Workshop exercises

EXERCISE 1.1 WHAT IS YOUR CURRENT KNOWLEDGE OF THE HSNO ACT AND WHAT ARE YOUR OBJECTIVES FOR THIS WORKSHOP?

EXERCISE

How would you describe your existing knowledge of the HSNO Act and associated regulations?

Notes

What parts of the workshop are you particularly interested in?

Notes

What are your personal objectives for this workshop?

Notes

EXERCISE 2.1 COMPARE THE PURPOSES OF THE HSNO ACT AND THE RMA

Exercise

Notes

Using the table overleaf to compare the purpose, key principles and matters of importance of the HSNO Act with those of the RMA.

Note down a few key similarities and differences.

EXERCISE 2.1 (CONT.) COMPARE THE PURPOSES OF THE HSNO AND THE RMA

Subject	HSNO Act	RMA
Purpose of Act	The purpose of the HSNO Act is to: *" protect the environment, and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms"*	The purpose of the RMA is to: *" promote the sustainable management of natural and physical resources"* "Sustainable management" means managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural wellbeing and for their health and safety, while: • sustaining the potential for natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations • safeguarding the life-supporting capacity of air, water, soil and ecosystems; and • avoiding, remedying or mitigating any adverse effects on the environment.
Key principles relevant to the Act	Key principles relevant to the purpose of the HSNO Act are: • the safeguarding of the life-supporting capacity of air, water, soil and ecosystems • the maintenance and enhancement of the capacity of people and communities to provide for their own economic, social and cultural well being and for the foreseeable needs of future generations.	The principles are set out in three sections of varying importance: • matters of national importance. • other matters. • Treaty of Waitangi.
Matters of importance	The Act requires that the following matters of importance must be taken into account: • the sustainability of all native and valued introduced flora and fauna • the intrinsic value of ecosystems • public health • the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, valued flora and fauna, and other taonga • the economic and related benefits to be derived from the use of a particular hazardous substance or new organism • New Zealand's international obligations	Matters of national importance include: • protecting the natural character of the coastal environment, wetlands, lakes and rivers, and public access to those resources • protecting natural features and landscapes • protecting significant indigenous vegetation and habitats • maintaining and enhancing public access along the coastal marine area, lakes and rivers • the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga • protecting historic heritage from the inappropriate subdivision, use and development.
Treaty of Waitangi and the precau-tionary principle	The Act also requires all people exercising functions, powers and duties under the Act to take into account: • the need for caution in managing adverse effects where there is scientific and technical uncertainty about those effects • the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).	The RMA requires that those making decisions under the Act must take into account the principles of the Treaty of Waitangi.

EXERCISE 2.2 INTERPRETATION OF THE EFFECT OF THE HSNO ACT ON THE RMA

Exercise

Notes

The next two pages outline the parts of the HSNO Act that affect the RMA, and therefore the roles and responsibilities of district and regional councils. Please read through this information and identify, in conjunction with your group, the key points of these amendments.

EXERCISE 2.2 (CONT.) INTERPRETATION OF THE EFFECT OF THE HSNO ACT ON THE RMA

RELATIONSHIP OF THE HSNO ACT WITH THE RMA

Section 142 (HSNO): Relationship to other Acts states:

"(2) Every person exercising a power or function under the Resource Management Act 1991 relating to the storage, use, disposal, or transportation of any hazardous substance shall comply with the provisions of this Act and any regulations made under this Act.

(3) Nothing in subsection (2) of this section shall prevent any person lawfully imposing more stringent requirements on the storage, use, disposal, or transportation of any hazardous substance than may be required by this Act or regulations made under this Act where such requirements are considered necessary by that person for the purposes of the Resource Management Act 1991.

(4) Nothing in this Act shall apply to any resource consent, being-

(a) A land use consent relating to the storage, use, disposal, or transportation of any hazardous substance; or

(b) A coastal permit to do something that would otherwise contravene section 15 of the Resource Management Act 1991; or

(c) A discharge permit,---

where that resource consent was granted before the coming into force of any regulations made under this Act (other than regulations made under Parts XI to XVI of this Act) until such time as the conditions on the resource consent are reviewed in accordance with section 128 of the Resource Management Act 1991.

(5) For the purposes of this section, "resource consent'' has the same meaning as in the Resource Management Act 1991.

