

**Australian and New Zealand
Environment and Conservation
Council (ANZECC)**

**National Strategy
for the Management
of Scheduled Waste**

6 November 1992

Introduction and History

Scheduled, or hard to get rid of, waste is an important but small component of the waste stream in Australia. Scheduled waste was previously called *intractable waste* but is now *scheduled waste* in recognition of it being a part of the larger waste stream. To tackle the problem, the Australian and New Zealand Environment and Conservation Council (ANZECC) agreed to develop a *National Strategy for the Management of Scheduled Waste*

In July 1991, ANZECC considered a draft Strategy which was based on recommendations of a joint Taskforce. It promoted use of a high temperature incinerator in New South Wales to dispose of scheduled waste. Before the Strategy could be adopted, new information on alternative technologies became available. Acknowledging concerns expressed by industry and environmental groups, ANZECC released the draft Strategy for public comment in October 1991. In response, individuals and organisations made 69 written submissions. To assess these comments, consultants (Ernst & Young and Camp Scott Furphy Pty Ltd) were appointed.

On 10 July 1992, an Independent Panel, established to investigate the extent and production of scheduled waste and alternative disposal technologies, recommended a variety, of specific disposal technologies be used. Based on this recommendation, ANZECC announced the decision to abandon the proposal to establish a centralised high temperature waste disposal facility on that date. Nevertheless, ANZECC recognised these technologies would take time to be established on an adequate scale and that criteria and arrangements would have to be established to assess the new technologies.

The consultants who assessed the public comments had just been appointed when this decision was made. Their final report included a revised draft Strategy, which was reviewed by a Peer Group of eminent scientists. Following agreement to various revisions, the Peer Group supported the revised draft Strategy developed by the consultants.

The revised draft Strategy was considered by an Advisory Committee with representatives of government and non-government agencies and organisations. Further revisions were made to the Strategy on the advice of the Advisory Committee. The final Strategy took account of the findings of the Independent Panel and included consideration of a range of other relevant economic, social and environmental factors.

The Strategy

On 6 November 1992, the Australian and New Zealand Environment and Conservation Council (ANZECC) announced the adoption of this *National Strategy for the Management of Scheduled Waste*. The Strategy has been developed as part of the wider *National Waste Minimisation and Recycling Strategy*, objectives of which are to minimise waste, use resources more efficiently and manage wastes better when they are generated.

Within these broad objectives, the aim of the *National Strategy for the Management of Scheduled Waste* provides requirements for the safe management and disposal of scheduled waste. Except under special circumstances, such as when no effective alternatives are available, it also ensures production of materials by processes which inevitably give rise to ongoing scheduled waste during their production is to cease in 1995 and all such waste is safely disposed of by the year 2003. Imports are only to be permitted under exceptional conditions from nations of the South Pacific Forum, except New Zealand, which are signatories to the Basel Convention. Only small quantities of waste are likely to be imported from these countries which would otherwise find it impossible to establish internal disposal options and are no longer adding waste to add to their stockpile.

At present, Australia has no environmentally acceptable means of disposing of scheduled waste which, because of its chemical stability, requires special treatment. Until the new technologies are available, and it is still uncertain technologies can be developed in Australia to dispose of all such waste, storage will be needed. Long term storage is widely recognised as not being a viable option or preferred management option. As a general approach, exports are to cease immediately. However, exceptions may have to be made if adequate disposal and safe storage facilities are unavailable in Australia and environmentally satisfactory destruction is available in other countries. Any such countries would have to fully comply with the Basel Convention.

The Strategy provides for a regulated, but essentially free, market where individuals, industry and government agencies will be required to store, manage and dispose of their own scheduled waste in accordance with the standards and procedures set out in this Strategy. Environmentally acceptable methods are to be used for the storage and disposal of waste. Full and open community consultation will occur in implementing the Strategy.

Strategy Implementation Overview

The *National Strategy for the Management of Scheduled Waste* will be implemented through a model national regulation and memorandum of understanding. Under this understanding, which is to be signed on behalf of the Commonwealth, State and Territory Governments, the model national regulation will be proclaimed by each State and Territory.

A National Advisory Body (NAB), established by ANZECC, is to advise on the implementation of the Strategy. The NAB is to advise on a range of issues including scheduled waste storage, treatment and disposal methods and technologies. A national register of accredited storage, treatment and disposal methods and technologies is to be maintained by ANZECC. State and Territory agencies will only license storage, treatment and disposal facilities of scheduled waste that utilise methods and technologies accredited by the Standing Committee on Environment Protection (SCEP).

All scheduled waste in Australia is to be satisfactorily disposed of by the year 2003 in accordance with detailed Management Plans to be approved by ANZECC by 1 July 1994. The Plans are to be developed in consultation with key interested parties including industry, environmental groups, unions and agencies at all levels of government, including local government.

Until the Management Plans have been approved by ANZECC, scheduled waste may be temporarily stored under licensed conditions or treated by licensed facilities. Amongst these conditions, such storage will not cause any significant adverse effect on the environment. Scheduled waste is to be transported in accordance with the provisions of the Australian code for the *Transport of Dangerous Goods by Road and Rail*.

