

17. Hazardous Substances and Contaminated Land

17.1 Introduction

17.1.1 Hazardous substances are widely used in agriculture, forestry and industry as well as in the domestic sector. They are an important part of the economy. If they are properly used, handled, stored and disposed of they pose very small risks to people and the environment. However if not they can adversely affect the environment and the health and safety of people.

17.1.2 Section 31(b) of the Resource Management Act 1991 includes as one of the functions of District Councils:
"The control of any actual or potential effects of the use; development or protection of land including..... the prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation of hazardous substances, (s31(1)(b)(ii) and "the prevention or mitigation of any adverse effects of the development, subdivision, or use of contaminated land." (s32(1)(b)(iia)."

17.1.3 Regional Councils also have statutory functions under the Resource Management Act to control hazardous substances. Other responsibilities for control of hazardous substances are shared by Civil Defence, the Department of Labour, the New Zealand Fire Service and New Zealand Police.

17.1.4 A Waikato Regional Council discussion document "Hazardous Substances Management in the Waikato Region" identified several issues that need to be addressed, and which are incorporated in the Issues section that follows.

17.1.5 These matters can be addressed by the various responsible bodies through a variety of methods. However the principal method used in this plan is regulation. Rules in the District Plan can assist in avoiding remedying or mitigating the adverse effects of hazardous substances by:

- ♦ controlling the location of facilities that use hazardous substances
- ♦ setting standards for the storage of hazardous substances
- ♦ requiring scrutiny of hazardous substance facilities through the resource consent procedure.

17.1.6 A National Environmental Standard (NES) for Assessing and Managing Contaminants in Soils came into force on the 1 January 2012 to ensure that land affected by contaminants in soil is appropriately identified and assessed at the time of being developed and if necessary remediated, or the contaminants contained, to make the land safe for human use. The NES prescribes:

- ♦ Controls that direct the requirement for resource consent or otherwise for activities and subdivision on contaminated land or potentially contaminated land;
- ♦ Methods for establishing applicable numerical standards for contaminants in soil;
- ♦ Use of established best practice guidelines for investigating and reporting on contaminated or potentially contaminated land.

17.2 Issues

17.2.1 The inappropriate storage and use of hazardous substances could adversely affect the health and safety of people in the event of an accident particularly when stored or used in proximity to centres of population.

17.2.2 The uncontrolled disposal of hazardous substances can pollute land and waterways.

17.2.3 Some older hazardous substances storage facilities have the potential to leak their contents into or onto surrounding land with consequent adverse effects on the environment.

17.2.4 The spillage or release of hazardous substances during transportation may cause significant adverse effects on the environment or on the health and safety of people.

17.2.5 There is a lack of information about the amount, type, location and manner of disposal of hazardous substances. Appropriate facilities to treat and dispose of all hazardous substances are not available in the Waikato Region.

17.2.6 There is a lack of knowledge by some users of the correct procedures for use and disposal of some hazardous substances.

17.3 Objectives

- 17.3.1 To avoid, remedy or mitigate adverse effects on the environment and on people, associated with the use and storage of hazardous substances. *Issues 17.2.1, 17.2.3*
- 17.3.2 To avoid, remedy or mitigate adverse effects on the environment and people of the disposal of hazardous substances. *Issues 17.2.2, 17.2.5, 17.2.6*
- 17.3.3 To avoid, remedy or mitigate adverse effects on the environment and on people, associated with transportation of hazardous substances. *Issue 17.2.4*

17.4 Policies

- 17.4.1 To locate sites that store or use hazardous substances with significant risks of adverse effects, away from sensitive areas, including population centres. *Objectives 17.3.1*
- 17.4.2 To set standards for hazardous substance storage facilities that are designed to minimise risks to the environment and to people. *Objectives 17.3.1*
- 17.4.3 To require specific scrutiny by the public and other interested parties through resource consent consultation and notification procedures of proposals for storage of hazardous substances, where there is any significant risk associated with them. *Objectives 17.3.1*
- 17.4.4 To promote the establishment of appropriate regional facilities specifically for disposal of hazardous wastes. *Objective 17.3.2*
- 17.4.5 To encourage the location of facilities for the use and storage of hazardous substances in proximity to main transport routes. *Objective 17.3.1, 17.3.3*
- 17.4.6 To take into account the risks of transportation of hazardous substances when considering the location of hazardous substance storage facilities. *Objective 17.3.3*
- 17.4.7 To prepare and maintain a database of confirmed contaminated sites in the Waitomo District, and disseminate this information to the public through the Land Information Memorandum/ Project Information Memorandum system. *Objective 17.3.1*

17.5 Methods

17.5.1 Explanation

Council has adopted an approach to managing hazardous facilities that focuses on assessing potential adverse effects of three kinds:

- ♦ effects caused by fire and/or explosion;
- ♦ effects on human health;
- ♦ environmental effects.