(6) Any controls prescribed under any other Act for any hazardous substance shall not contravene the provisions of regulations made under sections 75 and 76 of this Act unless---

(a) There is a provision in that other Act that expressly provides that controls made under that other Act for specified purposes may contravene the provisions of regulations made under this Act; and

(b) The controls are made for the purposes provided for in that Act."

EXERCISE 2.2 (CONT.) INTERPRETATION OF THE EFFECT OF THE HSNO ACT ON THE RMA

Amendment of the RMA by the HSNO Act

The Fourth Schedule of the HSNO Act amends the RMA in some key areas, as outlined below.

Section 2 of the RMA

Section (2) of the RMA includes the following definition of "hazardous substance":

> *'"Hazardous substance" includes, but is not limited to, any substance defined in section 2 of the Hazardous Substances and New Organisms Act 1996 as a hazardous substance.'*

Section 62 (1) of the RMA

Section 62 (1) of the RMA was originally amended by the HSNO Act, by omitting (as inserted by section 34 (1) of the Resource Management Act 1993) the words:

> *"the regional council shall retain primary responsibility for the hazard or hazardous substance; and",*

and substituting the following subparagraphs:

"(iii) The regional council shall retain primary responsibility for the natural hazard; and

(iv) The relevant territorial authority shall retain primary responsibility for the hazardous substance."

However, the recent Resource Management Amendment Act 2003 repeals that part of the Fourth Schedule of the HSNO Act relating to Section 62(1)(ha) of the RMA. The Amendment Act creates a new section 62 RMA on the "Content of Regional Policy Statements", specifying what a regional policy statement must state, including the following:

62(1)(i) "the local authority responsible in the whole or any part of the region for specifying the objectives, policies, and methods for the control of the use of land –

(i) to avoid or mitigate natural hazards or any group of hazards; and

(ii) to avoid or mitigate the adverse effects of the storage, use, disposal or transportation of hazardous substances….

62(2) "If no responsibilities are specified in the regional policy statement for functions described in subsection (1)(i)(i) or (ii), the regional council retains primary responsibility for the function in subsection (1)(i)(i) and the territorial authorities of the region retain primary responsibility for the function in subsection (1)(i)(ii).

EXERCISE 3.1 "MINIMUM DEGREES OF HAZARD" CONCEPTUNDER THE HSNO ACT

Exercise

Describe the concept for "minimum degree of hazard"

At which points in Tables 3.1 and 3.2 in the workshop manual do these minimum degrees of hazard apply?

Review of the minimum degree of hazard for substances with ecotoxic properties (refer overleaf), and summarise the environmental exposure targets the threshold covers.

Notes

EXERCISE 3.1 (CONT.) "MINIMUM DEGREES OF HAZARD" CONCEPT UNDER THE HSNO ACT (CONTINUED)

HSNO ECOTOXIC THRESHOLDS (MINIMUM DEGRESS OF HAZARD)

A substance triggers the threshold for ecotoxic effects if it is more toxic than any one of the threshold levels in Sections a) to e).

A) ECOTOXIC TO THE AQUATIC ENVIRONMENT

i) Either the acute fish (96 hour) LC_{50} is =100 mg/l, **or** the crustacean (48/96 hour) EC_{50} is =100 mg/l, **or** the algae (72/96 hour) EC_{50} is =100 mg/l

or

ii) the chronic fish, crustacean or plant no observable effect level (NOEC) is =1 mg/L.

or

iii) In the absence of NOEC data, the substance is not rapidly degradable or is bioaccumulative.

B) ECOTOXIC TO THE SOIL ENVIRONMENT

i) a plant or soil invertebrate EC_{50} =100 mg/kg dry weight of soil

or

ii) a 25% reduction of microbial respiration or nitrification at =100 mg/kg dry weight of soil.

C) ECOTOXIC TO TERRESTRIAL VERTEBRATES

i) an avian or mammalian acute LD_{50} of =2000 mg/kg body weight or acute LC_{50} of = 5000 ppm diet

or

ii) a chronic avian or mammalian Maximum Acceptable Toxicant Concentration (MATC) =100 ppm diet.

D) ECOTOXIC TO BENEFICIAL TERRESTRIAL INVERTEBRATES

A contact or oral LD_{50} of =25 ∝g/terrestrial invertebrate

E) SUBSTANCES DESIGNED TO CAUSE BIOCIDAL ACTION

Any substance designed for a biocidal action, unless

i) the substance is designed for biocidal action against a virus, protozoan, bacterium, or an internal organism in humans or in other vertebrates; and

ii) the substance does not meet any of the thresholds for aquatic, soil, terrestrial vertebrate or terrestrial invertebrate ecotoxicity.