Articles containing chemicals and at concentrations and quantities greater than that scheduled in the regulation may continue to be used until 1 January 1998 providing the chemicals are contained within the article or its housing and do not cause adverse effects to human health or the environment. The date for continued use will be reviewed during the establishment of Management Plans. One of the guiding principles of these Plans is to facilitate the early removal of articles from use.

National Model Regulation

The model national regulation is to be adopted by each State and Territory Government. Commonwealth agencies with scheduled waste will comply with the relevant State and Territory management and disposal requirements. The regulation provides the statutory basis for implementing the Strategy. The objectives of the regulation are to establish detailed requirements for the safe management of scheduled waste and to ensure safe storage and disposal of this waste throughout Australia.

Scheduled waste is defined in a schedule to the regulation which is limited initially to organic chemicals. Heavy metals and inorganic chemicals will be covered elsewhere in national approaches to hazardous wastes, in accordance with the Inter-governmental Agreement on the Environment, and consistent with the wider *National Waste Minimisation and Recycling Strategy*. To be scheduled, a waste must contain more than the threshold concentration and quantity of any chemical or combination of chemicals identified in Schedule A of the regulation.

Waste comprising and containing chemicals which are resistant to degradation by physical, chemical or biological means, and which are toxic and bioaccumulative and are listed in Schedule A of the regulation, are defined as scheduled waste. Such waste does not include substances that deplete the Ozone Layer where control or use of these substances is covered by ozone protection legislation, until these substances have no further commercial value, nor does it include sewage sludge.

Memorandum of Understanding

The memorandum of understanding between the Commonwealth, State and Territory Governments is designed to ensure complementarity of the regulation in Australia. It also provides for other arrangements such as nomination of a responsible agency under State and Territory jurisdictions. These agencies are to be responsible for the licensing of storage, treatment and disposal facilities, and regulating the transportation of scheduled waste. Measures are to be taken to ensure scheduled waste and articles (whether in use or not) and substances which may give rise to scheduled waste are identified, safely collected and consigned for treatment in a way which minimises the potential for release of this waste into the environment.

Management Plans

Management plans, development of which will be organised by ANZECC, will take into consideration the principles defined in the Inter governmental Agreement on the Environment. Experts are to be used in the development process which is to be based on a risk assessment of the environmental, human health, social and economic impacts. Key interested parties including industry, environmental groups, unions and agencies at all levels of government, including local government, are to be involved.

Individual plans are to be developed for each category of chemical in Schedule A to the national model regulation. Each plan will specify threshold concentrations and quantities of chemicals to be covered under the regulation, phase out and other dates. At present, some chemical concentration thresholds are not identified in Schedule A. These concentrations are to be assigned, and interim thresholds finalised, following the development of the Management Plans. Threshold concentrations are to be scientifically derived for these chemicals having regard to best international practice and Australian conditions. The plans will also address the complex issue of chemical mixtures.

National Responsibilities

Advice on the monitoring and review of the *National Strategy for the Management of Scheduled Waste*, is to be a responsibility of the NAB. The NAB is to evaluate and advise ANZECC on storage, treatment and disposal methods and technologies and transportation applicable to scheduled waste. National accreditation of technologies will be undertaken through a process of full public consultation and will ensure that industry and other owners of waste are adequately represented. Arrangements for public consultation will be detailed in the Management Plan for each category of chemical.

Disposal technologies will only be nationally accredited if the use of that technology will not cause any significant adverse effect to human health or the environment. The treatment method must only leave residues for which approved methods of disposal are available in Australia and to a concentration level detailed in the relevant Management Plan. Disposal technologies which generate further scheduled waste will not be accredited.

State and Territory Government Responsibilities

State and Territory Governments will implement the Strategy and memorandum of understanding through an appropriate State or Territory regulation or similar legal instrument which is to be complementary to the model national regulation. A State and Territory Government Agency is to manage arrangements for the licensing of storage, treatment and disposal facilities, and transporters of scheduled waste.

Licensing of facilities will only occur after environmental impact assessment procedures, or equivalent, have been undertaken through full public consultation. The issuing of a facility licence will include a full technical examination of the options and risks involved, and include full and open community consultation of those options and risks.

Occupiers of premises wherever scheduled waste is kept are to annually notify the relevant State or Territory Government Environmental Agency. All packages containing scheduled waste are to be maintained under the provisions of the Australian Code for the *Transport of Dangerous Goods by Road and Rail*. Storage areas are to be sited, constructed and operated to prevent any discharge of scheduled waste to the environment in accordance with the conditions of a licence issued by the agency.

Scheduled waste may only be processed and disposed of in treatment and disposal facilities under the conditions of a licence issued by the relevant State or Territory agency. Only environmentally acceptable treatment and disposal facilities will be licensed. Best available technology is to be used to maximise the efficiency of waste destruction and minimise the release of waste to the environment.

Special arrangements are to apply to the collection of household and farm waste for which State and Territory Government Agencies will continue to be responsible.

Where the risk of excavating and collecting solid scheduled waste for treatment is assessed to be higher than the risk of leaving the waste undisturbed, the waste may be left, or treated in situ, under appropriate monitoring arrangements.