Possible adverse effects of hazardous substances can be predicted by the hazard of the substance and the anticipated consequences of its release. Adverse effects include:

- ♦ contamination of water, soil and air;
- ♦ short and long term damage to ecosystems;
- ♦ accumulation of persistent substances in the bodies of humans and animals, resulting in chronic and/or long term damage to their health;
- ♦ acute damage to human health through exposure to substances affecting skin, mucous membranes, respiratory and digestive systems;
- ♦ damage to the environment from fire or explosion events;
- ♦ damage to human health and property from fire or explosion events.

In order to assess the hazard posed by various substances and the risk they present, Council has adopted the *Hazardous Facility Screening Procedure (HFSP)* for use in assessing hazardous activities or facilities.

17.5.2 The Hazardous Facility Screening Procedure

The *Hazardous Facility Screening Procedure* will be applied to all proposed new facilities using or storing hazardous substances, and extensions and alterations to existing facilities.

The HFSP will be used as a screening tool to assist in making decisions on:

- whether a proposed hazardous facility is permitted, subject to defined minimum conditions; or,
- whether it requires a resource consent and additional assessment of risks.

17.5.3 Contaminated Land

The National Environmental Standard (NES) for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011, applies to assessing and managing the potential adverse effects of contaminants in soil on human health from particular activities. Those activities comprise subdivision, land use change, soil disturbance, soil sampling or removing and replacing fuel storage systems. Any activity which is the subject of the NES is required to comply with the gazetted regulations. Where compliance with permitted activity provisions of those regulations cannot be achieved, resource consent is required to be obtained. Council is responsible for observing and enforcing the provisions of the NES.

Note:

- (a) Any subdivision of land that is actually or potentially contaminated by an activity or industry described on the HAIL (Hazardous Activities and Industries List) is covered by the NES.
- (b) For information purposes a copy of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011, is included in Appendix 10.
- (c) The District Plan does not contain rules that address contaminated land provisions to the extent addressed by the NES, or for any other purpose not otherwise covered in the NES.

17.6 Rules

17.6.1 The references in these rules to the Hazardous Facility Screening Procedure mean the procedure set out in the document "Land Use Planning for Hazardous Facilities" prepared by the Hazardous Facility Screening Procedure Review Group in conjunction with the Ministry for the Environment, June 1995. A copy of this document is available from the Waitomo District Council offices.

17.6.2 Permitted Activities

Any hazardous facility with an *Effects Ratio* equal to or below the *Effects Ratio* specified for the zone in which it proposes to locate, as set out in the Consent Status Matrix, Table 17.1 below, or any quantity of hazardous substances permitted in the Rural Zone under Table 17.2 below.

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17.6.3 Discretionary Activities

(a) Any hazardous facility with an *Effects Ratio* above the *Effects Ratio* specified for the zone in which it proposes to locate, as set out in the Consent Status Matrix, Table 17.1 below.

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(b) Any hazardous facility that does not meet any one or more of the conditions in Rule 17.6.6.

17.6.4 Table 17.1 - Consent Status Matrix

Zone	Activity Status	
	Permitted	Discretionary
Residential	≤ 0.05	>0.05
Rural	≤ 0.75	>0.75
Business	≤ 0.5	>0.5
Industrial (including Special Industrial activity Areas)	≤ 1	>1

The calculation of the Effects Ratio shall be carried out using the "Hazardous Facilities Screening Procedure" referred to in Rule 17.6.1.

17.6.4.1 Table 17.2 – Permitted Activity Quantities for Rural Zone

Substance	Unit measure	Amount	For Separate Rural Sub-Facilities More Than 30 Metres Apart*
Diesel/ Oil	Litres	2,000	22,500
Petrol/ Flammable Liquids	Litres	500	7,500
Detergents/ Bleaches	Litres	500	2,250
Animal Remedies	Litres or Kg	400	2,250
Pesticides	Litres or Kg	120	225

* Note: if any of the above substances are stored on a property in separate sub-facilities more than 30 metres away from each other, this increases the permissible maximum quantities to those shown in the right hand columns.