EXERCISE 3.1 (CONT.) "MINIMUM DEGREES OF HAZARD" CONCEPT UNDER THE HSNO ACT

INTERPRETATION OF TERMS

Bioaccumulative: Any substance that has a bioconcentration factor (BCF) greater than or equal to 500, or, if BCF data is not available, a log KOW greater than or equal to 4; and, for the purposes of this definition, where available: (a) measured log KOW values take precedence over estimated values; and (b) measured BCF values take precedence over log KOW values.

Biocidal action: Intended to cause either mortality, inhibited growth, or inhibited reproduction in any organism.

BOD5: The 5-day biochemical oxygen demand, being the mass of oxygen consumed by micro-organisms during oxidation of the substance in water over a period of 5 days, expressed in units of milligrams of oxygen consumed per milligrams of the substance.

Chronic aquatic ecotoxicity value: The lowest value in units of a milligram of the substance per litre of water from fish, crustacean, algal, or other aquatic plant chronic NOEC data.

COD: The chemical oxygen demand, being the equivalent mass of oxygen from an oxidising agent, of a strength at least equal to the oxidising strength of potassium permanganate or potassium dichromate, that is consumed during oxidation of the substance in water, expressed in units of milligrams of oxygen consumed per milligram of the substance.

EC50: A median effect concentration, being a statistically-derived concentration of a substance in water that can be expected to cause- (a) an adverse reaction in 50% of organisms exposed for the specified time; or (b) a 50% reduction in growth or in the growth rate of the organism population exposed for the specific time.

KOW: The steady state ratio of the solubility of a substance in n-octanol to the solubility of that substance in water.

LC50: A median lethal concentration, being a statistically derived concentration of a substance that can be expected to cause death in 50% of animals exposed for a specified time.

NOEC: The no observed effect concentration, being the highest concentration of substance from the most sensitive species for which data is available that does not produce a significant adverse biological effect in an organism or in an organism population.

Rapidly degradable: In relation to a substance in water, means that:

(a) 28 days after a solution containing the substance is inoculated with micro-organisms, there is at least
(i) a 70% reduction in dissolved organic carbon in the solution; or
(ii) a 60% depletion of oxygen in the solution, when compared with the maximum depletion of oxygen that would occur if the substance were completely degraded; or
(iii) a 60% generation of carbon dioxide in the solution, when compared with the maximum generation of carbon dioxide that would occur if the substance were completely degraded; or

(b) if only COD and BOD5 data is available, the ratio of BOD5 to COD is greater than or equal to 0.5:1 or

(c) at least 70% of the substance can be degraded biotically or abiotically, in the aquatic environment within 28 days.

Significant adverse biological effect: A toxicologically significant change in an organ or in an organism observed during the treatment period of the study where the probability that the effect is different from any recognised background history of effect in the test animal strain is greater than 0.95 (equivalent of P (probability) of 0.05 or less)

EXERCISE 3.2 REVIEW OF HAZARDOUS SUBSTANCE APPROVAL (PART 1)

Exercise

The Authority approved an agricultural insecticide called "Clobber* 25 WP" on 23 July 2002, with a range of controls. The classification of Clobber* 25 WP is as follows:

- **6.4 A (eye irritant)**
- **6.9 A (target organ systemic toxicity – methemoglobinemia effects)**
- **9.1 A (aquatic ecotoxicity to aquatic invertebrates)**

Refer to the ERMA New Zealand "User Guide to the Regulations Control Regulations" (2001, ER-UG-05-1 11/01) to review the default controls that apply to this substance.

List what you consider to be three key controls to manage the risks of a substance that is both toxic and ecotoxic.

Notes

EXERCISE 4.1 REVIEW OF HAZARDOUS SUBSTANCE APPROVAL (PART 2)

Exercise

Appendix A of the workshop manual contains the Authority's decision report on the agricultural insecticide "Clobber* 25 WP" introduced in Module 3. This report contains the rationale for the decision on the approval based on the criteria the Authority employs as part of its standard methodology. The report also presents a detailed evaluation on the applicable default controls and a justification where these have been varied.

Please read specifically through the discussion on the following controls – Code T3 (Page 14), Code E2 (Page 15), Code D5 (Page 24) and Code EM12 (Page 28). Do you think these controls could be enhanced through complementary controls under the RMA?

