LEGISLATIVE CONTROL OF HAZARDOUS SUBSTANCES IN WESTERN AUSTRALIA

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A Report by the

WESTERN AUSTRALIAN ADVISORY COMMITTEE ON CHEMICALS

Environmental Protection Authority

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FOREWORD

This Report, Legislative Control of Hazardous Sustances in Western Australia, represents the most extensive and complete review of legislation covering hazardous substances ever undertaken in Western Australia.

The review was carried out by the Hazardous Substances Sub-Committee of the Western Australian Advisory Committee on Chemicals. The analytical framework which was developed by the Sub-Committee has been particularly useful in clarifying the complex situation which currently exists, and has formed the basis for the recommendations in the Report.

The review process undertaken by the Committee has been very detailed, and has required much time. Consequently some (minor) aspects of the Report have been affected by the effluxion of time. The most notable example is the continued reference to the Department of Conservation and Environment.

ACKNOWLEDGEMENTS

The Western Australian Advisory Committee on Chemicals places on record its appreciation of the work carried out by the Chairman, Dr Bruce Kennedy and the members of the Hazardous Substances Sub-Committee in the development of this Report. The role of Dr Bruce Hamilton , the first Chairman of the Sub-Committee is also most appreciated.

The Committee also expresses its appreciation to those government departments and agencies which have contributed resources and/or information, enabling the task to be carried out.

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DEFINITIONS

dangerous good- any substance classified in the Third Schedule of the WA Explosives and Dangerous Goods Act 1961. This classification system is described in Appendix 5.

existing chemical- any substance which is listed in the Australian Inventory of Chemical Substances.

hazardous substance- any substance, class of substance or mixture that, by reason of its chemical or physical characteristics, or its quantity, concentration or handling, is a threat to the environment, human health or other living organism.

The following riders apply:

1. Substances may be excluded, by proscription, from the above definition.

2. Substances may be included, by prescription, in the above definition.

3. When, for a given substance or class of substances, it is not clear which agency/(ies) is/are responsible for control, then the issue shall be resolved by the Committee referred to in Recommendation 19 of the Report.

Water, stormwater or sewage were not considered and for the purposes of this Report are excluded from the definition.

Hazardous Substance- any substance specified in the Fifth Schedule to the WA Poisons Act 1964.

import- movement of goods into the National Territory of Australia.

industrial chemical- any hazardous substance that is not otherwise defined as a poison, pesticide, radioactive substance, food additive, therapeutic substance, veterinary drug, animal feeding stuff or fertilizer

interstate movement- the transfer of goods over State and Territory borders within Australia.

manufacture- to make materials into products by chemical, physical or biological processes or operations.

new chemical-	any chemical which is not listed in the Australian Inventory of Chemical Substances, and will be required to be notified under the provisions of the Proposed National Chemicals Notification and Assessment Scheme.
pesticide-	any substance or compound used or intended for use for agricultural, pastoral, horticultural, domestic or industrial purposes for controlling, destroying or preventing the growth and development of any fungus, virus, insect, mite, mollusc, nematode, plant or animal and includes all preparations and admixtures containing any proportion of any one or more of them.
poison-	any substance specified in any of the First, Second, Third, Fourth, Sixth, Seventh and Eighth Schedules of the WA Poisons Act 1964.

ACROYNMS

AAC	-	Australian Agricultural Council
ACC	-	Agricultural Chemicals Committee
AEC	-	Australian Environment Council
AICS	-	Australian Inventory of Chemical Substances
CCAC	-	Co-ordinating Committee on Agricultural Chemicals
CCCC	-	Community Consultative Committee on Chemicals
COHSW	-	Commission of Occupational Health, Safety and Welfare (WA)
CONCOM	-	Council of Nature Conservation Ministers
DCE	-	Department of Conservation and Environment (WA)
DHAE	-	Department of Home Affairs and Environment (Federal, now the Department of Arts, Heritage and Environment)
DOHSWA	-	Department of Occupational Health, Safety and Welfare (WA)
EEC	-	European Economic Community
EPA	-	Environmental Protection Authority
FAO	-	Food and Agricultural Organisation
FST	-	Food Science and Technology Sub-Committee
IARC	-	International Agency for Research into Cancer
ILO	-	International Labour Organisation
IRPTC	-	International Register of Potentially Toxic Chemicals
MRL	-	Maximum Residue Limit
NACC	-	National Advisory Committee on Chemicals (now the Advisory Committee on Chemicals in the Environment)
NH&MRC	-	National Health and Medical Research Council
NOHSC	-	National Occupational Health and Safety Commission
OECD	-	Organisation for Economic Co-operation and Development
PACC	-	Pesticides and Agricultural Chemicals Committee
PCB	-	Polychlorinated Biphenyl
PHC	-	Public Health Committee
PSC	-	Poisons Scheduling Committee
SCA	-	Standing Committee on Agriculture
SCSC	-	Stored Chemicals Sub-Committee
SUSDP	-	Standard for the Uniform Scheduling of Drugs and Poisons
TCAC	-	Technical Committee on Agricultural Chemicals
TCVD	-	Technical Committee on Veterinary Drugs
TLV	-	Threshold Limit Value
UNEP	-	United Nations Environment Programme
USEPA	-	United States Environmental Protection Agency
WAACC	-	Western Australian Advisory Committee on Chemicals
WATEAS	-	Western Australian Transport Emergency Assistance Scheme
WAWA	-	Water Authority of Western Australia
WHO	-	World Health Organisation

1.0 INTRODUCTION

Hazardous substances of various types are used in everyday life, and very commonly used in industry. Fuels for vehicles, barbecues, cooking and heating; detergents; plastics; pesticides and fertilisers are examples of hazardous substances or chemical-based products. These substances enhance our standard of living. It is often the very properties of hazardous substances which make them useful, which also render them dangerous if misused. Hydrocarbon fuels are useful because of their volatile and flammable nature. It is their volatility and flammability which cause difficulties if they are not stored, transported or used safely. Many substances are also deleterious to human health or the environment because of properties other than those which make them useful. Many carcinogens fall into this category.

Adverse effects on the health of people working with specific substances, often in a specific occupation or industry, have sometimes led to the enactment of legislation to control the use, or the conditions of use, of such substances. Examples of this occur in Regulations made under the Factories and Shops Act. Similarly, the Explosives and Dangerous Goods Act was created to control particular classes of dangerous goods, to ensure public safety. For some classes of goods, the latter Act covers most stages of the 'life cycle' (ie for explosives and for flammable liquids), and addresses (one aspect of) one life cycle stage for all dangerous goods (road transport). Other legislation is also aimed at particular stages of the life cycle (eg Health (Disposal of Liquid Waste) Regulations) or utilises a particular life cycle stage to exert wide control (eg the Poisons Act utilises sale/supply as a control point for poisons in the community). The Pesticides Regulations (to the Health Act) exert a considerable degree of control over the registration and application of pesticides. There is some concern over the criteria by which pesticides are examined for clearance and registration, and a consequent perception that such criteria need to be broadened, to encompass the areas of environment and occupational health.

As the above examples indicate, legislation has been developed in response to particular perceived needs. The overall result is fragmentation of control. The fragmentation occurs according to types of hazardous substances, life cycle stage(s) of substances, and government departments administering such controls. In the past, administration of controls has often been carried out by departments with little reference to each other. The effectiveness of these controls has been variable, given variations in the resources and expertise of relevant agencies and inspectorates, and the powers allocated them under relevant legislation.

Community concerns over the actual and potential dangers of hazardous substances to people and the environment have led to various legislative developments internationally. These developments are currently being reflected in Australia, at both the national and State levels.

At the national level, the two Reports of the House of Representatives Standing Committee on Environment and Conservation Inquiry into Hazardous Chemicals (1982) have been

instrumental in delineating problems, and suggesting appropriate strategies for solving them. The Reports made specific recommendations on hazardous waste management, occupational and public health issues, information systems, a national notification and assessment scheme, the environmental assessment of chemicals and the development of a national incident reporting scheme. Since then, many of these elements have been developed to varying degrees. The most notable development has been the establishment of the National Occupational Health and Safety Commission, which has taken responsibility for a number of the issues mentioned above. The Australian Environment Council has taken a leading role in the progress of some of the above issues.

Developments in the States are beginning to 'mirror' those at the national level. In Western Australia, the Commission of Occupational Health, Safety and Welfare (and the associated Department of Occupational Health, Safety and Welfare) was established in 1985. One of the aims of the Commission is to rationalise and improve control of hazardous substances in the workplace. It is expected that the recommendations of this Report will have an important bearing on such control. Other recommendations in this report are made partly on the basis on 'mirroring' the Federal scene.

Prior to 1984, the WA Advisory Committee on Environmentally Hazardous Chemicals provided a forum for the discussion and resolution of chemicals issues. This committee was dissolved in late 1983, and two committees, the WA Advisory Committee on Chemicals (WAACC) and the Community Consultative Committee on Chemicals (CCCC) were established. The WAACC consists of officers from relevant Government departments. Membership of the CCCC consists of representatives from industry, TLC, conservation and consumer groups, tertiary institutions and professional groups, as well as members of WAACC (ex-officio). Its principal role to date has been to act as a forum for advice, liaison and exchange of information. The terms of reference and membership of both committees are outlined in Appendix 1.

In 1984, the CCCC established a Stored Chemicals Sub-Committee to investigate and make recommendations on the storage of dangerous goods, and associated matters. The Sub-Committee's final Report (the development of which included a period of public comment) has been approved by the CCCC, and transmitted to the government. It is expected that storage regulations (under the Explosives and Dangerous Goods Act) will be developed as a result of this work.

In 1984, the WAACC established the Toxic Substances Legislation Sub-Committee to review all chemicals control legislation in Western Australia, and to make recommendations on its rationalisation. Its specific terms of reference were:

- Investigate and report on the need for upgraded or new legislation to control toxic substances in WA.

  Included in this prime term of reference would be the need to respond to particular moves at the national level for new

legislation on chemicals as well as investigating the need for an overall 'Toxic Substances Control Act' in WA.

- Review existing legislation and control procedures in Australia, particularly in Western Australia.

- Review relevant overseas legislation and approaches noting especially common points and key elements of relevance to Western Australia.

- Review current initiatives for chemicals assessment and control in Australia including proposed legislation, organisational arrangements and responsibilities for action.

- Identify gaps, shortcomings and duplication in the Western Australian system.

- Prepare proposals for amendments to the existing system including recommendations for new legislation.

At its meeting of 31 October 1985, the Sub-Committee recommended that its name be broadened to the Hazardous Substances Sub-Committee in recognition of the fact that environmentally hazardous chemicals are not necessarily included in the term 'toxic substance'. In addition, the term 'hazardous substance' is is used throughout this Report. The definition of this term is not simple, as it implies not only the inherent toxicity (or ecotoxicity) of the substance, but also the attendant risks in its storage, handling, use and/or disposal. These risks arise through various means, such as the context of use (laboratory; non-laboratory; equipment; operator training and attitudes). Hazardous substance has thus been defined as: any substance, class of substance or mixture that, by reason of its chemical or physical characteristics, or its quantity, concentration or handling, is a threat to the environment, human health or other living organism.

The following riders apply

1. Substances may be excluded, by proscription, from the above definition.

2. Substances may be included, by prescription, in the above definition.

3. When, for a given substance or class of substances, it is not clear which agency/(ies) is/are responsible for control, then the issue shall be resolved by the Committee referred to in Recommendation 19 of the Report.

   Water, stormwater or sewage were not considered and for the purposes of this Report are excluded from the definition.

The procedures adopted by the Sub-Committee in its deliberations can be broadly categorised in the following way:

- identification of all Government departments responsible for legislation dealing with hazardous substances;

- commissioning of position papers (usually by members of the Sub-Committee) for each major department, identifying legislation its scope, strengths and weaknesses. The position papers have also enabled the Sub-Committee to make substantial progress in writing its report;

- interaction with affected parties, particularly at the position paper stage.

In making its recommendations to the WA Advisory Committee on Chemicals on the rationalisation of legislation, the Sub-Committee used an approach which utilises and builds on current legislation, rather than attempt to start from 'scratch'. Legislation has been considered under three broad functional headings, ie public health, occupational health, and environment, together with important use areas such as agriculture and mining.

The Sub-Committee then attempted to match current legislation with each of the above areas, each of which is covered by a Government department. As a result of this matching process, some recommendations involve the movement of legislation from one department to another, although much of the current legislation is expected to remain where it is. In making recommendations for improved matching, the Sub-Committee took into account other factors such as location of expertise in different departments and the current trend in Australia for State chemicals legislation to 'mirror' or reflect the arrangements and structures at the Commonwealth level. This has sometimes modified the matching process.

The Sub-Committee did not attempt to write or rewrite legislation, as this would go well beyond its terms of reference and its resources. Shortcomings in current legislation have been identified and appropriate recommendations made to strengthen the legislation. This latter process may involve broadening the legislation (eg occupational health legislation, to cover all 'industrial' chemicals), or the criteria by which hazardous substances are assessed (eg wider membership of the Pesticides Advisory Committee).

In the course of its deliberations, the Sub-Committee recognised the the value to a wider audience, of some of the material it has compiled, and to this end has published it separately. The two publications produced are: Hazardous Substances, Legislative and Other Controls in Western Australia (Arrowsmith, 1985), and Hazardous Chemicals Bibliography (Halge, 1985).

Furthermore, a 'matrix' of various Government committees, their membership and function(s) has been developed, and will form a useful reference work, particularly if it is updated on a regular basis (see Appendix 4).

2.0 RECOMMENDATIONS AND SUGGESTIONS

Recommendations

It is recommended that:

Federal Controls (Section 5.2)

1 The State Government should attempt to mirror, as far as practicable, the control mechanism developed at the national level and by other States, where arrangements have been shown to work satisfactorily.

Health Department of WA (Section 5.3.1)

2 The Health Act be amended to enable the membership of the Pesticides Advisory Committee to be expanded to include representatives of the Department of Conservation and Environment and the Department of Occupational Health, Safety and Welfare.

3 The re-registration period for pesticides, under the Pesticide Regulations, be expanded from one year to three years.

4 The Health Act be amended to enable cancellation of pesticide registration on certain grounds. A code for recall procedures for pesticides be developed which could be incorporated in legislation if necessary.

5 Provision be made in the Pesticide Regulations for the mandatory reassessment of the labels of registered products after a six-year period of time, if not assessed for any other reason during that period.

6 The Pesticide Regulations be amended to prohibit the re-use, the sale for re-use, or the burning, of used pesticide containers without approval of the Executive Director of Public Health. Any such approval would be subject to guidelines issued by the Executive Director of Public Health.

7 The Toxic and Hazardous Substances Regulations be rescinded and the provisions of these Regulations be transferred to the Poisons Act and Regulations, and the Occupational Health, Safety and Welfare Act, as appropriate, and when the Standard for the Uniform Scheduling of Drugs and Poisons changes to incorporate these provisions.

8 Regulations to the Health Act be promulgated as soon as possible to control drugs, medicines and therapeutic substances.

9 Control of carcinogens in the workplace, currently exercised under the Carcinogenic Substances Regulatory Notice of the Poisons Act, be transferred to the Department of Occupational Health, Safety and Welfare as soon as an appropriate legislative structure exists.

10 Control of those hazardous substances, currently exercised under the Poisons Act through the licensing of poisons manufacturers, be transferred to the Department of Occupational Health, Safety and Welfare.

11 Control of the use, in the workplace, of those hazardous substances which are currently exempted under the Poisons Act, be regulated by the Department of Occupational Health, Safety and Welfare. Specific industries operating under adequate legislation (for example, the mining industry) would not be subject to this requirement.

Department of Occupational Health, Safety and Welfare (Section 5.3.2)

12 The Regulations to the Factories and Shops Act, applying to hazardous substances, be repealed and comprehensive regulations be promulgated under the Occupational Health, Safety and Welfare Act to apply to the widest possible range of hazardous substances, in all workplaces subject to control by the Department of Occupational Health, Safety and Welfare.

13 In the short term, the existing regulations applying to hazardous substances under the Factories and Shops Act, be reviewed and updated.

14 Suitable complementary legislation be developed in Western Australia, to be administered by the Department of Occupational Health, Safety and Welfare, to provide for the notification and assessment of hazardous substances, except for therapeutic substances, food additives, pesticides and veterinary drugs.

Department of Conservation and Environment (Section 5.3.3)

15 The Cabinet Committee on Metropolitan Waste take a more prominent role in the development of an integrated waste strategy for the Metropolitan region. The Department of Conservation and Environment should continue to work closely with the other agencies on the Committee, in the development of policies, standards and procedures for the disposal of hazardous wastes.

Department of Agriculture (Section 5.3.4)

16 The scope of the Agricultural and Related Resources Protection Act and the Aerial Spraying Control Act be expanded, or new legislation developed, to encompass the protection of areas of non-target vegetation.

Department of Mines (Section 5.3.5)

17 The Explosives and Dangerous Goods Act should be examined to determine if it should be modified to allow the Mines Department to discharge its responsibility within the mining industry, and to determine if separate legislation is needed to cover hazardous substances under the accountability of DOHSWA.

18 The definition of a mine site under the Mines Regulation Act and Coal Mines Regulation Act be examined to determine the possibility of excluding those industrial facilities which are remote from the primary mining site.

Co-ordination (Section 5.5)

19 A co-ordinating body be established with representation, at a senior level, from relevant Government agencies, to advise the relevant Ministers on all aspects of the management of hazardous substances.

20 A community committee be established, with representation from industry, trade unions, relevant professionl and community groups, and Government, to identify and consider issues, relating to hazardous substances, of concern to the community.

Suggestions

It is suggested that:

Health Department of WA (Section 5.3.1)

1 The Standard for the Uniform Scheduling of Drugs and Poisons be amended to include poisons in all uses, and not specify exemptions for poisons in certain uses.

2 Close liaison be maintained between the Radiation Health Branch and the Explosives and Dangerous Goods Division to ensure that radioactive substances are safely transported.

Department of Occupational Health, Safety and Welfare (Section 5.3.2)

3 The Department of Occupational Health, Safety and Welfare establish a unit within its structure to deal specifically with hazardous substances.

Department of Mines (Section 5.3.5)

4 The Explosives and Dangerous Goods Division maintain a professionally qualified inspectorate and links with other sections of the Mines Department dealing with hazardous substances, no matter where the Division is situated.

General

5 The scope of Western Australian Transport Emergency Assistance Scheme be expanded into a general emergency response scheme for incidents involving hazardous substances.

6 A working group, with appropriate representation, be established to consider, and report upon the labelling of hazardous substances.

3.0 NOTIFICATION AND ASSESSMENT OF HAZARDOUS SUBSTANCES

3.1 Introduction

Traditionally, laws regulating hazardous substances have tended to concentrate on the emission of specific pollutants into the environment, or have required licensing or registration of certain groups of hazardous substances such as pesticides and therapeutic substances. Greater emphasis is now being placed on the development of legislation that is 'preventative', providing methods for identifying and evaluating hazardous substances which might be harmful to humans and the environment, before they are released. This is done by requiring industry to submit information to Government authorities before engaging in manufacture or marketing of hazardous substances, so that their evaluation can be undertaken and appropriate conditions imposed on the manufacture or marketing. This form of legislation is generally referred to as notification and assessment legislation.

Because of the importance of international trade in hazardous substances and the ability of hazardous substances to travel across national boundaries through air, water and food chains, the notification and assessment policies of other countries have the potential to impact upon the management of hazardous substances in Australia.

It is important to examine notification and assessment legislation in an international context.

Therefore, the purpose of this chapter of the Report is to review the notification and assessment legislation that exists internationally, and at the federal level in Australia. The chapter also includes a discussion of the involvement of several international organisations in the management of hazardous substances. The Organisation for Economic Co-operation and Development (OECD) and several United Nations agencies attempt to ensure some uniformity between the management systems for hazardous substances in different countries.

Attempts were made to obtain notification and assessment legislation from as wide a range of countries as possible, but limitations were found in obtaining English translations of some pieces of legislation. The following information on international legislation has been compiled from the available statutes and several review documents dealing with international chemicals legislation (Strahlendorf, 1984; Government Institutes Inc., 1983; Gusman et al,1980).

3.2 International Legislation and Approaches

There are many countries that are currently developing, or already have in place, legislative controls that provide for assessment of chemicals at the pre-market or pre-manufacture stage. Countries that have comprehensive legislation include Japan, the United States of America, the United Kingdom, Canada and most European countries.

Although the programmes differ substantially in some of these countries, all have the objective of protecting human health and the environment from the effects of hazardous substances. All recognise that the assessment of hazardous substances before their use assists in the prevention of problems at a later stage.

A brief review of the approaches taken in Japan, the United States, West Germany and the United Kingdom is included below. These particular countries have been chosen for a number of reasons, and embrace both federal and unitary political systems. Countries with a federalist structure such as West Germany must cope with a degree of decentralised decision making which is in sharp contrast to the strongly central governments such as the United Kingdom.

Japan was one of the first countries to introduce comprehensive notification and assessment legislation, and its focus differs markedly from that of most other countries. It is interesting to compare the approach taken in the United States with that of Japan, both countries having suffered major problems involving hazardous substances.

Both West Germany and the United Kingdom are members of the EEC and have been required to implement notification and assessment legislation for new chemicals (see Section 3.2.3). Although the EEC has the ability to adopt directives that define objectives and procedures, the means by which these will be achieved is determined by the individual member States. The United Kingdom and West Germany provide an illustration of how two different member states have implemented the requirements of the EEC Sixth Amendment (see Section 3.2.3).

With a political system comprising state and federal governments similar to Australia, West Germany also gives an indication of how a system of notification and assessment could operate in Australia.

In addition, the EEC member states and the United States account for a large proportion of world chemical exports and deserve inclusion in any examination of controls for hazardous substances.

3.2.1 Japan

Japan was one of the first nations to implement legislation requiring the notification and testing of new chemicals. Japan's legislation arose from concern over their early experiences with polychlorinated biphenyls (PCBs) and, as a result, the purpose of the legislation has been to identify substances with PCB-like characteristics, such as persistence, bioaccumulation and chronic toxicity, through pre-manufacture or pre-import assessment.

The legislation, the Chemical Substances Control Law, was created in 1973 and is administered by the Ministry of International Trade and Industry, and the Ministry of Health and Welfare. The agencies receive and assess pre-manufacture and pre-import notifications of new substances, and pre-use notifications of existing substances that are considered to be hazardous. All notifications are required to be forwarded to the Japanese Environment Agency for comment on environmental issues.

The scope of this law is to prevent substances which are harmful to human health and are persistent, from polluting the environment. The main emphasis appears to be toward the protection of public health and the environment, the law not being specifically concerned with occupational health.

3.2.2 United States of America

The United States Environmental Protection Agency (USEPA) administers the Toxic Substances Control Act which, since 1983, has been used to enforce a mandatory notification and assessment scheme. An interim scheme operated under the same Act between 1979 and 1983.

The purpose of the Act is to regulate substances which present an 'unreasonable risk of injury to health or the environment but not in a manner that would impede unduly or create unnecessary economic barriers to technological innovation'.

Essentially, notification of new chemicals must be submitted 90 to 180 days before manufacture or import. The Act does not require notifiers to generate information for the purpose of notification. Only information that is 'known or reasonably ascertainable' by the notifier need be provided, along with uses and proposed volumes of import and manufacture.

If the USEPA finds that a new chemical may present an unreasonable risk to health or the environment, or that there is insufficient data available, it can require manufacturers to conduct the necessary toxicity testing. When this occurs, its manufacture, use and disposal may be limited, even to the extent of prohibition.

Upon notification, substances are added to the inventory of existing chemicals. This has the effect that only the first importer or manufacturer of a new chemical is required to notify the USEPA. Further notification of certain substances may be required if they are covered by Significant New Use Rules (SNURS). This allows the USEPA to examine the change in risk where significant changes in human or environmental exposure occurs.

A Bill to amend the Act was introduced in early 1984, designed to bring the USA requirements for notification into line with those of the EEC Sixth Amendment (see Section 3.2.3).

A Bill was introduced in the State of New Jersey in mid-1985, designed to enforce disclosure of information about hazardous substances in industrial facilities in the State (Community Right to Know and Chemical Safety Act). This Act requires every workplace to provide complete usage and disposal details of hazardous substances on their premises. The Department of Environmental Protection and Department of Health are then to prepare environmental survey and hazard fact sheets respectively which in turn are available to workers, the public, police and fire departments.

If, however, manufacturers use hazardous substances as part of a process that is regarded as a trade secret, they can make a 'trade secret claim' to withhold public disclosure. Confidentiality is allowed if manufacturers can demonstrate: that the information is only known to them, maintenance of adequate security precautions, considerable development effort, that the 'secret' is of real value and it would be very difficult for others to uncover the necessary information. Trade secret substances are given a code number and information concerning them can only be revealed, after signing an agreement to protect confidentiality, to a medical practitioner providing medical treatment. Some substances listed by the Department of Health as a special health hazard are not to be treated as trade secrets.

3.2.3 European Economic Community

The European Economic Community (EEC) Council adopted the Sixth Amendment (79/831/EEC) to the 1967 Directive on Packaging and Labelling of Dangerous Substances (67/548/EEC) in September 1979.

This Amendment essentially requires manufacturers to notify the responsible national authorities of their intention to introduce a new chemical. This notification must be submitted 45 days prior to marketing and include a dossier of specified technical information. The degree of pre-market testing and hazard assessment is determined by the expected production volumes.

In comparison to the United States Toxic Substances Control Act, the Directive requires pre-market notification rather than pre-import or pre-manufacture notification. Therefore, substances that are isolated as intermediates and used for commercial purposes, but which are not placed on the market, are exempt from the provisions of the Directive. However, the Directive is more specific than the Toxic Substances Control Act in that it prescribes the health, environmental and physico-chemical test data that must accompany a new chemical notification. The Directive does not contain provisions for the testing of existing substances.

EEC member countries were required to incorporate the Sixth Amendment into national legislation within two years of its adoption. To date, all countries have done so, except Greece. Those countries with existing chemicals notification legislation modified their legislation so as to conform with the Sixth Amendment.

3.2.4 West Germany

West Germany implemented the EEC Sixth Amendment by introduction of the Act on Protection Against Dangerous Substances, in 1982. This Act appears to be the most comprehensive of all notification and assessment legislation in EEC countries, being more stringent than the Sixth Amendment in some respects.

