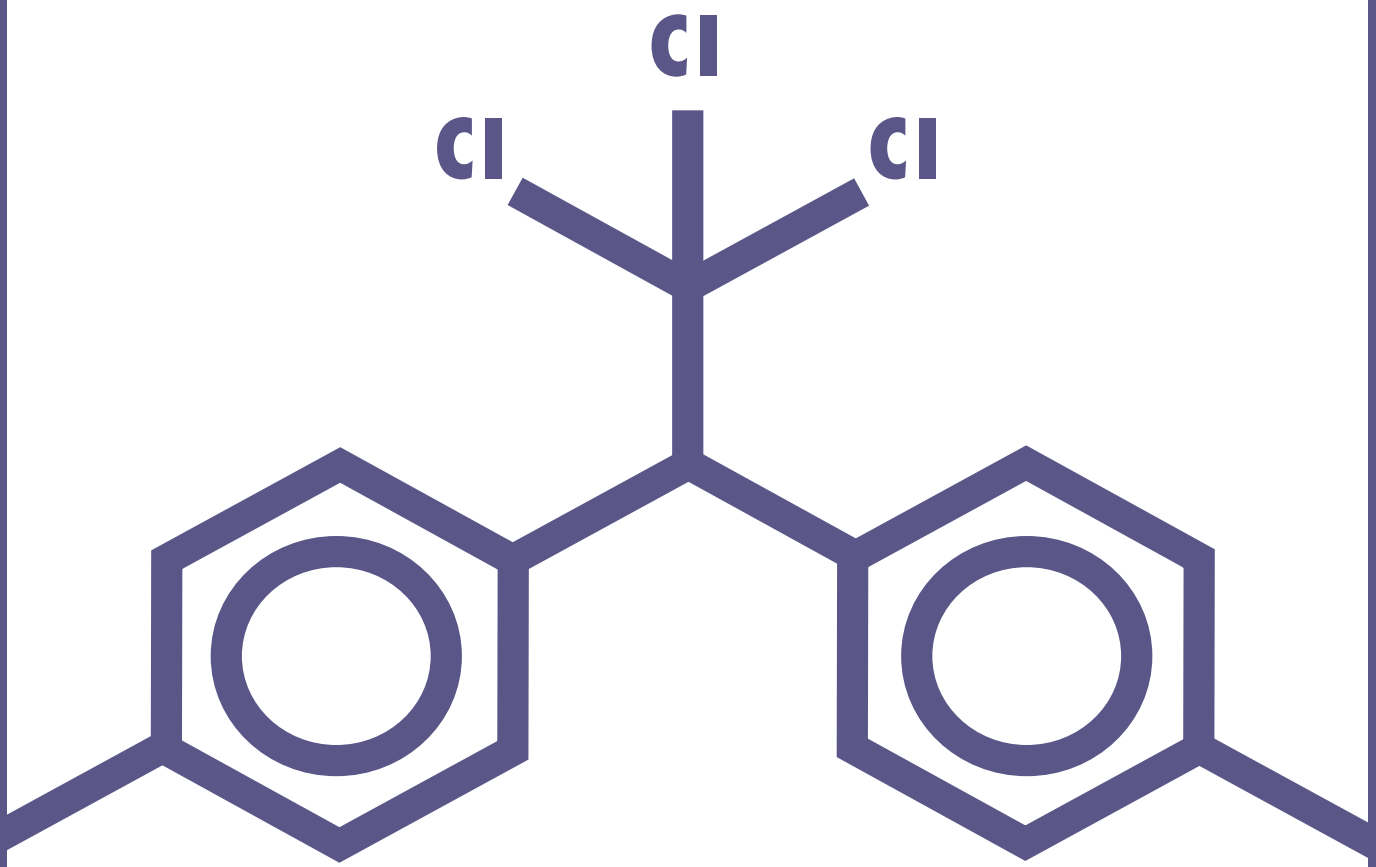
ORGANOCHLORINE PESTICIDES

WASTE MANAGEMENT PLAN



ACKNOWLEDGMENTS

The objective of the Australian and New Zealand Environment and Conservation Council (ANZECC) is to provide a forum for consultation and co-ordination between the State, Territory and Commonwealth governments of Australia and the Government of New Zealand on environmental and conservation issues.

The *Organochlorine Pesticides (OCP) Waste Management Plan* was prepared between July 1996 and September 1997 as part of the *National Strategy for the Management of Scheduled Wastes*. The assistance of a large number of organisations and individuals played a crucial role in its success and widespread acceptance. It was funded by ANZECC.

ANZECC would like to acknowledge the efforts of the Scheduled Wastes Management Group (SWMG) and the National Advisory Body (NAB). The SWMG was set up to oversee the development of scheduled waste management plans and the NAB was set up to provide interest group advice to ANZECC on scheduled waste issues. The NAB consists of representatives of a range of interested stakeholders: environment groups, farmers, local government, unions, waste holders (from the chemical industry, electricity supply and mining sectors), waste managers and scheduled waste treatment firms. On behalf of ANZECC, a consultation panel of members drawn from the NAB conducted an extensive community consultation program for the OCP waste management plan and it played an important role in incorporating public comment through the process to prepare the endorsed plan.

