners of on-specification waste within that consignment that it was rejected and how would the proponent ultimately deal with the disposal?

A18 Brambles has established procedures and accepted commitments (refer question 12) which virtually eliminates the prospect of having a consignment rejected as off-specification.

In the unlikely event that a part consignment was rejected that part of the consignment would be re-shipped back to Brambles and the procedure to do so would be in accordance with the EPA regulations.

The off-specification material would be returned to the Central Receival Point and tests would be coordinated to establish its composition. From this analysis would be determined the accepted means of treatment and disposal. These procedures are well established and conform with the regulations and guidelines set by Health Department of WA and EPA. (refer Q17)

Q19 What does the proponent mean in its commitment that it will retain responsibility for the waste to the satisfaction of the EPA (commitment 2c)?

A19 Brambles has sufficient confidence in its abilities that requirements of the various authorities regulations and guidelines will be met and the commitments contained within the PER will form the basis of all its contractual obligations.

For example in cases where Brambles assumes ownership of the wastes it will be necessary, in the extremely unlikely event that the waste is not accepted by the incinerator operator, for Brambles to either resolve the problem or to return the wastes to Western Australia. In either situation Brambles will handle, transport and store the wastes in a manner consistent with the commitments specified in the PER and by the various legislation requirements. If the wastes are returned to Western Australia all necessary requirements will be carried out to the EPA's satisfaction.

Labelling and Packaging

Q20 Is the proponent aware that although the Australian Code for the Transport of Dangerous Goods by Road and Rail and the Dangerous Goods (Road Transport) Regulations both prescribe PCBs as Class 6.1(a) - Poisonous Substances, both the IMDG Code and the UN Recommendations on the Transport of Dangerous Goods list PCBs as Class 9 - Miscellaneous Substances? How does the proponent intend to deal with this issue?

A20 Brambles is aware of the non-standardisation of the codes and

that it falls into two categories. The containers will be labelled in accordance with the two categories and all packages will be marked with appropriate class labels prior to being shipped. The labels will be of a type and affixed according to the details given in Section 4.4 of the PER.

Q21 Where will repackaging to the standard prescribed regulations be undertaken?

A21 The packaging will be undertaken at either the Central Receivals Point, Kewdale or at the location where the material is currently stored.

Brambles will maximise containment by repackaging the material at its present locations.

Small quantities, regarded to be packages up to 10 tonnes will be collected from the various locations, transported under Dangerous Goods Regulations to the Central Receival Point where they will be categorised and loaded into seatainers in readiness for final transport to the wharf.

Larger consignments will also be packaged at their present locations and remain in interim storage until they are scheduled for shipment.

For example large transformers will be drained on site and the drums containing PCBs liquids will be packaged in the specially designed steel bins. The transformers will be secured in specially designed steel bins and remain in interim storage on site until required for transport.

All consignments will eventually be transported to the Central Receival Point as part of the checking and consolidation procedure and also to coordinate shipping arrangements.

Transport

Q22 The proponent noted in the PER that the waste is relatively safely stored at present. The proponent also noted that the major potential impacts are related to transport. Why then is the proponent proposing to transport the waste?

A22 Brambles has noted that the wastes are currently stored under controls that effectively prevent their contact with the environment and with people. It is also noted (question 8) that packaging is deteriorating and that re-packing will be required in the medium to long term.

Medium to long term storage, even when the material has been repacked, is not a solution to the problem. Consequently it will be required that eventually the material will be transported. Brambles proposal is that the material be transported to a Central Receival Point where it will be consolidated into appropriate consignments prior to transport to the wharf. Brambles has noted that the

potential for environmental impact relates to spillage or leakage. High integrity packaging, as considered environmentally acceptable by EPA, has been adopted. Brambles believes the triple containerisation of these materials minimises the risk of spillage or leakage.

Vehicles will be directed along the shortest route from the pick up point to the Central Receival Point, and when appropriate, the shortest and safest route to Port of Fremantle.

Q23 Why has the proponent chosen transport route which correspond with the major traffic routes in the State? Why has the proponent not chosen routes which carry less heavy goods traffic?

A23 Major traffic routes selected incorporate a high standard of road design, construction and maintenance consequently there is greater safety afforded to the users.

The routes provide easier and safer accessibility to emergency services.

Also major intersections are generally well designed and may be manually controlled if necessary, otherwise they are suitably controlled by traffic lights. Routes have been selected on the basis that they have generally the most direct connection to major highways and access roads. They have also been selected because they are in good condition.

All routes selected will be subject to EPA approval and prior notification of the consignments will be given to Department of Mines, Health Department, Police and Fire Brigade. Refer PER item 3.4.2 and 3.4.3.