The Act and scheme are administered by the Federal Office for Occupational and Safety Policy, but three other agencies have some involvement in the evaluation process: the Federal Environment Protection Agency, the Federal Health Agency, and the Federal Institute for Labour Protection and Accident Research.

The purpose of the Act is to protect the environment, human health in general and, specifically, to protect workers at the workplace. It requires pre-market notification of all new chemicals, except where they have already been evaluated under similar legislation in another EEC country, and provides for notification of existing chemicals if they are considered to be dangerous.

To some extent, the Act also requires pre-export notification in that a hazardous substance manufactured in West Germany cannot be sold to another EEC country without prior notification and assessment in West Germany.

3.2.5 United Kingdom

The United Kingdom implemented the Sixth Amendment requirements by issuing the Notification of New Substances Regulations 1982 under the Health and Safety at Work Act 1974. The purpose of these Regulations has been cited as 'to protect man and the environment from risks associated with new chemicals'.

The Regulations require a pre-supply notification which is broadly defined to include pre-market and pre-import notification. All new substances supplied in a quantity greater than one tonne in any twelve-month period must be notified. As for the West German legislation, substances which have been previously notified in another EEC country are exempt from the notification requirements.

The scheme is administered by the Health and Safety Executive, but notifications are referred to the Department of the Environment for consideration and advice on environmental matters.

3.2.6 Organisation for Economic Co-operation and Development

Although the control programmes in many countries differ substantially, especially amongst the non-EEC countries, a number of international organisations are attempting to complement and harmonise these national policies and ensure uniformity between these and countries now developing chemicals notification and assessment legislation.

One of these is the Organisation for Economic Co-operation and Development (OECD), which has undertaken a comprehensive chemicals programme with the following objectives (OECD, 1984):

- to improve the protection of health and the environment from the harmful effects of chemicals;

- to avoid distortions of trade in chemicals;

- to reduce the economic and administrative burden associated with chemicals control, on member countries;

- to foster intensive international exchange of information on chemicals.

As a result of the programme to date, the OECD Council has made several Decisions, which are binding on member States, and a number of Recommendations, with respect to control of hazardous substances. The subjects covered by these Decisions and Recommendations include guidelines for testing, good laboratory practice, a minimum pre-marketing set of data, mutual acceptance of data, confidentiality of data, and a glossary of key terms.

The work of the programme is still continuing, but effort has now been directed towards international harmonisation of approaches to chemicals management, the impacts of chemical control policies, and the assessment of hazardous substances.

3.2.7 United Nations Agencies

There are a number of United Nations agencies which play an important role in international co-operation in the management of hazardous substances.

UNITED NATIONS ENVIRONMENT PROGRAMME

The United Nations Environment Programme has developed the International Register of Potentially Toxic Chemicals (IRPTC) for collecting, collating and disseminating data on hazardous substances for use in risk assessments.

WORLD HEALTH ORGANISATION

The World Health Assembly of the World Health Organisation (WHO) has initiated an International Programme on Chemical Safety. The proposed activities of the programme include the development of methodologies for testing and risk assessment, selecting priority chemicals for evaluation of health and environmental effects, collection and dissemination of information, and the development of manpower training programmes.

The International Agency for Research into Cancer (IARC) is a specialist body of WHO which develops principles for assessing carcinogenicity, and publishes monographs on the carcinogenic hazard of individual substances and processes.

FOOD AND AGRICULTURAL ORGANISATION

The Food and Agricultural Organisation (FAO) addresses the need for international harmonisation of pesticide registration requirements and is developing guidelines for

environmental hazard assessment. The FAO and WHO are also involved in the activities of the Codex Alimentarius Commission which evaluates data on food additives and pesticide residues in food. The FAO and WHO provide toxicological evaluation of food additives for the Commission.

INTERNATIONAL LABOUR ORGANISATION

The International Labour Organisation (ILO) provides a means through which occupational health and safety policies can be harmonised. The ILO Convention No. 155 and Recommendation No. 164 were adopted at the International Labour Conference in June 1981.

Convention No. 155 lays the foundation for the establishment of progressive and comprehensive systems to protect the health and safety of workers in member countries. It lists the employers' responsiblities for the control of hazardous substances and requirements for the provision of adequate personal protection. It also provides arrangements whereby workers are to be consulted on all aspects of health and safety related to their work.

Recommendation No. 164 urges member States to review current legislation and to undertake research to identify and counteract health hazards, and advocates the principle of eliminating hazards at source.

In addition to the Convention and Recommendation, the ILO has developed a computerised data bank called the CIS system which provides a wide range of information on health and safety aspects of hazardous substances as well as radiation and physical agents. This data bank can be accessed world wide.

3.3 Australian Programmes - Existing and Proposed

It is not easy to give an accurate resume of the national mechanisms which currently exist to manage hazardous substances in Australia. This is largely a result of the fact that, in Australia, hazardous substances have only recently received the attention they deserve with respect to their potential impact on human health and the environment. As a consequence, several control mechanisms are in the development stage and others are being changed as new circumstances and problems are identified. The description below reflects the situation at the time of writing.

Most of the regulatory mechanisms for control of hazardous substances in Australia lie with the State Governments, as the Constitution precludes the Federal Government from having an extensive involvement. The Federal Government exercises only limited legislative control through a variety of statutes. However, it does administer five national programmes for the evaluation and assessment of new chemical substances. The groups now covered by these schemes are therapeutic substances, food additives, agricultural chemicals, veterinary drugs, and industrial chemicals (on a voluntary basis only).

The mechanisms affected by the schemes are principally pre-market assessment, labelling and packaging requirements, and sales restrictions. The schemes are controlled by four bodies, with the participation of both State and Commonwealth Governments in most cases.

These evaluation mechanisms are intended to ensure a degree of co-ordination and uniformity between the States and Commonwealth, and between the States themselves. This avoids costly duplication of assessment and allows the best use to be made of the resources and expertise available in Australia.

In addition to the bodies administering the assessment programmes, a number of other co-operative bodies exist which provide an opportunity for State and Federal Governments to consult and liaise on matters concerning the management of hazardous substances.

The role of each of these relevant bodies is outlined below.

3.3.1 Australian Environment Council

The Australian Environment Council (AEC) comprises the Ministers responsible for environmental matters in each State, the mainland Territories and the Commonwealth. It provides a forum for consultation and co-operation on matters concerning environmental management and pollution control.

In 1977, the AEC adopted a National Action Plan on Environmentally Hazardous Chemicals, the major thrust of which was the development of a notification and assessment scheme for chemicals. At the same time, the AEC established the National Advisory Committee on Chemicals (NACC) to implement the Plan (AEC, 1984).

As a result, a voluntary Interim Notification Scheme for New Chemicals in Australia commenced operation in October 1981. This interim scheme is still in operation but, by virtue of its voluntary nature, has not provided a satisfactory notification and assessment mechanism. Nevertheless, it has provided valuable experience in developing suitable longer-term procedures for Australia. The NACC also began to develop a mandatory notification and assessment scheme, which is to replace the current interim scheme in the near future. The NACC maintained responsibility for the development of this scheme until early 1985 when this responsibility was transferred to the newly established National Occupational Health and Safety Commission (see Section 3.3.5).

Development of the mandatory scheme by the Commission is now reaching the final stages, with Commonwealth legislation being drafted to provide the legal framework. It is envisaged that State Governments will enact complementary State legislation which will allow notification of chemicals, introduced by way of manufacture in each State, through the national scheme. Commonwealth legislation will require notification of chemicals introduced into Australia by way of import.

The National Chemicals Notification and Assessment Scheme will provide for:

- mandatory advance notification of the intention of a manufacturer or importer to introduce a new chemical to Australia;
- notifications to be accompanied by a dossier of information on the properties of the new chemical and potential exposure of people and the environment;
- selected existing chemicals to be subject to notification requirements where necessary;
- systematic assessment of notified chemicals to identify risks to occupational and public health and to the environment;
- preparation of assessment reports dealing with each of these aspects, including recommendations as to appropriate control measures; and
- dissemination of assessment reports/recommendations to authorities responsible for implementing and administering controls.

'New chemicals' will be distinguished from 'existing chemicals' by the creation of an Australian Inventory of Chemical Substances, which will list all individual chemical substances imported or manufactured for commercial purposes in Australia from 1 January 1977 to the date of the introduction of the notification scheme. Compilation of this inventory began with the production of a core inventory (Department of Home Affairs and Environment, 1984) of substances produced by forty-six major companies. This inventory is now being expanded by consultation with a wide range of chemical manufacturers/users.

The definition of chemical substances under the scheme will include chemical elements, compunds and complexes whether man-made or naturally occurring. It will also include biological materials.

In concept, this scheme will embrace virtually all hazardous substances but, for priority and practical reasons, will focus mainly on industrial chemicals which have not been previously subject to comprehensive assessment procedures. It will thus be complementary to the existing schemes described below and, when in place, Australia will have procedures whereby all potentially hazardous substances are properly assessed.

3.3.2 Australian Agricultural Council

The Australian Agricultural Council (AAC) was established in the mid-1930s and comprises the Ministers for Agriculture from each State, the Northern Territory and the Commonwealth. The administrative functions of the Council are largely undertaken by the Standing Committee on Agriculture (SCA), comprising the permanent heads of the State agricultural departments.

On the recommendation of the SCA, the Co-ordinating Committee on Agricultural Chemicals (CCAC) was established, under a different name, in 1963. This Committee is composed of Commonwealth and State Government specialists in a variety of fields, and meets once per year to deal with major policy issues in the use of hazardous substances in agriculture.

There are three sub-committees which report to the CCAC, the Agricultural Chemicals Committee (ACC), the Technical Committee on Agricultural Chemicals (TCAC) and the Technical Committee on Veterinary Drugs (TCVD). The ACC has, in the past, been primarily concerned with the management of agricultural chemical residues in primary produce. Its function has now been expanded to include policy development for the CCAC.

The TCAC and TCVD are technical assessment bodies which form the basis of the two evaluation schemes administered by the Australian Agricultural Council, one for agricultural chemicals and the other for veterinary preparations, respectively. Agricultural chemicals (except fertilizers) and most veterinary preparations require clearance through the technical committees before these products can be registered at a State level.

The procedure involved for clearance of the products is complex, and is best illustrated diagrammatically (see Figure 1). On receipt of an application for clearance, the data provided is forwarded to the TCAC which distributes it to specialist members within each State for advice. In addition, the applications are forwarded to the Poisons Schedule Committee and the Pesticides and Agricultural Chemicals Committee, both committees of the NH&MRC, for poison scheduling and the setting of maximum residue limits, respectively.

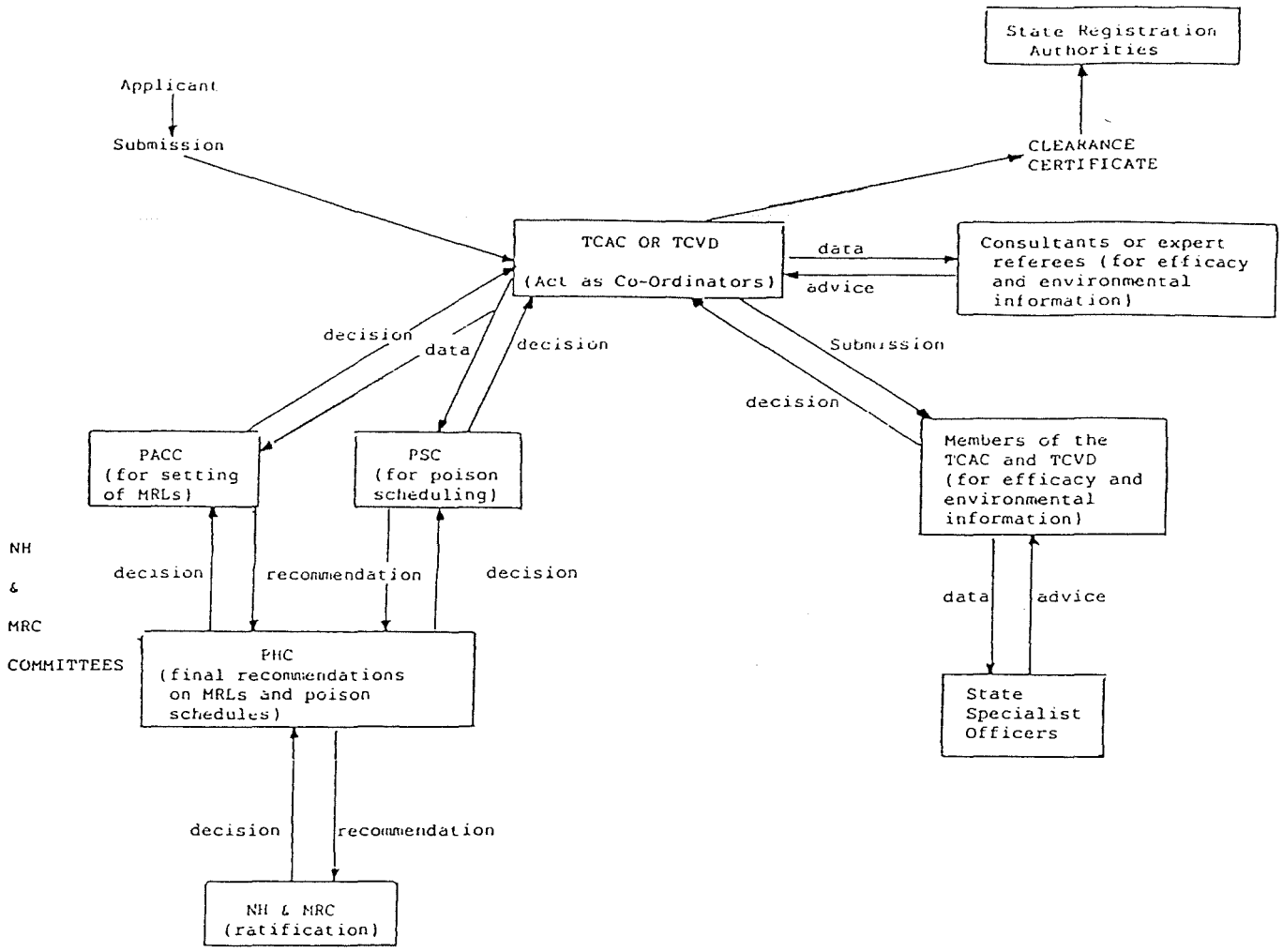
The TCAC and TCVD act largely in co-ordinating roles, gathering expert advice and compiling this into conditions or recommendations for safe and efficacious use of the particular substance. When clearance has been granted, the applicant is issued with a clearance certificate and applications can then be made for registration at the State level.

At present, neither agricultural chemicals nor veterinary drugs undergo a full evaluation with respect to their environmental impact, although a representative of the Council of Nature Conservation Ministers (CONCOM) is a member of the TCAC.

Environmental assessment is considered extremely important in the case of agricultural chemicals, because the mode and quantity of their use gives rise to a high potential impact on the environment. Recently, representatives of the National Occupational Health and Safety Commission, and the Australian Environment Council were appointed to TCAC, to ensure that occupational health and environmental issues are fully addressed when agricultural chemicals are being evaluated.In practice, referral back to the occupational health and environment agencies for more detailed assessments will now be possible. It has recently been proposed to put the clearance process on a legislative footing.

FIGURE 1

PROCEDURES FOR THE CLEARANCE OF AGRICULTURAL CHEMICALS AND VETERINARY DRUGS



KEY:

TCAC - Technical Committee on Agricultural Chemicals
TCVD - Technical Committee on Veterinary Drugs
PACC - Pesticides and Agricultural Chemicals Committe
PSC - Poisons Scheduling Committee
PHC - Public Health Committee
NH & MRC - National Health and Medical Research Council

3.3.3 National Health and Medical Research Council

The National Health and Medical Research Council was constituted by the Governor-General in September 1936. The Council inquires into, and makes recommendations on, matters of public health legislation and administration, expenditure on medical research, the merits of reputed cures or methods of treatment, and any other matters relating to health, medical and dental care.

The Public Health Committee (PHC) is one of three advisory committees which are responsible to the Council (see Figure 2). This Committee advises the Council on matters of public health, preventive medicine, and health legislation and administration by the Commonwealth and State Governments.

Three of the many committees which report to the PHC (see Figure 2) are concerned with the assessment and control of particular substances. These are the Food Science and Technology Sub-Committee (FST) of the Food Standards Committee, the Poisons Scheduling Committee (PSC), and the Pesticides and Agricultural Chemicals Committee (PACC).

The FST administers a scheme which evaluates applications for proposed uses of new food additives and different uses of existing approved food additives. When the application has been approved by the FST, it is further considered by the Food Standards Committee for inclusion in the relevant model food standard. After Council ratification, this is recommended to State Governments for incorporation into legislation.

Although the PSC and the PACC do not administer individual assessment schemes, both have an important role in providing support to the national notification and assessment bodies, for co-ordination into national recommendations.

The PACC makes recommendations on maximum residue limits for pesticides, veterinary medicines and other agricultural products. Information is referred to the PACC from the Australian Agricultural Council's two technical committees, so that maximum residue limits can be set for substances being assessed by those bodies.

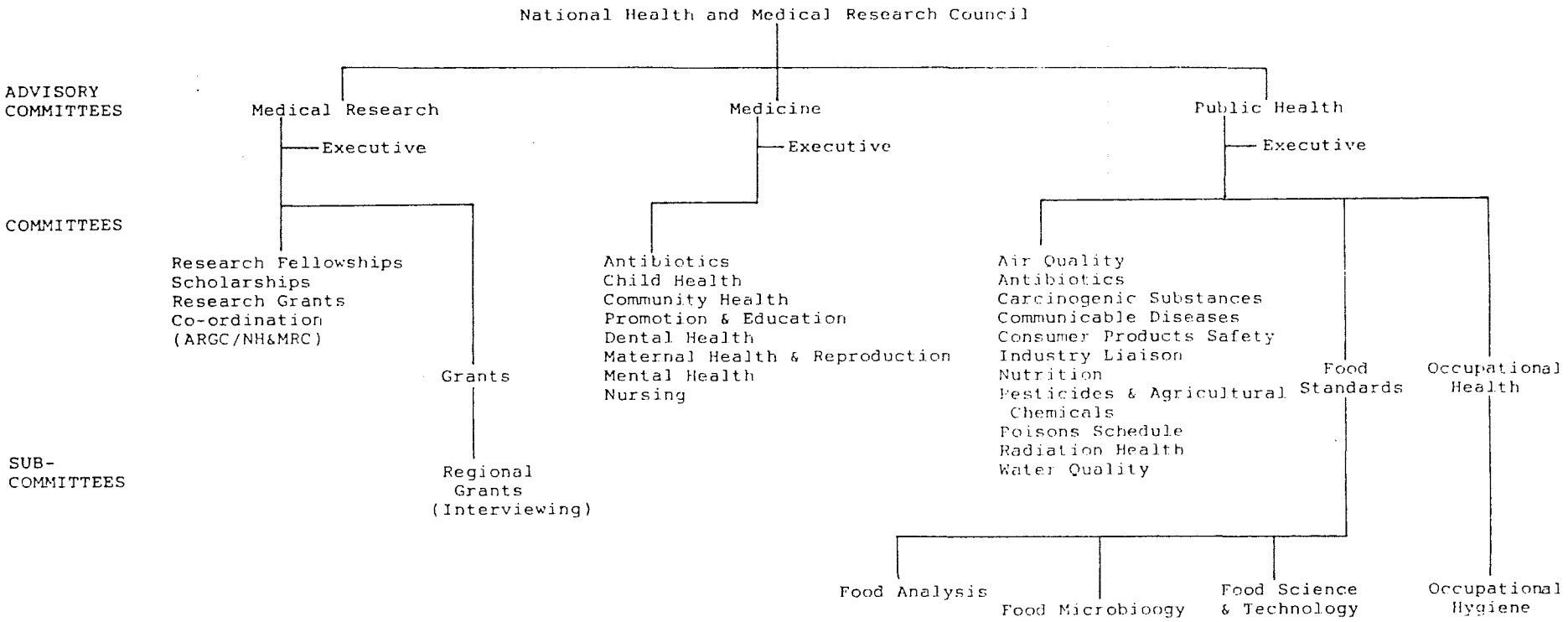
Poisonous substances, including drugs, pesticides and agricultural chemicals, are categorised into schedules according to their toxicity and health hazard by the PSC. Substances are allocated into one of eight possible schedules, exempted from scheduling or listed as prohibited substances. The PSC also makes recommendations to the NH&MRC on labelling, first aid instructions, and packaging and advertising requirements for poisonous substances. Substances are referred to this Committee by all the assessment bodies, if they have not already been considered by the PSC.

3.3.4 Australian Drug Evaluation Committee

The Commonwealth Therapeutic Goods Act 1966 controls the import of therapeutic goods into Australia and the movement of

FIGURE 2

STRUCTURE OF THE NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL



therapeutic goods over State boundaries. Since few therapeutic goods are manufactured in Australia and totally consumed in their State of manufacture, and are therefore exempt from the Act, this legislation has formed the basis for an evaluation scheme to assess therapeutic goods.

The Regulations to the Act establish the Australian Drug Evaluation Committee which makes extensive medical and scientific evaluation of all goods subject to the Act. This includes pharmacological, toxicological and metabolic studies and measurement of their teratogenic, carcinogenic, mutagenic and foetotoxic potential. The Regulations also establish the National Therapeutic Goods Committee, which has representatives from each State, Territory and the Commonwealth Government. It recommends action to co-ordinate legislation and administration of controls on therapeutic goods.

3.3.5 National Occupational Health and Safety Commission

The National Occupational Health and Safety Commission was established by the Australian Government in October 1984. The primary role of the National Commission is to develop, facilitate and implement the Government's national occupational health and safety strategy, which arose from the report of an Interim Commission released in May 1984 (Interim National Occupational Health and Safety Commission, 1984). The strategy provides for standards development, research, training, information collection and dissemination, and the development of common approaches to occupational health and safety legislation throughout Australia. The National Commission is a tripartite body and includes representatives from employee and employer bodies, and State and Commonwealth Governments.

The Commission is aided by the National Occupational Health and Safety Office for its administrative support. It is intended that a National Institute of Occupational Health and Safety will be established to provide technical and scientific support.

At the first meeting of the National Commission on 30 October 1984, chemicals were identified as one area having pressing health and safety problems in workplaces. A Chemicals Standing Committee, with tripartite representation, was established to address the problems of new and existing chemicals. This Committee is now assuming an important role in the further development of the National Chemicals Notification and Assessment Scheme for industrial chemicals. Responsibility for the Scheme was transferred to the Commission, from the Australian Environment Council, when the Commission was established.

There are a number of other National bodies, with State representation, that have a more particular involvement in the management of hazardous substances.

3.3.6 Australian Transport Advisory Council

The Australian Transport Advisory Council comprises the Ministers responsible for transport in the Commonwealth, State and

Territory Governments. It has been working to develop a system of uniform regulation for the transport of dangerous goods, as just one of its broad range of activities. The Council endorsed the Australian Code for the Transport of Dangerous Goods by Road and and Rail which was developed by the Standing National Advisory Committee on the Transport of Dangerous Goods.

3.3.7 Fire Authorities and Emergency Services

The Australian Assembly of Fire Authorities is a group comprising the chief officers of fire services throughout Australia. It liaises closely with the Council of Ministers comprising all State and Federal Government Ministers responsible for emergency services. These groups have an important role in encouraging the safe storage, transport and handling of hazardous substances to ensure that emergency situations are kept to a minimum, and where they do occur, that they are efficiently and safely managed.

4.0 WESTERN AUSTRALIAN REGULATORY CONTROL FOR HAZARDOUS SUBSTANCES - DESCRIPTION AND DEFICIENCIES

4.1 Introduction

In general, Western Australian legislation to control hazardous substances is fragmented and sometimes uncoordinated. The legislation has evolved since 1895 when the first piece of legislation relating to hazardous substances, the Explosives Act, was introduced. Since then legislation has been developed in response to specific needs, without due consideration always being given to co-ordination with existing statutes and their administration. As a result, existing control is widespread over numerous statutes, and responsibilities lie with many Government departments and agencies (see Appendix 4).

In general, public health issues with respect to hazardous substances have been dealt with under the Health Act and the Poisons Act. Occupational health issues relating to hazardous substances have, to some degree, been dealt with under the Factories and Shops Act. This was previously the responsibility of the Department of Industrial Affairs but now lies with the Department of Occupational Health, Safety and Welfare.

Another important facet of hazardous substances legislation is that of dangerous goods, controlled by the Department of Mines. This began with the Explosives Act 1895 and has evolved into the Explosives and Dangerous Goods Act 1961, capable in principle of dealing with all dangerous goods in a variety of areas, but currently restricted to explosives, flammable liquids and the transport of dangerous goods.

There are numerous other situations involving hazardous substances controlled by legislation in WA, all of which are set out in Appendix 4, and many of which receive comprehensive discussion in the following section. This section outlines the existing system and identifies its deficiencies and inefficiencies.

4.2 Agriculture

There are several statutes in WA that provide for control over the use of agricultural chemicals, in addition to the Pesticide Regulations to the Health Act (the primary statute, see Section 4.3.2). The administrative responsibility for these statutes lies with the Department of Agriculture.

4.2.1 Pesticides in Agriculture

There are two pieces of legislation which have specific control over the use of pesticides in agriculture. The Agricultural and Related Resources Protection (Spray Restriction) Regulations 1979, made pursuant to the Agricultural and Related Resources Protection Act 1976-1980, aim to protect commercial tomato and grape growers from damage by prescribed herbicides (including 2,4-D and 2,4,5-T). They prevent the spraying of these herbicides

in gazetted hazardous areas and within a certain radius of every commercial tomato crop and vineyard. Certain low volatile esters may be used with approval from the Director of Agriculture, but only one has been proposed and approved to date.

The Aerial Spraying Control Act 1966 and Regulations 1971, are similar in content to the Spray Restriction Regulations, in that aircraft cannot apply prescribed phenoxy herbicides within the gazetted hazardous areas or within a specified radius around susceptible crops. In addition, aircraft operators/owners must take out insurance to cover claims for crop damage, and pilots must pass an examination and be issued with a Chemical Rating Certificate by the Department of Agriculture. Certain pesticides, for example DDT, may not be applied by air without the approval of the Director of Agriculture.

Both of these statutes are considered to be comprehensive within their specifc control area, but do not address occupational health aspects or the protection of natural vegetation from spray damage.