17.6.5 This section does not apply to the following:

- (a) trade waste sewer and waste treatment or disposal facilities
- (b) storage or use of hazardous consumer products for private domestic purposes
- (c) retail outlets for sale of hazardous substances for domestic usage (e.g. supermarkets, hardware shops, pharmacies)
- (d) facilities using genetically modified or new organisms
- (e) dust explosions
- (f) gas and oil pipelines
- (g) fuel in motor vehicles, boats and small engines such as lawnmowers, chainsaws etc
- (h) The retail sale of petrol, up to a storage of 100,000 litres of petrol in underground storage tanks and up to 50,000 litres of diesel, provided that the "Code of Practice for the Design, Installation and Operation of Underground Petroleum Systems", published by the Department of Labour - OSH in 1992 and "Supplement No.1 (Management of Existing Underground Petroleum Storage Systems)" published by the Department of Labour – OSH in 1995, are adhered to
- (i) Retail LPG outlets, with storage of up to 6 tonnes (single vessel storage) of LPG, provided that the joint Australian / New Zealand Standard for "Storage and Handling LP Gas (AS/NZS 1596: 1997)" is adhered to
- (j) The use of hazardous substances where the use, transportation and storage of hazardous substances is carried out in accordance with the New Zealand Defence Force orders; as contained in Ammunitions and Explosives Regulations Volume One (A & ER's Vol. 1) for the storage of ammunition and explosives, and NZ P2, Safety in Training
- (k) electrical substations and transformers
- (l) high voltage power lines
- (m) liquid milk storage provided that any spillage is prevented from entering a water course or body or from seeping into an underground water supply
- (n) telecommunication and radiocommunication masts.

17.6.6 Conditions for Permitted Activities

The following conditions shall be complied with by any permitted activity under Rule 17.6.2.

17.6.6.1 **Site Design**

- (a) Any part of a hazardous facility site where hazardous substances are used shall be designed, constructed and managed in a manner that prevents:

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- ♦ any effects of the intended use from occurring outside of the intended target area;
- ♦ the entry or discharge of the hazardous substance into the stormwater drainage system;
- ♦ the entry or discharge of the hazardous substance into the sewerage system unless permitted by the sewerage utility operator.

(b) Any part of a hazardous facility site where hazardous substances are used, stored, manufactured, mixed, packaged, loaded, unloaded or otherwise handled shall be designed, constructed and managed in a manner that prevents:

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- ♦ the contamination or any land and/or water (including groundwater and potable water supplies) in the event of a spill or other unintentional release of hazardous substances;
- ♦ the entry or discharge of the hazardous substance into the stormwater drainage system in the event of a spill or other unintentional release;
- ♦ the entry or discharge of the hazardous substance into the sewerage system in the event of a spill or other unintentional release.

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(c) The hazardous facility site shall be designed, constructed and managed in a manner that any stormwater originating on or collected on the site that has become contaminated:

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- ♦ does not contaminate any land and/or water (including groundwater and potable water supplies) by acting as a transport medium for hazardous substances unless permitted by a resource consent;
- ♦ does not enter or discharge into the stormwater drainage system;
- ♦ does not enter or discharge into the sewerage system unless permitted by the sewerage utility operator.

Adherence to the following design guidelines is deemed to comply with this condition:

17.6.6.2 **Spill Containment System**

The parts of the hazardous facility site described in parts (b) and (c) above shall be serviced by a spill containment system that is:

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- ♦ constructed from impervious materials resistant to the hazardous substances used, stored, manufactured, mixed, packaged, loaded, unloaded or otherwise handled on the site;
- ♦ able to contain the maximum volume of the largest tank used, or where drums or other containers are used, able to contain half of the maximum volume of substances stored;
- ♦ able to prevent any spill or other unintentional release of hazardous substances, and any stormwater and/or fire water that has become contaminated, from entering the stormwater drainage system;
- ♦ able to prevent any spill or other unintentional release of hazardous substances, and any stormwater and/or fire water that has become contaminated, from discharging into or onto land and/or water (including groundwater and potable water supplies) unless permitted by a resource consent.

17.6.6.3 **Stormwater Drainage**

- ♦ All stormwater grates on the site shall be clearly labelled "Stormwater Only".

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17.6.6.4 **Washdown Areas**

Any part of the hazardous facility site where vehicles, equipment or containers that are or may have become contaminated with hazardous substances are washed shall be designed, constructed and managed to prevent the effluent from the washdown area from:

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- ♦ entry or discharge into the stormwater drainage system;
- ♦ entry or discharge into the sewerage system unless permitted by the sewerage utility operator;
- ♦ discharge into or onto land and/or water (including groundwater and potable water supplies) unless permitted by a resource consent.