Q24 Can the proponent clarify why it states in the PER that a spill during transport does not pose a major threat to the environment and the public. The proponent states in the PER that transport (spills and leaks) is the major issue which has a potential to impact on the environment and humans environmental.

A24 The PER states a spill or leak in itself does not represent a high risk to human populations. It would present a risk if the material was ingested however in the case of an accident the emergency procedures in place are designed to prevent the general public from coming into contact with it.

The emergency procedures are well established and consequently, exposure to human populations is minimal.

The PER discusses these procedures in detail.

Q25 In previous operations of this sort, has the proponent ever had a spill, a fire or an explosion of intractable waste during transport operations?

A25 The proponent has not experienced a spill, fire or explosion of intractable wastes during transport operations.

Q26 Is the proponent aware that by transporting the waste in the Fremantle area that it is placing a large number of the population at risk?

A26 The entire transportation operation will be carried out in accordance with the requirement of EPA, Department of Mines incorporating Dangerous Goods (Road Transport) Regulation.

It is also a requirement of the EPA that an escort vehicle, trained crews, emergency response equipment (clothing, shovels, empty containers) and radio communication with an operations centre will all be in place.

The Western Australian Hazardous Materials Emergency Management Scheme (WAHMEMS) will respond immediately upon notification that a waste spill has occurred.

A full description of Emergency Response Procedures is provided in Appendix E of the PER.

The proponent has also adopted EPA approved high integrity triple containerisation. This containerisation has been designed to minimise the risk of leakage or spillage. In the unlikely event that a spillage does occur, the containers are designed for easy maneuverability with standard materials handling equipment.

Q27 Why has the proponent not chosen rail for the transport of intractable wastes through rich agricultural areas and the metropolitan areas of Perth and Fremantle?

A27 The EPA consider road transport is sufficiently safe for this type of operation.

The consideration is based upon the low volumes of waste; the scattered storage locations; the high integrity packaging proposed, all of which will ensure the chances of spillage occurring are minimised, if not eliminated.

Current storage locations include remote mine sites as well as sites scattered throughout the metropolitan area consequently rail transport would require significant road transport operations to railheads.

In addition, adherence by Brambles to the requirements of Dangerous Goods (Road Transport) Regulation 1983 will reduce the risk of spillage in case of accidents. As the EPA requires that the road transport operation should have an escort vehicle, trained crews, emergency response equipment (clothing, shovels, empty containers) and radio communication with an operations centre, the response

to an emergency under these arrangements would provide the quickest and most efficient available.

Q28 Is the proponent prepared to submit the proposed routes for waste transport within the Municipality of Fremantle to the Fremantle Council, and have them approved by the Fremantle Council before the proposal proceeds?

A28 Brambles is prepared to submit the proposed transport routes to the Municipality of Fremantle, at lease 48 hours prior to the consignments leaving for the wharf. These routes will have the approval of the EPA as well as the various Authorities responsible for road safety and emergency response.

The entire operation will be carried out in accordance with the requirements of the EPA, and Department of Mines and will incorporate the Dangerous Goods (Road Transport) Regulations. Refer Q26.

Also, as noted in the PER, 3.4.3. prior notification will be given to EPA, Department of Mines, the Health Department, Police and Fire Brigade and WAHMEMS.

These approvals will be communicated to the Municipality of Fremantle by Brambles.

Q29 Is the proponent prepared to submit a timetable for waste transport within the Municipality of Fremantle to the Fremantle Council, and have them approved by the Fremantle Council before the proposal proceeds?

A29 Brambles is prepared to submit a timetable for transport within the Municipality of Fremantle at least 48 hours prior to the event. As noted in question 26 and 28 the entire operation will have the approval of the EPA and the various road transport and emergency service authorities prior to the operation proceeding.

These approvals will be communicated to the Municipality of Fremantle by Brambles.

Q30 Is the proponent going to transport intractable waste by rail across the Swan and Helena rivers in the Midland area, given that they are environmentally sensitive areas?

A30 Brambles is aware of environmentally sensitive areas and locations on route, consequently it has taken significant steps to reduce the risk of accidents. Also in the unlikely event of accident, emergency response measures are in place to minimise the effect on humans and the environment.

The EPA considers road transport is safe, consequently Brambles has adopted this method of transport and will

clearly define the routes to be taken.

Q31 Has a ship containing waste on behalf of the proponent ever been refused entry to the United Kingdom? If so, what was the reason?

A31 A ship containing waste on behalf of the proponent has never been refused entry to the U.K.

Q32 Why does the proponent believe that its level of packaging is adequate in the case of a severe accident during transport?