Notes

EXERCISE 5.1 ROLES AND RESPONSIBILITIES OF LOCAL AUTHORITIES FOR HAZARDOUS SUBSTANCES UNDER THE RMA

Exercise

1. **1. Describe in a few key words below the fundamental differences between regional council and territorial authority roles and responsibilities under the RMA as they relate to the control and management of hazardous substances (refer table overleaf).**
2. **2. Highlight a few key areas below where this will be affected as a result of HSNO legislation and the associated amendments to section 62 (1)(ha) RMA (refer table overleaf) (Amendments under both the HSNO Act and the RMA)**

Notes

EXERCISE 5.1 (CONT.) ROLES AND RESPONSIBILITIES OF LOCAL AUTHORITIES FOR HAZARDOUS SUBSTANCES UNDER THE RMA

FUNCTIONS OF REGIONAL COUNCILS AND TERRITORIAL AUTHORITIES

30. Functions of regional councils under the Act-

(1) Every regional council shall have the following functions for the purpose of giving effect to this Act in its region:

(a) The establishment, implementation, and review of objectives, policies, and methods to achieve integrated management of the natural and physical resources of the region:

(b) The preparation of objectives and policies in relation to any actual or potential effects of the use, development, or protection of land which are of regional significance:

(c) The control of the use of land for the purpose of-

(v) The prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation of hazardous substances:

(d) In respect of any coastal marine area in the region, the control (in conjunction with the Minister of Conservation) of-

(iv) Discharges of contaminants into or onto land, air, or water and discharges of water into water:

[(iva) The dumping and incineration of waste or other matter and the dumping of ships, aircraft, and offshore installations:]

(v) Any actual or potential effects of the use, development, or protection of land, including the avoidance or mitigation of natural hazards and the prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation of hazardous substances:

(f) The control of discharges of contaminants into or onto land, air, or water and discharges of water into water:

(h) Any other functions specified in this Act.

31. Functions of territorial authorities under Act-

(1) Every territorial authority shall have the following functions for the purpose of giving effect to this Act in its district:

(a) The establishment, implementation, and review of objectives, policies, and methods to achieve integrated management of the effects of the use, development, or protection of land and associated natural and physical resources of the district:

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

(f) Any other functions specified in this Act.

EXERCISE 5.1 (CONT.) ROLES AND RESPONSIBILITIES OF LOCAL AUTHORITIES FOR HAZARDOUS SUBSTANCES UNDER THE RMA

SECTION 62 (1) OF THE RMA

Section 62 (1) of the RMA was originally amended by the HSNO Act, by omitting (as inserted by section 34 (1) of the Resource Management Act 1993) the words:

"the regional council shall retain primary responsibility for the hazard or hazardous substance; and",

and substituting the following subparagraphs:

"(iii) The regional council shall retain primary responsibility for the natural hazard; and

(iv) The relevant territorial authority shall retain primary responsibility for the hazardous substance."

However, the recent Resource Management Amendment Act 2003 repeals that part of the Fourth Schedule of the HSNO Act relating to Section 62(1)(ha) of the RMA. Instead, the Amendment Act creates a new section 62 RMA on the "Content of Regional Policy Statements", specifying what a regional policy statement must state, including the following:

62(1)(i) "the local authority responsible in the whole or any part of the region for specifying the objectives, policies, and methods for the control of the use of land –

(i) to avoid or mitigate natural hazards or any group of hazards; and

(ii) to avoid or mitigate the adverse effects of the storage, use, disposal or transportation of hazardous substances….

62(2) "If no responsibilities are specified in the regional policy statement for functions described in subsection (1)(i)(i) or (ii), the regional council retains primary responsibility for the function in subsection (1)(i)(i) and the territorial authorities of the region retain primary responsibility for the function in subsection (1)(i)(ii).

EXERCISE 5.2 REVIEW OF DISTRICT PLAN PROVISIONS FOR HAZARDOUS SUBSTANCES

Exercise

Key issues to consider:

- Who is responsible for what (TA vs RC)?
- What changes are needed in light of HSNO provisions?
- Are there any additional responsibilities under HSNO Act?

Discussion

Get into small groups and review the following excerpts from a Regional Policy Statement and District Plan.

Notes

Identify those provisions which are likely to require amendments in light of the advent of the HSNO Act.

Discussion

Discuss in your small groups which provisions may need amending and why. Choose a spokesperson to report back to the larger group.