4.2.2 Fertilizers

The production, marketing and sale of fertilizers is controlled under the Fertilizers Act 1977, administered by the Department of Agriculture. This Act specifies who may sell fertilizers and gives inspectors the power to enter and inspect premises used for the manufacture or storage of fertilizers. Registration of products with the Registrar of Fertilizers is required before they can be offered for sale. The Fertilizer Regulations 1979 primarily deal with the classification of fertilizers according to composition, and the requirements for the labelling of packages. The control of fertilizers under this legislation is considered to be adequate.

4.2.3 Veterinary Preparations and Animal Feeding Stuffs

All veterinary preparations and animal feeding stuffs, including pesticides for internal or external animal use, are controlled by the Veterinary Preparations and Animal Feeding Stuffs Act 1976. The Act regulates the production, importation, marketing, sale and storage of these goods and establishes the Veterinary Preparations and Animal Feeding Stuffs Advisory Committee which functions in an advisory role.

The Act is administered by the Registrar, located in the Department of Agriculture, and all goods must be registered before they can be used or sold in the State. As for pesticides, clearance at a national level must be obtained before State registration will be considered (see Section 3.3.2).

There is some overlap of this Act with the Pesticide Regulations (see Section 4.3.2) in that those products which contain a

pesticide are required to be registered under both pieces of legislation. In this case registration under the Veterinary Preparations and Animal Feeding Stuffs Act takes precedence and no fee is payable for registration under the Pesticide Regulations. This dual registration is not seen as a problem and indeed allows for full health evaluation for those pesticides which are administered directly to animals.

The Regulations to the Act are largely concerned with specifying standards for label information and the inclusion of warning statements on labels.

4.2.4 Agricultural Produce

The Agricultural Produce (Chemical Residues) Act 1983 was created to deal with agricultural chemical residues in raw agricultural produce.

The Act aims to avoid the production of agricultural produce containing any residue of a prescribed pesticide in excess of the Maximum Residue Limit, and to prevent the use of such produce for human or animal consumption. It gives the Department of Agriculture power to enter properties and take samples of agricultural produce, soil, water and feed that are suspected of being contaminated with a prescribed pesticide. If the analysis of samples is positive, then the owner is given a direction notice to dispose of the product. No offence is committed unless the direction notice is disregarded. The Act also provides for compensation under certain circumstances.

This Act was proclaimed in September 1985, after Regulations were introduced specifying Maximum Residue Limits of prescribed pesticides in produce.

4.3 **Health**

4.3.1 Poisons

The Health Department of WA administers the Poisons Act 1964 and Regulations 1965 which regulate and control the possession, sale and use of poisons and certain other substances. The original Act was based on a model (the Standard for the Uniform Scheduling of Drugs and Poisons, formerly the Uniform Poisons Standard), agreed upon by all States, which has resulted in some degree of uniformity in poisons legislation throughout Australia.

The traditional role of the Poisons Act has been the specific control of the sale or supply of human and veterinary drugs and poisons to the general public, ensuring appropriate packaging and labelling, restrictions on supply and the keeping of records. It also operates to control wholesale industry supplying drugs and poisons to pharmacies, and manufacturers and wholesalers supplying various industries which use hazardous substances. The Poisons Act was not originally intended to control the use of hazardous substances in the workplace but, in the absence of other appropriate legislation, has been used to ensure adequate packaging and labelling and the issuing of licences and permits to users.

The Act establishes the Poisons Advisory Committee which advises the Executive Director of Public Health and the Minister for Health on all relevant matters.

Appended to the Act are eight schedules into which poisons and other substances are categorised. The schedules are based on those of the National Health and Medical Research Council's Uniform Poisons Standard, and goods are designated a schedule based on the manner or purpose of use, the supplied quantity, the concentration, the packaging and labelling and the physical or chemical state in which they are supplied.

The Act requires that a licence or permit be held before certain schedules of poisons can be purchased, sold or manufactured, amongst other things. Table 1 lists the various licences and permits issued under the Act, the most common of which is the Sixth Schedule retail licence which must be held by stores selling Sixth Schedule poisons. This includes supermarkets, garden centres and hardware stores where garden and pet products are sold. A licence to sell First, Second and Sixth Schedule poisons is issued only to stores remote from any pharmacy, and is a compromise between the need to have these substances available in remote centres and the need for advice on their use to be available. Before a wholesale licence is issued, the persons responsible are interviewed and the premises inspected. The industrial poisons permit is issued to persons wishing to make wholesale purchase of poisons for use. Examples are miners and pest control firms. Industrial poisons permits are commonly issued for a fairly restricted range of substances, or a single substance.

The Regulations to the Poisons Act prescribe the labelling requirements for scheduled poisons, which are oriented toward the general public rather than industry. There is particular emphasis on either indicating that the substance is restricted to prescription or, where publicly available, that warning and first aid statements, which protect end users, are clearly stated. Large volumes of some substances destined for industrial use are not required to bear the detailed labels necessary on smaller domestic packages.

Apart from the requirements specified in the various licences and permits issued under the Act, the Regulations specify further conditions for the use and supply of certain schedules of poisons, particularly drugs of addiction. They prohibit the sale of poisons to persons under the age of sixteen years (except for medicines), and sales persons must be eighteen or more years of age.

A number of Seventh Schedule substances are also classified as carcinogens in the Carcinogenic Substances Regulatory Notice issued under the Act. Any premises using these substances must hold a Seventh Schedule licence and implement the requirements set out in the Regulatory Notice. Some carcinogens listed in the Notice have wide occupational usage.

Table 1 - Licences and Permits Issued under the Poisons Act 1964

1.	Licence to Procure, Manufacture and Supply Poisons (other than Drugs of Addiction) by Wholesale Dealing.	Required for wholesale dealing and manufacture of all schedules of poisons except 8th Schedule.
2.	Licence to Procure, Manufacture and Supply by Wholesale Dealing, Drugs of Addiction.	Required for all wholesale dealings and manufacture of 8th Schedule poisons.
3.	Pharmaceutical Chemist's Licence to Sell Poisons.	Allows any schedule of poison to be sold under certain conditions.
4.	Licence to Sell by Retail, Poisons Specified in the 6th Schedule.	Required for the sale of 6th Schedule goods at retail outlets, ie hardware stores, supermarkets, garden centres.
5.	Licence to Sell by Retail, Poisons Specified in the 1st, 2nd, or 6th Schedule.	Issued only to stores remote from any pharmacy.
6.	Licence to Sell by Retail, Poisons Specified in the 7th Schedule.	Required for the sale of any 7th Schedule poison.
7.	Licence to Hawk, Peddle or Distribute Poisons.	Issued to permit sale or distribution of certain schedules of poisons in certain areas.
8.	Poisons Permit (Distribution of Samples).	Required before 1st, 2nd, 3rd or 4th Schedule poisons can be procured from a manufacturer or wholesaler and supplied as samples.
9.	Poisons Permit (Industrial).	Authorises persons to purchase wholesale poisons for use.
10.	Poisons Permit (Educational, Advisory or Research).	Authorises persons to purchase poisons from a manufacturer or wholesaler for educational, advisory or research purposes.
11.	Poisons Permit (Departmental and Hospital).	Authorises persons to purchase any poison from a manufacturer or wholesaler.
12.	Stockfeed Manufacturer's Permit.	Authorises retail sale of any stockfood containing 4th Schedule poisons by a stockfeed manufacturer.
13.	Permit to Supply for Veterinary Use, the Preparations Referred to in Regulation 39(2).	Issued for the supply of 4th Schedule poisons for veterinary use to persons other than pharmaceutical chemists.

The Department of Occupational Health, Safety and Welfare should have control of these substances in the workplace. They would, however, remain as Seventh Schedule Poisons and therefore be subject to the requirements of the Poisons Act.

4.3.2 Pesticides

The first piece of legislation enacted to control pesticides in WA was the Pesticide Regulations, proclaimed in 1956 under the Health Act 1911. The Health Act is purely enabling, providing for the creation of regulations, and the establishment of the Pesticides Advisory Committee (see below). The Regulations remain the primary mechanism for control of pesticides in WA.

The Pesticides Regulations do not state the scope or intent of the Regulations. However, Section 246C(1) of the Health Act essentially limits the scope of the Regulations to matters which affect health, to the exclusion of agricultural and environmental effects.

This problem has been addressed by the Pesticides Advisory Committee, a statutory committee established under the Act, and the Crown Law Department is currently redrafting the relevant section to provide for regulation-making power over other than health matters, such as agricultural and environmental, and other matters that may affect international trade.

The Pesticides Regulations are the only Regulations of their type in Australia, that provide for control over the use of lindane, sodium fluoroacetate and certain fumigants, as well as the licensing of fumigators, pest control businesses and pest control operators.

Prior to use, sale or transport in WA, a pesticide must be registered under the Pesticide Regulations. Before an application for registration will be processed and considered by the Pesticides Advisory Committee, clearance from the TCAC must be obtained by the applicant (see Section 3.3.2).

The Pesticide Regulations and the registration procedure are administered by the Pharmaceutical Services Branch of the Health Department. Close liaison is maintained with the Pesticides Section of the Department of Agriculture. The Pest Control Section of the Health Department administers those parts of the Regulations that require the licensing of pest control officers. The section of the Regulations dealing with fumigators is administered by the Pharmaceutical Services Branch with the assistance of the Department of Occupational Health, Safety and Welfare.

It is considered that the Pesticide Regulations are deficient in certain aspects as set out below.

The grounds under which registrations can be cancelled or applications refused do not include environmental or food residue

grounds (unless these are deemed a health matter), or the lack of provision of an analytical method. As previously mentioned, this situation has been addressed by the Pesticides Advisory Committee, and an amendment to the Health Act is now being drafted.

The Regulations make no provision for the re-assessment of a registration of a pesticide label after a period of time, although assessment of data does occur at the technical committee level as required. Additionally, there is no specific provision for the recall of products from sale, although Regulations 8 and 19 do contain some powers in this respect. Formal re-assessment of pesticide labels, after a set period of time, would ensure that pesticides are being safely used. There should also be specific power to recall any pesticides found to be dangerous for whatever reason.

At present, there is no provision for prescribing exemptions to registration for seemingly innocuous substances, such as garlic extracts, but this situation is being addressed by the Pesticides Advisory Committee.

The present renewal period for registered products is one year and this is considered to be too short. A three-year renewal period would reduce administrative costs but also the flexibility needed to amend the registration of a product at short notice. However, the ability to recall pesticides as discussed above, would overcome this inflexibility.

Regulations 21A to 21D of the Pesticide Regulations designate the methods by which empty pesticide containers may be disposed. One method of disposal is by burning the container. This method is unsuitable due to the possible release of toxic fumes. In addition, the Regulations do not specifically prevent the re-use or the sale for re-use of empty pesticide containers. This enables empty containers to be re-used for any purpose, a practice which is dangerous to human health and the environment.

4.3.3 Therapeutic Substances

Drugs, medicines and therapeutic substances are controlled under Part VIIA of the Health Act 1911.

The Act establishes the Drug Advisory Committee to advise and make recommendations to the Executive Director of Public Health, on matters associated with these substances. It also controls the manufacture, sale and taking samples of drugs, medicines and therapeutic substances, and allows for comprehensive regulations to be created.

As yet, regulations to the Health Act, in regard to these goods, have not been promulgated, but the content of any such regulations is being investigated by the Health Department.

4.3.4 Food

The presence of potentially hazardous substances in foodstuffs, whether it be through intentional addition or accidental contamination, is controlled by the Health Act 1911 and the Food Standards Regulations 1984.

The Health Act establishes the Food Advisory Committee to advise the Executive Director of Public Health on all matters concerned with food.

The Regulations address the contamination of food by a number of substances, including metals and pesticides, and prevent the sale of any such contaminated food. They specify Maximum Residue Limits for the presence of pesticides in specific foods.

The Regulations also control the addition of specific substances to foodstuffs, such as sweetening agents, preservatives, colouring, flavourings and antioxidants. They designate the types and quantities of these substances that may be added.

The Food Standards Regulations have only recently been promulgated after a comprehensive review of the control of the quality of food. The Regulations are considered comprehensive.

The Food Standards Regulations have recently been supplemented by the creation of the Agricultural Produce (Chemical Residues) Act 1983, which will help prevent contamination of raw agricultural produce before it is manufactured into food or other goods (see Section 4.2.4).

4.3.5 Radioactive Substances

Due to their unique nature, radioactive substances are dealt with separately from all other hazardous substances in Western Australia. Responsibility for controlling them lies with the Radiation Health Branch of the Health Department of WA under the Radiation Safety Act 1975.

In the words of its title, the Radiation Safety Act is 'an Act to regulate the keeping and use of radioactive substances, irradiating apparatus and certain electronic products'. It is an offence to possess, use, manufacture, sell, store and transport radioactive substances otherwise than in accordance with a licence issued under the Act. The owners of premises in which radioactive substances are manufactured, used or stored, and the owners of irradiating apparatus, must be registered with the Branch. Where any radioactive substance is no longer required, it may only be disposed of under the authority of a disposal permit.

The licensing and registration schemes for radioactive substances are administered by the Radiological Council, a statutory body established under the Act. The Council expects that good practice will be observed at all times.

Two sets of regulations have been promulgated under the Act: the Radiation Safety (General) Regulations 1983 and the Radiation Safety (Transport of Radioactive Substances) Regulations 1982.

The Radiation Safety (General) Regulations cover the use, labelling and storage of radioactive substances and call for conformity with a number of codes of practice issued by the NH&MRC.

The Radiation Safety (Transport of Radioactive Substances) Regulations require the transport of radioactive substances to be in accordance with the Australian Code of Practice for the Safe Transport of Radioactive Materials 1973. In general, the consignor is responsible for the correct packaging and labelling of the consignment, and for providing appropriate information to the carrier. It is the responsibility of the carrier to ensure that radiation levels outside the vehicle do not exceed the limits set by the Code.

At present, the road transport requirements of the Radiation Safety (Transport of Radioactive Substances) Regulations do not entirely meet the safety requirements of the Dangerous Goods (Road Transport) Regulations 1983 to the Explosives and Dangerous Goods Act 1961 (see Section 4.5.1). As a consequence, it has been necessary to use a combination of the two pieces of legislation to ensure the safe transport of radioactive substances.

In all other respects, existing controls are considered to be most comprehensive.

4.3.6 Toxic and Hazardous Substances

There is one further set of regulations promulgated under the Health Act which assists in the protection of public health. The Toxic and Hazardous Substances Regulations apply to only a few specific substances in particular uses: namely, lead, cadmium and other metals and their salts, and other specified substances, when contained in paint; dichloromethane in refrigeration equipment; cellulose nitrate; toxic flora (eg seeds) as specified in the Fourth Schedule to the Regulations; and paint when contained in lead on pottery. Paint is exempted from the provisions of the Poisons Act.

The Regulations prevent the manufacture, sale and use of any paint containing lead carbonate, and specify warning statements to be included on the label of paints containing other designated substances. They prohibit the use of these paints on dwellings, furniture, toys and containers, amongst other things, and the use of lead containing paint on pottery likely to be used for food or beverages.

Any toy manufactured from material containing cellulose nitrate must be adequately labelled with respect to its fire danger. Refrigeration equipment containing dichloromethane cannot be sold or hired, and it is illegal to fill refrigeration equipment with dichloromethane. Finally, any goods made wholly or partly of the scheduled flora cannot be used or sold.

These Regulations are obviously very specific and were promulgated to deal with a few areas which were perceived as requiring attention. The creation of Regulations such as these, in response to a highly specific identified need, only suffices to extend the fragmented nature of chemicals legislation.

4.4 Occupational Health

4.4.1 Factories and Shops

Traditionally, the Factories and Shops Act 1963 has been used as a means of controlling hazardous substances in the workplace in WA. The Act was originally the responsibility of the Department of Industrial Affairs after the Health Department declined the opportunity to administer this Act in the early 1950s. The Department of Occupational Health, Safety and Welfare has now assumed responsibility for administering the Act and the numerous sets of Regulations made pursuant to it.

The Act establishes the Factory Welfare Board, a tripartite body that has the broad duty of investigating and making recommendations on all measures necessary to ensure the health and safety of workers. There is no general duty of care contained in the Act, relating to occupational health and safety in general, or to toxic or dangerous substances in particular. Rather, the Regulations form the basis for this.

At present, ten sets of regulations, made pursuant to the Factories and Shops Act, exert some control over hazardous substances. Each set of regulations deals with a specific, narrowly defined substance or process. The intent of the regulations is to ensure a safe environment for people working in the specific type of industry.

The Asbestos Regulations 1985 control the use of asbestos in factories, shops and warehouses where asbestos may be present or handled. The Regulations require occupiers to provide efficient exhaust systems and personal protective devices to ensure asbestos dust is not inhaled, and make provisions for the cleaning of processing areas and the maintenance of exhaust and respiratory equipment.

The Electric Accumulator Regulations 1963 apply to factories where lead is used in relation to batteries and other electric accumulators. In factories where other processes involving the use of lead are conducted, the Factories (Lead Materials) Regulations 1971 apply. Both of these provide minimum standards of ventilation and require the provision of adequate exhaust systems and protective clothing. They place a duty on employees to take care when using lead materials, especially with regard to food and clothing. The Factories (Poisonous Substances) Regulations 1932 relate to the use of lead and arsenic and their compounds, and stipulate similar conditions to those of the Electric Accumulator Regulations.

Factories in which polyurethane manufacturing processes are conducted are subject to the Polyurethane Industry Regulations 1977. These control the use of polyhydroxy compounds and isocyanates, specifically toluene di-isocyanate, and regulate factory construction and employee hygiene and training.

The Fibreglass Industry Regulations 1932 apply to fibreglass manufacturing facilities involving the reaction of resins with a catalyst. They stipulate conditions similar to those of the Polyurethane Industry Regulations.

Processes in a factory involving abrasive blasting using sand, metal and other materials are controlled by the Abrasive Blasting Regulations 1977. They stipulate standards for factory construction, and require the provision of adequate personal protective equipment, the conducting of medical examinations and, when the process is carried out in the open, the prevention of general air pollution.

The Welding and Cutting Regulations 1962, the Spray Painting Regulations 1971 and the Foundry Regulations 1963 are concerned with ensuring adequate ventilation in workplaces and the provision of protective clothing, including respirators, for workers.

Hazardous substances have been largely considered in the traditional terms of factories and shops only, and not in broad occupational terms which consider all workplaces. The latter includes construction sites, for example, in which there is an increasing use of hazardous substances such as acids and solvents. Although some superficial legislation exists to control other areas (see Section 4.4.2), the present lack of regulatory controls to cover a wide range of workplaces is a clear deficiency in the current legislative structure.

The factories and shops legislation that is in force is narrow in its application. The present system operates only to establish basic standards for a limited range of substances and processes. It is clear that a regulatory structure which is broad enough to cope with the widest possible range of hazardous substances is required and this structure should apply to all workplaces, as well as to hazards caused to other groups (including the public) as a result of misuse of hazardous substances in the workplace.

The traditional approach to factories and shops legislation has resulted in a number of uncoordinated statutes, many of which are now out of date. The Welding and Cutting Regulations 1962 are a good example of this. They refer to hazards in welding associated with lead and cadmium but omit any reference to ferrous and non-ferrous alloys, fluxing materials and metal cleaners.

Major changes are currently taking place in the administration of occupational health, safety and welfare in WA. The Commission and the Department of Occupational Health, Safety and Welfare were established under enabling legislation in April 1985. Further discussion of this legislation and the planned directions for the restructuring of hazardous substances management is contained in Section 4.4.3.

4.4.2 Construction Safety

The Construction Safety Act and Regulations 1973 are administered by the Department of Occupational Health, Safety and Welfare. They are wide ranging in their scope, but do have some impact on the control of hazardous substances in the workplace.

The Construction Safety Regulations place restrictions on the use of asbestos materials in construction and demolition work and require conformity with an NH&MRC Code of Practice. They require the provision of adequate personal protective clothing when work is being undertaken and prevent removal of asbestos unless an asbestos removal licence and permit are held.

Where work is to be carried out in a place where noxious gases, flammable liquids or vapours, or any harmful matter is likely to be present, the Regulations specify a number of precautions that must be taken, including the display of warning signs and ensuring adequate ventilation.

4.4.3 Occupational Health, Safety and Welfare

The establishment of the Commission of Occupational Health, Safety and Welfare and the Department of Occupational Health, Safety and Welfare has led to major changes in the administrative structure for management of hazardous substances in the workplace.

The Occupational Health, Safety and Welfare Act 1985 is designed to promote and improve standards for occupational health and safety. The Act is purely enabling in that it contains only statutory duties, rights and responsibilities on workers and managements. However, it does provide for regulations to be created to manage all aspects of occupational health and safety including hazardous substances. It is envisaged that regulations created under this Act will, in time, replace the existing factories and shops legislation discussed in Section 4.4.1, and extend to all workplaces.

The Commission is undertaking the formation of a number of tripartite committees to investigate various topics including hazardous substances in the workplace.

4.4.4 Industrial Chemicals

Control of 'industrial chemicals' (see definitions), as a separate entity, does not exist in Western Australia. Although the transport of those industrial chemicals also defined as dangerous goods, is covered under the Explosives and Dangerous Goods Act (see Sections 4.5.1 and 4.7.4), control of these substances in the workplace and other areas of potential exposure is deficient. As a result, the present system allows many hazardous substances to be used and stored in uncontrolled amounts, and situations, except where licences or other specific provisions apply under the Poisons Act.

This situation is considered to be unacceptable, creating a potential danger to workers, the general public and the environment. Control of these substances is needed and should be of priority.

4.5 Mines

4.5.1 Dangerous Goods

Dangerous goods are all goods classified into one of the nine possible classes of goods as specified in the Australian Code for the Transport of Dangerous Goods by Road and Rail (Advisory Committee on the Transport of Dangerous Goods, 1980). Although several statutes exist which have some control over dangerous goods, the Explosives and Dangerous Goods Act 1961 has primary responsibility in this area. Radioactive substances (Class 7) are dealt with under separate legislation and are discussed under Section 4.3.5.

From the short title of the Explosives and Dangerous Goods Act, it is an Act 'to consolidate and amend the law relating to explosives, to regulate the manufacture, importation and use of explosives, and the classification, marking, storage, carriage, and sale of explosives and other dangerous goods'. In effect, the range of dangerous goods that can be controlled under the Act is extensive, but full use of this facility has not been made. Each of the three sets of regulations that have been promulgated under the Act control only a particular class or life cycle stage: explosives, flammable liquids and the road transport of dangerous goods.

The Explosives Regulations 1963 cover all aspects of the life cycle of explosives, from import or manufacture through storage and transport to eventual use or disposal. The Regulations are considered to be comprehensive in their control.

The Flammable Liquid Regulations apply to all liquids with a flash point below 150^{o}C. The regulations specify conditions for storage, transport and marking of flammable liquids. Although licences are not required for the storage of containers (including large numbers of containers) if they are all of less than four litres capacity, bulk containers, including underground tanks at fuel stations, are covered by the Regulations.

Liquefied petroleum gas (LPG) is not specifically covered by the Flammable Liquid Regulations because it is not a liquid under ambient conditions. However, goods stored on premises licensed for the storage of flammable liquids are covered, and this involves LPG to a wide extent.

The transport of dangerous goods, with the exception of explosives, is controlled under the Dangerous Goods (Road Transport) Regulations. The Regulations cover a variety of aspects of dangerous goods transport including licensing and placarding of vehicles and labelling of packages. Further discussion on the transport of hazardous substances is included in Section 4.7.4.

The Explosives and Dangerous Goods Act and Regulations have limited jurisdiction over dangerous goods used, stored or transported on mine sites (see Section 4.5.2). In this case, the provisions of the Mines Regulation Act 1946-1974 and Regulations, and the Coal Mines Regulation Act 1946-1976 and Regulations apply. Discussion on these Acts is contained in Section 4.5.2.

The main emphasis of the Explosives and Dangerous Goods Act, to date, has been the protection of the public from risks associated with dangerous goods. Occupational health and safety has not been of major concern. The scope of the Act should be examined to determine the appropriate interfaces between public safety and occupational safety where exposure potential to dangerous goods is high.

There are extensive deficiencies in existing dangerous goods control in WA, specific legislation only existing to comprehensively control explosives (Class 1), flammable liquids (Class 3), and radioactive substances (Class 7). Some aspects of poisons (Class 6) are catered for under the Poisons Act (see Section 4.3.1). There is no control of oxidising substances, corrosives, compressed gases and flammable solids except in the transport of these goods. Legislation is urgently required to cater for these areas as well as the broader issues of storage, hazard assessment, and contingency planning for emergencies.

4.5.2 Hazardous Substances on Mine Sites

All hazardous substances used, stored and transported on designated mine sites are controlled under the Mines Regulation Act 1946-1974 and the Coal Mines Regulation Act 1946-1974.

Although the provisions of the Explosives and Dangerous Goods Act prevail over these Regulation Acts, the absence of regulations to cover many dangerous goods means that the Regulation Acts currently provide the major control.

The definition of a mine under the Mines Regulation Act and Coal Mines Regulation Act is very broad and includes not only the primary mining site, but also processing plants (ie smelters, pelletising plants, blast furnaces) and privately-owned railways used to transport mined material. Other sites can also be declared as mines under the Act, and this has been used to classify wharves as mines in some instances. The definition of a mine site should be examined to determine its appropriateness.

Essentially, the Coal Mines Regulation Act and Mines Regulation Act give broad powers to inspectors to invoke any measures considered necessary where dangerous situations exist. This has often been applied to situations involving dangerous goods. The Acts place the onus on the mine manager to enforce the provisions of the Act and to ensure that a safe working environment is maintained at all times. Both sets of regulations to the Acts have made the threshold limit values (TLVs) for air contaminants, recommended by the NH&MRC, statutorily enforceable.

4.6 Environment

4.6.1 Air Pollution

Air pollution in WA is controlled mainly by the Department of Conservation and Environment, under the Clean Air Act 1964. Some aspects of control lie with the Health Act 1911.

The Clean Air Act has the primary role in the control of air pollution and requires all scheduled premises to hold a licence. Scheduled premises include chemical works, cement, bitumen and gas works as well as oil refineries and construction and demolition sites. The Minister for the Environment is responsible for licences, and may place conditions, including emission standards, on the licences.

The Regulations 1967 are concerned with the administrative arrangements of the Act, specifying standards for the emission of solid particles and requirements for control of dark smoke emission.

The Health Act has sections concerned with the preservation of public health with respect to smoke emissions. The Act specifies the method of dealing with smoke emissions where they create a nuisance or danger to public health. The provisions of this Act are largely used by local government to settle household disputes.