A32 Brambles will contain the material inside dangerous goods rated drums, placed inside steel welded bins. These bins will be placed inside shipping containers, prior to transport. This method (triple containerisation) includes high integrity secondary containment; a requirement of EPA which incorporates design and engineering features to ensure; ease of handling; minimum risk of spillage or leakage of waste in the event of an accident and to make recovery in the event of an accident straightforward.

Q33 Could the proponent explain why it does not believe that a spill in a built-up area is not a high risk to the community?

A33 This question is similar to questions 24 and 32. Refer to the response to question 24 and 32.

Q34 For transport of wastes from the Pilbara, would the proponent consider using the great Northern Highway as an alternative to that given in the PER? It is believed by some members of the public that the coastal route is more populated, more vulnerable to pollution and the inland route is less of a risk from flooding. If the proponent will not consider this, why not?

A34 For transport of wastes from the Pilbara Brambles would consider using the Great Northern Highway as an alternative to the coastal route.

Brambles commits itself to transport all these materials to Perth by a route satisfactory to EPA.

Q35 Will the proponent make a commitment that it will ensure adequate liaison between road transport and the container terminal personnel (at the Port of Fremantle) and also ensure that there will be no delays in accessing the relevant terminal at the port?

A35 Brambles will ensure adequate liaison will exist between the road transport operation and Fremantle Port Authority. Shipping arrangements through the terminal will be coordinated in such a way that the containers will be taken directly from the transport vehicle and placed in below deck stowage. Consequently, liaison/ communication with Fremantle

Port Authority is regarded by Brambles as essential.

Q36 Will the proponent make a commitment to give specific emergency response training for relevant personnel within the Port of Fremantle?

A36 Brambles will provide specific training for relevant personnel within the Port of Fremantle. As Brambles operators will be specially trained in emergency response, followed by WAHMEMS involvement, training of Port Authority personnel will be restricted to providing an understanding of the hazards associated with the consignments. Instruction on their role in case of emergency will be provided to those persons directly associated with loading the consignments.

Q37 Why does the proponent believe that an accident would not happen to a ship carrying intractable wastes off the coast of Australia? Why does the proponent not address in detail the emergency response for an accident at sea? Will the ship carrying the waste be restricted to sailing in certain weather conditions? If the ship encounters problems off the Australian coast, which port would it enter?

A37 Brambles is seeking approval for all matters and procedures relating to requirements within Western Australia, including the 3 nautical mile limit off the coast. Brambles is also bound by the Basel Convention and International Maritime Dangerous Goods Code in respect to shipping and containerisation. In addition, all emergency response regulations for international shipping are governed by the Commonwealth, including the entry into an appropriate port if required.

The PER identifies the primary contact point in the case of an emergency at sea. Thereafter, emergency response measures will be determined to suit the particular circumstances of the situation.

In the unlikely event that an accident may occur, Brambles maintains quality insurance cover and the policy has been extended to cover the financial consequences of an accident. The policy is also extended to include Brambles liability for pollution. Refer PER Appendix E. Item E3. Insurance.

Efficiency and Reliability of Incineration

Q38 Do the relevant Local Government Authorities in the United Kingdom find the incinerators to be used in this proposal meet with their regulatory requirements and satisfaction?

A38 The Ellesmere Port HTI meets or exceeds the requirements of the UK HMIP Chemical Management works BPM11 Notes on Best Practicable Means.

The plant is independently monitored by the environment Division of a reputable environmental, safety & engineering group who have confirmed to the regulatory authorities that the plant complies with the requirements of BPM11 and other Cleanaway specifications in excess of these requirements.

Q39 Is the proponent aware that Greenpeace questions the Destruction and Removal Efficiency (DRE) that the HTI operators claim they can achieve on the grounds of methodology employed in monitoring. Can the proponent clarify its monitoring protocol.

A39 Independent sampling and analysis for Destruction & Removal Efficiency (DRE) tests are based on USA EPA standards. This has shown that the DRE is better than 99.999996%

(NB: BPM11 requires the DRE to be 99.9999%).

Q40 Does the high temperature incinerator carry out continuous monitoring of its air emissions? Is the monitoring methodology and results available to the public?

A40 The operations of the HTI, including the monitoring of emissions, is subject to the strict controls and regulations of the various regulatory agencies, including Her Majesty's Inspectorate of Pollution (HMIP). The monitoring is carried out on a continual basis, the HMIP is the recipient of the results and this Authority determines the availability of results.