Community Consultation and Public Information Access

To provide for community input and consultation, ANZECC is to establish the National Advisory Body (NAB) with participation by government and non-government organisations. The composition and role of NAB are to be as shown at Appendix A. Registers of information, that will be available to the public, are to be maintained by ANZECC and in each State and Territory. These registers are to contain details of each licence issued for, storage, transport, treatment and disposal of waste. The national register is also to record those technologies which have been nationally accredited.

A national education and information programme is to be established to advise the community on issues related to scheduled waste and the responsibilities of waste owners. Similar programmes are to be conducted in each State and Territory, which will also involve community consultation for the establishment of storage and disposal facilities.

Monitoring

Implementation of the Strategy is to be monitored by NAB and the responsible Commonwealth, State and Territory Agencies. All relevant legislation is to be reviewed to prevent dilution of scheduled waste to circumvent the requirements for environmentally acceptable treatment and disposal, and to ensure the national model regulation continues to apply.

For further information on the *National Strategy for the Management of Scheduled Waste*, correspondence should be addressed to:

The Secretary, ANZECC
PO Box 787
CANBERRA ACT 2601

Chris Hartcher MP
Chairman

NATIONAL ADVISORY BODY

The following government and non-government organisations are to be invited to be represented on the National Advisory Body:

- Member of the Australian and New Zealand Environment and Conservation Council on rotation (Chair);
- four representatives of government to be nominated by Standing Committee on Environment Protection;
- Australian Conservation Foundation;
- Nature Conservation Council of New South Wales;
- Conservation Council of Victoria;
- Greenpeace Australia;
- Chemical Confederation of Australia;
- Electricity Supply Association of Australia;
- Environment Management Industry Association of- Australia;
- Agricultural and Veterinary Chemicals Association;
- Australian Local Government Association;
- Australian Council of Trade Unions (two representatives); and
- Commonwealth Environment Protection Agency (Secretariat).

The role of the National Advisory Body is to advise the Australian and New Zealand Environment and Conservation Council (ANZECC) on the implementation and review of the *National Strategy for the Management of Scheduled Waste* in the following areas:

- development and implementation of Management Plans for each category of scheduled waste;
- guidelines for the collection, transportation, and storage, and treatment and disposal methods and technologies for scheduled waste;
- development and implementation of national extension and education/information programmes on issues related to scheduled waste;
- the export and import of scheduled waste;
- the development and maintenance of a national standard for a register of information for scheduled waste; and
- development and maintenance of a national register of accredited technologies and of information required under clause 14 of the national model regulation.

**ANZECC
NATIONAL MODEL REGULATION FOR THE
MANAGEMENT OF SCHEDULED WASTE**

1. Citation:

This Order may be cited as the National Regulation for the Management of Scheduled Waste.

2. Commencement:

This Regulation commences on the 1992.

3. Objective:

The objectives of this Regulation are to establish requirements for the safe management of scheduled waste and to ensure the safe disposal of this waste by the year 2003.

4. Definitions:

In this Regulation, unless inconsistent with the context or subject matter:

- 4.1 "**agency**" means the relevant agency or agencies nominated by the Commonwealth, State or Territory Government charged with the responsibility for scheduled waste;
- 4.2 "**ANZECC**" means the Australian and New Zealand Environment and Conservation Council;
- 4.3 "**approved**" means approved by the agency;
- 4.4 "**article**" means an object that is manufactured for use for a particular purpose and that contains a chemical listed in Schedule A, except containers used solely for the purpose of storing a chemical or chemicals listed in Schedule A. The concentration of a chemical in an article shall be the highest concentration in any one of the components of the article;
- 4.5 "**best available technology**" means techniques, methods or processes which generate the minimum waste per unit of output, equivalent to that which is achievable by proven, viable and commercially available techniques, methods, processes or practices;
- 4.6 "**chemical**" means a substance listed in Schedule A;
- 4.7 "**dioxins and furans**" means the congener 2,3,7,8-tetrachlorodibenzo-pdioxin (2,3,7,8-TCDD) and 2,3,7,8-tetrachlorodibenzofuran (2,3,7,8-TCDF) and other compounds listed in Schedule B;

- 4.8 "**dioxin equivalent concentration**" means the concentration of a compound in Schedule B multiplied by the dioxin equivalency factor given in Schedule B for that compound;
- 4.9 "**environmentally acceptable means of treatment**" means any approved method for the treatment or disposal of wastes containing chemicals listed in Schedule A;
- 4.10 "**licence**" means a statutory approval issued by the agency;
- 4.11 "**management plan**" means a plan approved by ANZECC for the management and disposal of specific categories or a combination of categories of scheduled waste;
- 4.12 "**material**" means matter from which an item is made;
- 4.13 "**occupier**" in relation to any premises, means the person in occupation or control of the premises and, in relation to a part of any premises where different parts are occupied or controlled by different persons, means the person in occupation or in control of that part;
- 4.14 "**notifiable quantity**" means a quantity of a chemical in a waste which exceeds a value defined in Schedule A for that chemical;
- 4.15 "**ozone depleting substance**" means a substance listed in a Schedule to the Commonwealth Ozone Protection Act 1989 (as amended);
- 4.16 "**polychlorinated biphenyl**" (PCB) means 'a substance in which the biphenyl structure has chlorine atoms substituted for hydrogen atoms to varying degrees. It has the chemical formula $C_{12}H_{10-n}Cl_n$ where n is in the range of 1 to 10;
- 4.17 "**premises**" includes a place and public place, ship, boat, aircraft and any other vehicle whatsoever;
- 4.18 "**scheduled waste**" means a material or article containing a chemical, or mixture of chemicals exceeding the threshold concentration and threshold quantity, which is:
- organic in nature;
 - resistant to degradation by chemical, physical or biological means;
 - toxic to humans, animals, vegetation or aquatic life; and
 - bioaccumulative in human, flora and fauna;

or is prescribed in schedule A. Scheduled waste does not include:

- 4.18.1 ozone depleting substances listed as Annexes to the Montreal Protocol on Substances that deplete the Ozone Layer where control of these substances is covered by ozone protection legislation administered by the Commonwealth or the agency, until these substances have no further commercial value;
- 4.18.2 wastes containing ozone depleting substances listed as Annexes to the Montreal Protocol on Substances that deplete the Ozone Layer where these wastes are to be provided to an approved collection and storage facility for ozone depleting substances;
- 4.18.3 sewage sludge where its management and disposal is controlled by other Commonwealth, State or Territory legislation;
- 4.18.4 articles still in use prior to the planned phase out as specified in the relevant Management Plan; or
- 4.18.5 separated components from an article which are not contaminated by a chemical listed in Schedule A or which have been cleaned to a standard and by a method to be determined in the relevant Management Plan;
- 4.19 "**secure landfill**" means a site licensed by the agency which:
- 4.19.1 is clay lined or has an impervious base and walls, and is capped, or uses an alternate technology which affords an equivalent or better level of protection;
- 4.19.2 has a leachate detection or monitoring program; and
- 4.19.3 has a groundwater surveillance program.
- 4.20 "**total dioxin equivalent concentration**" means the sum of all the dioxin equivalent concentrations for each of the compounds listed in Schedule "B";
- 4.21 "**the Australian code**" means the Australian code for the *Transport of Dangerous Goods by Road and Rail*, published by the Commonwealth Government (as amended);
- 4.22 "**threshold concentration**" means the concentration of a chemical in waste at a value defined in Schedule A;
- 4.23 "**threshold quantity**" means a quantity of a chemical in a waste at a value defined in Schedule A;
- 4.24 "**vehicle**" means a road vehicle, a rail vehicle, a ship or aircraft unless specifically designated as a road vehicle, rail vehicle, ship or aircraft in this Regulation; and

4.25 "**waste manifest system**" means a waste manifest system in accordance with the "*National Management of Hazardous Wastes*" as amended.

5. Keeping of Scheduled Wastes

5.1 The agency shall be notified in writing by the occupier of premises at which containers or articles (whether in use or not) are located, and/or which contain or can give rise to scheduled waste if:

5.1.1 the quantity of waste is greater than one tonne and the concentration of the chemical-in the waste exceeds the threshold concentration; or

5.1.2 the quantity of a chemical in the waste exceeds the notifiable quantity defined in Schedule A.

5.2 Scheduled waste notified under subclause 5.1.1 shall be kept in accordance with the conditions of a licence issued by the agency.

5.3 The notification required by clause 5.1 shall be made annually by 1 June of each year and shall contain information on the type and quantity of scheduled waste.

5.4 All containers containing scheduled waste shall:

5.4.1 conform with the provisions of the Australian Code; and

5.4.2 be maintained in good order.

5.5 Where scheduled waste is stored or proposed to be stored the storage area shall be sited, constructed and operated so as to prevent any discharge of scheduled wastes to the environment in accordance with minimum guidelines approved by ANZECC.

6. Use of Articles Containing Materials which will give rise to Scheduled Waste

6.1 The use of these articles shall cease by 1 January 1998 or by a phase out date as specified in the relevant management plan, except as permitted under sub-clause 10.2.

6.2 After 1 January 1998, or by a phase out date as specified in the relevant management plan, these articles shall be stored, treated or disposed of in accordance with the relevant management plan, except as permitted under sub-clause 10.2.

7. Production of Scheduled Waste

Production of materials by processes which inevitably give rise to on-going scheduled waste during production which is not treated or destroyed within the processes and is approved by the agency, is not permitted after 1 January 1995 or by an earlier cessation date as specified by the relevant management plan. The generation of scheduled waste by:

- 7.1 the approved use of the materials where no equally effective alternatives are available as identified in the relevant management plan;
- 7.2 sabotage, accidents, fire or spills;
- 7.3 approved pilot plant or laboratory developments, unless an approved onsite treatment facility is available;
- 7.4 removal from use of articles, substances or processes containing or using PCBs or ozone depleting substances;

is not proscribed as of 1 January 1995.

8. Transport of Scheduled Waste

Scheduled waste shall be transported in accordance with:

- 8.1 the provisions of the Australian Code. Where the waste is not otherwise classified as dangerous goods by this Code, the waste shall be transported as if it were an environmentally hazardous good of class 9 (LTN 3077 and UN 3082);
- 8.2 a set of operating procedures approved by the relevant agency; and
- 8.3 the conditions of the licence issued by the agency.

The licence shall require:

- 8.4 the agency to be notified as soon as practicable by the licensee, operator of the vehicle, or his agent, of any spill of waste occurring during transport; and
- 8.5 the waste to be accompanied by a waste manifest completed in accordance with the requirements of the waste manifest system.