Finally, ANZECC offers its thanks to the many people who took part in the public consultation program and to those who made submissions concerning the development of the plan through two previous drafts.

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EXPLANATORY NOTE

ANZECC's directions

The National Strategy for the Management of Scheduled Waste, endorsed in 1993 by the Australian and New Zealand Environment and Conservation Council (ANZECC), requires that scheduled waste management plans (including the one for OCP waste):

(a) are based on a risk assessment of environmental and human health effects, and the social and economic impacts;

(b) specify threshold concentrations, threshold quantities and notifiable quantities of chemicals;

(c) indicate dates for cessation of the generation of scheduled waste, for cessation of the use of articles containing scheduled waste, and for the disposal of scheduled waste; and

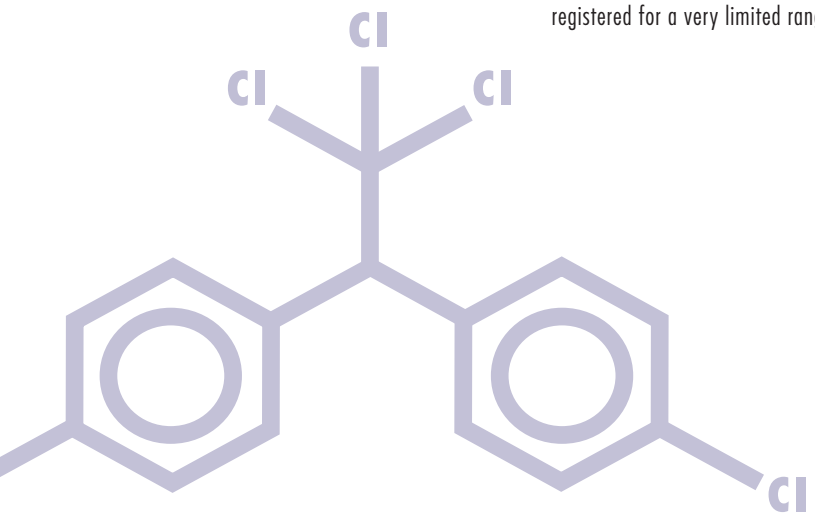
(d) take into consideration the principles defined in the Intergovernmental Agreement on the Environment (IGAE).

Public involvement

The process to develop this *OCP Waste Management Plan* started in July 1996 with a public call for submissions, advertised nationally and distributed to those on the scheduled wastes mailing list. A draft management plan then became the basis for public consultation at thirty forums held across Australia between November 1996 and March 1997, mainly in rural venues (see Attachment for the list of venues visited).

Consideration of the outcomes of these forums, and further discussion by the National Advisory Body and the Scheduled Wastes Management Group, led to production of a draft final management plan which was discussed at workshops held in July and August 1997, at ten (mainly rural) venues (see Attachment for the list of venues visited). At these workshops, participants were also able to consider a discussion paper on proposals for a National Collection, Storage and Destruction Scheme which had wider objectives than those of the *OCP Waste Management Plan*. Comprehensive reports on these consultations have been prepared and are available from the Waste Management Secretariat. This final plan was then developed with input from members of the OCP Consultation Panel, the National Advisory Body and the Scheduled Wastes Management Group.

In preparing the OCP Waste Management Plan, objectives (b) and (d) have been met. Regarding objective (c), the date 2003 has been set for complete implementation of the plan. Some scheduled OCPs are still registered for a very limited range of uses.



The role of risk assessment in preparing this plan

Risk assessment methods for chemicals can be applied to situations where human beings or the environment are exposed to those chemicals. The risk can be estimated from a combination of the inherent hazard of the chemical (the toxicity) and the likelihood of exposure to that chemical.

Such an approach is difficult to apply to the estimated few hundred tonnes of OCPs stored in containers on properties around Australia. However, these substances also pose a threat to the export of any primary produce that may become contaminated with them, and so the risk of inaction needs to be seen against the scale of primary produce export industries so threatened. For instance, the beef export market can be up to $3 billion annually. Comparison of the relative risks attached to continued storage by holders (and the potential for contamination of primary produce) and to collection and destruction of the wastes suggests that the latter course has significant advantages.

Implementing the plan

This management plan has been submitted to ANZECC for endorsement and, following this, it will be considered for implementation by all Australian governments. The plan will be given effect through Commonwealth, State and Territory policy and statutory instruments; as such, the *OCP Waste Management Plan* represents guidance to governments.

Future technology

Technologies are not yet available for treatment of some OCP-containing mixtures, such as those involving arsenic. The matter is being pursued by commercial proponents, in association with jurisdictions, with a view to establishing new technologies so that all OCP wastes may be treated and the OCP component destroyed.

Review process

Annual reports on progress with the implementation of the plan will be provided by jurisdictions. After three years, the management plan will be subject to independent review. The experience gained, and any new information or risk assessment methods which may have an impact on the management provisions in the plan, particularly information on human health effects and environmental toxicology of OCPs, will be examined as part of these reviews.

