

9 ISSUES, OBJECTIVES: Hazardous Substances

9.1 OVERVIEW OF HAZARDOUS SUBSTANCES

Hazardous substances are a feature of everyday life in N.Z. For many activities and industries, hazardous substances are essential. Examples of activities involving the storage, use, disposal, or transportation of hazardous substances include:

- Farming, forestry, and horticultural use of pesticides and other sprays;
- Use of garden herbicides in residential areas;
- Storage of petroleum fuels and oils at service stations and re-fuelling of vehicles;
- Use of a wide range and volume of chemicals in manufacturing processes (and the wastes generated in those processes);
- Transportation of chemicals, gases, and petroleum fuels in tankers on roads and rail.

All hazardous substances need to be carefully managed at every stage of their life cycle from chemical production through distribution to use and ultimate disposal. Poor management at any stage could pose a risk of adverse effects on people or the environment.

One of Council's functions under the Act is (Section 31):

"(b) The control of the actual or potential effects of the use, development, or protection of land, including for the purpose of ... the prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation of hazardous substances."

The Act defines hazardous substances as:

"... any substance which may impair human, plant, or animal health or may adversely affect the health or safety of any person or the environment, and whether or not contained in or forming part of any other substance or thing; and-

(a) Includes substances prescribed by regulations as hazardous substances ...; but

(b) Does not include substances prescribed by regulations as not being hazardous substances ..."

Hazardous substances can be thought of as being:

- Any substance possessing one or more of the following intrinsic properties:
 - an explosive nature
 - flammability
 - an oxidising nature
 - corrosivity
 - acute or immediate toxicity (including eco-toxicity)
 - chronic or delayed toxicity
 - radioactivity
 - environmental persistence; or

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- Any substance emitting or breaking down to a substance with any of the above properties upon entering the environment; or
- Any substance which has any of these hazardous properties at any stage in its life cycle.

The legislative framework which has historically controlled the management of hazardous substances is complex and involves numerous central and local government agencies. Legislation and agencies include:

- Resource Management Act 1991 (Territorial and Regional Councils)
- Dangerous Goods Act 1974 (Department of Labour and District Councils)
- Explosives Act 1959 (Department of Labour)
- Pesticides Act 1979 (Ministry of Agriculture and Fisheries)
- Radiation Protection Act 1965 (Ministry of Health)
- Toxic Substances Act (Ministry of Health)

However, in 1996 the Hazardous Substances and New Organisms Act was enacted. The Act seeks to integrate the management of hazardous substances and the introduction of new organisms to New Zealand. A key feature of the Act is the proposed Environmental Risk Management Authority ("ERMA") which has prime responsibility for the assessment and setting of controls on hazardous substances.

The functions of District Council, under the new legislation, compliments existing responsibilities under the Resource Management Act. However, the provisions included in the plan may need to be reviewed following the development of new regulations under the new Act.

There are potentially overlapping roles for District and Regional Councils under the Resource Management Act. The Manawatu-Wanganui Regional Council has clarified that it will take responsibility for the disposal of hazardous substances; and for the storage of intractable wastes; and the investigation of contaminated sites; and for discharges of hazardous substances to land, water, or air. The District Council has responsibility for controlling the effects of the storage, use, and transportation of hazardous substances.

9.2 SIGNIFICANT RESOURCE MANAGEMENT ISSUES FOR HAZARDOUS SUBSTANCES

Issue 20: The risks of adverse environmental and health effects associated with the storage, use, disposal, and transportation of hazardous substances.

Issue 21: The potentially adverse environmental and health effects associated with the occupation, use, and development of contaminated sites.

Issue 20: The risks of adverse environmental and health effects associated with the storage, use, disposal, and transportation of hazardous substances.