4.6.2 Water Pollution

The Water Authority of Western Australia is the manager of the States water resources. The Authority operates under the Water Authority Act 1984 (an enabling act), the Metropolitan Water Supply Sewerage and Drainage Act 1909, the Country Area Water Act 1947 and the Land Drainage Act 1925.

Existing statutory responsibilities set out in these acts require the Authority to protect water resources and ensure safe public water supplies. The controls are embodied in the regulations governing activities in both proclaimed surface water catchments and underground water pollution control areas.

The Authority's responsibilities under these acts are specific to its operations. These operations do not impinge substantially on the principal objects of this Report, and consequently no further comment is made on them.

The pollution of waterways, wetlands and groundwater supplies is primarily controlled by the Rights in Water and Irrigation Act 1914-1981 and the Waterways Conservation Act 1986.

Part IIIA of the Rights in Water and Irrigation Act deals with waste and effluent disposal and is currently administered by the Water Authority of WA. This Act covers discharges to wetlands, groundwater supplies and waterways. Under the Act, it is an offence to discharge any poisonous or polluting matter, on or off

site, into land or water which will lead to impairment of any water. Applications for licences to discharge are made to the Minister and may be issued subject to certain conditions.

The Waterways Conservation Act covers declared waterways and associated lands but is not as broad as the Rights in Water and Irrigation Act. It is administered by the Waterways Commission, and management authorities are constituted for each declared management area (of which there are three at present).

It is an offence under the Act to discharge polluting matter without a licence into a waterway. A licence may be terminated if the holder fails to comply with the conditions of that licence. Inspectors may be appointed and are empowered to enter any premises and inspect equipment, industrial plants and processes, to ensure compliance with the Act.

There is some duplication in that legally, licences are required under both Acts for discharges into declared waterways, as specified in the Waterways Conservation Act. However, in practice, licensing is required under only one Act. In general, discharges to declared waterways are licensed under the Waterways Conservation Act and all other discharges are licensed under the Rights in Water and Irrigation Act.

4.7 Specialist Areas

The following section addresses the control of hazardous substances in Western Australia on a life cycle basis. Although there will be some overlap with the legislation discussed in the previous sections, under the broad areas of health, environment, occupational health, mines and agriculture, the life cycle stages deserve to be addressed in their own right.

4.7.1 Manufacture, Import and Interstate Movement

The importation of hazardous substances into Australia is primarily a federally controlled matter under the Customs (Prohibited Imports) Regulations. These Regulations are used to prevent the importation of certain goods, and have been used in the case of some hazardous substances. The introduction of the National Chemicals Notification and Assessment Scheme (see Section 3.3.1) will further the Federal Government's control over the importation of hazardous substances.

Additionally, State regulation of importation exists for explosives. Under the Explosives and Dangerous Goods Act 1961, a licence to import explosives must be obtained before import can proceed. Import in this case refers to both import from overseas and interstate movement. Alternatively, an entry permit can be obtained to cover single consignments of explosives being imported. The introduction of the National Chemicals Notification and Assessment Scheme will make further State regulation in the area of overseas import unnecessary.

Problems have arisen where legislative requirements for packaging, labelling and transport are not uniform between States. However,

control of interstate movement is not considered the appropriate means for dealing with this problem. Under Section 92 of the Constitution, interstate movement cannot be prohibited or restricted. Rather, the Federal Government has a role to play in preparing model legislation/guidelines for State legislation so that uniformity between States is achieved and maintained. This situation should be addressed by the Commonwealth and State Attorneys-General.

With respect to manufacture, the State exercises direct control over the manufacture of explosives, poisons and radioactive substances and some indirect control through waste discharge licences. The Explosives and Dangerous Goods Act 1961 requires that a licence to manufacture explosives must be held before manufacture can proceed. The holder of the licence is also required to regulate the conduct and work of employees.

Poisons cannot be manufactured for sale or supply unless on premises licensed for that purpose under the Poisons Act. Radioactive substances cannot be manufactured unless an appropriate licence is held and on premises registered for that purpose under the Radiation Safety Act.

Indirect control over the manufacture of other hazardous substances in the State can be exercised during the planning/ development stage of new chemical works through mechanisms within the Departments of Resources Development and Industrial Development, the State Planning Commission, and the Environmental Protection Authority. The introduction of the National Chemicals Notification and Assessment Scheme will assist in the control of manufacture of hazardous substances by making data on substances available to the State Governments.

4.7.2 Packaging and Labelling

Legislation to control the packaging and labelling of hazardous substances is fragmented. The main statutes are the Explosives and Dangerous Goods Act and Regulations, the Poisons Act and Regulations, the Pesticide Regulations to the Health Act, the Radiation Safety Act and Regulations, and the Veterinary Preparations and Animal Feeding Stuffs Act and Regulations. Each piece of legislation has been developed to cater for a particular concern, sometimes with little regard for co-ordination with other statutes.

The packaging and labelling of explosives imported into WA, or stored or conveyed in WA, is controlled under the Explosives and Dangerous Goods Act and Explosives Regulations. The Flammable Liquids Regulations to this Act deal with the packaging and labelling of flammable liquids stored and offered for sale. The labelling and packaging of these are comprehensively controlled.

The labelling and packaging of goods for road transport are covered under the Dangerous Goods (Road Transport) Regulations to the Explosives and Dangerous Goods Act. These Regulations are comprehensive, but they apply only to goods specified in the Fifth Schedule to the Regulations. It is conceivable that a substance that is not listed in the schedule may be transported

and will therefore not be covered by the Regulations. In addition, the labelling requirements under the Act are oriented towards preventing and assisting with transport emergencies. Other areas, such as occupational health and safety, are not the aim of these labelling requirements.

The Pesticide Regulations to the Health Act require that labelling and packaging are assessed before pesticides are registered. No pesticide may be used or sold in the State without registration and therefore without approved packaging and labelling. The label requirements under these Regulations include name, active ingredient and directions and precautions for use. Many pesticides must also be labelled in accordance with the Dangerous Goods (Road Transport) Regulations as a consequence of their need to be transported at some stage during their life.

Requirements for the packaging and labelling of poisons for sale or supply are contained in the Poisons Act Regulations. All poisons categorised into one of the eight poisons schedules must be labelled and packed according to the Regulations. Labelling in this instance includes first aid measures and warning statements according to the toxicity of the particular product. Poisons, when transported, must also be labelled in accordance with the Dangerous Goods (Road Transport) Regulations. However, this labelling under the Poisons Act would not be necessary for goods which are required to be labelled under the Explosives and Dangerous Goods Act if they are conveyed directly from the point of manufacture/import to the point of use. In this case, requirements for placarding of vehicles would need to be implemented.

Many pesticides are also scheduled under the Poisons Act, and, in these cases, labels must convey the warning and first aid statements applicable under the Poisons Regulations as well as the details designated under the Pesticide Regulations.

Pesticides not scheduled under the Poisons Act are also labelled with warning and first aid statements.

The Radiation Safety (General) Regulations to the Radiation Safety Act designate the labelling and packaging requirements for radioactive substances. All radioactive substances manufactured, used or stored in the State must be labelled appropriately. When transported, they must conform with the labelling and packaging requirements of the Radiation Safety (Transport of Radioactive Substances) Regulations and, for road transport, with the Dangerous Goods (Road Transport) Regulations.

The Regulations to the Veterinary Preparations and Animal Feeding Stuffs Act designate the packaging and labelling requirements of these goods. As for pesticides, labels and packages are considered at the time of registration. Preparations registered under the Veterinary Preparation and Animal Feeding Stuffs Act also have to comply with the container and labelling requirements of the Poisons Act and Pesticide Regulations, where appropriate.

There are a number of other statutes which have only a minor role in the labelling and packaging of hazardous substances, including the Fertilizers Act and the Food and Drug Regulations to the Health Act.

It is apparent that there is a deficiency in the requirements for labelling and packaging of 'industrial chemicals' which are not scheduled under the Poisons Act and are not pesticides nor radioactive. Control is limited except when these goods are transported. Since most goods are transported at some stage of their life cycle, most 'industrial chemicals' in large containers are labelled and packaged according to the requirements of the Dangerous Goods (Road Transport) Regulations. As previously mentioned, the requirements under these Regulations are oriented towards preventing and assisting with transport emergencies. The labelling of 'industrial chemicals' with information on safe occupational use is urgently needed.

The existing labelling requirements for poisons, pesticides, radioactive substances and goods in transport, appear to be adequate within their realm of application except that there are some overlapping provisions between, and gaps within, the Health Act, the Explosives and Dangerous Goods Act and the Poisons Act.

4.7.3 Storage

The storage of hazardous substances is largely unregulated in WA, with the exception of a few specific categories of goods.

The storage of radioactive substances receives comprehensive coverage under the Radiation Safety Act 1975 and Radiation Safety (General) Regulations 1983. The Act requires persons storing these substances to hold a licence, and owners of premises which are used for storage to be registered with the Radiation Safety Branch of the Health Department. The Regulations prescribe specific conditions for the storage of radioactive substances and call for conformity with several NH&MRC codes of practice. The codes provide further requirements for storage applicable to special uses of the substances.

Storage of explosives is dealt with under the Explosives and Dangerous Goods Act 1961 and Explosives Regulations 1963. The Act requires explosives to be stored in appropriately licensed premises, and the Regulations prescribe detailed conditions for storage, including labelling and packaging requirements.

The storage of less than 250 kg of explosives on mine sites is not generally controlled by the above Act. In this case, the provisions of the Mines Regulation Act 1946 and Coal Mines Regulation Act 1946 apply. These Acts do not specify particular requirements but give broad powers to inspectors to demand remedial action where dangerous situations exist. This is applied to the storage of explosives and other hazardous substances.

The Flammable Liquids Regulations 1967 to the Explosives and Dangerous Goods Act 1961 specify the conditions under which flammable liquids may be stored. Unless they are stored at premises licensed under the Act for that purpose, flammable

liquids must be stored in accordance with the regulations. The regulations apply only to containers with a capacity greater than four litres. Underground tank storage is included.

The Flammable Liquids Regulations also allow conditions to be prescribed for the storage of other dangerous goods in depots licensed for the storage of flammable liquids. This is used to control LPG storage in many cases. Specific control for the storage of LPG does not exist and should be included in any regulations promulgated to control dangerous goods.

Although the above statutes provide the main control mechanisms, superficial references to the storage of hazardous substances are made in several other pieces of legislation. The Poisons Act Regulations require that certain poisons used for a profession, business, trade or industry be stored in a locked cupboard solely for that purpose, or in a separate room, and in such a manner that precludes contamination of food and drink. There are special regulations for the storage of cyanides. The Pesticide Regulations preclude the storage of pesticides on premises where food is stored or handled, and in any manner which may be dangerous to health.

In addition, reference to storage is made in the various regulations to the Factories and Shops Act 1963. The regulations are oriented toward occupational health and safety, and the storage requirements of the regulations reflect this emphasis.

A comprehensive review of existing storage controls, and requirements for future legislation, has recently been undertaken by the Stored Chemicals Sub-Committee of the Community Consultative Committee on Chemicals (Stored Chemicals Sub-Committee, 1986). The Sub-Committee recognised the inadequacy of existing legislation and made recommendations for future legislative requirements to control the storage of chemicals. Amongst these was the creation of a single set of regulations to control the storage of all classes of dangerous goods, except Class 7, so that the existing fragmented control is overcome.

4.7.4 Transport

The road transport of hazardous substances, except for explosives and radioactive substances, is primarily controlled by the Dangerous Goods (Road Transport) Regulations 1983 of the Explosives and Dangerous Goods Act 1961. The Regulations essentially adopt the road transport requirements of the Australian Code for the Transport of Dangerous Goods by Road and Rail 1983 (Advisory Committee on the Transport of Dangerous Goods, 1980). They specify requirements for the labelling and identification of packages, placarding of vehicles, the design and construction of packages and bulk tanks, and the inspection and licensing of vehicles. They also give emergency procedure instructions which form the basis of the WA Transport Emergency Assistance Scheme (see below). Amendments to the Regulations, which will institute a programme for the training and licensing of drivers, have

recently passed through Parliament. These requirements will ensure that drivers are aware of the necessary emergency procedures in the event of an accident.

The Dangerous Goods (Road Transport) Regulations apply only to substances listed in the Schedule to the Regulations. If a particular substance is not scheduled, it is exempt from road transport requirements for dangerous goods.

Rail transport of hazardous substances is controlled under the Government Railways Act 1904 and Regulations. All transport is required to be in accordance with the Railways of Australia Code of Practice and Conditions for the Carriage of Dangerous Goods 1984 and is subject to approval under the Explosives and Dangerous Goods Act. The code of practice incorporates the Australian Code for the Transport of Dangerous Goods by Road and Rail 1983.

Air transport is a Commonwealth matter under the Air Navigation Act. This legislation incorporates the International Civil Aviation Organisation's Regulations for the airfreight of hazardous substances. The State has no legislative responsibility in this area, due to the comprehensive nature of Commonwealth legislation, and for constitutional reasons.

The transport of radioactive substances is controlled separately from other hazardous substances under the Radiation Safety Act 1975, and Radiation Safety (Transport of Radioactive Substances) Regulations 1982. The Act requires all consignors to hold a licence. The Regulations call for conformity with the Australian Code of Practice for the Safe Transport of Radioactive Substances 1982, and the International Atomic Energy Agency Regulations for the Safe Transport of Radioactive Materials 1973. The Code and Regulations apply to all modes of transport.

In some instances, the requirements of these Regulations do not meet those of the Dangerous Goods (Road Transport) Regulations (eg the special licensing of vehicles). In such cases, it has been necessary to employ a combination of both sets of regulations to ensure radioactive substances are transported safely. In all other respects, this legislation is considered to be adequate.

The transport of explosives is controlled by the Explosives Regulations 1963 to the Explosives and Dangerous Goods Act 1961. The Act requires licences to be held before any explosive exceeding a prescribed quantity is conveyed by vehicle or vessel. The Explosives Regulations specify stringent requirements for the transport of explosives by road, including the suitability of vehicles and the segregation of goods, and give the Chief Inspector of the Explosives and Dangerous Goods Division powers to approve conveyance by boat.

One of the roles of existing transport legislation is to minimise the risk of accidents to vehicles conveying hazardous substances and to assist emergency services in the event of an accident. There is one further initiative, although not a regulatory one,

to help ensure that dangers to the public and the environment are minimised following an accident.

The Western Australian Transport Emergency Assistance Scheme (WATEAS) was introduced in 1985 and has been designed to assist those organisations with statutory responsibility in the event of a road transport incident involving hazardous substances. The scheme is working successfully to achieve objectives such as the establishment of co-ordinating mechanisms between Government agencies and the private sector in the transport of dangerous goods, and the provision of concepts and procedures for the handling of transport emergencies involving dangerous goods. Because of the scheme's success, and in the absence of a more appropriate system, the WATEAS is now being used for non-transport chemical emergencies, for which it has not been specifically designed. Although it has worked well, it points to the need for expansion of the WATEAS to a general emergency response scheme or the development of a separate scheme for this purpose.

4.7.5 Supply and Sale

Control of the supply and sale of hazardous substances currently exists only for pesticides, explosives, radioactive substances substances scheduled under the Poisons Act, and flammable liquids.

The Poisons Act provides the most comprehensive legislation, controlling the sale or supply of any poison as deemed appropriate, and prevents the sale or possession of Seventh Schedule substances by unauthorised persons. Poisons cannot be sold or supplied, by wholesale or retail, unless a licence is held. A record of the sale of certain poisons must also be kept. In addition, poisons cannot be sold unless they are properly labelled and packaged, nor sold to persons under the age of sixteen years.

The Poisons Regulations generally specify different restrictions for the sale of differently scheduled poisons.

Under the Pesticide Regulations a pesticide cannot be sold without prior registration. This means that all pesticides come under scrutiny for efficacy and safety, before they may be sold. In addition, pesticides cannot be sold if they do not conform to the registered formula, or if they are not labelled and packaged according to the Regulations.

The sale of those pesticides listed in Schedule B to the Regulations is prohibited. This includes 'dioxin' (TCDD)-contaminated 2,4,5-T, hydrogen cyanide, and methyl bromide not mixed with a warning gas. There are also special regulations restricting the sale and use of lindane and sodium fluoroacetate.

Under the Explosives Regulations to the Explosives and Dangerous Goods Act, an explosive cannot be sold or kept for sale unless a licence is held for that purpose. Explosives cannot be sold to persons under the age of eighteen years nor to other unauthorised persons.

The Radiation Safety Act makes it an offence to sell a radioactive substance unless the purchaser produces evidence of a licence to possess such a substance, and the seller notifies the Radiological Council of the name and address of the purchaser and details of the relevant licence. The purchaser must apply to the Council to have the radioactive substance entered on a register.

Reference is made to the sale and supply of hazardous substances under a number of other statutes, but these are limited in their scope. The Veterinary Preparations and Animal Feeding Stuffs Regulations, for example, prevent the sale and supply of goods unless they are properly labelled and packaged. The Fertilizer Act requires that prior to any fertilizer being offered for sale, it be registered with the Registrar of Fertilizers.

There is no control of the sale and supply of 'industrial chemicals' unless they are also scheduled poisons (except for the Fifth Schedule). It is considered that further regulatory control over the sale and supply of industrial chemicals is required. Once the National Chemicals Notification and Assessment Scheme commences, new and priority existing chemicals will be assessed and appropriate recommendations for their control will be made.

4.7.6 Use

Restrictions that currently apply for the use of hazardous substances are essentially the same as those which apply for their sale and supply.

A pesticide cannot be used unless it is registered and is not listed in Schedule B of the Pesticide Regulations. The Regulations prohibit the use of pesticides in any manner, place or circumstance that may be dangerous to health, or in connection with the manufacture, preparation or packaging of food. It is an offence to apply any pesticide to a commercial food crop in excess of the quantity or frequency specified on the label.

The use of lindane and sodium fluoroacetate is strictly controlled by the Regulations, as is the use of certain fumigants as pesticides. In addition, the use of pesticides by commercial pesticide firms and operators is covered under these Regulations.

Some further aspects of the use of pesticides are controlled under the Agricultural and Related Resources Protection (Spray Restriction) Regulations to the Agricultural and Related Resources Act and the Aerial Spraying Control Act and Regulations. Both these statutes prevent the use of certain herbicides in the vicinity of commercial tomato crops and vineyards.

At present, there is some provision for the users of pesticides, deemed to be of sufficient hazard to the public, to notify neighbours or the general public of that use. This type of notification is important for ensuring the protection of public health. It understands that a requirement that public places be signposted when Seventh Schedule pesticides and other substances

of concern are being applied, has recently been introduced under the Pesticide Regulations. As other such substances are identified, they can be added to the list to which this requirement applies.

The only specific restrictions applying to the use of poisons are under the Poisons Act. They prevent the use of any drug of addiction or specified drug for the purpose of self-administration, and place restrictions on the use of Seventh Schedule poisons and other restrictions imposed by the scheduling itself. Although other specific restrictions on the use of poisons are not contained in the Poisons Act and Regulations, the use of poisons is well controlled because a licence or permit is required for the possession or purchase of many poisons. Details of the licences which can be issued under the Poisons Act are given in Table 1.

The use of radioactive substances is well controlled under the Radiation Safety Act and Radiation Safety (General) Regulations. It is an offence to use any radioactive substance unless in accordance with a licence issued under the Act. The Regulations prescribe certain conditions to ensure the safe use of these substances.

The Explosives Regulations prohibit the use of explosives unless a permit is held, and prevent persons under the age of eighteen years from carrying out any blasting operation. No person can detonate an explosive unless possessing adequate knowledge of the correct methods for its safe use and handling. The Regulations do not apply to any operation undertaken on a mine site. In this case, control is under the Mines Regulation Act and Coal Mines Regulation Act.

There is no specific control of the use of industrial chemicals, unless they are scheduled poisons or unless particular regulations exist under the Factories and Shops Act.

4.7.7 Disposal

The disposal of chemical wastes is controlled by the Health Department under the Health (Disposal of Asbestos Waste) Regulations 1984 and the Health (Disposal of Liquid Waste) Regulations 1983 to the Health Act.

The Health (Disposal of Asbestos Waste) Regulations require all asbestos waste to be disposed of in an appropriate site, as scheduled in the Regulations, or at a site approved by the Executive Director of Public Health. (A waste is considered to be an asbestos waste if it contains in excess of one per cent of any asbestos material.) There are currently five scheduled disposal sites within the Perth metropolitan area. The operators of disposal sites are required to operate them in a manner approved by the Executive Director of Public Health.

The Health (Disposal of Liquid Waste) Regulations classify wastes into thirteen categories, nine of which deal with chemical wastes. These chemical wastes may currently be disposed of at

only one site in the metropolitan area (Kelvin Road, Orange Grove).

Liquid waste can only be collected or transported for reward in accordance with the conditions specified by the Executive Director of Public Health. All vehicles must be clearly marked with the operator's name and constructed to prevent the spillage of effluent or the escape of fumes. Before chemical waste can be removed from any premises, the Executive Director of Public Health must be informed and the driver provided with a written statement, which includes the name and address of the generator of the waste and the nature of the waste. This statement must also be given to the attendant at the disposal site by the vehicle driver before discharge of the waste.

Under the Health Act, the local authorities are responsible for the operation and maintaining of disposal sites but they receive extensive advice from the Health Department's Waste Disposal Engineer.

The disposal of sewage is controlled by the Water Authority of WA under the various Acts governing its operations (see Section 4.6.2). It is considered that this situation should continue. A number of local authorities in country areas also operate sewerage schemes under the Health Act.

5.0 PROPOSED DIRECTIONS FOR STATE LEGISLATION

5.1 Introduction

Hazardous substances have the potential to harm three broad aspects of the community: the general public, the surrounding environment and the workforce. Each of these groups is different in its potential degree of exposure, the means by which exposure can occur and the precautions and requirements that need to be taken to prevent or limit exposure. Consequently, the management of hazardous substances in the areas of public health, occupational health and environmental protection have tended to develop separately, and at different rates, in the past.

Hazardous substances in agriculture have also been identified as a unique group, largely as a result of the importance and widespread nature of agriculture and the specific problems and concerns which are involved.

Hazardous substances should continue to be managed separately in each of these areas, but with a high degree of integration and co-ordination. The key is that all life cycle stages of hazardous substances need to be addressed wherever there is potential for harm to the community, to workers or to the environment generally.

In the structure of modern Governments there is shared responsibility for a whole range of tasks. Hence a single Department may be responsible for its primary charter, but also have secondary responsibility in a wide range of other activities. For example, many Government Departments are responsible for budget management in their area and for industrial relations in their area. There is usually one specific functional arm of Government which is accountable for those secondary activities, but is not responsible for the actual doing of all the activities. In this sense, accountability includes the primary role in policy making and standard setting as well as a coordinating function.

In the above examples, the Treasury is accountable for overall budgets, and the Office of Industrial Relations is accountable for industrial relations across all portfolios.

Similarly, the Environmental Protection Authority is accountable for protection of the environment, the Health Department is accountable for public health and the Department of Occupational Health, Safety and Welfare is accountable for health and safety in the workplace. These roles obviously include hazardous substances.

Specifically, DOHSWA would be accountable for the management of hazardous substances in the workplace, with the Department of Mines responsible for hazardous substances in the mining industry. The Department of Agriculture would be responsible for hazardous substances in the agricultural industry. Many other Departments

would have responsibility in their particular areas, but their role may be too small to justify resources to cover that responsibility. They may cede their responsibility to DOHSWA.

DOHSWA would be accountable for hazardous substances in the workplace in WA. It would be the agency responsible for managing hazardous substances in most industries. Wherever possible, its accountability would be exercised through existing statutes, and through the agencies and the departments which are responsible. The extent to which it is responsible in particular industries and the mechanisms by which such responsibility was exercised would depend on mutual agreement being reached between DOHSWA and the relevant State Government agency. Similar comments apply to the areas of public health and environmental protection.

5.2 Federal Controls

Current activity and initiatives in the management of hazardous substances being undertaken at the Federal level, are the responsibility of the following Australian Government agencies:

- the Department of Health,
- the Department of Arts, Heritage and Environment,
- the National Occupational Health and Safety Commission.
- the Department of Primary Industry, and
- the Department of Transport

The Department of Health has the major responsibility for the assessment of therapeutic substances, food additives and poisons, and liaises closely with the National Health and Medical Research Council and the Australian Drug Evaluation Committee. The Department of Arts, Heritage and Environment is concerned with assessment of the environmental effects of hazardous substances, waste management and pollution control.

In addition to occupational health issues, the National Occupational Health and Safety Commission has assumed the lead role in the notification and assessment of industrial chemicals. The Department of Primary Industry is responsible for the clearance of pesticides, veterinary products, and other agricultural chemicals. The Department of Transport plays, inter alia, a co-ordinating role in the provision of a uniform code for the transport of dangerous goods.

For the sake of uniformity and ease of co-ordination, it is recommended that:

R1 The State Government should attempt to mirror, as far as practicable, the control mechanisms developed at the national level and by other States, where arrangements have have been shown to work satisfactorily.

In keeping with the general principles enunciated in Section 5.1 it is proposed that three agencies have a principal role (ie accountability) in the management of hazardous substances in Western Australia, viz:

. the Health Department of WA

. the Department of Conservation and Environment

. the Department of Occupational Health, Safety and Welfare.

In addition, a number of other departments, notably

. the Department of Agriculture

. the Department of Mines

would maintain specialist roles. In this way, it is expected that control mechanisms can be related to the area where expertise is currently available.

The fields of endeavour of respective State and Federal agencies are clear cut for public health, occupational health, environment and agriculture. This is not so for public safety issues involving hazardous substances. The principal issue is whether administratively public safety should be treated as part of the same spectrum as occupational health and safety, or as part of one of the principal industry regulating departments.

The next section discusses each of the relevant State bodies and the directions proposed which will rationalise and consolidate the management of hazardous substances in WA and achieve a high degree of uniformity with the situation at the Federal level. The chapter concludes with a discussion of State inter-departmental links and co-ordination between the State agencies. In particular, the roles of the principal agencies (particularly the Department of Occupational Health, Safety and Welfare, and the Health Department) are clarified, and distinctions made between the roles of the principal agencies and those oriented to specific industries.