Professor Ian D. Rae
Chair, National Advisory Body and Scheduled Wastes Management Group

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1. DEFINITIONS

1.1 'agency' means the lead agency charged with the responsibility for scheduled wastes by the relevant Commonwealth, State or Territory government;

1.2 'ANZECC' means the Australian and New Zealand Environment and Conservation Council;

1.3 'approved' means approved by the agency;

1.4 'collection point' means a location at which waste is initially received by appropriately-trained staff. At a collection point, OCP waste shall be segregated, at minimum, into the various categories listed in Section 5.3;

1.5 'consolidation store' means a location to which OCP waste is relocated for medium-term storage prior to destruction;

1.6 'destruction' means the treatment of scheduled OCP waste to leave only residues for which approved methods of disposal are available;

1.7 'holder' means the holder of OCP waste prior to its receipt at a collection point;

1.8 'licence' means a statutory approval issued by the agency;

1.9 'management plan' means a plan approved by ANZECC for the management and disposal of a specific category or combination of categories of scheduled wastes;

1.10 'National Protocol' means the *National Protocol for the Approval/Licensing of Commercial-Scale Facilities for the Treatment of Scheduled X Wastes (July 1994);*

1.11 'notifiable quantity' means more than 10 kg of OCPs (active ingredient) in scheduled OCP waste held at a collection point or in a consolidation store;

1.12 'OCP waste' means waste containing those organochlorine pesticides which were originally sold for use as pesticides, or breakdown products of those pesticides, as listed in Appendix A. OCP wastes are categorised as follows:

1.12.1 'scheduled OCP waste' means waste containing OCPs at levels at or in excess of the threshold concentration (50 mg/kg) and threshold quantity (50 g);

1.12.2 'non-scheduled OCP waste' means waste containing OCPs at levels below the threshold concentration (50 mg/kg) or threshold quantity (50 g) and above the concentration level defined as exempt OCP waste (2 mg/kg);

1.12.3 'exempt OCP waste', including the residues of destruction processes, means waste containing OCPs at 2 mg/kg or less[1];

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[1] Note that this level has been adopted for management practicality and protection of the environment. Some materials, such as stockfeed, are subject to more stringent controls on OCP concentrations because of biomagnification. (For example, the National Registration Authority has set recommended maximum residue levels of 0.05 mg/kg for DDT and 0.01 mg/kg for Aldrin and Dieldrin in primary feed commodities – refer to Table 4 of the National Registration Authority *MRL Standard* for details on other OCPs.) Such tighter controls continue to apply regardless of this management plan.

1.13 'premises' includes any property, building and public place, ship, boat, aircraft and any other vehicle;

1.14 'segregate' means separate into defined categories to facilitate efficient destruction;

1.15 'threshold concentration' means a concentration of OCPs of 50 mg/kg; and

1.16 'threshold quantity' means a quantity of OCPs of 50 g.

2. SCOPE OF THIS MANAGEMENT PLAN

This plan:

2.1 shall be known as the *OCP Waste Management Plan*. It has been developed under the *National Strategy for the Management of Scheduled Waste*[2];

2.2 covers pesticides and pesticide breakdown products listed in Appendix A at the concentrations and quantities as originally packaged for sale, and the contents of those packages as degraded over time;

2.3 also covers scheduled OCP wastes which are:

2.3.1 materials spilled from packages of OCPs and contained in secure containers, including absorbent materials, safety clothing, washings and tools used for clean-up;

2.3.2 contents of OCP spray vats and containers of OCP animal dip formulations;

2.3.3 bulk fertilisers with OCPs added at the time of manufacture at a concentration greater than 50 mg/kg;

2.3.4 reformulated or decanted OCP material now in a container not originally intended for the particular pesticide concerned;

2.3.5 pest control materials containing OCPs, such as baits, bandages and fruit racks;

2.4 does not cover soil contaminated with OCPs. Assessment and management of OCP-contaminated soil shall be in accordance with:

- relevant State and Territory legislation; and
- the National Environment Protection Measure on Assessment of Site Contamination (when it is made), which will supersede the assessment parts of the ANZECC and National Health and Medical Research Council (NHMRC) *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites* (Jan 1992).

[2] This consists of the *Draft National Strategy for the Management of Scheduled Waste* (Nov. 1992), supplemented and amended by the Scheduled Wastes Working Group *Report to the Australian and New Zealand Environment and Conservation Council* (Version B, May 1993).

2.5 does not cover samples of OCP products held by laboratories for the purpose of quality assurance (retention samples) and analytical standards. Such samples are subject to the provisions of this management plan, once the reasons for holding them no longer apply;

2.6 does not cover materials dealt with under the *Hexachlorobenzene Waste Management Plan*[3];

2.7 sets targets for completion of particular actions which, however, depend on:

2.7.1 the negotiation of an agreement between stakeholders to cooperate in providing resources for the collection, transport, storage and destruction of OCP waste; and

2.7.2 the negotiation of early starting dates[4] for its implementation within jurisdictions which will ensure that the requirements of the plan are met by 2003;

2.8 shall be given effect through Commonwealth policies (recognising that these are also influenced by other factors, including international responsibilities) and relevant State and Territory statutory instruments; and

2.9 shall provide guidance to regulatory authorities with responsibility for OCP waste and to organisations and persons involved in the storage, handling, destruction and disposal of OCP waste.

3. MANAGEMENT BY HOLDERS

3.1 Individual OCP waste holders, including farmers and householders, shall be responsible for the sound management of that waste which is in their possession.