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EXERCISE 5.2 (CONT.) REVIEW OF DISTRICT PLAN PROVISIONS FOR HAZARDOUS SUBSTANCES

Plan/Policy Statement	Objective/Policy	Comments on Amendments and Reasons
a) District Plan	**Hazardous substances** 1. The management of hazardous substances is currently in a state of change. Traditionally a variety of agencies have had this responsibility empowered under a variety of legislation, for example: Animal Remedies Act 1967, Animals Act 1967, Plants Act 1970, Dangerous Goods Act 1974, Explosives Act 1957, Pesticides Act 1979, and the Toxic Substances Act 1979. 2. A recently commissioned and yet to be completed legislative review is intended to create a more comprehensive and integrated management system. 3. The Resource Management Act also defines new responsibilities for District and Regional Councils in relation to hazardous substances management. Precisely how this legislation will tie into the current review of existing hazardous substances controls will not become clear until the review is complete. Until such time as this review is completed it would be unwise to devote a large amount of resources to hazardous substances controls that could be made redundant by legislative changes. 4. Council's ability to develop even an interim response is also limited. Regional Councils have been assigned the lead role under the Resource Management Act in relation to the development of hazardous substances management approaches. The Regional Council is currently engaged in a joint review of management techniques, the outcome of which will guide both it and this Council on the best interim response. 5. Until such time as at least the above-mentioned review of appropriate interim control techniques is completed Council will continue to rely on the hazardous substances control measures available under current legislation (see 1. above). Once the review is completed Council will consider introducing by way of Plan Change a District Plan section covering hazardous substances management.	

EXERCISE 5.2 (CONT.) REVIEW OF DISTRICT PLAN PROVISIONS FOR HAZARDOUS SUBSTANCES

Plan/Policy Statement	Objective/Policy	Comments on Amendments and Reasons
b) Regional Policy Statement	**Objective** Prevent or mitigate the adverse effects on the environment from the storage, use, disposal and transportation of hazardous substances. **Policies** 1. (a) The Regional Council shall have the following particular responsibilities for developing objectives, policies and rules relating to the control of the use of land: (i) co-ordination and integration of the management of the storage, use, disposal, and transportation of hazardous substances within and beyond the Region. (ii) prevention or mitigation of any adverse effects, on the quality of water in water bodies or coastal water, of the storage, use, disposal or transportation through a pipe of the following hazardous substances: ▪ pesticides including: herbicides, insecticides and fungicides. ▪ chlorinated hydrocarbons including: bromodichloromethane, trichloroethene, chlorodibromomethane, 1,1,1 - trichloroethane, tetrachloroethene, trichloromethane, tetrachloromethane and tribromomethane. ▪ timber preservatives including: copper chromium, arsenic formulations, those using boron, other water-borne preservatives, light organic solvent preservatives and anti-sapstain chemicals. ▪ petroleum products including: petrol, waste oil, diesel, aircraft fuel, kerosene, heating oil; but not including liquefied petroleum gases; and compounds containing: benzene, xylenes, toluene or ethylbenzene. ▪ any substance containing one or more of the following chemicals: arsenic, cadmium, chromium, cyanide, lead, mercury, nickel or selenium.	

EXERCISE 5.2 (CONT.) REVIEW OF DISTRICT PLAN PROVISIONS FOR HAZARDOUS SUBSTANCES

Plan/Policy Statement	Objective/Policy	Comments on Amendments and Reasons
	(iii) prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation, within the coastal marine area, of hazardous substances (b) District/city councils shall have the following particular responsibilities in their own areas for developing objectives, policies and rules relating to the control of the use of land: (i) prevention or mitigation of any adverse effects of the storage, use, disposal or transportation, outside the coastal marine area, of any hazardous substances that are not listed under (a) (ii) above. (ii) prevention or mitigation of any adverse effects, other than adverse effects on the quality of water in water bodies or coastal water, of the storage, use, or disposal, outside the coastal marine area, of the hazardous substances that are listed under (a) (ii) above. (iii) prevention or mitigation of any adverse effects, of the transportation, outside the coastal marine area, and other than through a pipe, of the hazardous substances that are listed under (a) (ii) above. (c) The Regional Council shall control the discharge of hazardous substances into or onto land, air or water. 2. Promote hazardous substances management practices that prevent or mitigate adverse effects on the environment, including practices that reduce the use of hazardous substances. 3. Ensure that the adverse effects on the environment of unintended releases of hazardous substances from the storage, use, disposal or transportation of such substances are prevented or mitigated as far as practicable. 4. Discharges of hazardous substances should only be authorised when adverse environmental effects are prevented or mitigated.	