A Cleanaway Local Liaison and Monitoring Group has been in existence since March 1989 and meets at least twice per year. The Group consists of representatives from Cheshire County Council, Local Residents Associations, Ellesmere Port Borough Council, HMIP and Cleanaway. The meetings are constructive and allow interchange of information from Cleanaway on the performance of the plant as well as reporting on any complaints or incidents.

It should be noted that the nearest residential housing area is over one mile from the Cleanaway plant which is near the centre of a large industrial and oil refining complex.

Q41 Are products of incomplete combustion (PICs) present in the air emissions after scrubbing? If so, what are their likely environmental impacts?

A41 Exhaust gases from the kiln enter a secondary combustion chamber employing vortex combustion principles which generate a highly turbulent combustion engine.

A combination of chamber geometry, operating temperature, excess air and

turbulent running, with a mean residual time of the wastes in excess of four seconds after the last waste injection point, produces optimum conditions for oxidation.

There is a complete combustion in the process.

Q42 If waste disposal by incineration is safe, why does the proponent not use a portable incinerator in Western Australia to dispose of the wastes?

A42 The proponent does not own and operate a portable incinerator.

Q43 Is the proponent aware that the main reason why there is no high temperature incinerator in Australia is because of public opposition?

A43 That appears to be a reasonable deduction.

Q44 Is the proponent aware that incineration of intractable wastes does not destroy all the wastes but rather transforms them into more toxic forms such as furans and dioxins, and then disperses then to the atmosphere?

A44 Combustion gases exit from the secondary combustion chamber and are cooled through a parallel pair of gas-gas heat exchangers, which reduce the gas temperature to 800°C and provide clean ambient air at about 300°C for subsequent reheating of the exhaust gases from the stack.

On leaving the heat exchanges, the combustion gases then pass through a saturate venturi, where they are quenched instantaneously to less than 80°C. This rapid cooling of the combustion gases to below the critical band of 250°C to 400°C, as found in some steam generating waste heat recovery systems is a particular design feature of the plant, eliminating the possibility of dioxin and furan formation.

The cooled saturated gases then pass through a variable throat venturi scrubber, which removes a part of the suspended particulate matter before the now saturated gases enter a vertical scrubbing tower.

The scrubbing tower incorporates two separate stages of gas cleaning through a system of sprays, sieve plates using water, and a multi-stage fluidised bed using caustic soda solution. Gases from the scrubbing tower are drawn through a pair of wet electrostatic precipitators operating in series to remove residual fine particulate matter. They then pass through the induced draught fan to the stack, where they are mixed with heated air to minimise visible steam plume formation, before discharge to the atmosphere.

Also refer to the response to Question 41.

Q45 Is the proponent aware that of the thousands of by-products of toxic waste incineration, thousands of compounds are formed but only a few have been identified so far? Consequently, how can the proponent be sure that its emissions are not causing an environmental or human impact.

A45 The computerised operation control and monitoring system is a major feature of the plant. Every aspect of the plant's operation, from waste feed mechanisms and incinerator train monitoring, to the operation of the unit's gas cleaning and effluent treatment systems, is under the control of a central computer. This provides a continuous readout of the operational parameters of the plant and initiates an immediate shutdown of the waste feed mechanisms in the event of plant malfunction.

The system provides on-line monitoring of emissions. Continuously monitored parameters include particulate matter, O_2 CO, SO_{xi} HCl and total hydrocarbons. Additional testing for specific emissions is carried out to ensure that the high combustion efficiency is maintained.

Brambles' stringent controls together with monitoring carried out by the regulatory authorities and an independent annual environmental audit, ensure that the highest performance standards are maintained.

The plant performance for gaseous emissions exceeds that required for compliance with the UK BPM11 standard. The measured Destruction and Removal Efficiency (DRE) for polychlorinated biphenyls is 99.999996%. Independently audited performance has also demonstrated that the stringent proposed EC emission standards for Hazardous Waste Incineration Plant are achieved.

Also refer to the response to question 44.

Q46 Has the proponent ever had an explosion or fire at its incinerator?

A46 The plant has never had an explosion. However, during commissioning, a minor fire occurred in the solid wastes feed system. This was localised and quickly extinguished. The incident was investigated by the Health & Safety Executive and was reported to and discussed at the following Cleanaway Liaison Group meeting.

Q47 Is the proponent aware that gas emissions from incinerators cause a build-up of greenhouse gases?

A47 The gas emissions from this HTI comply with emission standards set as described in Question 38. The gas emissions in terms of the greenhouse effect are minor in comparison with other combustion processes, eg. power stations.

Q48 Where are the solid or liquid residues disposed of after the waste is incinerated?