3.2 Other holders of OCP waste shall take full responsibility for managing that waste and arranging for its destruction.

3.3 In fostering a cooperative approach, the agency shall provide advice on how OCP waste on farms, businesses and domestic premises should be stored, handled and transported to collection points (with reference to Section 5 of this plan).

3.4 Holders of scheduled OCP waste wishing to have their waste destroyed before collections are implemented may do so in accordance with jurisdictional controls.

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[3] *The Hexachlorobenzene Waste Management Plan* was developed under *the National Strategy for the Management of Scheduled Waste* to deal with the hexachlorobenzene waste from the former ICI Australia Operations Pty Ltd (now ORICA) plant at Matraville, NSW. It was endorsed by ANZECC in November 1996.

[4] Starting dates may differ between jurisdictions.

4. COLLECTIONS

4.1 Any collections of scheduled OCP waste should be consistent with this plan and preferably be part of a nationally consistent collection program.

4.2 Resourcing and implementation of collections should involve cooperation between industry[5], all spheres of government and community-based organisations.

4.3 Collection, storage and destruction of scheduled OCP wastes shall take place within the regulatory framework provided and applied by Commonwealth, State, Territory and Local Government environmental, health and other responsible bodies.

4.4 Collections shall not commence until the agency is satisfied that a consolidation store suitable for the purpose of receiving scheduled OCP waste from collection points is available.

5. OCP WASTE STORAGE, HANDLING AND TRANSPORT

5.1 Scheduled OCP waste shall be:

5.1.1 transported in accordance with the *Australian Code for the Transport of Dangerous Goods by Road and Rail*[6] and any conditions required by the agency, and in accordance with any other legislative requirements; and

5.1.2 stored in accordance with the requirements of dangerous goods legislation and other relevant legislation[7].

In applying these requirements, those in possession of OCP waste should minimise the possible release of vapours.

5.2 Control of OCPs in the workplace shall be in accordance with the *Control of Workplace Hazardous Substances – National Model Regulations and National Code of Practice* as published by Worksafe Australia and adapted into appropriate State or Territory legislation.

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5 'Industry' includes all industries which may have been involved in the production, supply, marketing and use of OCPs.

6 As amended from time to time.

7 These include (as of April 1999) AS 1940 (1993 – *The Storage and Handling of Flammable and Combustible Liquids)* and AS 2507 (1998 – *The Storage and Handling of Agricultural and Veterinary Chemicals)*).

5.3 To facilitate efficient destruction, holders of scheduled OCP waste and managers of collection points and consolidation stores shall, where practicable, segregate:

a) scheduled OCP waste that has a very low probability of being contaminated by materials that may reduce the choice of destruction technologies, such as heavy metals or arsenic (an example is labelled containers with intact labels that do not show heavy metals as ingredients);

b) scheduled OCP waste that contains materials that may reduce the choice of destruction technologies or has a high probability of containing such materials (examples are labelled materials showing arsenic as contents and materials considered to be OCP waste but with unclear labels);

c) scheduled OCP waste that is in a physical form that will require pre-treatment before it can be mechanically handled at a destruction plant (examples are protective clothing, absorbent spill socks, soil and sweepings); and

d) unidentified materials, which may be scheduled OCP waste.

In addition to these categories, scheduled OCP waste must be segregated from other categories of waste that may be collected in any collection program.

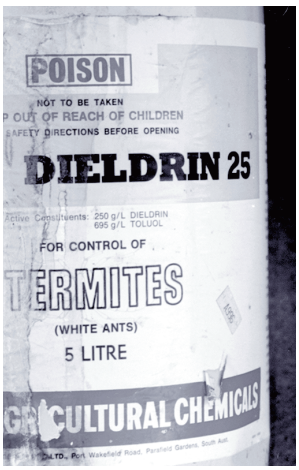
5.4 Managers of collection points and consolidation stores shall adopt and employ emergency containment and clean-up procedures for the accidental release of OCP waste into the environment, as approved by the agency.

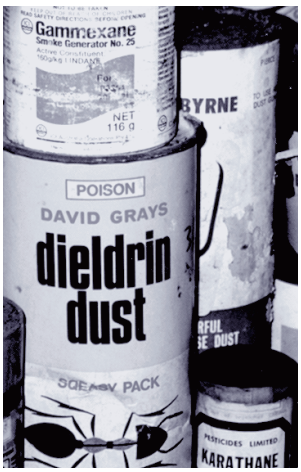
5.5 Any scheduled OCP waste received at collection points shall be consigned to consolidation stores as soon as practicable, but in any case within six months.

5.6 Scheduled OCP waste in consolidation stores prior to the starting date shall be consigned, within one year of the starting date, for destruction by a licensed destruction facility, unless the agency determines that viable destruction facilities are not available in Australia.

5.7 Scheduled OCP waste not in consolidation stores prior to the starting date shall be consigned for destruction by a licensed destruction facility within one year of receipt at a consolidation store, unless the agency determines that viable destruction facilities are not available in Australia.

5.8 To facilitate the collection process, and in consultation with the community, the agency and local authorities may develop procedures which allow the establishment of collection points for defined temporary periods.