EXERCISE 5.3 ALTERNATIVE METHODS FOR MANAGING HAZARDOUS SUBSTANCES UNDER DISTRICT PLANS

Exercise

1. During a s.32 RMA analysis, alternative methods for district plans can be used for managing hazardous substances i.e. use, storage, transport, disposal, education, awareness, waste reduction and reuse or minimisation.

2. Choose two areas where alternative measures could be used (e.g. transport, waste reduction, etc) and describe possible alternative methods (instead of using district plan rules).

Notes

EXERCISE 5.4 RESPONSIBILITIES FOR CONTROLS ON HAZARDOUS SUBSTANCES

Exercise

Key Issues to consider:

- **Who is responsible for what (TA, RC or other agency)?**
- **Are the responsibilities under the RMA or HSNO Act?**
- **Are there any additional responsibilities under HSNO provisions?**

Discussion

1. **Get into small groups and review the following case study notes for a commercial helicopter business involved with aerial spraying of pesticides.**
2. **Choose a hazardous substance related activities, as spray drift and storage to assess.**
3. **Identify which authority is responsible for controlling safety and environmental matters, using the table set out below (e.g. Regional Council controls the potential effects of spray drift, or ERMA controls EELs and TELs for poisons, or OSH controls use of Hazardous Substances in the workplace, etc).**
4. **Discuss in your small groups which authority is responsible for each aspect and why.**
5. **Use the following table for comments e.g. Regional Council controls the spray drift effects; or ERMA controls relate to pesticide storage quantities and labelling.**

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EXERCISE 5.4 (CONT.) RESPONSIBILITIES FOR CONTROLS ON HAZARDOUS SUBSTANCES

Activity e.g. storage	***Authority e.g. TA, RC, ERMA NZ, or other agency***	***Area of Responsibility***

EXERCISE 5.4 (CONT.) RESPONSIBILITIES FOR CONTROLS ON HAZARDOUS SUBSTANCES

Aerial Spraying of Pesticides by a Commercial Helicopter Business

Proposal: A local helicopter business in the rural area, on the outskirts of a small urban settlement intends to provide aerial spraying of pesticides to local orchardists. All pesticides are to be stored on site. The supplies are delivered in bulk by trucks from the suppliers depot.

Conditions: The predominant winds are south-westerlies, although they can be changeable with little warning due to nearby coastal ranges and a wind tunnel effect through a gully in the hills. Wind speed can exceed 15 km/hour on occasions.

Environment: Most local orchardists have shelterbelts, and some have buffer areas. The majority of nearby properties are rural farming activities and there is a reserve at the foot of the ranges with wetlands, a lake and river.

Other sensitive areas include:

- Nearby residential area
- Local primary school
- Playground and recreational area near school and lake edge and wetlands
- Waterbodies including lake, river and upper lake area for public water supply catchment
- Sensitive crops or farming systems (e.g. organic farms)
- Wetlands
- Public roads.

Issues to be addressed:

- Spray drift potential
- Wind conditions
- Adequate buffer areas
- Application details and manufacturers recommendations
- Method of spraying e.g. use of booms, low drift type nozzles
- Equipment maintenance and replacement
- Site layout, storage, drainage, washdown areas, buffer areas
- Location of mixing operations and loading spray tanks on site
- Transportation matters
- Number and type of helicopter(s)
- Hours of operation, noise, route selection
- Sensitive areas nearby
- Log book and record keeping details
- System for advance warning of nearby landowners, occupiers or agents
- Contingency measures
- Spray drift minimisation strategy
- Other environmental matters, including exposure levels.

EXERCISE 6.1 CASE STUDY 1 – RESOURCE CONSENT APPLICATION INVOLVING SPRAYDRIFT

1. Read the Case Study 1 for a proposed nudist camp adjoining horticultural activities. Identify which authority/agency is responsible for addressing spray drift from horticultural activities. Which organisation is involved with assessing site suitability factors for the proposed nudist camp.