It is important to clearly understand the **nature of the hazard** and the **risk of the hazard** associated with hazardous substances use. The **nature of the hazard** is the type of effect it would have if released into the environment. This is determined by the basic properties of the substance such as flammability or toxicity. The **risk** is the likelihood of the substance being released (uncontrolled) into the environment together with the likely consequences for the environment (the scale of an incident; physical extent; duration etc). Risk is not fixed for all situations. Four factors combine to create risk:

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- The intrinsic hazardous properties of the substance
(*how flammable? how toxic?*)
- The way in which the substance is stored or handled
(*site and building design, management and safety practices, emergency procedures*)
- The volume of each substance stored or used
(*large tanks? small containers? how many containers?*)
- The nature of the environment in which the substance is stored or used and its sensitivity to hazardous substances
(*high-density residential area? close to waterways? industrial area?*)

Any assessment of the potential effects of using, storing, or transporting hazardous substances should consider each of these factors. This Plan focuses on the **risks** and **likely effects** of hazardous substances use rather than focusing solely on the nature of the substance. The Plan also acknowledges the importance of hazardous substances in numerous activities and processes but seeks to ensure that they are stored, used, and transported in ways which do not present serious environmental or health risks.

OBJECTIVE 15:	Prevention or, where necessary, mitigation of the adverse environmental and health effects associated with the storage, use, disposal, and transportation of hazardous substances.
POLICY 15.1:	Ensure that activities involving the use or storage of hazardous substances are established and operated in accordance with minimum standards designed to protect environmental and human health.
POLICY 15.2:	Ensure that activities involving the use or storage of hazardous substances make provision for the collection, treatment, and disposal of any hazardous wastes generated in a way that does not endanger environmental or human health.
POLICY 15.3:	<p>Ensure that the assessment of effects of proposals to use or store hazardous substances specifically includes consideration of:</p> <ul style="list-style-type: none"> • an assessment of the risks posed to the environment of the hazardous substances; and • the intrinsic hazardous properties of the substance; and • proposed management and safety methods; and • the volumes expected to be stored or used; and • the nature of the environment in which the activity occurs; • the environmental and health effects likely to occur along transportation supply and delivery routes.
POLICY 15.4:	Ensure that activities involving the use or storage of hazardous substances make adequate provision for response to, containment of and clean-up of any emergency or accident or inadvertent release of hazardous substances or hazardous wastes to the environment.

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POLICY 15.5:	Regularly monitor the environmental health and safety, and the effectiveness of hazardous substances management at the known sites and facilities which use hazardous substances.
POLICY 15.6:	Promote the use of good practice guidelines, industry standards, codes of practice, and cleaner production methods in the use, storage, and transportation of hazardous substances.
POLICY 15.7:	Review the Plan provisions when the Hazardous Substances and New Organisms Bill is enacted.

Explanation and Principal Reasons

The objective derives directly from the Act. It seeks prevention but acknowledges that there may be some occasions where effects are experienced and where mitigation will be necessary.

Minimum standards are found, at the moment, in a number of statutes, regulations, and codes of practice. The Plan intends to make use of relevant and practicable standards to achieve environmental and health protection. Those standards may need to be revisited following enactment of the new Hazardous Substances and New Organisms legislation.

Adequate provision for wastes disposal is extremely important to long term environmental and human health. The actual means of disposal may be a matter which falls within the jurisdiction of another agency unless the hazardous substances are disposed of into a landfill within the District operated by the District Council. Council will assist to ensure that waste disposal is not lost sight of when activities are established under the Plan.

The Plan will seek consideration of effects and risks at all stages of the use of hazardous substances including transportation. Council also acknowledges the importance of regular monitoring to ensure compliance and standards are maintained over time.

Adequate emergency response provisions for individual activities or sites is essential to protect human and environmental health: accidents may occur for any number of reasons including natural hazards events.

Council cannot act exclusively in managing hazardous substances transport. Council relies heavily on individual transport operators, the Police, Fire Service, and Land Safety Authority who are more directly involved with transportation of goods and emergency response planning.

Council recognises that it is important to know the extent of risk associated with hazardous substances - so will maintain records describing use and storage.

Similarly, it is important that users of hazardous substances are also made aware of the extent of risk posed by the use of hazardous substances.

Council recognises that a significant component of safe use of hazardous substances involves the user. Council will make available information to users about good practice and encourage cleaner production and use.