6. NOTIFIABLE QUANTITY

6.1 There shall be no requirement for individual farmers and householders who possess scheduled OCP waste to notify their holdings, but they are encouraged to notify the agency.

6.2 Organisations or bodies responsible for managing collection points and consolidation stores for scheduled OCP waste shall notify the agency of their holdings where these are greater than the notifiable quantity (10 kg of active ingredient).

6.3 The agency shall maintain and publicise the existence of a publicly-accessible register of scheduled OCP waste reported under Section 6.2 of this plan.

7. OCP IDENTIFICATION, SAMPLING AND ANALYSIS

7.1 Where OCP waste is in its original container and where the container has a legible label, analysis shall not be required prior to segregation. Scheduled OCP waste likely to be contaminated with substances which may affect the choice or availability of treatment options may need to be analysed before destruction.

7.2 There shall be no requirement to analyse OCP waste prior to its receipt at collection points. Holders of OCP waste should preserve any information (such as labels) which indicates the identity of the waste. No mixing or bulking of OCP waste should be carried out by holders. Identifying information, where available, should be provided to collection points.

7.3 To minimise cross-contamination which may affect the choice of available destruction options, managers of collection points and consolidation stores shall ensure segregation of scheduled OCP waste by trained personnel on the basis of:

- label information where OCP waste is in its original container with a definitive label; or
- indicative analytical tests, where label information is not available.

7.4 Analyses undertaken for the purposes of bulking or mixing scheduled OCP wastes, for destruction, or for measurement of the operation of destruction facilities shall be carried out by laboratories which are accredited and registered for relevant OCP analyses by the National Association of Testing Authorities (NATA), or approved equivalents in Australia or other countries. Laboratories carrying out OCP analyses shall incorporate quality assurance and quality control programs in accordance with NATA requirements.

7.5 Mixing or bulking of OCP waste shall not occur unless the waste has been positively identified by individual or composite sampling and analysis techniques.

7.6 Where analyses are required for regulatory purposes, the quality assurance program shall incorporate periodic check analyses by an independent laboratory.

7.7 Sampling and analytical methods acceptable to NATA, or approved equivalents in Australia or other countries, for inclusion in the scope of accreditation of laboratories shall be used for OCP analysis.

7.8 Sampling and extraction for analysis shall ensure that the material being analysed is representative, without altering or selecting the sample to result in:

a) scheduled OCP waste becoming non-scheduled OCP waste; or

b) scheduled OCP waste or non-scheduled OCP waste becoming exempt OCP waste.

8. DESTRUCTION OF SCHEDULED OCP WASTE

8.1 Scheduled OCP waste shall be destroyed, as approved by the agency, at the earliest practicable opportunity.

8.2 Scheduled OCP waste shall be destroyed:

8.2.1 in accordance with an approval issued by the agency which is consistent with the National Protocol;

8.2.2 by methods which only leave destruction residues for which approved methods of disposal are available;

8.2.3 by facilities approved and licensed by the agency and which minimise release of waste to the environment; and

8.2.4 without intentional dilution or disaggregation merely to result in:

a) scheduled OCP waste becoming non-scheduled OCP waste; or

b) scheduled OCP waste or non-scheduled OCP waste becoming exempt OCP waste.

With the approval of the agency, blending to facilitate treatment of scheduled OCP waste is permitted.

8.3 Releases to water, air or land from OCP destruction facilities, and clean up actions to be taken for accidental releases, shall be specified in the destruction facility licence. They shall be set at levels which ensure that the receiving environment is adequately protected, and in particular:

8.3.1 a risk assessment (including human health and ecological considerations) involving public consultation shall be carried out to confirm that the risk associated with normal operation and possible failure or malfunction of the facility is at a level acceptable to the agency; and

8.3.2 sampling and monitoring of all discharges and residues shall be carried out as described in Section 7.7.

8.4 Any liquid residue from the destruction of scheduled OCP waste shall meet the criterion for exempt OCP waste. This residue will then be no longer covered by this plan, but some of the constituents may be subject to other controls.

8.5 Any liquid discharge to sewer from the destruction of scheduled OCP waste shall not contain OCPs at a concentration greater than 0.001 mg/litre or as specified in the ANZECC/Agricultural and Resource Management Council of Australia and New Zealand (ARMCANZ) *Guidelines for Sewerage Systems: Acceptance of Trade Waste (Industrial Waste)*[8].

8.6 There shall be no discharge of liquid effluent from destruction facilities to wetlands[9], whether the wetlands are naturally occurring or artificially created. The agency shall pay particular attention to the protection of aquifers in issuing licences for destruction facilities.

8.7 Liquid effluent from the destruction of scheduled OCP waste and from sewage treatment facilities which is discharged to fresh or marine waters other than wetlands shall have concentrations which are less than 100 times the lowest value for any constituent in the effluent in the *ANZECC Australian Water Quality Guidelines for Fresh and Marine Waters.*[10]

8.8 Emissions of OCPs to the atmosphere from the destruction of scheduled OCP waste shall be set in accordance with the following standards:[11]

8.8.1 Where discharge to air is likely to directly expose destruction facility workers to a largely undiluted source, as may be the case adjacent to a vent or near ground level, then the US National Institute of Occupational Safety and Health (NIOSH)[12] level of 0.001 mg/m3 shall not be exceeded; and

8.8.2 Where discharge occurs through a stack and mixing with the atmosphere will occur before people are expected to be exposed to the emissions, the agency shall set a discharge limit which does not result in a three minute maximum ground level concentration at the premises' boundary exceeding one thirtieth of the NIOSH value.[13] The discharge limit should be based on the application of best practice control technology.