A48 Scrubbing liquors are pumped to a rubber lined mixing tank where they are neutralised. The neutralised effluent flows to a settlement tank and, after settlement, the remaining clear water flows back into Manchester Ship Canal to a standard complying with the consent granted by the North West Water Authority.

Disposal of residues, after conditioning the precipitated solids containing the residual inorganic ash from the combustion process, are pumped from the clarifying tank to a centrifuge system.

The dewatered solids are taken in appropriate containers for disposal at suitably licensed landfill sites.

Q49 Why had the proponent not discussed the disadvantages of incineration?

A49 Brambles has proposed a method of disposal (HTI) which is acceptable to the Commonwealth Government and the United Kingdom Government pursuant to the Basel Convention. High temperature incineration is the only proven disposal option for a wide range of organic waste materials.

Effects of Incineration on Local Communities and Consultation

Q50 Was the public allowed to comment on the granting of the Commonwealth Government's permits to export intractable waste to the United Kingdom?

A50 The proponent's application for he granting of an export permit under the Hazardous Waste (Exports & Imports) Regulations 1989 was subject to consideration by the Commonwealth Government. As part of this process, the proponent's application was advertised in the Commonwealth of Australia Gazette (Ref. Section 17, especially 17.1a). The public were therefore allowed to comment.

Q51 Has the proponent consulted with the residents in the locality of the incinerator.If not does it intend to do so and when?

A51 A Cleanaway Local Liaison & Monitoring Group has been in existence since March 1989 and meets at least twice a year. It provides an interchange of information. Also refer to the response to Questions 40 and 41.

Q52 Is the proponent aware that there are known health problems in the communities surrounding toxic waste incinerators in the UK resulting from toxic gas emissions? Is the proponent aware of claims that emissions from HTIS in the UK have caused rare eye deformities in babies and high PCBs in duck eggs, soils and farm animals.

A52 The proponent is an active member of the Local Liaison Group which is the forum for discussion on the performance of the plant as well as reporting on any complaints or incidents.

Q53 Has a malfunction, spill or and emission at the proposed incinerators ever caused an environmental or human impact? If so what was that impact.

A53 The HTI at Ellesmere Port is a modern rotary kiln incinerator which has complied with all the regulatory agencies' requirements since commissioning.

Also refer to responses to Questions 38, 39 and 46.

Q54 Has any member of the local community in proximity to the proposed incinerators ever been denied access to monitoring results associated with the activities of the incinerators?

A54 The proponent provides results of its independent monitoring of emissions to HMIP and this authority determines the availability of results.

Refer to responses to Questions 40 and 41.

Q55 The proponent states and infers that HTI is an acceptable method of disposal. Is HTI acceptable to the local community around the proposed incinerator facility and if so on what evidence does it base its opinion?

A55 The proponent is a member of the Local Liaison Group and constructive interchange of information is provided at the regular meetings.

Also refer to responses to Questions 40, 41 and 54.

Q56 Whilst little reference has been made specifically to the Ellesmere incinerator, could the proponent explain why the concerns of the public around the ReChem incinerators should not apply to the Ellesmere incinerator.

A56 Operations in and around the Ellesmere Port incinerator have not been the subject of objections by the public. This particular HTI performs to all the requirements of the various regulatory authorities and to the commonwealth Government of Australia. This is evidenced by these agencies issuing all the documentation or permits for the facility to operate.

The proponent has the performance of the HTI independently monitored and supplies the monitoring results to the relevant regulatory authorities. These permits and approvals have never been withdrawn because of malfunction.

Cleanaway has been operating incinerators in Ellesmere Port since 1974 in a dedicated

industrial area dominated by the oil refining and oil related industry. The company has an excellent track record employing highly trained management and operators. This commitment enabled the Company to gain planning permission for the development of a "state of the art" rotary kiln, which was commissioned in 1990. The facility incorporates the latest developments in incineration and gas cleaning technology, and includes sophisticated monitoring control and safe operating systems in its design.

Q57 Does the proponent believe that the HTI is acceptable tot he community at Ellesmere Port because its emission levels complies the requirements of the local regulatory agency. If not, on what basis does the proponent believe that it has community acceptance?

A57 Results of independently monitored emission levels are reported to HMIP, which meet the standards of that Authority.

The proponent is also a member of the Liaison Monitoring Committee which meets regularly and includes open discussions on the facility's operational performance.

Also refer to responses to Questions 40, 41, 51, 52 and 53.

Consultation in Western Australia

Q58 The PER indicates that Greenpeace accepts that H.T.I. is the best available technology even if it rejects it as an option. Greenpeace nether accepts H.T.I. is acceptable or that it is the best available option at this stage.

A58 The proponent acknowledges the right of Greenpeace to express a view.