5.3 State Controls

5.3.1 Health Department of WA

- Health Act

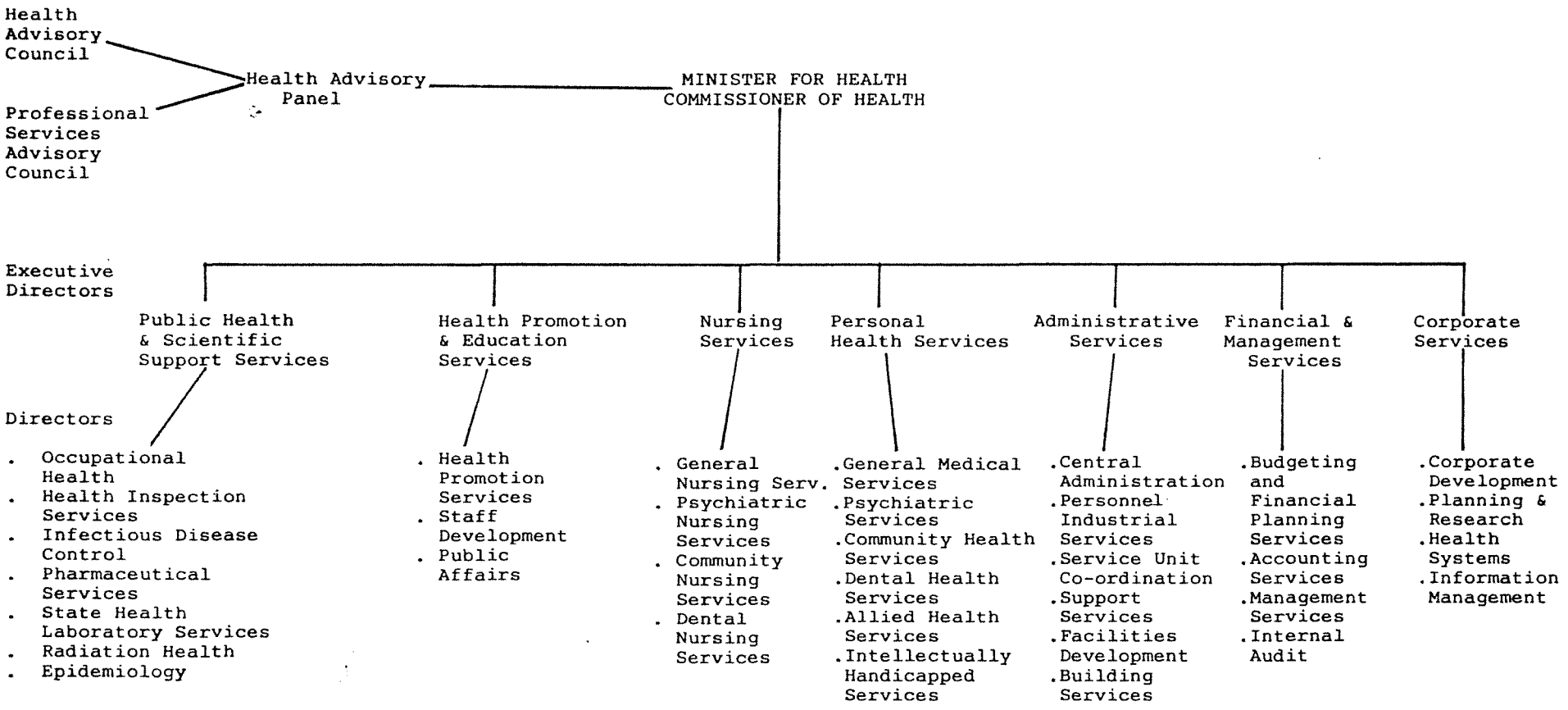
- Radiation Safety Act

- Poisons Act

The structure of the Health Department of WA is shown in Figure 3. The Health Department of WA has a very wide range of responsibilities in the management of hazardous substances. The Department administers the Health Act, the Radiation Safety Act and the Poisons Act, all of which have relevance in this area.

FIGURE 3

STRUCTURE OF THE HEALTH DEPARTMENT OF WA



Since its promulgation in 1911, the Health Act has developed and expanded, to cover increasingly more diverse areas, as gaps were identified and needs for legislation recognised. As a result, the Act is now cast in very broad terms, addressing a far wider range of issues than purely public health matters (some parts of the Health Act deal with issues that are not within the ambit of this Report, and only the relevant sections are discussed).

All recommendations made in this Report in respect of the Health Act have been made in the belief that the Act and the role of the Health Department in hazardous substances should focus on public health matters only. Suitable mechanisms now exist to encompass the other areas of hazardous substances management presently controlled by the Health Act.

Health Act - Pesticide Regulations

The Health Act establishes the Pesticides Advisory Committee (PAC) and enables the creation of regulations to control pesticides. The PAC advises the Governor on the creation of regulations to control pesticides and consists of representatives from the Health Department of WA, the Department of Agriculture and the Government Chemical Laboratories. (The Health Department provides both the Chairman and the Secretary of the PAC. In addition, the Department of Conservation and Environment has observer status on the Committee.)

In the past, detailed attention has not been given to the environmental effects of pesticides use. In recognition of the increasing concerns in this area, and in line with the philosophy that all hazardous substances should be assessed for public health, occupational health and environmental concerns in all stages of their life cycle, it is recommended that:

R2 The Health Act be amended to enable the membership of the Pesticides Advisory Committee to be expanded to include representatives of the Department of Conservation and Environment and the Department of Occupational Health, Safety and Welfare.

This will ensure that environmental and occupational health issues are given full consideration when pesticides are undergoing registration.

The role of the Pesticides Advisory Committee is one of recommending legislation and the assessment of applications for registration. However, this role has been broadening over the years to one which has an involvement in education and information provision. The broadening of the PAC's activities is supported. The PAC should take an overview role on all matters with respect to pesticides.

This is in line with the principle that specialist committees should be formed under relevant Government departments, to address specific areas of the management of hazardous substances (see Section 5.4).

In addition, amendments have recently been proposed to Section 246C(1) of the Health Act, which will broaden the scope of the Pesticide Regulations, enabling regulations to be made to ensure the protection of the environment and the maintenance of agricultural productivity as well as the protection of human health. These proposed amendments are supported.

The Pesticide Regulations are deficient in certain areas and recommendations are made in an effort to overcome these. It is recommended that:

R3 The re-registration period for pesticides, under the Pesticide Regulations, be expanded from one year to three years.

This will help to ensure better utilisation of administrative resources.

The implementation of this recommendation could create a degree of inflexibility in the registration scheme. To allow for consideration of changing circumstances with respect to efficacy, health and environmental effects of the product within the three-year registration period, procedures for the cancellation of registration and the recall from sale of pesticides should be developed. Given the experience in the area of therapeutic goods, where voluntary recall procedures work well, a voluntary system should be developed for pesticides.

For relcalcitrant cases, recourse to legislation would be necessary. Accordingly, it is recommended that:

R4 The Health Act be amended to enable cancellation of pesticide registration on certain grounds. A code for recall procedures for pesticides be developed which could be incorporated in legislation if necessary.

Although products are currently re-registered on a one-year basis, this re-registration is automatic in most cases, and the product does not generally undergo a formal reassessment at this time. However, there is continuous reassessment of pesticides as labels are changed and/or data becomes available from other sources, notably the appropriate Federal bodies.

It is therefore recommended that:

R5 Provision be made in the Pesticide Regulations for the mandatory reassessment of the labels of registered products after a six-year period of time, if not assessed for any other reason during that period.

Sections 21A to 21D of the Pesticide Regulations specify the methods by which used pesticide containers may be disposed. However, the Regulations do not specifically prevent the re-use, or sale for re-use of used pesticide containers. It is recommended that:

R6 **The Pesticide Regulations be amended to prohibit the re-use, the sale for re-use, or the burning, of used pesticide containers without approval from the Executive Director of Public Health. Any such approval would be subject to guidelines issued by the Executive Director of Public Health.**

Health Act - Toxic and Hazardous Substances Regulations

The Toxic and Hazardous Substances Regulations were created in 1968 to control a number of specific substances, namely paint containing a variety of metals and solvents, dichloromethane in refrigeration equipment, cellulose nitrate, flora and seeds of certain plant species, and others. This haphazard list of substances resulted because the Regulations were generated in response to a perceived need for control in these few, specific areas.

Although some of the substances covered in these Regulations are scheduled poisons (in particular the metals), and are therefore normally subject to the Poisons Act, the particular uses for these substances that are covered by the Regulations are specifically exempted from the schedules. Mercury salts, for example, are listed as Sixth Schedule poisons and are therefore subject to the Poisons Act requirements for goods containing Sixth Schedule poisons. However, paint containing mercury is exempt from the Sixth Schedule and is not subject to the requirements of the Poisons Act. The Toxic and Hazardous Substances Regulations therefore control paint containing mercury.

The provisions of the Poisons Act are adequate to cover the requirements for some of the substances controlled by the Toxic and Hazardous Substances Regulations, if the relevant substances are scheduled under the Act. However, it has been the policy of the Health Department to duplicate the requirements of the Standard for Uniform Scheduling of Drugs and Poisons, SUSDP, (formerly the Uniform Poisons Standard) in the Poisons Act. SUSDP should be amended to include the items which are currently exempted, and this would then pave the way for amendment of the Poisons Act. Other substances covered by the Poisons Act would be more appropriately controlled under the umbrella of the Occupational Health, Safety and Welfare Commission. Therefore, it is recommended that:

R7 **The Toxic and Hazardous Substances Regulations be rescinded and the provisions of these Regulations be transferred to the Poisons Act and Regulations and the Occupational Health, Safety and Welfare Act, as appropriate, and when the Standard for Uniform Scheduling of Drugs and Poisons changes to incorporate these provisions.**

This would help to consolidate the control mechanisms for hazardous substances, currently managed by the Health Department, into discrete units and remove the administrative burden of fragmented legislation.

Health Act - Food and Drug Regulations

The sections of the Health Act relevant to food and drugs have recently been amended and the Food Standards Regulations promulgated, after a comprehensive review of the previous legislation was undertaken.

The amendments to the Act have repealed Part VIII of the Act and replaced it with new Parts VIIA and VIII.

Part VIIA deals with drugs, medicines, therapeutic substances and pesticides and establishes a Drug Advisory Committee to advise the Executive Director of Public Health on all matters with respect to drugs, medicines and therapeutic substances. Part VIII of the amendment deals with food and establishes a Food Advisory Committee to advise the Executive Director of Public Health on matters in relation to food.

Although the Food Standards Regulations have been promulgated to control the quality of foodstuffs, no Regulations have yet been created to deal with drugs.

The recent amendments to the Health Act are supported and it is recommended that:

R8 Regulations to the Health Act be promulgated as soon as possible to control drugs, medicines and therapeutic substances.

Radiation Safety Act and Regulations

Radioactive substances are controlled as a discrete unit of hazardous substances under the Radiation Safety Act, administered by the Radiation Health Branch of the Health Department of WA. Although the use of radioactive substances has widest implications in the occupational health field, with the exception of medical isotopes, no changes are proposed to the present system of management. This reflects the approach taken at the Federal level for the management of these substances.

Both the Radiation Safety Branch and the Explosives and Dangerous Goods Division of the Mines Department are involved in ensuring that adequate safety precautions are maintained during the transport of radioactive substances. Close liaison between the Radiation Safety Branch and the Explosives and Dangerous Goods Division should be encouraged and maintained to ensure that radioactive substances are safely transported.

Poisons Act and Regulations

The traditional role of the Poisons Act is to control the sale and supply of human and veterinary drugs and poisons to the general public, ensuring appropriate packaging and labelling, restrictions on sale, and the keeping of records. This is in accordance with the principle that the Poisons Act should focus on public health.

However, the Poisons Act has also operated to control the use of hazardous substances in the manufacturing industry, for example, through the licensing of manufacturers of poisons. In addition, the Carcinogenic Substances Regulatory Notice, under the Poisons Act, which arises from a NH&MRC Occupational Health Guideline, has greater relevance to the occupational health area.

It is difficult to define an ideal interface between the Poisons Act and any legislation administered by the Department of Occupational Health, Safety and Welfare. However, those areas of the Poisons Act which are more relevant to the area of occupational health should be transferred to the Department of Occupational Health, Safety and Welfare. Accordingly, it is recommended that:

R9 Control of carcinogens in the workplace currently exercised under the Carcinogenic Substances Regulatory Notice of the Poisons Act, be transferred to the Department of Occupational Health, Safety and Welfare as soon as an appropriate legislative structure exists.

It is also recommended that:

R10 The control of those hazardous substances currently exercised under the Poisons Act through the licensing of poisons manufacturers be transferred to the Department of Occupational Health, Safety and Welfare.

There are certain substances that are specifically exempted from the Poisons Act through either cut-off limits or total exemption of the substance. Hydrocarbons in quantities greater than 20 litres for example, are specifically exempt, conditional upon certain labelling requirements, from the Poisons Schedules because in such quantities they are not used by the general public. These quantities of goods should be controlled by the Department of Occupational Health, Safety and Welfare. It is therefore recommended that:

R11 Control of the use, in the workplace, of those hazardous substances which are currently exempted under the Poisons Act, be regulated by the Department of Occupational Health, Safety and Welfare. Specific industries operating under adequate legislation (for example, the mining industry) would not be subject to this requirement.

With experience gained by the Department of Occupational Health, Safety and Welfare, it may be appropriate for other discrete pieces of legislation to be transferred, if such moves were seen to be effective. However, as a general rule, a fresh approach to drafting new legislation to control the occupational health aspects of the use of hazardous substances is desirable. Such an approach leads to more comprehensive and integrated control procedures than the adhoc transfer of existing legislation, which itself might be deficient.

DOHSWA's principal function, as noted in Sections 5.1 and 5.3.2 is for the "accountability" of occupational health and safety in Western Australia. Its specific regulatory role in particular operational areas (eg agriculture, mining) should be subject to mutual agreement with the agency with responsibility for the area (eg the Department of Agriculture, the Department of Mines.)

5.3.2 Department of Occupational Health, Safety and Welfare

The establishment of the Commission and Department of Occupational Health, Safety and Welfare in WA has resulted in another agency being involved in the management of hazardous substances. However the Department is consolidating several areas concerned with occupational health that have been managed by various other agencies in the past. The Factories and Shops Act, the Construction Safety Act, and the Machinery Safety Act, previously managed by the Department of Industrial Affairs, have been transferred to the new Department. The occupational health function of the Health Department has also been transferred, along with the Hearing Conservation Regulations of the Noise Abatement Act.

One of the recommendations made to the Federal Government by the Interim National Occupational Health and Safety Commission was that the proposed National Occupational Health, Safety and Welfare Commission (now established) should explore the co-ordination of Commonwealth/State efforts to develop a uniform approach to the control of hazardous substances in occupational situations. In essence, this means that any initiatives undertaken at the State level should reflect, as far as practicable, a uniform national approach. This view is supported and directions are proposed for the development of the activities of the State Commission in this light.

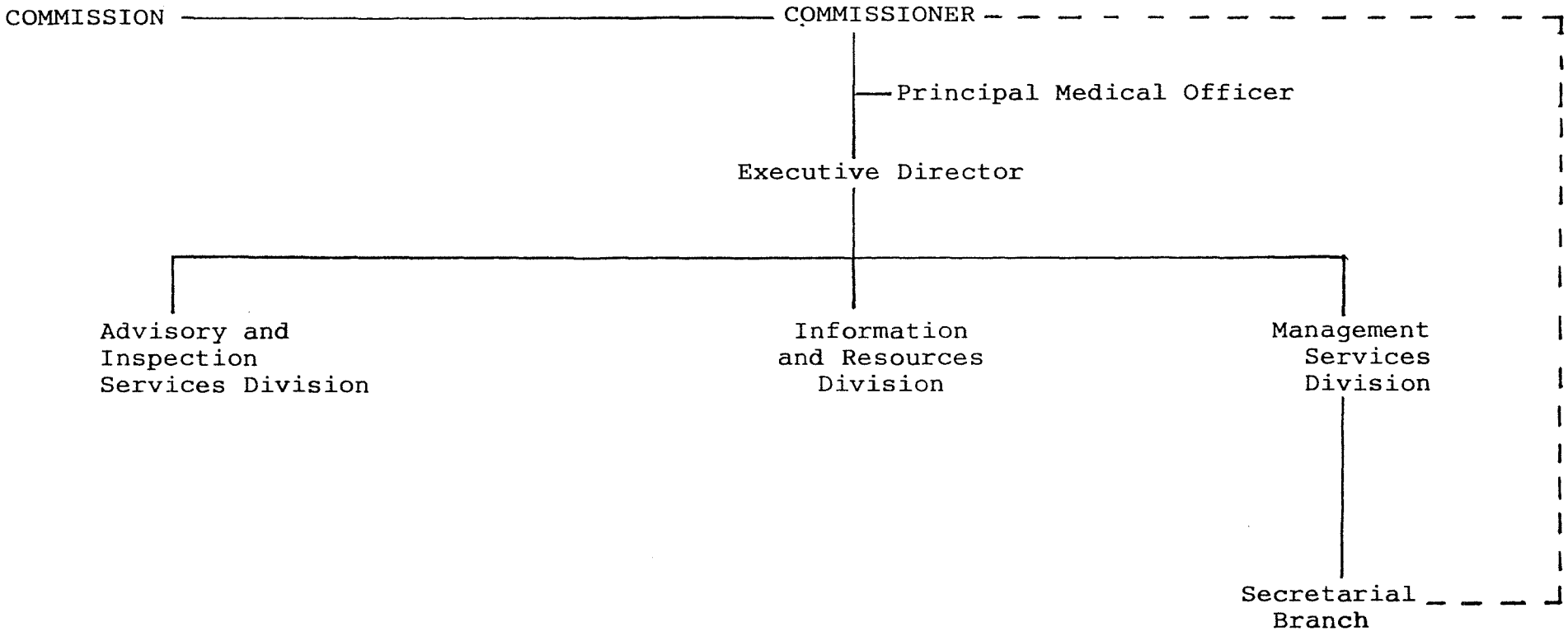
The structure of the Department of Occupational Health, Safety and Welfare is shown in Figure 4. If the Department is to assume responsibility for occupational health and safety with respect to hazardous substances, it will need to establish a unit to deal specifically with this area. Such a unit is also warranted since hazardous substances now play a very wide role in industry and the workplace.

A number of changes are proposed in legislative control within the existing system which will directly affect the Department of Occupational Health, Safety and Welfare. These changes are addressed in this Section and in Section 5.3.5. A recommendation which could impinge upon the establishment of the unit referred to in the previous paragraph is made in Section 5.3.5.

Legislation to control the use of hazardous substances in the workplace, under the Factories and Shops Act, is inadequate. Each set of regulations to the Factories and Shops Act is concerned with a specific hazardous substance or group of hazardous substances in a specific industry.

FIGURE 4

STRUCTURE OF THE DEPARTMENT OF OCCUPATIONAL HEALTH, SAFETY & WELFARE



New regulations need to be developed to cover workplaces and apply to the widest possible range of hazardous substances, rather than specifying criteria according to the type of industry concerned as is now the case. The Occupational Health, Safety and Welfare Act is suitable for the creation of such regulations. It is therefore recommended that:

R12 The Regulations to the Factories and Shops Act, applying to hazardous substances, be repealed and comprehensive regulations be promulgated under the Occupational Health, Safety and Welfare Act to apply to the widest possible range of hazardous substances, in all workplaces subject to control by the Department of Occupational Health, Safety and Welfare.

Any regulations should also apply to hazards caused to other groups, including the general public, as a result of the misuse of hazardous substances in industry.

The magnitude of the task of creating such regulations is recognised and the implementation of this recommendation will be a long-term one.

As an interim measure, it is recommended that:

R13 In the short term, the existing regulations applying to hazardous substances under the Factories and Shops Act, be reviewed and updated.

This recommendation will ensure that there is some protection for workers while comprehensive regulations are being developed. Many of the regulations to the Factories and Shops Act are out of date.

One of the expected provisions of the National Chemicals Notification and Assessment Scheme will be that State Governments will have priority in obtaining notification of hazardous substances introduced by way of manufacture in Australia, assuming the States have an appropriate legal framework. It is recommended that:

R14 Suitable complementary legislation be developed in Western Australia, to be administered by the Department of Occupational Health, Safety and Welfare, to provide for the notification an assessment of hazardous substances, except for therapeutic substances, food additives, pesticides and veterinary drugs.

This is in line with actions at the Federal level which have seen the responsibility for the National Chemicals Notification and Assessment Scheme placed with the National Occupational Health and Safety Commission.

The Explosives and Dangerous Goods Division of the Department of Mines currently administers the Explosives and Dangerous Goods Act and Regulations. The Act and Regulations are concerned with the transport and, to some degree, the storage of dangerous goods. Further investigations are proposed, possibly leading to major changes to the administrative responsibility of this area of

the management of hazardous substances which could directly affect the Department of Occupational Health, Safety and Welfare.

In summary, these proposals involve examination of the Explosives and Dangerous Goods Act and the appropriate interfaces between the Department of Mines and the Department of Occupational Health, Safety and Welfare. See Section 5.3.5.

5.3.3. Department of Conservation and Environment

The present structure of the Department of Conservation and Environment is shown in Figure 5.

The Pollution Control Division was created when DCE assumed responsibility for air and noise pollution in June 1985. These areas were previously the responsibility of the Health Department. The change in responsibility involved the transfer, to DCE, of the Clean Air Act and Regulations and the Noise Abatement Act and Regulations (except the Hearing Conservation in Workplaces Regulations which were transferred to the Department of Occupational Health, Safety and Welfare).

The only aspect of air pollution control that remains outside the DCE is the dark smoke provisions of the Health Act. These provisions are largely used by local government to settle backyard disputes and not for industrial discharges. It is appropriate for these provisions to remain under the Health Act.

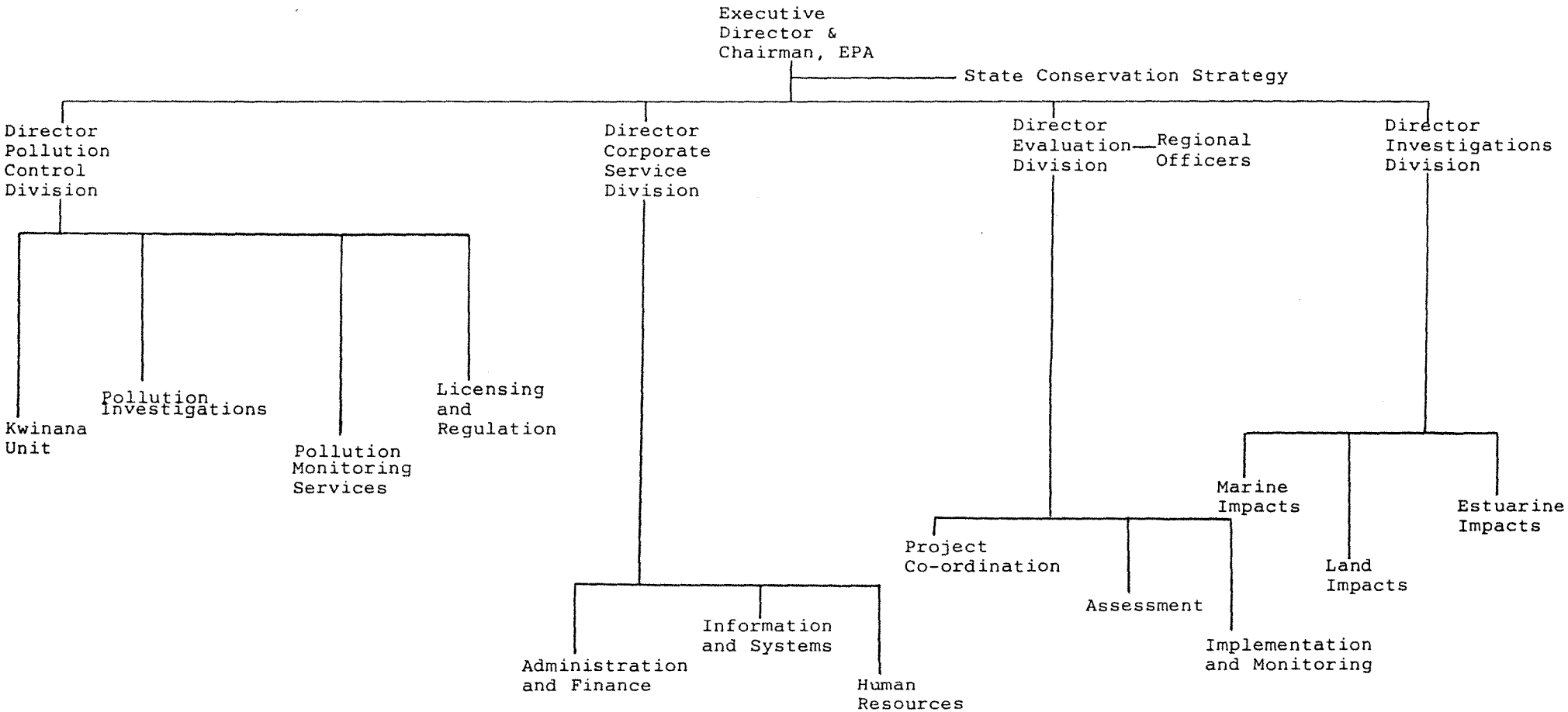
At present, water pollution control is fragmented. Marine discharges are largely uncontrolled. Responsibility for control of underground and surface waters lies with the Water Authority of WA (WAWA) under the Rights in Water and Irrigation Act. WAWA is a major effluent producer and is therefore self-policing. All discharges will be subject to the new Environmental Protection Act in the future.

There is some duplication in the licensing provisions of the Rights in Water and Irrigation Act and the Waterways Commission. Such duplication is both confusing and wasteful of resources and should therefore be rationalised. Only one point for the establishment of standards and objectives for the licensing of discharges to air, land and water should exist.This will be largely achieved under the new Environmental Protection Act.

The off-site disposal of wastes (including domestic refuse) to land is currently the responsibility of local government authorities, which work closely with the Health Department of WA. Although it was not anticipated that domestic refuse be within the scope of this Report, it is briefly considered here because the management of all wastes should be carried out according to an overall strategy (which must be sufficiently flexible to take account of localised needs).

FIGURE 5

STRUCTURE OF THE DEPARTMENT OF CONSERVATION AND ENVIRONMENT



One central body should assume responsibility for all pollution control in WA, at least at the level of the establishment of policy and the setting of objectives and standards. Pollution control logically falls within the Environment portfolio, and the Department of Conservation and Environment should be the central body. As noted above, the Department of Conservation and Environment is already responsible for the administration of the Clean Air and Noise Abatement Acts. Again, this control will be largely achieved through the new Environmental Protection Act.