Issue	Authority (ERMA NZ, manufacturers, regional council, territorial authority, etc)
▪ Chemical spray storage conditions	
▪ Chemical spray labelling conditions	
▪ Chemical spray application recommendations	
▪ Chemical spray application conditions	
▪ Spray drift control and health hazard	
▪ Management of hazardous substances	
▪ Environmental exposure limits (EELs)	
▪ Tolerable exposure limits (TELs)	
▪ Adverse environmental effects, including economic, social and cultural effects;	
▪ Amenity values	
▪ Screening provisions, shelter belts and fences	
▪ Traffic Hazards	
▪ Incompatibility with existing uses of adjoining land	
▪ Availability of alternative sites e.g. urban areas	
▪ Reverse sensitivity	

EXERCISE 6.1 (CONT.) CASE STUDY 1 – RESOURCE CONSENT APPLICATION INVOLVING SPRAYDRIFT

Discussion

2. Discuss in your small groups which provisions are relevant in guiding resource consent applications for hazardous facilities and reverse sensitivity issues. Should consent be declined or granted with conditions?

Discussion

3. Now assume that the applicant is for an orchard operation on a property adjoining the nudist camp in a rural zone. The orchard proposal is normally permitted in a rural zone, but has failed to meet all the performance criteria and now needs a resource consent as a Discretionary Activity. Identity relevant issues under the RMA and also under HSNO.

Discuss in your small groups which provisions are relevant in guiding assessment of the resource consent; and identify whether consent should be declined or granted, and if granted what type of conditions would be set by the Regional Council and District Council.

- what conditions under the HSNO Act would also need to be considered?
- would any resource consent conditions apply a more stringent level than HSNO provisions?

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EXERCISE 6.1 (CONT.) CASE STUDY 1 – RESOURCE CONSENT APPLICATION INVOLVING SPRAYDRIFT

Case Study 1

McQueen VS Waikato District Council (RMA A045/95)

Introduction

This is an objectors' appeal against grant of land-use consent for recreation facilities for a nudist club at Trentham Road in an area of orchards at Matangi, 7.2 kilometres from Hamilton.

The applicant is a society of "naturism" persuasion, whose members are given to "clothes-free" recreation. It has purchased an orchard property with a total area of 4.58 hectares. The property is well sheltered by closely planted windbreaks about 4.5 metres high; and is high quality class Island.

The proposal is to use about 1.2 hectares of the property for a complex of activities: outdoor recreation (being sunbathing, swimming - a 13-metre by 9-metre pool is proposed - volleyball and mini-tennis); 10 caravan sites; and a building having a floor area of 155 square metres for indoor recreation, kitchen and ablution facilities. There would be on-site car parking for 22 vehicles; reticulated water supply is expected to be available; and sewage would be disposed of by a 3,000 cubic metre septic tank. The remainder of the property would continue to be used as a production orchard.

The appellants own orchards in the vicinity on which they reside. The principal grounds of their opposition were traffic hazard, health risk from orchard spraying and spraying constraints; devaluation of neighbouring properties; noise; and adverse social and cultural effects and effects on amenity values.

The appellants also raised various questions about the making and processing of the application, but in the end they accepted that there was no point in pursuing those questions before the Tribunal, as its hearing of their appeal was a full rehearing de novo, and any procedural defects of the primary hearing were overtaken by the appeal hearing.

There are two district plans to which we should have regard: By the respondent's transitional district plan; the subject property is in the Rural B zone. On land of Class I quality soil in that zone both recreation and visitor facilities are discretionary activities. On 30 September 1993 the respondent published a proposed district plan prepared under the Resource Management Act. The time for lodging submissions on the plan expired on 1 February 1994. Submissions have been lodged on the whole plan, and there can be no assurance that its provisions relating to the present application will survive the testing process under the First Schedule of the Act. By the proposed district plan as publicly notified, the subject land would be in the Rural zone, and a community facility or a social club there would be a discretionary activity. The proposal might fall in either of those categories of activity.

We hold that the proposal requires land use consent as a discretionary activity accordingly. We therefore have regard to such of the matters listed in section 104(1) as are applicable to the case.

EXERCISE 6.2 CASE STUDY 2 – RESOURCE CONSENT CONDITIONS FOR A HAZARDOUS FACILITY

Exercise

Review Case Study 2 on a paint and ink manufacturing facility which is a resource consent application for a hazardous facility.

Discussion

1. Discuss in your small groups what type of land use consent conditions are necessary for each of the following matters:

- **site design, construction and management**
- **hazard communication e.g. signage**
- **hazardous substances management plan**
- **hazardous waste management**
- **hazardous substances transport**
- **monitoring**
- **codes of practice**
- **requirements for reporting e.g. demonstrate compliance.**

Discussion

2. Identify for each of the matters listed above, whether HSNO requirements are relevant and whether such requirements could be used for resource consent conditions.