An integrated approach is necessary. Council will co-operate, to the extent that it is able, with the initiatives of other agencies.

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METHODS FOR ISSUE 20 AND OBJECTIVE 15

Regulations, Codes of Practice

- Council will encourage the use of standards specified in regulations and codes of practice for hazardous substances use and storage.

District Plan

- Activities involving small, domestic quantities and use of hazardous substances will be permitted. Activities involving hazardous substances' use and storage will be permitted activities in appropriate zones where they comply with conditions specified for permitted activities.
- Activities which do not comply with standards will be considered subject to resource consent requiring an assessment of effects and risk.
- Applications which involve significant volumes of hazardous substances or significant environmental or health risk will be considered subject to resource consent and public notification will ensure that the community is advised of the proposal and has an opportunity to respond.
- Activities involving use or storage of hazardous substances which require a resource consent will require the applicant to advise Council of the nature and extent of substances used, but may be publicly notified to ensure that the community is advised of the proposal and has an opportunity to respond.

Information and Education

- Council will compile a data-base of known hazardous substances operations and sites.
- Council will make available to users of hazardous substances known codes of practice and guidelines.
- Council will promote, through newspaper articles and other media, good practice in hazardous substances use and storage.

A combination of rules, codes of practice, and information is expected to best manage hazardous substances.

Issue 21: The potentially adverse environmental and health effects associated with the occupation, use, and development of contaminated sites.

The Manawatu-Wanganui Regional Council has accepted principal responsibility for identifying and investigating contaminated sites within the region. There remains a role for the District Council in ensuring that any land, known to be a contaminated site, is not used or developed in a way that would pose risk to the community. The issue will only gradually be resolved as information comes to hand about individual sites.

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OBJECTIVE 16:	Avoidance or, where necessary and appropriate, mitigation of any adverse effects of the occupation, use, or development of any contaminated site.
POLICY 16.1:	To prevent the occupation, use, or development of a contaminated site unless it can be demonstrated that management, mitigation, or remedial measures have been or will be sufficient to avoid any adverse effects on environmental or human health.
POLICY 16.2:	To require an assessment of the degree of contamination of a site known to be or potentially being contaminated, where there is a proposal to change the land use, in particular changes in land use: <ul style="list-style-type: none">- where an activity is known to exist or to have existed in the District that is capable of causing site contamination;- of sites or areas listed on District Council's records (i.e. through the hazards register or on LIM and PIM) when an application for a Building Consent under the Building Act 1991 or a subdivision consent under the Resource Management Act is lodged with the District Council.

Explanation and Principal Reasons

Contaminated sites can have potential off-site effects, and pose a risk to environmental health, it is therefore essential that the future use and occupation of these sites is considered very carefully.

METHODS FOR ISSUE/OBJECTIVE 16

Information

- Council will co-operate with the Regional Council, where practicable, in identifying contaminated sites; and will share information with the Regional Council about known contaminated sites.

District Plan

- The Regional Council has not been able to supply the Council with lists of identified contaminated sites and has taken the primary responsibility for the management of contaminated sites within the region. However, when processing requests from the public for Property Information Memoranda (PIMs) and Land Information Memoranda (LIMs) Council will liaise with the Regional Council as to whether a site may be contaminated. The Regional Council will then determine based on their information systems whether the site is contaminated and the applicant will be informed of the outcome of this investigation.

Regional Council

- In addition to the matters addressed above, the Manawatu Wanganui Regional Council may prepare a regional plan to manage the development and occupation of contaminated sites.

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There are significant liability and privacy issues associated with the identification of contaminated sites and the manner in which the use of these sites may be controlled. It has been determined therefore that the Regional Council is the most appropriate authority to manage such a process.

9.3 ANTICIPATED ENVIRONMENTAL RESULTS

The outcomes for hazardous substances which are anticipated to result from the combined implementation of the above policies and methods are as follows:

- Proper storage, use, transportation, and disposal of hazardous substances.
- Low risk of harm to people or the environment resulting from the storage, use, transportation, or disposal of hazardous substances.
- Containment of any adverse effects of existing contaminated sites.