17.6.6.5 **Underground Storage Tanks**

Underground tanks for the storage of petroleum products shall be designed, constructed and managed to prevent leakage and spills.

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Adherence to the Code of Practice for "Design, Installation and Operation of Underground Petroleum Systems" (Department of Labour - Occupational Safety and Health) is deemed to be one method of complying with this standard.

17.6.6.6 **Signs**

Any hazardous facility shall be adequately signposted to indicate the nature of the substances stored, used or otherwise handled.

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Adherence to the Code of Practice for "Warning Signs for Premises Storing Hazardous Substances" of the New Zealand Chemical Industry Council, is deemed to be one method of complying with this standard.

17.6.6.7 **Waste Management**

- (a) Any process waste or waste containing hazardous substances shall be managed to prevent:

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- ♦ the waste entering or discharging into the stormwater drainage system;
- ♦ the waste entering or discharging into the sewerage system unless permitted by the sewerage utility operator;
- ♦ the waste discharging into or onto land and/or water (including groundwater and potable water supplies) unless permitted by a resource consent.

- (b) The storage of any process waste or waste containing hazardous substances shall at all times comply with the other standards in this section.

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- (c) The storage of any waste containing hazardous substance shall be in a manner that prevents:

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- ♦ exposure to ignition sources;
- ♦ corrosion or other alteration of the containers used for the storage of the waste;
- ♦ unintentional release of the waste.

- (d) Any hazardous facility generating waste containing hazardous substances shall dispose of these wastes to appropriate facilities, or be serviced by a waste disposal contractor.

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Advisory note: The rules contained in section 17.6 of this Plan do not apply to fuel storage and refuelling activities regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017. Those regulations prevail over this rule in relation to plantation forestry activities.

17.6.7 Assessment Criteria for Discretionary Activities

Where the HFSP has determined that a hazardous substance facility is a discretionary activity and will therefore require a resource consent, the consent application shall be accompanied by an assessment of environmental effects. This shall be provided in such detail as corresponds with the scale and significance of the actual or potential effects and risks of the proposed development.

An application will be assessed having regard to the following matters:

- (a) Consistency with the objectives, policies and controls for the relevant zone.
(b) Risk assessment.

17.6.7.1 **Risk Assessment**

A qualitative or quantitative risk assessment may be required, depending on the scale of potential effects of the proposed development. As well as addressing more analytically the issues addressed in the HFSP, this assessment should place particular emphasis on those issues not addressed in detail by the HFSP, including:

- ♦ identification of potential hazards, failure modes and exposure pathways;
- ♦ the separation distance to neighbouring activities, with emphasis on people-sensitive activities such as child care facilities, schools, rest homes, hospitals, shopping centres and residential areas;
- ♦ the location of the facility in relation to the nearest aquifer, waterway, coast or other sensitive environments;
- ♦ the nature of the subsoil and the site geology;
- ♦ the distance to environmentally sensitive areas such as wildlife habitats or water catchments;
- ♦ assessment of the probability and potential consequences of an accident leading to a release of a hazardous substance or loss of control;
- ♦ identification of cumulative and/or synergistic effects;
- ♦ fire safety and fire water management;
- ♦ adherence to health and safety and/or management systems;
- ♦ spill contingency and emergency planning, monitoring and maintenance schedules;
- ♦ site drainage and off-site infrastructure, e.g. stormwater drainage system, sewer type and capacity;
- ♦ the transport of hazardous substances; and
- ♦ the disposal of wastes containing hazardous substances.

17.6.7.2 **Risk Mitigation and Management**

Consideration will be given to the adoption of specific spill contingency plans, emergency procedures, stormwater management and treatment, treatment and disposal procedures for wastes containing hazardous substances, fire safety, monitoring and maintenance procedures, and appropriate site management systems.

17.6.7.3 **Alternatives**

Where it is likely that an activity may result in significant adverse effects on the environment, a description of alternative locations or methods for undertaking the activity shall be submitted.

17.6.7.4 **Traffic Safety**

It should be demonstrated that the proposal will generate no significant adverse effects on the safety of the operation of the adjoining road network and that vehicles transporting hazardous substances will not utilise local roads in residential areas as a regular means of transport. Conditions may be imposed that require access along specified routes.

17.7 **Anticipated Environmental Outcomes**

- (a) An environment in which any adverse impacts arising from the use, storage, disposal and transportation of hazardous substances are avoided, remedied or mitigated.
- (b) Progressive clean-up of contaminated sites and the avoidance of pollution from hazardous substances.