9. Ownership of Scheduled Waste

The owner of scheduled waste, at the time the relevant management plan is approved shall continue to own that waste until it has been disposed of in accordance with the relevant management plan.

10. Treatment of Scheduled Waste for Disposal

10.1 Scheduled waste shall be treated for the purpose of disposal:

10.1.1 in accordance with the relevant management plan specified in clause 13;

10.1.2 at any premises which is licensed to treat particular wastes at a particular location;

10.1.3 by any environmentally acceptable means of treatment which, following assessment of risks to the environment by the agency, will not cause any significant adverse effect on human health or the environment;

10.1.4 by methods which only leave treatment residues for which approved methods of disposal are available;

10.1.5 by methods which incorporate best available technology appropriate to these methods to maximise the efficiency of waste destruction and minimise release of waste to the environment; and

10.1.6 by methods which do not involve repackaging or dilution with any other substance, to reduce the quantity or concentration of the chemicals in any scheduled waste merely for the purpose of avoiding the requirements of clauses 5, 7, 8, 9, 10 and 11. Where scheduled waste is treated in any manner to dilute the concentration of a chemical in the waste listed in Schedule A, the chemical in the waste so treated, recovered, isolated or concentrated and the processed waste shall be kept, transported, treated or disposed of in accordance with this Regulation.

10.2 Where the risk from excavating and collecting any solid scheduled waste for treatment is assessed by the agency, by-means of an open technical examination of options, risks and benefits, including full and open community consultation on those options, risks and benefits, to be higher than the risk of leaving the solid waste undisturbed, the solid waste may be left, or treated in situ, with appropriate monitoring.

11. Disposal of Scheduled Waste

11.1 The disposal of scheduled waste is to occur in accordance with the relevant management plan specified in clause 13.

11.2 The disposal of scheduled waste shall be in accordance with the conditions of a licence issued by the agency.

11.3 Until management plans have been approved, scheduled waste and residues from the treatment of scheduled waste may be disposed of in a secure landfill provided that:

11.3.1 the concentrations of chemicals, or mixtures of chemicals to be defined in Management Plans in the waste or residues are less than threshold concentrations for landfill disposal listed in Schedule A; and

11.3.2 the waste or residues are in solid or spadeable form and meet the requirements of an elutriation test to be specified by the agency.

12. Management of Non-scheduled Waste

Wastes which contain chemicals listed in Schedule A with a concentration less than the threshold concentration or a quantity less than the threshold quantity, and which may, as determined by the agency, because of their concentration, location and bioaccumulative properties have potential to cause an adverse effect on human health or the environment, shall be:

12.1 subject to Commonwealth, State or Territory regulations that are applicable to the management of contaminated materials or waste of industrial origin; and

12.2 kept, transported, treated and disposed of in accordance with the practices outlined in clauses 5, 8, 10 and 11 of this regulation where necessary to protect human health and the environment.

13. Management Plans for Scheduled Waste

Management plans will be developed for each category of scheduled waste as in Schedule A, and their combinations, and be approved by ANZECC by 1 July 1994. The plans will:

13.1 be based on a risk assessment of the environmental, human health, social and economic impacts of proposed regulations;

13.2 specify threshold concentrations, threshold quantities and notifiable quantities as provided for in Schedule A; and

13.3 indicate the dates at which the generation of scheduled waste and the use of articles containing scheduled waste will cease, and the date by which disposal of scheduled waste will cease.

14. Register of Information

14.1 The agency shall maintain a register of information regarding scheduled wastes which contains the following:

14.1.1 details for each licence issued in accordance with the subclause 5.2 for the keeping of scheduled waste;

14.1.2 details for each licence issued in accordance with clause 8.3 for the transport of scheduled waste;

14.1.3 details for each licence issued in accordance with subclause 11.2 for the disposal of scheduled waste;

14.1.4 details for each licence issued in accordance with clause 10.1.2 for the treatment of scheduled waste; and

14.1.5 records of notification received under subclauses 5.1 and 5.3.

This register shall be available for public access by arrangement between the agency and the inquirer.

Schedules A and B are part of this regulation.