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8 The level specified in the draft ANZECC/ARMCANZ Guidelines is 0.0002 mg/litre.

9 'Wetland' means a low-lying area temporarily or permanently covered by shallow water.

10 The current value is 0.0001 mg/litre based on the November 1992 *Guidelines*.

11 This approach may need to be reviewed should State or Territory air quality regulations be revised.

12 NIOSH sets national standards for occupational health and safety in the US. Canada uses the same figure for its Time Weighted Exposure Average (TWA).

13 Licensing procedures currently employed by State and Territory governments provide the basis for this approach.

8.9 Emissions of dioxins and furans to atmosphere from the destruction of scheduled OCP waste shall not exceed 0.1 nanogram per cubic metre[14] as applied to the sum of all the congeners multiplied by North Atlantic Treaty Organisation toxic equivalency factors.

8.10 Any solid residue from the destruction of OCP waste shall meet the criterion for exempt OCP waste. Where this is not practicable using available technologies, the agency may permit treatment which leaves non-scheduled OCP solid residues. These residues may then be disposed of to a landfill which has been approved by the agency for the disposal of non-scheduled solid OCP waste. That approval shall be given in accordance with the community involvement principles in the guidance note at Appendix B.

8.11 Mobile facilities for the destruction of scheduled OCP waste shall require approval by the agency as for other licensed destruction facilities. For operation at a new site, approvals already in place shall be taken into consideration. Additional requirements, including site-specific discharge requirements, may need to be met.

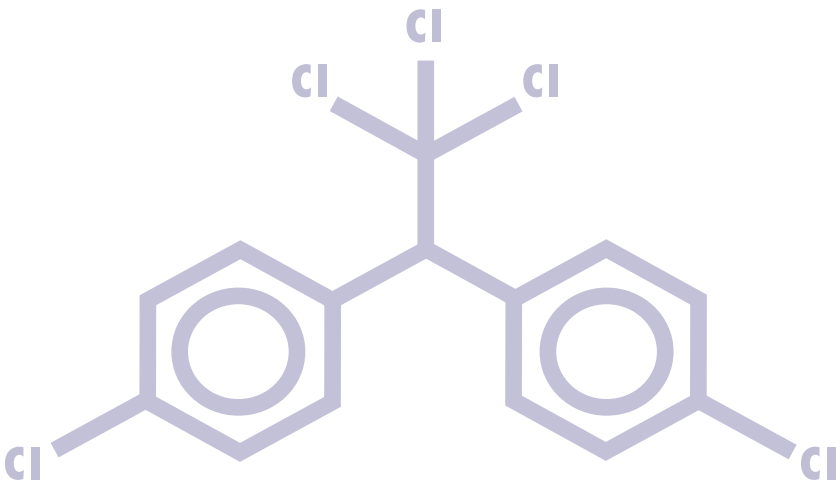
9. DISPOSAL OF OCP WASTE TO LANDFILL

9.1 Scheduled OCP waste shall not be disposed of to landfill or elsewhere in the environment.

9.2 Non-scheduled liquid OCP waste shall not be disposed of to landfill or elsewhere in the environment.

9.3 Non-scheduled solid OCP waste with a concentration of OCPs less than the threshold concentration (of 50 mg/kg) may be disposed of to a landfill which has been approved in accordance with the guidance note at Appendix B.

9.4 The agency shall, on request, provide information on landfills licensed to receive non-scheduled solid OCP waste.



[14] *First General Administrative Decree under the* [German] *Federal Air Quality Act, 1990* (known as 'TA Luft').

10. CERTIFICATION

10.1 The agency shall record, by a transport certification system or other means, all movements beyond collection points.

10.2 The agency shall require a certificate of destruction (which may be either on paper or in electronic form) to be issued by the destruction facility operator to the consignee and a copy to be returned to the agency.

10.3 A register of completed waste destruction certificates shall be maintained by the agency and shall be publicly accessible.

11. OCP MONITORING

11.1 There are many existing studies measuring OCPs in a variety of media. A program of identification, collation and analysis of data arising from those studies should be carried out to follow changes in concentrations of OCPs in Australia over time. Areas of interest include:

- breast milk, human blood and foodstuffs;
- blood and bone based fertiliser;
- sewage treatment plant sludge and effluent (including those for reuse) and receiving waters;
- landfill sites suspected of having received scheduled OCP waste (including adjacent groundwater or leachate) which have been assessed by the agency as posing a potential risk to the environment; and
- appropriate biological indicators, including wildlife.

11.2 The results of this program shall be made publicly accessible.

12. COMMUNITY PARTICIPATION, EDUCATION AND TRAINING

12.1 Proponents of destruction facilities for scheduled OCP waste shall undertake a formal public consultation process based upon the information provision requirements in the National Protocol (see Appendix C).