Ideally, all pollution control legislation should also be drawn together, so as to avoid the continuation of the existing fragmented approach.

Parliament has recently passed the Environmental Protection Act 1986 which does rationalise pollution control, under the umbrella of the new Environmental Protection Authority.

For water pollution and waste management, some practical matters need consideration. These are discussed below with suggestions for action.

The licensing function, which is essentially a policy matter, should be controlled by DCE as part of the process of developing overall policies for pollution control. The Water Authority of WA and the Waterways Commission have considerable expertise and resources in water pollution matters, and development of comprehensive water pollution management policies should be carried out in close conjunction with them. It could be expected that certain operational functions and responsibilities would be delegated to these bodies because of their strong management role, and their expertise in the area. In fact, it is proposed to delegate control of surface and underground waters to WAWA, with the exception of WAWA's own discharges.

Turning to waste disposal, a similar distinction needs to be made between the development of policy (standards and objectives) and the day-to-day management of all municipal and industrial wastes.

Policy development for waste management is currently carried out under the auspices of the Cabinet Committee on Metropolitan Waste. The Cabinet Committee was established as a result of various investigations during the 1970's, which indicated the need for an integrated, comprehensive waste management strategy for the Perth metropolitan region. The Committee consists of the Ministers responsible for the areas of health, environment, water resources, planning and local government, and is chaired by the Minister for Health. It is advised by a Senior Officers' Committee, which has representation from each of the relevant departments.

The Cabinet Committee is currently developing a comprehensive waste management strategy for the metropolitan region. This will enable it to adopt a more prominent, focal role in waste management matters. Sufficient resources need to be allocated to the work of this committee to assume its role.

The Department of Conservation and Environment should continue to work closely with the Health Department, and the other agencies represented on the Committee, to develop policies, standards and procedures for the disposal of hazardous wastes.

It is recommended that:

R15 The Cabinet Committee on Metropolitan Waste take a more prominent role in the development of an integrated waste strategy for the Metropolitan region. The Department of Conservation and Environment should continue to work closely with the other agencies represented on the Committee, in the development of policies, standards and procedures for the disposal of hazardous wastes.

In making the above recommendations and suggestions, an integrated but practical approach to all forms of pollution control in the context of management of hazardous substances has been sought. Day-to-day management would reside at the level of best expertise and resources which in some cases would be DCE, but in others would be various State or local government bodies.

5.3.4 Department of Agriculture

- Agricultural and Related Resources Protection Act

- Aerial Spraying Control Act

The structure of the Department of Agriculture is shown in Figure 6. Although the Agriculture Protection Board is not part of the Department of Agriculture, it is part of the same ministerial portfolio, and the two work very closely together.

The Scientific Services Branch and the Animal Health Division have most relevance in the management of agricultural chemicals. The Pesticides Co-ordinator within the Scientific Services Branch liaises with the Health Department in the registering of pesticides. The Animal Health Division is responsible for the registration of veterinary products and animal feeding stuffs.

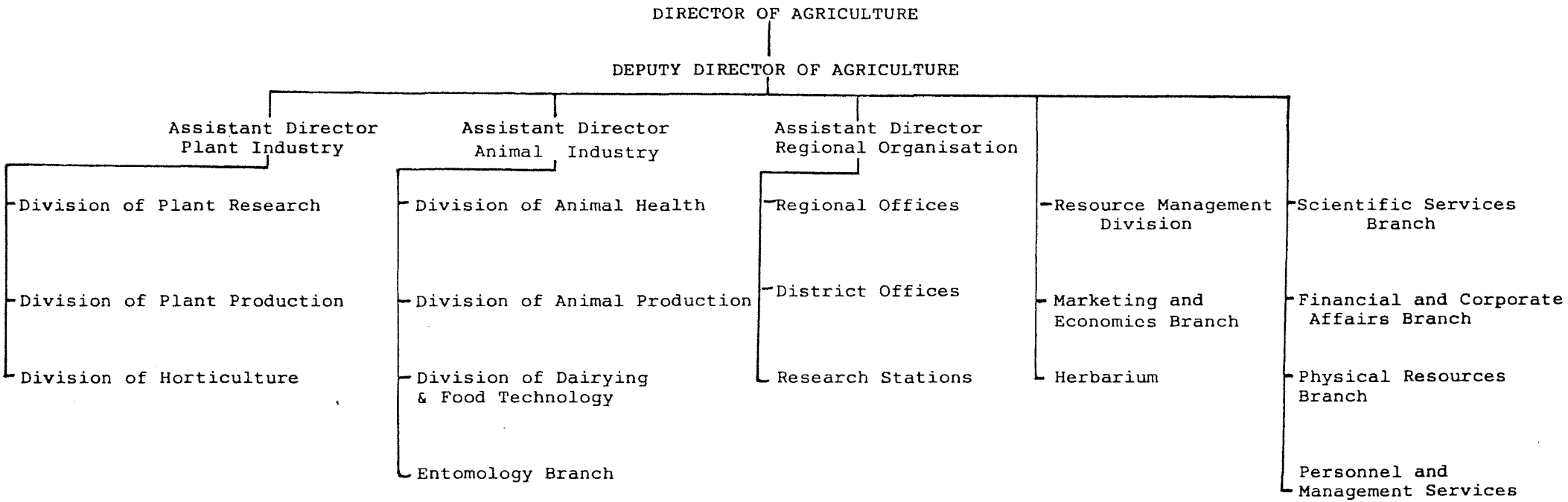
The Agricultural Protection Board administers the Agricultural and Related Resources Protection Act.

At present, the Department of Agriculture has a clearly identifiable role in chemicals management in Western Australia. It has a direct role in the control of aerial spraying of pesticides, the registration and sale of veterinary preparations, animal feeding stuffs and fertilizers, and has recently acquired responsibility for controlling the presence of pesticide residues in agricultural produce on the farm.

This control is in line with the philosophy that the day-to-day management of hazardous substances in agriculture should be the responsibility of the Department of Agriculture.

FIGURE 6

STRUCTURE OF THE DEPARTMENT OF AGRICULTURE



In general, the above areas are well managed and, accordingly, no changes to the primary role of the Department of Agriculture are proposed. However, some changes or expansions in several of the statutes are desirable to ensure safer and more efficient management of agricultural chemicals in primary industry, and the rural environment.

Agricultural and Related Resources Protection Act, Aerial Spraying Control Act.

Both the Agricultural and Related Resources Protection Act and the Aerial Spraying Control Act protect commercial tomato and vineyard crops from damage caused by the spraying of certain herbicides. While both Acts appear to be adequate within their very specific area of control, neither address the damage caused to non-target vegetation by the spraying of these herbicides. It is therefore recommended that:

R16 The scope of the Agricultural and Related Resources Protection Act and the Aerial Spraying Control Act be expanded, or new legislation developed, to encompass the protection of areas of non-target vegetation.

The registration and management of pesticides is largely controlled under the Health Act, but the Department of Agriculture does exercise some indirect control of these substances by virtue of its representation on the Pesticides Advisory Committee.

Although the control of pesticides through a health-related mechanism is not common in Australia, they are generally well managed. In addition, the Health Department offers a broader perspective when considering control provisions for pesticides, looking beyond the efficacy concerns of the Department of Agriculture to include health implications.

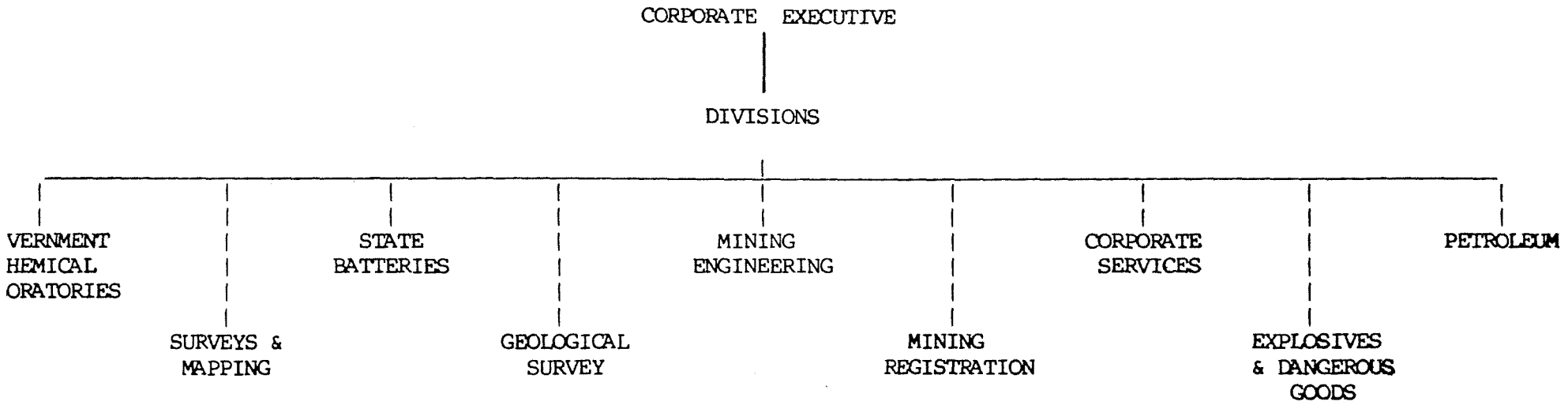
The control of pesticides has been identified as being deficient in certain areas and recommendations for improvement were identified in Section 5.3.1.

5.3.5 Department of Mines

The structure of the Department of Mines is shown in Figure 7. The Department of Mines administers three pieces of legislation that are concerned with the management of hazardous substances. These are the Explosives and Dangerous Goods Act and Regulations, which are administered by the Explosives and Dangerous Goods Division, and the Mines and Coal Mines Regulation Acts and their corresponding Regulations, which are administered by the State Mining Engineer.

The Department of Mines has historically carried very broad responsibility, even accountability, for hazardous substances. The Committee believes that this Department has been competent and efficient in its administration and management of this task. With the establishment of DOHSWA it is appropriate to examine the respective roles of the two agencies.

STRUCTURE OF THE DEPARTMENT OF MINES



The Department of Mines should be responsible for the management of hazardous substances in the mining industry, including those associated with the oil industry. On the basis of Government efficiency and past effectiveness there appears no rational reason to challenge that these responsibilities remain with the Department of Mines.

DOHSWA should be accountable for occupational health and safety, in particular having a co-ordinating role with respect to hazardous substances in the workplace. In addition, a clearer distinction needs to be made between activities which are clearly mining oriented and those which are not. The Department of Mines previously filled a vacuum in areas of industrial activity such as the Perth Mint. With the establishment of DOHSWA, responsibility for such areas should be handed over to them.

The scope of the Explosives and Dangerous Goods Act is expressed as'to consolidate and amend the law relating to explosives, to regulate the manufacture, importation and use of explosives, and the classification, marking, storage, carriage and sale of explosives and dangerous goods'. Although the Act is broad in this respect, the general emphasis is toward public health and safety, occupational health and safety not being of specific concern. Goods can only be scheduled as dangerous goods if they are considered 'to be a danger to public safety'.

The Explosives and Dangerous Goods Division plays a very effective role in the management of hazardous substances. Given community concerns about hazardous susbtances, there is a need for this role to continue, with clearly identifiable administrative arrangements. These arrangements should clearly acknowledge the requirements of both public safety and occupational safety. A balanced approach to the two areas is essential.

The Explosives and Dangerous Goods Act should be examined in detail to determine those areas which are applicable only to mining activity, and those which are oriented to general public safety, and whether it should be modified to meet other requirements, such as occupational health and safety. Thus, the broad scope of the Act could be used as the basis for more substantial legislation which would cover all life cycle stages of a greater number of dangerous goods. An example of such legislation is the NSW Dangerous Goods Regulation which applies to all classes of dangerous goods, except Class 7.The Stored Chemicals Sub-Committee, in its Report (Stored Chemicals Sub-Committee, 1986), recommended that further regulations be promulgated under the Explosives and Dangerous Goods Act to control the storage of all classes of goods, except Class 7. This recommendation is supported but this is just an initial step in developing broader legislation for hazardous substances.

Accordingly, it is recommended that:

R17 The Explosives and Dangerous Goods Act should be examined to determine if it should be modified to allow the Mines Department to discharge its responsibility within the mining industry, and to determine if separate legislation is needed to cover hazardous substances under the accountability of DOHSWA.

The Mines Regulation Act and the Coal Mines Regulation Act are currently the responsibility of the State Mining Engineer. The interfaces between the respective responsibilities of the Department of Occupational Health, Safety and Welfare and the Mines Department are particularly difficult to define, especially as much of the work of the State Mining Engineer is of an occupational health and safety nature. The Committee believes that the Mines and Coal Mines Regulation Acts should remain the responsibility of the State Mining Engineer. However, some anomalies exist. Under the Acts, any facility associated with mining can be defined as a mine site, including railways, blast furnaces and processing plants. Although the terms the reference of the Committee are limited to consideration of hazardous substances, there is a need to ensure that the management of all aspects of occupational health and safety is carried out in an integrated fashion. Many of the facilities referred to above have problems similar to those on mine sites, and are often part ofa mining operation (eg transport and loading facilities). Nevertheless these facilities should be treated in the same manner as any other industrial plants and it is recommended that:

R18 The definition of a mine site under the Mines Regulation Act and the Coal Mines Regulation Act should be examined to determine the possibility of excluding those industrial facilities which are remote from the primary mining site.

5.4 Liaison/Interfacing between Departments

The difficulty in defining an ideal interface between the various agencies managing hazardous substances in WA has already been alluded to in this Report. Because of the wide use of hazardous substances across a broad section of the community, and due to their ability to move across legislative boundaries, it is important that there is continuous liaison between all bodies that have an involvement in the management of hazardous substances in WA.

Several areas of the management of hazardous substances which are not unique to one single management body, but require the involvement of several bodies, have been identified. Emergency response and labelling are the two primary areas.

The successful response to emergency situations involving hazardous substances involves the participation of specialists from a number of Government departments. Over the past three years, this has been successfully organised through the WA Transport Emergency Assistance Scheme (WATEAS) (See Section 4.7.4). Although this scheme has been designed specifically for transport emergencies, it has been successfully used in other

situations. In addition, several other area specific schemes are in existence, for example the Fremantle Port Authority Fire and Counter Disaster Plan. The importance of schemes such as the WATEAS, and the full co-operation of all Government departments, needs recognition, to ensure that emergency situations are handled safely and efficiently. The expansion of WATEAS to a general emergency response scheme is supported.

The labelling of hazardous substances, to ensure their correct and safe use by all members of the community, is another area that crosses all management boundaries. Suitable labelling for transport, storage, occupational use and consumer use requires the 'pooling' of expertise from all of these areas. In the final report of the Stored Chemicals Sub-Committee (1985), a recommendation was made that 'a working group be established to investigate, more thoroughly, all aspects of labelling'. This recommendation is supported. Such a working group should be widely representative of users and policy makers.

5.5 Co-ordination

Throughout this Report, a number of recommendations have been made to assist in the consolidation of hazardous substances management in WA. However, due to the variety of hazardous substances and their potential impact in so many areas, their management will still remain a function of a variety of Government agencies which are best equipped for the role. As a consequence, there is still the potential for duplication and lack of co-ordination in the management of hazardous substances.

Fundamental to the effective management of hazardous substances in Western Australia is the existence of a central co-ordinating body, reporting directly to the relevant Ministers, on all aspects of the management of hazardous substances.

Such a body should have representation, at a senior level, of all relevant Government agencies. The foundations of such a body can be seen in the existing WA Advisory Committee on Chemicals (WAACC) (see Section 1.0). The body should meet to deal with issues as and when they arise. Its composition should be such as to assure that appropriate linkages are developed between existing committees which play important roles in specific aspects of the management of hazardous substances in Western Australia.

The value of community input, to Government, on issues relating to hazardous substances, of concern to the community, needs to be recognised. A body should be established to discuss such issues and provide advice to Government. The foundations of such a body can be seen in the Community Consultative Committee on Chemicals (CCCC) which has been valuable in this regard. Such a body should have broad cross-sectional representation from trade unions, professional and community groups, and Government, and be chaired by a Government officer. This representation should cover the areas of occupational health, public health, environment, agriculture and mines. It should be non-statutory in nature, but could be established by Cabinet, similarly to the CCCC.

The community committee could advise relevant Ministers directly, or indirectly through the coordinating body. The effectiveness of the advisory process can be enhanced if the committee's recommenda tions are channelled through the coordinating body to Ministers, as advice on practicability and implementation can also be presented. The efficiency of the process would be dependent on the meeting frequency of the coordinating body and the means by which recommendations and advice are referred. Effective two-way communication between the committees would have to be established.

If the community committee reports directly to Ministers, community perceptions of the effectiveness of the committee could be enhanced, although in practice this would be dependent on the communication channels (if any) established between the committees.

It has traditionally been the role of the Department of Conservation and Environment to provide the co-ordinating role for the management of hazardous substances in Western Australia, through the provision of the chairman and secretariat for committees such as the WAACC and CCCC. There is now some question as to where this role should be in the future.

Several options exist for the administration and servicing of co-ordinating bodies.

1. The body could be established under legislation and be chaired and serviced by the department administering that legislation. Such an arrangement would be easily achieved but could result in an emphasis on the particular area of concern of that department, to the exclusion of other concerns. If DOHSWA is to accept accountability for hazardous substances in the workforce then it should be within its charter to set up the relevant across/department committees to advise Ministers.

2. The body could be established under legislation but be jointly serviced by two of the major agencies involved in the management of hazardous substances. Both the Department of Conservation and Environment and the Department of Occupational Health, Safety and Welfare have indicated an interest in providing the co-ordinating role and may be interested in such an arrangement. Problems may arise, however, in the efficiency and practicalities of having a joint secretariat.

3. In Canada, the Federal interdepartmental co-ordinating body for hazardous substances is serviced, in turn, by a number of Government agencies. Each agency provides the administrative support for the body for a set period of time and this role is then rotated to another Government agency. Such an arrangement may be suitable for Western Australia but continuity in the administration of the body would need to be ensured when transfer between Government departments takes place.

It is therefore recommended that:

R19 A co-ordinating body be established with representation, at a senior level, from relevant Government agencies to advise the relevant Ministers on all aspects of the management of hazardous substances.

It is also recommended that:

R20 A community committee be established, with representation from industry, trade unions, relevant professional and community groups, and Government, to identify and consider issues, relating to hazardous substances, of concern to the community.

The establishment of these bodies will ensure that there is co-ordination between Government agencies and, that the community is aware of, and has input into, policies for the management of hazardous substances.

6.0 GUIDELINES FOR MODEL LEGISLATION

In Chapter 6, the key elements of legislation required to cover the whole life cycle of hazardous substances is set out. Twenty three separate aspects are covered ranging introductory statements of intent through specific topics such as transport to more general subjects like liability and provision of information.

An 'ideal legislative model' would encompass all life cycle stages for all hazardous substances but, as discussed earlier, existing allocations of responsibility, resources and expertise mean that different Government agencies control specific classes of hazardous substances and different stages of their life cycles.

This Report recommends rationalisation of the existing system but still identifies three main areas of control (public health, occupational health and environmental protection) and a number of specialised aspects (eg emergency services).

Nevertheless, it is important that agencies responsible for any facet of the management of hazardous substances make sure that the relevant legislation covers all of the requirements for effective control. In this context the material set out in Chapter 6 should assist any authority with legislative responsibility for control of hazardous substances to review its role and procedures.

More specifically it is recommended that the model approach set out in Chapter 6 be used for any new legislation for hazardous substances or industrial chemicals. The contents of this chapter could be viewed as specifying the contents of comprehensive legislation having complete control over all life cycle stages of all types of hazardous substances. Specific sections of the chapter will be useful to particular agencies in developing legislation. At a minimum level it should be used as a checklist and it may even be appropriate as the basis for drafting instructions.

The model approach was built up by surveying a wide range of national and international legislation on the control of hazardous substances. All legislation surveyed is listed in Appendix 6 and was entered into a computerised Data Base. A text-retrieval system called STATUS (Appendix 7) was then used to facilitate retrieval of information on a given topic with the overall objective to consider the need for control at each stage of the life cycle of a hazardous substance.

The Data Base is thus quite comprehensive and could be accessed by anyone interested in getting more detailed information on particular pieces of legislation or on specific topics.

6.1 Statement of Intent

International legislation to control hazardous substances normally contains a Statement of Intent. An appropriate Statement of Intent should be formulated for Western Australian legislation.

The following is a possible example of a Statement of Intent for Western Australia.

WESTERN AUSTRALIA

The legislation is to control the activities associated with the life cycle of hazardous substances and to consolidate and amend existing legislation in view of current developments regarding occupational health and safety, public health, and the environment.

For the purpose of comparison some examples of Statements of Intent, drawn from Australian and overseas legislation, are given below:

WEST GERMANY: CHEMICALS ACT (1980)

"The purpose of this Act is to protect man and the environment from the harmful effects of dangerous substances by means of compulsory testing and notification of substances and compulsory classification, labelling and packaging of dangerous substances and preparations and by means of prohibitions and restrictions as well as specific legal provisions concerning toxicity and occupational safety." (translation)

UNITED STATES: TOXIC SUBSTANCES CONTROL ACT (1976)

"An Act to regulate commerce and protect human health and the environment by requiring testing and necessary use restrictions on certain chemical substances, and for other purposes."

NEW ZEALAND: TOXIC SUBSTANCES ACT (1979)

"An Act to make better provision for the control of toxic and other harmful substances and to consolidate and amend the Poisons Act 1960 and its amendments."

CANADA: ENVIRONMENTAL CONTAMINANTS ACT (1975)

"An Act to protect human health and the environment from substances that contaminate the environment."

AUSTRALIA - NEW SOUTH WALES: ENVIRONMENTALLY HAZARDOUS CHEMICALS ACT (1985)

"An Act to provide for control of the effect on the environment of chemicals and chemical wastes."

NETHERLANDS: CHEMICAL SUBSTANCES BILL (1981)

"Whereas we have considered it necessary to augment existing legislation for the protection of man and the environment against dangerous substances and preparations, more specifically in connection with the obligation to investigate the possible considerable effects of substances on man and the environment, in

order to take appropriate action in respect of substances and preparations in the event of danger to man or the environment and also in order to implement the Directive of the Council of the European Communities of 18 September 1979, 79/831/EEC."(translation)

6.2 Definitions

ADVISORY COMMITTEE - refers to the recommended authorised agency for control of the legislation that would be widely representative and serve an advisory function to the Designated Authority.

DESIGNATED AUTHORITY - refers to the recommended principal authorised agency for control of the legislation.

ENVIRONMENT - water, air and land and their interrelationships as well as the relationships between them and any living organisms with respect to the protection of the environment from the effects of an activity as well as the protection of aesthetic values, natural science values and cultural historic values.

HAZARDOUS SUBSTANCE - any substance, class of substance or mixture that, by reason of its chemical or physical characteristics, or its quantity, concentration or handling, is a threat to the environment, human health or other living organism. Substances may be excluded, by proscription, from this definition. Substances may be included, by prescription, in this definition. When, for a given substance or class of substance, it is not clear which agency/(ies) is/are responsible for control, then the issue shall be resolved by the Advisory Committee.

HAZARDOUS SUBSTANCES CONTROL ORDER - an order implemented by the Designated Authority enforcing the provisions of the legislation.

IMMEDIATELY HAZARDOUS SUBSTANCE - a substance about which information regarding its hazard is discovered before it can be processed by the notification and assessment procedure.

INDUSTRIAL CHEMICAL - any hazardous substance that is not otherwise defined as a poison, pesticide, radioactive substance, food additive, therapeutic substance,veterinary drugs, animal feeding stuff or fertilizer.

INTERSTATE MOVEMENT - the transfer of goods over State and Territory borders within Australia.

MANUFACTURE - to make materials into products by chemical, physical or biological processes or operations.

NEW CHEMICAL - any industrial chemical which is not listed in the Australian Inventory of Chemcial Substances (AICS).

RECORD - information to be held by those subject to the legislation.

REGISTER - information to be held by the Administrators of the legislation.

RIGHT-TO-KNOW - A contemporary phrase used to denote the right of employees, Government, industry and the community to information of concern regarding hazardous substances.

TRANSPORT - all means of transport including rail, road, air and sea.

6.3 Notification And Assessment

Western Australian legislation to control hazardous substances will be consistent with and, where necessary, complementary to the provisions of the National Chemicals Notification and Assessment Scheme which is to be put into effect through Commonwealth legislation.

6.3.1 Inventory

It is intended that the Australian Inventory of Chemical Substances (AICS) will be adopted as the inventory for the purposes of this model.

6.3.2 Notification

Substances not listed in the above inventory will be considered to be new chemicals and notification and assessment of such substances and prescribed activities in relation to them will be obligatory.

Notification should be to a single point at the National level. However, if it is decided that the State may serve as a point of intermediary notification for the manufacturer, the criteria and format of the National Chemicals Notification and Assessment Scheme will prevail.

6.3.3 Assessment of New Substance or Prescribed Activity

the State (Designated Authority) requires that any new chemical be assessed through the National Scheme prior to introduction in Western Australia.

Additionally the State should have the right to assess any hazardous substance (existing or new) or waste at any time, to determine the potential for harm to human health or the environment. (see also Provision 6.15.1 Immediately Hazardous Substance).

(a) A notification to the Designated Authority should contain the following as minimum information:

- the name of the applicant;
- the identity of the hazardous substance;
- such details as to quantity, places of storage, methods of storage and handling and other matters concerning the prescribed activity proposed to be carried on in relation to the substance;
- the information relating to the distribution, use and disposal of the substance;

. such further information, including the results of any or specified tests relating to the effect on human health and the environment of the prescribed activity, as may be required.

(b) An applicant under (a) who has lodged an application in relation to the same substance, with the Commonwealth or another State or Territory, may substitute for such further information as may be required, the particulars of that application.

(c) An applicant may request that certain information be considered confidential on a form prescribed in the regulations, the particulars of which will be assessed by the Designated Authority.

6.3.4 Testing

If testing is required further to the assessment process the provisions for testing under the National Chemicals Notification and Assessment Scheme will prevail.

6.3.5 Register

A register should be kept by the Designated Authority containing:

. identity of the substance;

. location of manufacturer and distributor;

. assessment results;

. test data.

6.3.6 Data Base/Information Dissemination

The results of the assessment will be publicly disseminated by the Designated Authority.