SCHEDULE A

CATEGORY	CHEMICAL	REGULATORY SYNONYMS	CASRN (1)	THRESHOLD CONCENTRATION (2) (mg/kg)	THRESHOLD QUANTITY (2) (g)	THRESHOLD CONC FOR DISPOSAL IN LANDFILL (2) (mg/kg)	NOTIFIABLE QUANTITY (2) (kg)
Organochlorine pesticides and germicides	Aldrin	1,2,3,4,10-10-Hwxachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,exodimethanonaphthalene	309002	(2)	(2)	(2)	(2)
	Benzene, hexachloro-	Hexachlorobenzene	118741	(2)	(2)	(2)	(2)
	Benzene, pentachloronitro	Pentachloronitrobenzene	82688	(2)	(2)	(2)	(2)
	alpha-BHC		319846	(2)	(2)	(2)	(2)
	beta-BHC		319857	(2)	(2)	(2)	(2)
	gamma-BHC	Hexachlorocyclohexane (gamma isomer) Lindane	58899	(2)	(2)	(2)	(2)
	delta-BHC		319868	(2)	(2)	(2)	(2)
	Chlordane	1,2,4,5,6,7,8,8-cotachloro-3a,4,7,7a-tetrahydro, 4,7-Methanolndan	57749	(2)	(2)	(2)	(2)
	Dieldrin	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo, exo-1,4:5,8-dimethanonaphthalene	60571	10(3)	100(3)	100(3)	100(3)
	DDD	4,4'DDD Dichlorodiphenyl dichlorethane TDE	72548	(2)	(2)	(2)	(2)
	DDE	4,4'DDE	72559	(2)	(2)	(2)	(2)
	DDT	4,4'DDT Dichlorodiphenyl trichlorethane	60571	(2)	(2)	(2)	(2)
	Endrin	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo, endo-1,4:5,8-dimethanonaphthalene	60571	(2)	(2)	(2)	(2)
	Heptachlor	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-		(2)	(2)	(2)	(2)
	Heptachlor epoxide		1024573	(2)	(2)	(2)	(2)
	Hexachlorophene	2,2'-Methylenebis (3,4,6-trichlorophenol)	7304	(2)	(2)	(2)	(2)
	Isodrin	1,2,3,4,10-10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,endo-dimethanoaphthalene	465736	(2)	(2)	(2)	(2)
Pentachlorophenol	Phenol, pentachloro-	87865	25(3)	250(3)	250(3)	250(3)	

	2,4,5-Trichloro-phenoxyacetic acid	2,4,5-Trichloro- phenoxyacetic acid	93765	(2)	(2)	(2)	(2)
Ozone depleting substances				(2)	(2)	(2)	(2)
Other chlorinated hydrocarbons	Benzene, pentachloro-	Pentachlorobenzene	608935	(2)	(2)	(2)	(2)
	Benzene, 1,2,4,5-tetrachloro	1,2,4,5-Tetrachlorobenzene	95943	(2)	(2)	(2)	(2)
	Endrin aldehyde		7421934	(2)	(2)	(2)	(2)
	Phenol, 2,3,4,6-tetrachloro-	2,3,4,6-Tetrachlorophenol	58902	(2)	(2)	(2)	(2)
	1,2,4-Trichlorobenzene		120821	(2)	(2)	(2)	(2)
PCBs	Polychlorinated Biphenyls(4) (PCBs)			50(3)	50(3)	50(3)	50(3)
Dioxins	Dibenzo-p-dioxins and dibenzofurans listed in Schedule B expressed as a dioxin equivalent concentration			0.0025(3)	0.025(3)	0.025(3)	0.025(3)

Notes: (1) CASRN is the Chemical Abstracts Registry Number.

- (2) Threshold Values and Notifiable Quantities are to be developed in management plans and are to be determined in the context of a full assessment of environmental, economic and social impacts, including a risk based assessment of potential adverse effects on human health and the environment that may result from uncontrolled release of waste containing the specified chemical to the environment. Such an assessment is to consider the nature and form of contaminants, and properties such as persistence, bioaccumulation, toxicity, biodegradability, mobility and solubility.
- (3) Interim Threshold Values and Notifiable Quantities are listed for certain chemicals; these have been based on a preliminary simplified assessment.
- (4) Substances popularly known as but not limited to Aroclor, Askeral, Chlophen, Chlorentol, chlorextol, Chlorinated Diphenyl, Chlorinated Biphenyl, Chlorinol, Diachlor, DK, Dykanol, Fenchlor, Fenclor, Inerteen, Kanachlor, Kanechlor, Montar, Noflamol, Phenoclor, Pyralene, Pyranol, Santotherm FR, Sovol, Therminol FR I

SCHEDULE B**DIBENZO-P-DIOXINS AND DIBENZOFURANS**

COMPOUND	DIOXIN EQUIVALENCY FACTOR*
2,3,7,8-tetrachlorodibenzo-p-dioxin	1
1,2,3,7,8-pentachlorodibenzo-p-dioxin	0.5
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachloridobenzo-p-dioxin	
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	0.01
octachlorodibenzo-p-dioxin	0.001
2,3,7,8-tetrachlorodibenzofuran	0.1
2,3,4,7,8-pentachlorodibenzofuran	0.5
1,2,3,7,8-pentachlorodibenzofuran	0.05
1,2,3,4,7,8-hexachlorodibenzofuran	0.1
1,2,3,7,8,9-hexachlorodibenzofuran	
1,2,3,6,7,8-hexachlorodibenzofuran	
2,3,4,6,7,8-hexachlorodibenzofuran	
1,2,3,4,6,7,8-heptachlorodibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorodibenzofuran	
octachlorodibenzofuran	0.001

International Toxicity Equivalency Factors are assigned to individual dioxins and furans on the basis of how toxic they are in comparison with the toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin, the most potent dioxin. This contaminant has been assigned the value of 1.0 (NATO, 1988a). By comparison, animal and cell tests show 2,3,7,8-tetrachlorodibenzofuran is approximately one-tenth as toxic as 2,3,7,8-tetrachlorodibenzo-p-dioxin. Consequently, its toxic equivalent value is 0.1. International Toxicity Equivalency Factors have been developed for those dioxins and furans contributing most to the toxicity of a complex mixture, which are those that have chlorines in at least the 2,3,3 and 8 positions. The toxicity is decreased from that of 2,3,7,8-tetrachlorodibenzo-p-dioxin in a predictable manner for those dioxins or furans which have either fewer or more chlorines than this compound, and/or which have chlorines in positions 1,4,6 or 9.