12.2 Information relating to monitoring, storage, emergency planning, handling, transport and destruction of scheduled and non-scheduled OCP waste shall be made publicly accessible by the agency.

12.3 Specifically targeted education and training programs (including safety) shall be made available to all holders and handlers of OCP waste (in particular, farmers, collection point operators, landfill operators and emergency workers). The agency shall facilitate and have oversight of such programs.

13. REVIEW

13.1 The agency shall provide annual public reports to ANZECC on progress on the implementation of this plan.

13.2 An independent review of the effectiveness of this management plan shall be carried out within three years of ANZECC endorsement of it.

13.2.1 This review shall consider information made available through State of the Environment and other reporting mechanisms, including:

- progress in destroying scheduled OCP waste;
- scheduled OCP waste destruction technologies and their adequacy for treating the different types of scheduled OCP waste, including mixtures of OCPs and arsenic;
- the scope of the plan;
- appropriateness of the provisions stipulated in this plan;
- the monitoring programs listed in Section 11;
- human health and environmental toxicology of OCPs;
- cost/benefit analyses including intangible costs and benefits; and
- effectiveness of education programs.

13.2.2 The results of the review shall be made publicly accessible.

APPENDIX A

OCPS ON ANZECC'S SCHEDULE X[15]

Following is a list of the OCPs on Schedule X. Also listed on Schedule X and covered by this management plan are the OCP breakdown products DDD, DDE, heptachlor epoxide and endrin aldehyde.

OCPs	Chemical Abstract Service Registry Number	OCPs	Chemical Abstract Service Registry Number
Aldrin	309-00-2	Lindane[17] and	58-89-9
Chlordane[16]	57-74-9	Hexachlorocyclohexane isomers	319-84-6
DDT	50-29-3		319-85-7
Dieldrin	60-57-1		319-86-8
Endrin	60-57-1	Pentachloronitrobenzene[17] (quintozene)	82-68-8
Heptachlor	74-44-8		
Hexachlorobenzene	118-74-1	Pentachlorophenol[17]	87-86-5
Hexachlorophene	70-30-4	2,4,5-T[18]	93-76-5
Isodrin	465-73-6		

[15] Schedule X is the first grouping of scheduled wastes to be identified by ANZECC. In addition to OCPs, it includes polychlorinated biphenyls, hexachlorobenzene waste and other chlorinated hydrocarbons. In implementing the *National Strategy for the Management of Scheduled Waste*, ANZECC has been developing management plans for each category of waste on Schedule X. Further background information on Schedule X and the process for making additions to Schedule X is provided in Scheduled Wastes Fact Sheet Number 3: *Scheduled X Wastes,* which can be obtained from the Waste Management Secretariat, c/– Environment Australia, GPO Box 787, Canberra ACT 2601, telephone 1800 657 945, email ocp@ea.gov.au.

[16] The National Registration Authority (NRA) cancelled the registration of Chlordane in June 1997, and use of products containing Chlordane had already been banned for the preceding two years in all jurisdictions except the Northern Territory. In accordance with a resolution of the Agriculture and Resource Management Council of Australia and New Zealand, a permit in place with the Northern Territory Department of Primary Industry and Fisheries allowed the use of remaining Chlordane stocks under strict controls in the Northern Territory until October 1997. The NRA have advised that there should no longer be any Chlordane or Heptachlor products available for sale or use anywhere in Australia for any purpose and it would be illegal to possess or supply any such product.

[17] As of 18 August 1997, one product containing lindane, six containing pentachlorophenol and thirteen containing quintozene were still registered by the NRA for use.

[18] ANZECC has included 2,4,5-T under this category on Schedule X because some of the early formulations contained significant levels of dioxins. Thus, for the purposes of this management plan, it is to be regarded as an OCP.

APPENDIX B

GUIDANCE NOTE FOR THE DISPOSAL OF NON-SCHEDULED SOLID OCP WASTE

The objectives of this guidance note are to:

- minimise the release of OCPs from non-scheduled solid OCP waste into the wider environment; and
- encourage a nationally consistent and acceptable approach to the management and disposal of non-scheduled solid OCP waste within the framework of the *OCP Waste Management Plan.*

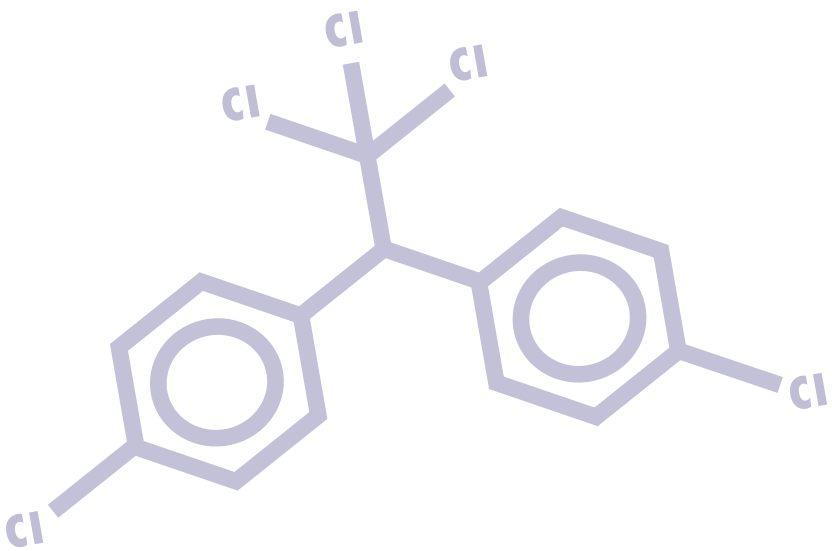
Consistent with the aim of best practice landfill management, landfill disposal of non-scheduled solid OCP waste shall require consideration of:

- siting issues, including hydrogeology and proximity to sensitive environments;
- landfill operating controls, including use of liners, cover management, capping, landfill gas management, leachate management, and fire prevention and control;
- landfill management practices, including site supervision and waste screening;
- monitoring, including ground and surface water and leachate; and
- closure, including post-closure ownership, monitoring and after care works to minimise infiltration.

The agency should encourage a community involvement program. Best practice community involvement programs include inspection, auditing and monitoring of the landfill sites.

Landfills for the disposal of non-scheduled solid OCP waste shall:

- be approved by the agency; and
- conform to requirements for discharge to air, water and land that apply to the treatment and disposal of scheduled OCP waste.



APPENDIX C

EXTRACT FROM THE *NATIONAL PROTOCOL FOR THE APPROVAL/LICENSING OF COMMERCIAL-SCALE FACILITIES FOR THE TREATMENT OF SCHEDULE X WASTES (JULY 1994)*

INFORMATION NEEDED FOR APPROVALS

The applicant must provide the following details, in writing, to the approving environmental agency.
The applicant should indicate any information which it believes should be treated as commercial in confidence.

1 The applicant

(a) name of applicant (firm, institution, etc.) including name of responsible manager;

(b) details of the technical capacity of applicant, including:

- experience in waste management activities
- qualifications and experience of supervisory and advisory staff and/or consultants to be involved in the project
- statutory environmental compliance record;

(c) insurance cover held by applicant (details of nature, extent and source of cover);

(d) whether a similar application to establish this type of technology has, to the applicant's knowledge, been refused in any other jurisdiction and, if so, where and for what reason;

(e) details of applicant's previous experience in community consultation.

2 The Technology and the Facility

(a) information derived from any technology trial, approved and run in accordance with the National Protocol for Trials of Technologies for the Treatment/Disposal of scheduled wastes, together with evaluations by the responsible environmental approval agency;

(b) information originating from any overseas environment protection body and from any relevant Australian State or Territory body, including details of where, when and at what scale, has the technology been employed by the applicant and by others;

(c) information supplied by technology patent holders, equipment manufacturer(s), overseas agencies and operators with experience in monitoring/operating the technology, any proponents of the technology wishing to establish it in Australia;

(d) a list of countries (States) in which a similar application has been lodged/granted and, if granted, details of the approval, including any limitations/restrictions attached to it, and a statement of whether the "data package" on which the approval was based was the same as that being provided in this application (if not, any differences should be detailed).

(e) details of the physical, chemical and/or biological processes involved in treatment/disposal;

(f) details of the nature and concentration of anticipated emissions, residues and discharges, and anticipated mass and energy balance under normal operating conditions;

(g) proposed means of treatment and disposal of any residues/discharges (including any requirements for discharge of trade waste to sewerage and, if so, proof of acceptance by the sewerage authority);

(h) plans and specifications of the proposed plant and infrastructure, including details of pollution control and emergency response systems submitted by an appropriately qualified chartered professional engineer;

(i) a risk assessment based on presumed normal operating mode and on the worst case situation of plant malfunction/failure and/or operator error;

(j) location of the proposed facility, together with details of current zoning and nature of adjoining land uses – the applicant should indicate whether contact has been made with the local planning authority and whether planning permission is required for the proposed facility.

(k) proposed supervision, sampling and analytical programs including quality assurance/control program (sampling and analytical work to be carried out by a facility approved by NATA for such work);

(l) proposed operational staffing arrangements, including proposed levels of experience and skills of staff, and the nature and extent of any staff training which will be undertaken;

(m) proposed occupational health and safety precautions to be applied; and a

(n) proposal in relation to community relations.

ATTACHMENT

VENUES VISITED BY THE OCP CONSULTATION PANEL
DURING THE PUBLIC *INVOLVEMENT PROGRAM FOR THE OCP WASTE MANAGEMENT PLAN*

Pilot Forums (September 1996)	Phase 2 Forums (November-December 1996, February-March 1997)	Phase 3 Workshops (July-August 1997)
Toowoomba	Albany	Bunbury
Traralgon	Berri	Canberra
	Brisbane	Darwin
	Bunbury	Dubbo
	Cairns	Hahndorf
	Canberra	Hobart
	Clare	Horsham
	Darwin	Merredin
	Dubbo	Stanthorpe
	Emerald	Townsville
	Geraldton	
	Griffith	
	Hamilton	
	Hobart	
	Horsham	
	Katherine	
	Knoxfield	
	Kununurra	
	Launceston	
	Lismore	
	Mackay	
	Merredin	
	Mildura	
	Moree	
	Mt Barker	
	Perth	
	Shepparton	
	Sydney	