A computerised Data Base is recommended for the storage and efficient retrieval of prescribed information for dissemination to Government, industry and the public. In the establishment of the Data Base:

. funding must be provided for the establishment, running and updating of the Data Base;

. the Data Base is to be updated as required;

. the form of the Data Base must consider the needs of the users in terms of the ease of comprehension of the available information.

6.4 Classification

The object of classification is to identify all the toxicological, physico-chemical and ecotoxicological properties of a substance which may constitute a risk during normal handling or use. The different classifications into which a substance may fall include:

- toxic
- corrosive
- irritant
- explosive
- oxidant
- flammable
- carcinogenic
- teratogenic
- mutagenic
- foetotoxic
- radioactive

For each classification there is a prescribed set of test data, for example LD_{50} and LC_{50}, which determines the category for the substance. This information should form a Schedule or Appendix to the proposed Act.

For industrial chemicals such a classification could be based on the existing Dangerous Goods classes and extended to cover other important aspects not covered under those classes.

Consideration may need to be given to more than one schedule for specific purposes although this should be avoided if possible.

The relationship to the Poisons Schedule should also be taken into account.

6.5 Authorised Agencies for Control

The Sub-Committee has recommended that the Commission of Occupational Health, Safety and Welfare and the Department of Occupational Health, Safety and Welfare should have primary responsibility for industrial chemicals in Western Australia. The legislation will need to define the designated authority and committee or bodies responsible for implementing the Act and Regulations.

Co-ordination of all activities to do with the management of hazardous substances should be through an advisory committee established under the legislation. Terms of Reference for the committee should be set out in the legislation and could include the following:

- to facilitate the co-ordination of administrative and enforcement activities in relation to the control of hazardous substances:

- to advise the Designated Authority in relation to the assessment of substances and the control of substances that are, or which the Committee considers should be dealt with as, hazardous substances;

- to advise the Designated Authority on priorities to be adopted in the investigation of listed substances;

- to investigate and report to the Designated Authority on incidents involving the contamination of the environment by substances and wastes;

- to carry out research into and report to the Designated Authority upon any matter relating to legislation (whether of the State or other legislation) concerning the control of substances;

- to investigate, carry out, research into and report to the Designated Authority upon any matter concerning hazardous substances, human health and the environment;

- perform any other functions as may be conferred upon it.

Membership of the Committee should include representatives of Government, industry, unions, community groups (eg. those concerned with consumer protection and conservation) and expert advisers (eg. professional associations and tertiary institutions).

6.6 Research and Development

The research and development of chemicals requires unique provisions for control. Often the amounts involved can be exempt from notification and it is the belief of the Sub-Committee that some measure of control is required in legislation. In research and development the following should apply:

- if the quantities involved exceed 100 kg in a twelve month period notification be required in line with the National Chemicals Notification and Assessment Scheme;

- those involved in the research and development of a substance about which the hazardous properties may not be known, should inform employees of (a) of the possibility of an associated risk and (b) of the prescribed precautions to be taken;

- compliance with the prescribed provisional classification, labelling and packaging requirements of an unlisted substance under Provision 6.8 of this model;

- compliance with prescribed standards and guidelines for laboratory practice such as the OECD Guidelines for Good Laboratory Practice for the testing of chemicals;

- notification of a newly identified hazard as soon as possible (see Provision 6.15.1 Immediately Hazardous Substance);

- Disposal of waste as outlined under Provision 6.14 of this model

- in the field testing of hazardous substances precautions should be taken to safeguard human health and the environment. There is a need to develop appropriate codes of practice for this activity.

6.7 Import/Manufacture

Manufacture and import are the means by which new substances are introduced into the community.

6.7.1 Import/Interstate Movement

International import into Australia is covered by Commonwealth legislation.

There is a need to distinguish between the import of goods into, and the interstate movement of goods within, Australia.

The interstate movement of hazardous substances into Western Australia should be subject to minimum notification of the following:

. the identity of the substance

. the name and location of the manufacturer/importer

. the intended distribution points in Western Australia

. other such information as may be prescribed in legislation.

6.7.2 Manufacture

The term manufacture (see definition under Provision 6.2) also includes formulation and its associated activities.

To provide for adequate control of the manufacture of industrial chemicals in Western Australia manufacturers shall:

(a) Notify according to Provision 6.3 of this model.

(b) Comply with the licensing requirements of Provision 6.17 of this model.

(c) Keep records as prescribed in Provision 6.13 of this model containing:

. uses of the substance

. lists of users

. hazardous incident statistics based on adverse reactions to the substance by employees, consumers and the environment

. occupational health and safety of employees

These records are to be kept for fifty years

. quantities manufactured per annum

. quantities of waste produced, disposed of and/or recycled

(d) Safeguard the occupational health and safety of employees in the workplace by ensuring:

- the condition and layout of the premises are safe
- the equipment used in work processes is safe and adequately maintained
- first aid equipment is provided
- protective clothing and equipment are provided in the legislation
- adequate alarm and hazard controls are established and maintained
- labelling and placarding the work place as outlined under Provision 6.8.1(d) of this model
- the education of employees as to safe work practices as un Provision 6.19 of this model

(e) Safeguard the environment against exposure to any hazardous substance by:

- submitting an emergency plan for the control of hazardous incidents to the relevant authority as outlined under Provision 6.15 of this model
- providing for the correct disposal of hazardous waste as outlined in Provision 6.14 of this model
- complying with the requirements for remedial action as out outlined in Provision 6.22 of this model

6.8 Labelling and Packaging

The information required for the appropriate labelling and packaging of hazardous substances is based on the classification of the substance, which would normally be derived from the notification and assessment process. It is preferable that labelling and packaging recommendations be developed at the same time as notification and assessment to ensure national uniformity.

Those who are obliged to package and label hazardous substances should do so in such a way that when they are used in the manner intended, there will be minimal risk to human health or the environment.

6.8.1 Labelling

(a) Any label should contain the following information(subject to other Western Australian legislation):

- identity of the substance
- name and address of the manufacturer

- Risk label and danger involved in use
- Risk Phrases prescribed
- Safety Advice Phrases prescribed
- emergency contact telephone number
- first aid advice

(b) The design of the label should encompass:

- the classification of the substance as scheduled
- the lettering, colouring and size as prescribed for the classification
- any signs or symbols thought necessary for the target group at which the label is aimed
- the number of Risk Phrases and Safety Advice Phrases required. As a rule of thumb, up to four of each may be used at one time, with those referring to the most severe hazard taking precedence.

(c) The material of the label should be:

- resistant to fading, the action of corrosive, reactive chemicals, and the weather
- able to be securely adhered or fastened to the package
- as long lasting as the package.

(d) Target groups (see also Provision 6.19)

The information on the label should consider the needs of the target group at which it is aimed. Language barriers may require the use of graphic symbols for widespread comprehension. Consumer testing of labels is essential to ensure that the label is effective.

(i) Employees handling hazardous substances at work require occupational health and safety information in the form of:

- safety Data Sheets as prescribed for each substance
- placarding of the premises in the form of hazard warning signs and emergency action instructions
- warning signs on machinery that may pose an operational hazard

(ii) Transport workers require:

- placarding of vehicles to include:

- the name of the substance
- an identification number such as the United Nations Number or Chemical Abstract Service Number
- an emergency action code such as the Hazchem Code
- an emergency contact phone number

. placarding of depots to comply with provision 6.9.3 of this model

. manifests and other shipping documents outlining the particulars of the hazardous substance and emergency procedures to be followed.

(iii) The labels used on products for public use should:

. contain prescribed warning symbols and phrases which are easily identified and understood

. be the subject of a widespread public education programme

. contain an emergency contact phone number

. have inserts supplementary to labels where instructions or more comprehensive information is required.

(e) All of the above provisions vary depending on whether the package is an inner or outer container, though the minimum warning symbols and phrases as prescribed in the legislation must be on both.

(f) Provisional labelling is required where the risk associated with a substance is unknown. The provisional classification and symbol are prescribed.

6.8.2 Packaging

Hazardous substances should be packaged so that the packaging is suitable for the use intended.

(a) So that the contents cannot escape:

(i) The package should be fitted with replaceable fastening devices for repeated fastenings without spillage.

(ii) Where prescribed, the package should be fitted with child-resistant fastenings.

(iii) The packaging material should :

. not be susceptible to attack by the contents of the package

. be able to withstand the conditions and stresses of handling

. be resistant to ultra violet light.

(b) Labels should conform to Provision 6.8.1 of this model.

(c) Packaging processes should not take place in the vicinity of food or drink and should be carried out in accordance with any other prescribed provisions.

6.9 Storage

There is a recognised need in Western Australia for uniform regulations to control the storage of hazardous substances.

In Western Australia, legislation should:

- apply to primary production, industry and commerce (wholesale and retail)
- apply to all premises used for the storage of hazardous substances whatever their nature or purpose, and in particular transport depots
- apply above a prescribed quantity
- provide for Standards which should be updated regularly
- provide for Codes of Practice that are currently appropriate and for further codes to be developed

6.9.1 Licensing

Legislation should provide for the licensing of premises storing all classes of hazardous substances.

6.9.2 Siting and Construction Specifications

(a) Zone Planning should be required prior to the construction of storage sites, taking into consideration the potential hazard of the plant, and incorporating the degree of separation required between:

- storage plants
- the storage plant and residential premises
- the storage plant and public facilities

(b) Building Specifications need to be defined for:

- electrical wiring
- ventilation
- flammability of building materials
- adequate fire protection
- adequate egress in case of emergency
- any other specifications as may be prescribed

Alterations to the storage plant should be referred to the Designated Authority to ensure adequacy and safety.

Bunding and control of drainage by sumps or other suitable means to prevent the accidental release of hazardous substances should be required, where relevant.

6.9.3 Site Safety Requirements

(a) An adequate fire alarm system and fire fighting equipment in and near the storage facility should be required.

(b) Premises and buildings should be placarded to assist emergency services personnel by designating the location of hazardous substances

(c) Hazardous substances should be labelled and packaged to conform with Provision 6.8 of this model

(d) Legislation should include contingency plans for emergency situations

(e) Occupational health and safety requirements of the legislation should include:

(i) placarding of the building and premises as prescribed to:

. identify hazards associated with the contents of the store

. designate correct action in an emergency situation.

(ii) Safety Data Sheets as prescribed under Provision 6.19 of this model.

(iii) Education and training as prescribed under Provision 6.19 of this model.

(iv) Labelling of containers as under Provision 6.8 of this model.

6.9.4 Records

Legislation should require Records:

(a) to be kept in triplicate, to provide a copy to be used:

. on premises

. off-premises in case of accident

. by emergency service authorities

(b) To contain details of:

. hazardous substances in the store

. quantities

. layout of premises and where substances are stored

6.10 Transport

Accidents resulting from the transportation of hazardous substances have a high public profile.

Legislation required to control the transport of hazardous substances must be comprehensive.

Legislation should make provision for:

(a) Licensing of vehicles, operators and drivers.

(b) Placarding of vehicles to include:

. the name of the substance

. identifying marks such as the U.N. Code

. emergency action code such as the Hazchem Code

. emergency contact telephone number/s

. other information as prescribed.

(c) Placarding of depots as a storage facility, as prescribed under Provision 6.9.

(d) Manifests and shipping documents to accompany the hazardous substance which:

. identify the substance

. outline the associated risks in its handling or transport

. outline the emergency action that may be required in the event of a hazardous incident

. supply an emergency contact phone number

. supply other information as may be prescribed.

(e) A manual for first aid and the appropriate Emergency Procedure Guides outlining procedures to be followed in the event of a hazardous incident; the manuals and guides to stay in the vehicle while that particular load is on board.

The information required or provided in (d) and (e) should take into account any existing emergency action plans and comply with them (for example the WA Transport Emergency Assistance Scheme).

(f) The education and training of drivers, operators, handlers, and depot workers to ensure that:

. standards of efficiency and skill are met as may be prescribed

- the content of all manuals, guides, placards, and labels required are understood

- safe work processes are established and maintained.

(g) The occupational health and safety of workers by ensuring that:

- vehicles and equipment are maintained

- adequate labelling and packaging requirements are observed under Provision 6.8 of this model

- drivers and handlers are adequately informed of the contents of the manifests

- adequate emergency equipment as prescribed for the vehicle or depot, is maintained.

(h) An inspectorate to enforce the provisions of the legislation

6.11 Sale/Distribution

One of the most effective points of control in the life cycle of a substance is the point of sale.

Hazardous substances offered for sale may be subject to:

(a) Licensing conditions which specify the person, purpose and premises.

(b) Packaging and labelling requirements as prescribed under Provision 6.8 of this model.

(c) Records which must be kept as outlined in Provision 6.13 of the model for at least 5 years which include:

- the name of the substance

- the name and signature of the purchaser

- the date and time of sale

- the quantity of the substance purchased and its intended purpose (may not apply to all scheduled substances)

These records must be open for inspection by designated authorities.

(d) Storage requirements as prescribed in Provision 6.9 of this model.

(e) Prohibition of the following:

- sale by vending machine

- sale in unlicensed premises

. sale to persons under the age of 18.

6.12 Use

The wide range of uses that are possible in the life cycle of a hazardous substance present special problems for control. Different target groups may require legislation to ensure correct use for their particular situations. The Sub-Committee has identified three broad categories of use: industrial, commercial and consumer.

The degree of control required for a hazardous substance is a function of:

. the degree of hazard associated with the substance

. the quantity of substance and potential for exposure

. the characteristics of the user groups.

6.12.1 Industrial Use

Industrial use means to use in the manufacturing/processing context. Legislation applicable to industrial use should be most thorough because of the large quantities involved and the associated potential degree of hazard.

Provisions relevant to industrial use are:

. notification and assessment under Provision 6.3 of this model

. occupational health and safety under Provisions 6.7 (manufacture) and 6.19 (Right-To-Know) of this model

. labelling and packaging under Provision 6.8

. disposal and recycling under Provision 6.14

. licensing conditions under Provision 6.17

. emergency procedures under Provision 6.22

6.12.2 Commercial Use

Commercial use means to the use of hazardous substances by professionals in the pursuit of a business or the provision of a service.

Legislation uniquely applicable to commercial use may be required to ensure that:

(a) use does not occur other than in the manner prescribed in th regulations or in the licence for that particular substance

(b) in the absence of regulations, use occurs only as specified on the label on the package or other written recommendations of the manufacturer;

(c) use does not present a public health or environmental hazard and where a hazard may result, it should be required that:

. the public be notified of intended use

. signs be posted in the area

. precautions that may be required by the relevant authorities, be complied with

(d) commercial operators comply with the qualifications and training prescribed.

6.12.3 Consumer Use

Consumer use means to the use of hazardous substances by the individual in the community. The quantities involved in consumer use are usually small and provisions are required to ensure that:

. the labelling and packaging of hazardous substances is appropriate so that precautionary measures and relevant information, as prescribed in Provision 6.8 of this model, are easily understood.

. education programmes are funded and undertaken by designated authorities with respect to the correct use and disposal of hazardous substances to safeguard human health and the environment

. information generated for the educational programmes mentioned above be made freely available at the points of distribution of hazardous substances.

6.13 Registers/Records

For the purposes of the legislation, records and registers should be kept.

It has been decided by the Sub-Committee that the term:

. **Register** should apply to records kept by the Designated Authority
. **Record** should apply to lists kept by those obliged to keep records by a provision of the legislation

6.13.1 Registers

The Designated Authority should keep registers of:

. chemical control orders

. licensees

. manufacturers

. hazardous substances

. any other thing the Designated Authority deems necessary for the purposes of the legislation.

6.13.2 Records

Records should be kept by those engaged in:

. manufacture

. storage

. transport

. sale

. disposal

and should contain the information prescribed in the legislation.

6.14 Disposal

The disposal of waste incorporating hazardous substances requires special legislation apart from that used to control other wastes.

6.14.1 Manufacturers

Legislation should require manufacturers or others generating or holding hazardous waste for transport or subsequent disposal to:

. give notice if they hold substantial amounts of waste

. submit a waste management plan in order to obtain a licence

. obtain a licence if the waste is to be held for a prescribed period of time

. keep records, as required under Provision 6.13 of this model, of the amount of hazardous waste generated

. develop processes which minimise or eliminate hazardous wastes

6.14.2 Transporters

Transporters of hazardous waste should be required to:

. obtain a licence

. comply with the transport regulations applying to hazardous substances under Provision 6.10 of this model

. keep records of all transactions (including a waste manifest to travel with the waste) as may be prescribed

. dispose of the hazardous waste at a prescribed disposal facility.

6.14.3 The Disposal Facility

The Disposal Facility should:

. submit a waste management plan for public comment and display

. be licensed to handle hazardous waste

The licensing conditions should require waste disposal facilities to:

. provide adequate supervision of the site

. provide security (a bond or adequate insurance) for rehabilitation of the site or, where relevant, compensation for the community

. comply with the regulations stipulated for its operation by the Designated Authority

. keep record books and supporting documents

. instruct plant personnel in the use of safe working procedures and of the possible harmful effects of the hazardous waste

. develop waste reduction procedures which cause the least possible damage to human health and the environment.

6.14.4 The Designated Authority should foster:

. the further development of existing alternatives to disposal such as recycling or exchange of waste

. the development of other alternatives causing the least possible damage to human health and the environment

. the education of the community with regard to the correct disposal of hazardous waste.

6.15 Emergencies

Activities involving hazardous substances can be subject to substantial risk. Adequate legislation and practical management can minimise the number of hazardous incidents but provision must be made for dealing with emergency situations.

Legislation should cover:

. a substance which is newly discovered to be hazardous (Immediately Hazardous Substance - see definitions under Provision 6.2)

. industrial accidents involving hazardous substances which entail an occupational health, public health and/or environmental hazard.

. the occurrence of a spill in the transportation of a hazardous substance.

6.15.1 Immediately Hazardous Substance

In this instance the Designated Authority may:

(a) Prohibit all or any particular activity involving the substance.

(b) Control or limit the amount of the substance produced.

(c) Require that the substance be marked clearly as to the risk involved.

(d) Require Records to be kept of:

. the process of manufacture

. the persons supplied.

6.15.2 Industrial Accidents

Industrial accidents entail legislation that requires:

(a) Manufacturers to provide an ON-SITE EMERGENCY PLAN:

. that must be prepared before a new activity is commenced or in the case of an existing activity, within a prescribed time

. indicating the name of the person or persons responsible for safety and those authorised to take action

. detailing how accidents will be dealt with

(b) The Designated Authority (State or Local Government) to provide an OFF-SITE EMERGENCY PLAN in an area where manufacturers carry on industrial activities, detailing how emergencies will be dealt with, in consultation with the manufacturers and the appropriate Government agencies.

(c) Both the Designated Authority and the manufacturers to agree to inform persons in an area which might be affected by an accident of:

. the industrial activity

. the nature of the accident

. the safety measures and recommended procedures to be adopted

6.15.3 Transport Accidents

In the case of an accident during the transportation of a hazardous substance the person in control of the substance should:

(a) Report the incident as soon as practicable to the appropriate authority as prescribed who then contacts the relevant organisations according to the emergency action scheme prescribed (for example the current W.A. Road Transport Emergency Assistance Scheme).

(b) Take remedial action as outlined under Provision 6.22 of this model to:

- prevent further discharge
- contain the spilled substance
- restore the affected area and the environment as nearly as possible to original (prior to the accident) condition.

(c) Ensure that disposal of the hazardous substance be as prescribed in Provision 6.14 of this model.

6.15.4 Responsibility for Funding

Responsibility for the funding of remedial action should be as outlined under Provision 6.22(c) and may be attributable to:

- the driver of the vehicle
- the prime contractor who is responsible for the vehicle and the driver or
- the consignor if the accident is due to faulty packaging.

6.16 Regulation-Making Powers

The Designated Authority for the legislation requires the power to make regulations for the following purposes:

- prescribing qualifications for and conditions of licenses and providing for or regulating the issuing, suspension or revocation of licences
- regulating any activity which is a provision of the legislation or is the subject of a hazardous substances control order
- prescribing forms, fees, particulars, notifications and records for the purposes of the legislation
- any other matter for the purposes of the legislation.

These regulations should be updated as required.

6.17 Licensing

Licensing conditions are related to the quantity, associated hazard and scheduling of any hazardous substance. Licensing allows the Designated Authority to impose control measures that are specific to the particular situation and on any activity.

(a) Any substances to be licensed should be designated in the schedules to the legislation

(b) The activities to be licensed should be designated in the provisions of the Act

(c) The conditions of the licence should be outlined in the Regulations

(d) An indemnification clause can be a condition of the licence dealing with the financial responsibility to decontaminate premises and take remedial action in the case of a hazardous incident. A security or insurance may be a condition of the licence.

6.18 Enforcement

The enforcement process encompasses many provisions. For the purposes of this model, it has been decided to combine the main elements.

(a) Administrative Bodies

Administrative Bodies include the Designated Authority and associated Advisory Committee as outlined in Provision 6.5. Functions specific to enforcement include:

- facilitating the co-ordination of administrative and enforcement activities in relation to the control of hazardous substances and activities

- performing an advisory role.

Legislation should enable to the Designated Authority to issue orders called HAZARDOUS SUBSTANCES CONTROL ORDERS which specify any restrictions or conditions to be applied to any activity involving hazardous substances. These control orders should be published.

(b) Enforcement Bodies

Legislation should enable the Designated Authority to appoint an INSPECTORATE with powers to:

- enter any premises except those where a search warrant from the police authority must be obtained

- inspect and remove records

- inspect containers, premises, vehicles, ships, aircraft
- inspect processes and procedures
- act in ways necessary to safeguard the environment and the health and safety of persons
- take samples for analysis
- seize and impound (at place of seizure) offending articles.

No person shall obstruct or hinder an inspector in the carrying out of his duties or functions under the legislation.

(c) Analysis

Legislation should enable inspectors to take samples for analysis on presentation of an authorization (for example designating the authority to obtain samples). The analysis that is performed on the samples should be presented as a Certificate of Analysis and may be used in the enforcement of this legislation.

(d) Offences

There should be a provision that makes it an offence to contravene:

- any hazardous substance control order
- any prescription in the regulations
- any licensing condition
- any provision of the Act.

(e) Penalties

Penalties should be applied for offences against the legislation. These can be in the form of one set fine to apply for all offences or differing amounts which may be included in the provisions of the legislation.

The fine for a corporation should be higher than that for a person.

For example:

- a corporation may be fined up to $40 000
- a person may be fined up to $5 000
- alternatively the fine may be twice the value of the substances under litigation.

Terms of imprisonment could also be specified.

(f) Appeals Procedure

An Appeals Procedure is required to allow objecting parties to appeal against:

. a refusal or condition of a licence

. an act of an inspector

. a hazardous substances control order.

A time limit is usually specified (for example 60 days) and a hearing provided for.

(g) Exemptions

Exemptions under the legislation can be made where a modification, variation or exemption of the regulations or provisions of the legislation would not adversely affect the safety, health or welfare of the persons concerned or the environment.

Exemptions may be cited for substances catered for by other legislation for example pesticides, drugs or radioactive substances.

6.19 Right-To-Know (Information and Education)

It is the opinion of the Sub-Committee that the public has a right to information regarding hazardous substances. The Right-to-Know applies to:

. employees, who have the right to information concerning the risks associated with handling hazardous substances and appropriate safe working procedures. This information would need to be simple and consider language barriers

. the community, which has a right to information on matters of concern regarding hazardous substances

Any legislation should take into account the following provisions:

6.19.1 Employer Responsibilities

Employers are responsible for ensuring the occupational health and safety of employees using hazardous substances.

(a) The information required to be notified to employees and their representatives regarding hazardous substances should include:

. the name of the hazardous substance

. the level at which exposure is deemed to be hazardous

. the acute and chronic effects of over exposure

. the symptoms of such effects

- the potential for flammability explosion and reactivity
- appropriate emergency treatment
- proper conditions of safe use and exposure
- procedure for clean up of leaks and spills.

(b) The information in (a) should take the form of:

- safety Data Sheets containing the information in (a) to be updated as required. These are often distributed by manufacturers but, where not available, the employer may be required to produce such data sheets
- placarding of work stations with appropriate hazard warnings and emergency procedure instructions as under Provisions 6.8 and 6.9 of this model
- labelling of the substances as prescribed under Provision 6.8 of this model.

(c) Education and training should be provided to employees routinely exposed to hazardous substances to establish safe working procedures and emergency action procedures. The programme should include:

- the information under (a) and
- the location of hazardous substances to which the employee may be exposed.

6.19.2 Designated Authority Responsibilities

In fulfilling the obligation to inform government, industry and the public about hazardous substances, the Designated Authority should:

(a) Develop information:

- to inform employees of their right-to-know and where to obtain information about hazardous substances
- in the form of informational pamphlets and documents on topics of concern to the community
- in the form of published bibliographies or other guides to sources of information on hazardous substances.

(b) Disseminate the information generated in (a) and respond to inquiries from government, industry and the public on matters of concern regarding hazardous substances. To facilitate this service the Designated Authority should establish a computerised data base of relevant information to provide quick, efficient retrieval.

(c) Provide or facilitate education programmes on topics of concern regarding hazardous substances to foster awareness

and meet the requirement for education of government, industry and the public.

6.20 Schedules

Hazardous substances are allocated to schedules based on the information generated by the notification and assessment process. These are used to indicate the level of control required for a particular hazardous substance. Included in the procedures for scheduling are:

- specification of the groups of substances to be covered in the schedule
- arrangement of the substances in the schedules with regard to the associated hazards and levels of control required
- provision for the regular updating of the schedules to incorporate new information regarding the substances or additions to the schedules.

6.21 Liability

Further to the enforcement of the legislation the liability of persons affected in the enforcement process must be considered. They would include enforcers of the legislation, emergency service personnel, bodies corporate and individual persons.

Enforcers of the legislation include the Designated Authority, any Statutory Committees and the Inspectorate. In taking action for the purpose of executing the legislation, these shall not be subject personally to any action, liability claim or demand.

Persons committing an offence under the legislation should be liable.

Bodies corporate committing an offence under the legislation should be liable. Every director and every person concerned in the management of the body corporate is liable if he/she knew of the activity and failed to take reasonable action.

Emergency service personnel should be exempt from liability where action is needed to remedy a hazardous situation and this action has resulted in damage to stock and premises. However, this liability should not cover professional negligence and emergency services should take out the necessary insurance.

6.22 Remedial Action

Provision is required for remedial action to be taken in the event of an incident involving hazardous substances which results in contamination of an area.