Of the 210 dioxins and furans, 17 contribute most to toxicity of a complex mixture and are of greatest concern. This does not mean the remaining 193 dioxins and furans are not toxic, but merely they contribute comparatively little to the toxicity of a complex mixture.

*1. NATO 1988A. International Toxicity Equivalency Factor (1-TEF) method of risk assessment for complex mixture of dioxins and related compounds.

**ANZECC
MANAGEMENT OF SCHEDULED WASTE
MEMORANDUM OF UNDERSTANDING**

Memorandum of Understanding (MOU) between the Governments of the Commonwealth, New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania, the Northern Territory and the Australian Capital Territory in relation to the management and disposal of scheduled waste.

Now it is arranged as follows:

1. In this Arrangement, unless the contrary intention appears:
 - (a) words used in the Arrangement have the same meaning as are ascribed to them by the National Regulation for the Management of Scheduled Waste; and
 - (b) words importing the singular are to include the plural.
2. (a) This Arrangement shall come into force in respect of the Commonwealth and a State and Territory when it has been signed on behalf of the Commonwealth, State or Territory.
 - (b) Notwithstanding that in this Arrangement the Commonwealth, all the States, the Northern Territory and the Australian Capital Territory are named as parties, this Arrangement shall operate as an arrangement between the parties in respect of which it comes into force as full and effectually as if the parties in respect of which it comes into force were the only parties so named.
3. In the event that a party ceases to be a party, this Arrangement shall nevertheless continue in force with respect to those which are parties when the cessation takes effect.
4. The Commonwealth, a State or Territory not initially a party to the Arrangement or which has withdrawn from it may become a party or again become a party to this Arrangement by signature on its behalf of a copy of this Arrangement and notifying each then current party to the Arrangement in writing of the signature and the date of signature and shall be deemed to have become a party or to have again become a party as from the date.

5. (a) Any party to this Arrangement may at any time by notice in writing to the other parties withdraw from this Arrangement and shall, subject to the terms of the Arrangement continuing to apply in relation to any conditions agreed to by the party prior to withdrawal, cease to be a party when the notice of the withdrawal takes effect.
(b) A notice of withdrawal under this clause shall take effect on a date to be specified in the notice which date shall be not less than six (6) months from the date on which the notice is given.
6. The Commonwealth, and a State or Territory party to this Arrangement may, if the Commonwealth or that State or Territory so agree, vary this Arrangement by executing a further Arrangement to that effect which shall take effect as between them from its date.
7. Any party to this Arrangement shall implement legislation in accordance with the National Model Scheduled Waste Regulation or, in the case of the Commonwealth, shall either implement such legislation or ensure compliance with such State and Territory legislation.
8. The Commonwealth, States and Territories shall be deemed to have become a party to the Arrangement upon further agreeing to the following conditions in their jurisdiction:
 - (a) That once this Arrangement has come into force, negotiations commence to determine the details of a planned withdrawal of PCBs from equipment in service.
 - (b) That registers identifying details for each licence issued for the keeping, treatment disposal and transport of scheduled waste be publicly available.
 - (c) That legislation be amended ' or new regulations be framed, consistent with the principles referred to in 8(b) above.
 - (d) That steps be taken to ensure that States, Territories and the Commonwealth providing scheduled waste to be disposed of in licensed facilities, implement waste classification and manifest schemes compatible with those of the *National Guidelines for the Management of Hazardous Wastes*, November 1986, as amended.

- (e) That permits issued under Commonwealth legislation for the export of schedule waste for destruction in other countries, not be issued by the Commonwealth Minister except in circumstances where licensed disposal and safe storage facilities are unavailable in Australia.
- (f) That permits issued under Commonwealth legislation for the import of scheduled waste, not be issued by the Commonwealth Minister except in circumstances where an import permit is sought from a 'nation of the South Pacific Forum, except New Zealand, which is a signatory to the Basel Convention and has no suitable treatment and disposal facilities, and is no longer generating waste to add to its stockpile. Imports are only to be accepted into Australia for immediate disposal on a case by case, not on a continuing, basis.
- (g) That storage and stockpiling of scheduled waste in a State or Territory not destined for treatment and disposal in a licensed facility not be permitted once a suitable licensed facility becomes available in the State or Territory. If a State or Territory has no suitable licensed facility five years after a licensed facility is available elsewhere in Australia, storage and stockpiling of scheduled waste in that State or Territory will be prohibited.
- (h) That action be taken to encourage and support the development of treatment and disposal technologies and especially their potential application to specific problems in scheduled waste management, such as on-site and on-line destruction and the in-situ decontamination of soils.
- (i) That Commonwealth agencies which might generate scheduled waste be required to comply with State and Territory requirements imposed on other generators of scheduled waste.
- (j) That the responsibility for licensing of storage, treatment and disposal facilities, and transporters of scheduled waste, is to rest with the relevant agencies in Commonwealth, State and Territory jurisdictions.
- (k) That, in order to eliminate the generation of scheduled waste for which there is no environmentally acceptable means of disposal, production of materials by processes which inevitably give rise to scheduled waste be prohibited from 1 January 1995 or by an earlier cessation date as specified in the relevant management plan.

- (l) That measures be taken to ensure that scheduled waste and articles (whether in use or not) and substances which may give rise to scheduled waste are identified, and safely collected and consigned for treatment in a way which minimise the potential for release of this waste into the environment.
- (m) That where the concentration or quantity of the individual chemicals, in Schedule A of the regulation is less than the threshold concentration detailed in the regulation, the waste may be disposed of in accordance with industrial waste controls applicable to each State or Territory.
- (n) That articles and substances which give rise to scheduled waste be withdrawn from service by 1 January 1998 or by such cessation date as specified in the relevant management plan.
- (o) That present legislative provisions be reviewed to ensure that, as well as scheduled waste generators, holders of stocks of scheduled waste and articles whether in use or not which may give rise to scheduled waste be required to be registered with the agency.
- (p) That the liability of the owner of scheduled waste be taken to be discharged only when the waste has been disposed of in accordance with the relevant management plan.
- (q) That the operator of a licensed facility has sole control of the physical receipt of scheduled waste for disposal to ensure the inventory, of waste at the facility is, at any time, no greater than is required for the orderly receipt, identification, segregation and blending of waste for the purpose of operating a safe and efficient treatment and disposal programme.
- (r) That all relevant legislation be reviewed to ensure that dilution of scheduled waste for the purpose of circumventing the requirements for environmentally acceptable treatment and disposal is proscribed.
- (s) That households, farms and businesses be advised of the advantages of disposing of scheduled waste, the requirements of the National Model Regulation and the method for collection and disposal.

- (t) That a single appropriate authority in the Commonwealth and each State and Territory be given the responsibility for managing the collection of scheduled waste for their safe storage, transport, treatment and disposal.
- (u) That a National Advisory Body be established by the Australian and New Zealand Environment and Conservation Council (ANZECC) to evaluate and advise on the development of guidelines for Commonwealth, State and Territory agencies on storage, treatment and disposal methods and technologies applicable to scheduled waste. These guidelines are to be approved by ANZECC. A national register of accredited technologies is to be established and maintained by ANZECC.
- (v) That State and Territory agencies will license only storage, treatment and disposal facilities of scheduled waste that utilise methods and technologies accredited by the Standing Committee on Environment Protection (SCEP).
- (w) That the National Advisory Body will advise on a national extension programme on issues related to scheduled waste to be established and maintained by ANZECC.
- (x) That the National Advisory Body will advise on a national standard for the register of information for scheduled waste to be established and maintained by ANZECC.
- (y) That Commonwealth, State and Territory agencies will provide ANZECC with information required under Clause 14 of the National Model Regulation for Management of Scheduled Waste.
- (z) That the National Advisory Body will be responsible for advising on the development of management plans for approval by ANZECC by 1 July 1994 as specified in Clause 13 of the Regulation.
- (aa) That the National Advisory Body is to advise ANZECC on the development of threshold concentrations and quantities specified in Schedule A of the Regulation which are to be identified in the relevant management plan and any amendments to Schedule A that are to be approved by ANZECC.
- (ab) That the National Advisory Body, is to periodically review the National Strategy for the Management of Scheduled Waste and to advise ANZECC accordingly.

SIGNED on behalf of the)
Commonwealth of Australia by)
the Honourable)
Minister for)
.....in the presence of:)

SIGNED on behalf of the)
State of New South Wales by)
The Honourable)
Minister for)
.....in the presence of:)

SIGNED on behalf of the)
State of Victoria by)
the Honourable)
Minister for)
.....in the presence of:)

SIGNED on behalf of the)
State of Queensland by)
the Honourable.)
Minister for)
..... in the presence of:)

SIGNED on behalf of the)
State of Western Australia by)
the Honourable)
Minister for)
.....in the presence of:)

SIGNED on behalf of the)
State of South Australia by)
The Honourable)
Minister for)
.....in the presence of:)

SIGNED on behalf of the)
State of Tasmania by)
the Honourable)
Minister for)
.....in the presence of:)

SIGNED on behalf of the)
Northern Territory of Australia by)
the Honourable)
Minister for)
.....in the presence of:)

SIGNED on behalf of the)
Australian Capital Territory by)
the Honourable)
Minister for)
.....in the presence of:)

This Arrangement made the _____ day of _____, one thousand nine
hundred and ninety-

Between

- THE COMMONWEALTH OF AUSTRALIA of the first part.
- THE STATE OF NEW SOUTH WALES of the second part.
- THE STATE OF VICTORIA of the third part.
- THE STATE OF QUEENSLAND of the fourth part.
- THE STATE OF WESTERN AUSTRALIA of the fifth part.
- THE STATE OF SOUTH AUSTRALIA of the sixth part.
- THE STATE OF TASMANIA of the seventh part.
- THE NORTHERN TERRITORY OF AUSTRALIA of the eighth part, and
- THE AUSTRALIAN CAPITAL TERRITORY of the ninth part.

Definitions:

In this Arrangement, definitions are as defined in the National Model Scheduled Waste Regulation: .

1. "Arrangement" means the agreement between the Commonwealth of Australia and the States of New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania, the Northern Territory of Australia and the Australian Capital Territory.