(a) Contamination

An area is considered to be contaminated by a hazardous substance if it is:

- unsafe or unfit for occupation (see definitions in Provision 6.2 of this model) by persons or animals

- affected in terms of the natural, physical, chemical or biological quality of the environment

- otherwise environmentally degraded.

The above should not apply to any planned or official use of that area. For example, the use of pesticides, if applied correctly, should not be considered contamination.

(b) Remedial Action

Remedial action should be taken:

- to remove the cause of contamination of, or hazard to, persons or the environment
- to reduce any danger arising from the contamination to persons or the environment
- to restore the site and surrounding area to original (immediately prior to the contamination) condition.

The above remedial action may be implemented by:

- erecting fences or barriers
- removing contaminated material for example soil, rocks, water
- vacating or ceasing activity in the area
- erecting notices
- any other action that may be required.

(c) Indemnification

It may be made a condition of the licence that the licensee agree to take remedial action if necessary and that he should also lodge a security against the expense of such action.

6.23 Compensation

Compensation for incumbents under the legislation should be considered.

Legislation regarding compensation should consider:

- the conditions under which compensation may be sought

- the amount of compensation to be awarded for the particular conditions

- the circumstances for which compensation may not be sought-as a general rule compensation may not be sought for damages to

property resulting from decontamination or cleansing if such damage was reasonable in the circumstances

- regulations to govern the applications and procedures associated with compensation claims.

REFERENCES

Advisory Committee on the Transport of Dangerous Goods. Australian Code for the Transport of Dangerous Goods by Road and Rail, Commonwealth of Australia Gazette, Australian Government Publishing Service, Canberra.

Arrowsmith, Naomi (1985). Hazardous Substances - Legislative and other Controls in Western Australia, Department of Conservation and Environment Bulletin 206, Perth, WA.

Australian Environment Council (1984). Discussion Paper on the Proposed National Chemicals Notification and Assessment Scheme, Department of Home Affairs and Environment, Canberra.

Department of Home Affairs and Environment (1984). Australian Core Inventory of Chemical Substances, Australian Government Publishing Service, Canberra.

Government Institutes Inc. (1983). European Environmental Laws and Regulations, 2nd ed., Maryland, USA.

Gusman, Sam et al. (1985). Public Policy for Chemicals - National and International Issues. The Conservation Foundation, Washington DC, USA.

Halge, David (1985). Hazardous Chemicals Bibliography, WA Advisory Committee on Chemicals, Department of Conservation and Environment Bulletin 181, Perth, WA.

House of Representatives Standing Committee on Environment and Conservation (1982). Hazardous Chemical Wastes, First Report on the Inquiry into Hazardous Chemicals, AGPS, Canberra.

House of Representatives Standing Committee on Environment and Conservation (1982). Hazardous Chemicals, Second Report on the Inquiry into Hazardous Chemicals, AGPS, Canberra.

Interim National Occupational Health and Safety Commission (1984). Report, Australian Government Publishing Service, Canberra.

Organisation for Economic Co-operation and Development (1984). OECD Chemicals Programme, OCED, Paris.

Stored Chemicals Sub-Committee (1986). Final Report of the Stored Chemicals Sub-Committee to the Community Consultative Committee on Chemicals, Department of Conservation and Environment, Perth, Western Australia.

Strahlendorf, Peter (1984). New Chemicals Legislation in OECD Member States. A Review of Notification Requirements, Environment Canada, Toronto, Canada.

APPENDIX 1

Terms of Reference and Membership of the Western Australian Advisory Committee on Chemicals.

Terms of Reference

1. To advise relevant Ministers on the implementation of Government policy for the control of chemicals through appropriate legislation. The aim of such legislation is to provide and promote the protection of the environment and of human health.

2. To investigate and advise relevant Ministers of the formulation and revision of policy relating to the control of hazardous chemicals, goods and materials.

3. To liaise with relevant State and Federal bodies so as to develop co-ordinated policies and avoid duplication. In particular, this is to entail:

   a) the exchange of information with the Australian Environment Council's National Advisory Committee on Chemicals (NACC) and to provide a State position where appropriate.

   b) interaction with the proposed Federal Environmental Contaminants Authority (ECA).

   c) the examination of guidelines, recommendations and standards emanating from the NACC (and later from the ECA) and recommend the most appropriate action at State level.

   d) liaison with the proposed State Occupational Health, Safety and Welfare Commission.

   e) liaison with the proposed National Occupational Health and Safety Commission and the National Institute of Environmental and Occupational Health.

   f) liaison with the Western Australian Transport of Dangerous Goods Advisory Committee.

4. To disseminate information on policy matters to:

   a) Western Australian employers

   b) Chemical manufacturers and formulators

   c) Transport agencies, including waste disposal operators

   d) Emergency services

   e) Trades and Labor Council

   f) Consumer groups

g) Environmental organisations

h) Hospitals

i) Government and private medical research and testing facilities

5. To identify and register the extent of the presence and use of chemicals, hazardous goods and materials in Western Australia which are potential environment and occupational health hazards in import, production, use, storage, transport and disposal.

6. To advise on implementation of a statutory notification, assessment and control scheme for new industrial chemicals and for new users of existing industrial chemicals, having due regard to initiatives being taken by the Federal Government.

7. To respond to circumstances identified by the public, including employers and workers, or by the Committee, where controls of hazardous chemicals, goods and materials are inadequate, and to advise on effective means of rectification.

8. To recommend investigation or research projects to Government departments and to academic institutions, to develop and provide mechanisms for the control of hazardous chemicals, goods and materials in the environment and in work places and to establish a register of such current and recent research in Western Australia and elsewhere.

9. To act as a co-ordinating body for the provision and up-dating of information on specialist advice available to personnel responsible for emergency procedures (eg, Police, Fire Brigades) following spillage or escape of hazardous chemicals, goods and materials.

10. To advise on the most appropriate means of installing a computer-based information system on hazardous chemicals, goods and materials, and until then to provide a central contract for the receipt, dissemination and exchange of information on chemicals, goods and materials potentially hazardous to the environment and to human health.

11. To promote an effective labelling and information system for users of chemicals, hazardous goods and materials, particularly for those in workplaces.

12. To encourage employers to create and maintain chemicals inventories and to develop registers based on common criteria.

13. To recommend the formation of specialist working groups for specific tasks to be fulfilled by the Committee.

Membership

Health Department of WA - Waste Disposal Engineer
Health Department of WA - Occupational Health
Department of Mines - Government Chemical Laboratories
Department of Mines - Explosives and Dangerous Goods Division
Department of Agriculture
Commission of Occupational Health, Safety and Welfare
WA Fire Brigades Board
Office of the Minister for Industrial Relations
Department of Conservation and Environment

Secretariat - Department of Conservation and Environment

Terms of Reference and Membership of the Community Consultative Committee on Chemicals.

Terms of Reference

1. To provide for, and promote, the safe use of chemical substances in the Western Australian community, workplace and environment.

2. To identify issues relating to chemical substances which are of concern, and recommend means of resolving such issues.

3. To promote effective management of chemical substances.

4. To disseminate appropriate information on matters relating to chemical substances.

5. To liaise with relevant Government, industry, union and community groups, at the State, Federal and international levels, on chemical matters, in order to develop co-ordinated approaches and avoid duplication.

6. To advise relevant Ministers on the formulation, implementation and revision of all matters relating to the control of chemicals substances.

Membership

Occupational Health Society of Australia (WA Branch)
Tertiary Education Institutions
Australian Consumers' Association
Conservation Council of WA Inc
Trades and Labor Council (2 representatives)
Confederation of WA Industry
Australian Chemical Industry Council
Chemical Specialties Manufacturers' Association (WA Division)
Royal Australian Chemical Institute (WA Branch)
Primary Industry Association of WA
Secretariat - Department of Conservation and Environment

APPENDIX 2

Membership of the Hazardous Substances Sub-Committee

Dr B Hamilton
Chief Environmental Officer, Planning and Research Branch, Department of Conservation and Environment.
(Chairman, April 1984 to July 1985)

Dr B Kennedy
Assistant Chief Environmental Officer, Planning and Research Branch, Department of Conservation and Environment (Chairman, from July 1985).

Mr P Rutherford
Pesticides Co-ordinator, Department of Agriculture

Mr G Taylor
Department of Occupational Health, Safety and Welfare (Member, April 1984 to September 1985).

Dr L Glossop
Department of Occupational Health, Safety and Welfare (Member, from September 1985).

Mr J Exeter
Industrial Safety Engineer, Department of Occupational Health, Safety and Welfare.

Mr M Cousins,
Secretary, Pesticides Advisory Committee, Health Department of WA.

Mr B Wall
Director, Pharmaceutical Services, Health Department of WA

Ms S Moore,
Department of Occupational Health, Safety and Welfare. (Joint Secretary)

Mr D Halge
Department of Occupational Health, Safety and Welfare (Joint Secretary)

Mr D Drake-Brockman
Environmental Officer, Department of Conservation and Environment.

Ms D Daze
Environmental Officer, Department of Conservation and Environment. (Co-opted to compile the legislation data-base and to draft Chapter 6 of the Report).

Ms N Arrowsmith
Environmental Officer, Department of Conservation and Environment. (Co-opted to draft and edit the Report).

APPENDIX 3

Hazardous Substances - Definition and Discussion of the Term

The term 'hazardous substance' has been used throughout the final report to describe the substances which were to be addressed within the Terms of Reference of the Hazardous Substances Sub-Committee.

The term 'hazardous substance' is defined as any substance, class of substance or mixture that, by reason of its chemical or physical characteristics, or its quantity, concentration or handling, is a threat to the environment, human health or other living organism.

The following riders apply to the definition:

1. Substances may be excluded, by proscription, from the above definition. For example, the Sub-Committee did not include water, stormwater and sewage in its deliberations, and for the purposes of this Report, are excluded from the definition.

2. Substances may be included, by prescription, in the above definition.

3. When, for a given substance or class of substances, it is not clear which agency/(ies) is/are responsible for control, then the issue shall be resolved by the Committee referred to in Recommendation 19.

This definition has been compiled from the definitions used for hazardous substance in the legislation of a number of industrialised countries, and further developed through discussions with affected agencies.

The term 'hazardous substance' was chosen for a number of reasons. Firstly, the word 'substance' conveys a broader meaning than 'chemical' and implies the inclusion of goods that many do not associate as being chemicals, for example, asbestos. Secondly, the addition of the word 'hazardous' was made to emphasise that the Report was only concerned with substances that are hazardous. It is recognised that that the term 'Hazardous Substance' is also used to describe Fifth Schedule poisons under the Poisons Act, and that some confusion may arise. In the Report, capital letters are used to distinguish Fifth Schedule poisons as Hazardous Substances.

The definition chosen for hazardous substance takes into account not only the inherent hazard of a substance due to its physical or chemical properties, but also any hazard that may evolve through its mode of handling or the quantities involved. The definition makes no distinction between natural and man-made substances.

APPENDIX 4

Matrix of Hazardous Substances Control in Western Australia

This matrix summarises the major statutory and non-statutory controls for hazardous substances in Western Australia.

The matrix reflects the situation as it existed at 30 April 1986. It is a constantly changing situation, especially with respect to Committee existence and membership.

A space in the matrix does not indicate a lack of information, but rather that a particular implementing body or legislation, does not exist.

AGENCY	IMPLEMENTATION/ ADMINISTRATION	LEGISLATION		TERMS OF REFERENCE DESCRIPTION OF LEGISLATION
		ACT	REGULATIONS	
Department of Agriculture	Veterinary Preparations and Animal Feeding Stuffs Advisory Committee	Veterinary Preparations and Animal Feeding Stuffs Act 1976	Veterinary Preparations and Animal Feeding Stuffs Regulations 1977	Regulates all aspects of the use and handling of VP and AFS and establishes the Advisory Committee. All goods must be registered under the Act.
Department of Agriculture		Aerial Spraying Control Act 1966	Aerial Spraying Control Regulations 1971	Requires pilots to be trained and restricts spraying of certain chemicals in specified areas.
Department of Agriculture		Agricultural Produce (Chemical Residues) Act 1983	Agricultural Produce (Chemical Residues) Regulations 1985	Prevents the use and consumption of products contaminated by agricultural chemical residues.
Department of Agriculture		Fertilizers Act 1977	Fertilizers Regulations 1978	Controls the production, marketing and sale of fertilizers and require that all fertilizers be registered.
Department of Agriculture/ Agriculture Protection Board		Agriculture and Related Resources Protection Act 1976	Spray Restriction Regulations 1979	Regulations prohibit the application of certain pesticides in designated areas.
Agriculture Protection Board		Agriculture and Related Resources Protection Act 1976	Poison Regulations 1983	Requires notification of the use of poisons likely to endanger human health.
Rural and Allied Industries Council	Farm Chemicals Safety Committee	Non Statutory		Provides a forum for evaluation of proposals which could lead to safer, cost effective uses of chemicals in agriculture.
Department of Conservation and Environment	Environmental Protection Authority	Environmental Protection Act 1971		Act establishes the EPA which makes recommendations to the Minister on a wide range of matters affecting the environment.
Department of Conservation and Environment	Technical Advisory Group on Argentine Ant control at Herdsman Lake	Non Statutory		Advises the Minister on use of pesticides in the Herdsman Lake area.

AGENCY	IMPLEMENTATION/ ADMINISTRATION	LEGISLATION		TERMS OF REFERENCE/ DESCRIPTION OF LEGISLATION
		ACT	REGULATIONS	
Department of Conservation and Environment	WA Advisory Committee on Chemicals	Non Statutory		Advises on all matters relating to legislative control over hazardous substances.
Department of Conservation and Environment	Hazardous Substances Sub-Committee (to the WAACC)	Non Statutory		Undertaking an extensive review of chemicals legislation and preparing proposals for amendment of the legislation.
Department of Conservation and Environment	Community Consultative Committee on Chemicals	Non Statutory		Acts as a forum for liaison and exchange of views on the control of hazardous substances.
Department of Conservation and Environment	Stored Chemicals Sub-Committee (to the CCCC)	Non Statutory		Investigating the need for, and scope of, procedures to control the storage of chemicals.
Department of Conservation and Environment	Air Pollution Advisory Committee	Clean Air Act 1964	Clean Air Regulations 1967	Establishes the Committee to advise the Minister on the issue of licenses and requires schedule premises to hold a licence.
Education Department	Pest Control Advisory Committee	Non Statutory		Advises the Department on suitable training for licensing pest control operators.
Department of Fisheries		Fisheries Act 1905-1975		Prohibits the introduction of any substance into land, air or water which might have a serious effect on the aquatic environment.
Health Department of WA	Poisons Advisory Committee	Poisons Act 1964 - 1981	Poisons Act Regulations 1965	Regulates the possession, sale and use of poisons. All poisons must be registered. The Advisory Committee makes recommendations on the manufacture, use and sale of poisons.

AGENCY	IMPLEMENTATION / ADMINISTRATION	LEGISLATION		TERMS OF REFERENCE / DESCRIPTION OF LEGISLATION
		ACT	REGULATIONS	
Health Department of WA	Pesticides Advisory Committee	Health Act 1911	Pesticide Regulations 1956	Requires pesticides to be registered and regulates all aspects of pesticide use and handling. The Advisory Committee considers applications for registration.
Health Department of WA		Health Act 1911	Toxic and Hazardous Substances Regulations 1968	Controls the presence of specified substances in paints and refrigeration equipment.
Health Department of WA		Health Act 1911	Food Standards Regulations 1984.	Controls the use of preservatives, colourings, flavourings, artificial sweeteners, antioxidants and other additives in food stuffs and specifies minimum standards for the presence of pesticides and other contaminants.
Health Department of WA		Health Act 1911	Health (Disposal of Liquid Waste) Regulations 1983.	Classifies liquid wastes into thirteen categories and specifies conditions for collection, transport and disposal of wastes.
Health Department of WA		Health Act 1911	Health (Disposal of Asbestos Waste) Regulations 1984	Regulates the collection, transport and disposal of asbestos wastes
Health Department of WA	Radiological Council	Radiation Safety Act 1975	Radiation Safety (General) Regulations 1983 Radiation Safety (Transport of Radio-active Substances) Regulations 1982	Controls the keeping and use of radioactive substances and irradiating apparatus and establishes the Radiological Council which administers the licensing schemes under the Act.
Health Department of WA	Senior Officers' Committee on Metropolitan Waste	Non Statutory		Coordinates the inter departmental activities related to metropolitan waste. Reports to the Cabinet Committee on Metropolitan Waste

AGENCY	IMPLEMENTATION/ ADMINISTRATION	LEGISLATION		TERMS OF REFERENCE/ DESCRIPTION OF LEGISLATION
		ACT	REGULATIONS	
Health Department of WA	Committee to Coordinate Action on the Use of Asbestos	Non Statutory		Develops guidelines and makes recommendations on the use, removal and disposal of asbestos
Health Department of WA	Cabinet Committee on Metropolitan Sewerage and Associated Problems	Non Statutory		Co-ordinates inter departmental activities related to metropolitan waste management matters
Health Department of WA	WA Waste Disposal Advisory Committee	Non Statutory		Advises the Health Department on local Authority involvement in the management of community wastes
Health Department of WA	Public Awareness/Education Campaign Committee for Pesticides	Non Statutory		Advises the Minister on the need for and form of public education programmes on the safety of pesticides.
Department of Marine and Harbours	State Committee for Combating Marine Oil Pollution	Non Statutory		Co-ordinates oil pollution prevention and combat measures in WA waters.
Department of Marine and Harbours		Marine and Harbours Act 1981		Controls the carriage of explosives and dangerous goods on ships.
Department of Marine and Harbours		Jetties Act 1926-1976		Controls the handling of dangerous goods on public jetties.
Mines Department		Explosive and Dangerous Goods Act 1961	Dangerous Goods (Road Transport) Regulations 1983	Designates the manner in which dangerous goods must be conveyed, including packaging and labelling requirements.
			Explosives Regulations 1963	Comprehensively controls all aspects of the life cycle of explosives.
			Flammable Liquids Regulations 1967	Controls the storage and conveyance on road vehicles of flammable liquids.
Mines Department		Mines Regulation Act 1946-1974	Mines Regulation Act Regulations 1976	Gives inspectors powers to invoke any measures considered necessary when dangerous situations exist on mine sites.

AGENCY	IMPLEMENTATION/ ADMINISTRATION	LEGISLATION		TERMS OF REFERENCE/ DESCRIPTION OF LEGISLATION
		ACT	REGULATIONS	
Mines Department		Coal Mines Regulation Act 1946 1976	Coal Mines Regulations 1947	Gives inspectors powers to invoke any measures considered necessary when dangerous situations exist in coal mine
Department of Occupational Health, Safety and Welfare	Factory Welfare Board	Factories and Shops Act 1963	Various sets of Regulations pertaining to different chemicals in different industries	Establishes the Factory Welfare Board to investigate and make recommendations on all measures necessary to ensure the health and safety of workers. The Regulations specify particular precautions that must be taken
Department of Occupational Health, Safety and Welfare	Construction Safety Advisory Board	Construction Safety Act 1972	Construction Safety Regulations 1973	Places restrictions on the use of asbestos materials in construction and demolition work and requires display of warning signs and adequate ventilation where hazardous substances may be present
Department of Resources Development	Laporte Effluent Disposal Steering Group	Non Statutory		Implements and supervises investigations to determine appropriate effluent disposal strategies
State Emergency Service	State Counter Disaster Advisory Committee	Non Statutory		
State Emergency Service	Transport Emergency Assistance Scheme Co ordinating Committee	Non Statutory		Co ordinates and evaluates the effectiveness of WATEAS
Water Authority of WA	Effluent Licensing Advisory Panel	Rights in Water and Irrigation Act 1914 1981		Controls the discharge of poisonous or polluting matter which will lead to impairment of any water
Waterways Commission		Waterways Conservation Act 1976 1982		Controls the discharge of polluting matter into declared waterways

AGENCY	IMPLEMENTATION/ ADMINISTRATION	LEGISLATION ACT	LEGISLATION REGULATIONS	TERMS OF REFERENCE DESCRIPTION OF LEGISLATION
				Generally, all legislation acts to protect water resources and ensure safe public water supplies.
Water Authority of Western Australia		Water Authority Act 1984		An enabling act only.
Water Authority of Western Australia		Metropolitan Water Supply Sewerage and Drainage Act 1909	Numerous By-laws	Protects all water resources, and covers sewerage and drainage in Perth.
Water Authority of Western Australia		Country Area Water Supply Act 1947	By-laws 1957	Controls and protects country water resources.
Water Authority of Western Australia		Country Towns, Sewerage Act 1947	By-laws 1952	Controls sewerage outside the Perth metropolitan area.
Water Authority of Western Australia		Land Drainage	Land Drainage Regulations 1978	

APPENDIX 5

Explanation of the Dangerous Goods Classification System

The classification system used for dangerous goods throughout Australia is based on a system developed by the United Nations Committee of Experts on the Transport of Dangerous Goods, and which forms the basis of the International Maritime Dangerous Goods Code.

Under this system, dangerous goods are classified according to the predominant type of risk involved. Nine different classes have been specified and several are further divided into sub-classes. The nine classes of dangerous goods are:

Class 1	-	Explosives.
Class 2	-	Gases; compressed, liquefied or dissolved under pressure.
Class 2.1	-	Flammable gases.
Class 2.2	-	Non-flammable gases.
Class 2.3	-	Poisonous gases.
Class 3	-	Flammable liquids.
Class 3.1	-	Highly flammable liquid; flashpoint below 23°C
Class 3.2	-	Flammable liquid; flashpoint 23°C or greater, up to and including 61°C
Class 4	-	Flammable solids or substances.
Class 4.1	-	Flammable solids.
Class 4.2	-	Substances liable to spontaneous combustion.
Class 4.3	-	Substances which, in contact with water, emit flammable gases.
Class 5	-	Oxidizing substances.
Class 5.1	-	Oxidizing agents.
Class 5.2	-	Organic peroxides.
Class 6	-	Poisonous (toxic) and infectious substances.
Class 6.1	-	Poisonous (toxic) substances.
Class 6.2	-	Infectious substances.
Class 7	-	Radioactive substances.
Class 8	-	Corrosives.
Class 9	-	Miscellaneous dangerous substances.

The technical conditions for each of the classes of dangerous goods are set out in the Australian Code for the Transport of Dangerous Goods by Road and Rail.

APPENDIX 6

Legislation Surveyed on the Hazardous Substances Legal Data Base

COUNTRY/STATE	Legislation	YEAR
AUSTRALIA WA	Pesticide Regulations	1983
AUSTRALIA WA	Explosives & Dangerous Goods Act	1978
AUSTRALIA WA	Poisons Act	1982
AUSTRALIA NSW	Occupational Health & Safety Act	1983
AUSTRALIA NSW	Environmentally Hazardous Chemicals Act	1984
AUSTRALIA NT	Dangerous Goods Act	1984
BRITAIN	Health & Safety at Work, etc, Act	1974
BRITAIN	Control of Pollution Act	1984
BRITAIN	Control of Industrial Major Accident Hazards Regulations	1984
BRITAIN	Health & Safety - Transport of Dangerous Substances Act	1981
CANADA FEDERAL	Environmental Contaminants Act	1975
CANADA FEDERAL	Pest Control Products Act	1972
CANADA FEDERAL	Pest Control Products Regulations	1978
CANADA FEDERAL	Pesticide Residue Compensation Act	1970
CANADA FEDERAL	Pesticide Residue Compensation Regulations	1978
CANADA FEDERAL	Transportation of Dangerous Goods Act	1980
CANADA FEDERAL	Ocean Dumping Control Act	1976
CANADA ALBERTA	Agricultural Chemicals Act	1980
CANADA ALBERTA	Hazardous Chemicals Act	1980

COUNTRY/STATE	Legislation	YEAR
CANADA BRITISH COLUMBIA	Waste Management Act	1984
CANADA BRITISH COLUMBIA	Special Waste Regulation	1984
CANADA MANITOBA	Dangerous Goods Handling Transportation Act	1984
CANADA ONTARIO	Pesticides Act	1982
CANADA SASKATCHEWAN	Department of Environment Act	1984
CANADA	Environmental Management & Protection Act	1984
CANADA SASKATCHEWAN	Spill Control Amendment Regulation	1983
EEC	Council Directive No L259/10	1979
EEC	Annex III - Special Risk Guide No L257/13	1983
FINLAND	Decree on Toxic Substances	1980
NETHERLANDS	Chemical Substances Bill	1981
NEW ZEALAND	Toxic Substances Act	1979
SWEDEN	Act on Products Hazardous to Health & Environment	1973
SWEDEN	Ordinance on Products Hazardous to Health & Environment	1973
UNITED STATES FEDERAL	Toxic Substances Control Act	1976
UNITED STATES VIRGINIA	Toxic Substances Information Act	1983
WEST GERMANY	Chemicals Act	1980
WEST GERMANY	Hazardous Incident Ordinance	1980
WEST GERMANY	Waste Disposal Act	1977
BRITAIN	Classification, Packaging & Labelling of Dangerous Substances Regulations	1984

APPENDIX 7

The Status System

Chapter 6 was developed using Status which is a text-based information storage and retrieval system. It was developed by the Computer Science and System Division at Harwell, England, to provide a software system for storing large files of information and allowing users to access them in plain language. It will run on a wide variety of computer equipment.

Any kind of textual data can be accommodated from literature through technological documents to highly structured tabular data. All input is structured into four levels:

CHAPTER : ARTICLE : PARAGRAPH : WORD

The four levels may be chosen to suit the nature of the information in the text. Status has a number of applications for example: personnel records, safety and incident records, pharmaceutical data, research data files and legal data bases.

The equipment used in this project was the ICL 7500 system provided by the Justice Information Systems Support Centre (JISSC). JISSC also provided a consultant to establish the data base. The ICL 7500 system comprised a word-processing package called Wordskil as well as a computer facility to access STATUS on the mainframe computer at JISSC. The combination of word-processing and STATUS enabled comprehensive, user-friendly, text-editing, searching and retrieval of information.

The thirty-nine pieces of legislation on the Hazardous Substances Legal Data Base (see Appendix 6) have been mounted on a magnetic tape which is available through the:

Hazardous Substances Section
Dept of Conservation and Environment
1 Mount Street
PERTH WA 6000

Phone: 222 7000

Additional information on STATUS and this project may be obtained by contacting:

JISSC
22 Mount Street
PERTH WA 6000

Phone: 322 1705