Discuss this in your small groups.

Notes

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EXERCISE 6.2 (CONT.) CASE STUDY 2 – RESOURCE CONSENT CONDITIONS FOR A HAZARDOUS FACILITY

Case Study 2

Source: MfE: The Quick Guide to Hazardous Facility Assessment

General Siting, Design and Management Considerations

This case study, using a fictional facility for the blending, mixing and wholesale of various paint products and inks, illustrates the issues related to on-site management of a proposed hazardous facility.

An Australian company, Pink Ink Inc, wants to develop a site in the commercial/ industrial area of a medium-sized New Zealand town. A large number of hazardous substances in quantities of several hundred tonnes are proposed to be used and stored on a newly developed site.

Next to the site is a panel beater and a warehouse for electrical goods. About 20 metres behind the site is a watercourse.

The proposed site layout includes an office block, a manufacturing unit, raw materials and finished products storage facilities, as well as above and below ground storage facilities for bulk hazardous liquids.

The provisions of the relevant district plan identify the facility as requiring a discretionary land use consent. (A consent for the discharge of stormwater from the site and an air discharge consent are also required by the regional council. Issues associated with these two consents are not addressed in this case study).

Pink Ink Inc is a responsible company and endeavours to meet all requirements of the consenting authorities (which, apart from RMA requirements would also include Building Act and HSNO requirements not addressed here). The site design includes the following features:

- the site is to be completely sealed apart from some landscaping of the front yard.
- underground tanks and pipework have generally either secondary containment or a leak monitoring system.
- the site stormwater system is capable of retaining a surface spill of the maximum quantity contained in the largest above-ground container.
- the site stormwater system is capable of retaining contaminated fire water released during a credible fire of specified intensity and duration.

An environmental management system of the parent company is to be adopted for the site. Some amendments are envisaged to achieve compliance with New Zealand legislation.

EXERCISE 6.2 (CONT.) CASE STUDY 2 – RESOURCE CONSENT CONDITIONS FOR A HAZARDOUS FACILITY

The hazardous substances inventory (basic) for the site is shown below:

Hazardous substances	**Quantity (tones)**	**Storage Type**
Methanol	20	Underground tanks
Mineral turpentine	20	Underground tanks
Toluene	20	Underground tanks
White spirits	20	Underground tanks
Solvents	10	Underground tanks
Flammable liquids	80	Above-ground containers/ drums
Emulsions	120	Above-ground tanks
Resins	50	Above-ground tanks
Nitrocellulose	5	Above-ground containers
Pigments	2	Above-ground containers
Finished product	100	Warehouse

EXERCISE 6.2 (CONT.) CASE STUDY 2 – RESOURCE CONSENT CONDITIONS FOR A HAZARDOUS FACILITY

Example
Hazardous Facilities Resource Consent Conditions[1]

Consent conditions

The district council considered Pink Ink Ink's application and issued the following consent, addressing hazardous substance use and storage (a number of the conditions are based on the minimum requirements for permitted activities):

"A consent for the use of land has been granted to Pink Ink Inc for a site at … to store and handle the hazardous substances in the quantities listed in Appendix X subject to the following conditions:

1. Facility design, construction and management

a) Site design

Any part of a hazardous facility which is involved in the manufacture, mixing, packaging, storage, loading, unloading, transfer, use or handling of hazardous substances must be designed, constructed and operated in a manner which prevents:

- the occurrence of any off-site adverse effects from the above listed activities on people, ecosystems, physical structures and/or other parts of the environment unless permitted by a resource consent
- the contamination of air, land and/or water (including groundwater, potable water supplies and surface waters) in the event of a spill or other type of release of hazardous substances.

b) Site layout

The hazardous facility must be designed in a manner to ensure that separation between on-site facilities and the property boundary is sufficient for the adequate protection of neighbouring facilities, land uses and sensitive environments.

c) Storage of hazardous substances

The storage of any hazardous substances must be carried out in a manner that prevents:

- the unintentional release of the hazardous substance
- the accumulation of any liquid or solid spills or fugitive vapours and gases in enclosed off-site areas resulting in potentially adverse effects on people, ecosystems or built structures.

Specific performance requirements for the storage of hazardous substances are covered by HSNO Regulations.

Continued next page…….

[1] Note: extracted from: Assessment Guide for Hazardous Facilities: A Resource for Local Authorities and Hazardous Facility Operators (Ministry for the Environment, 2002).

EXERCISE 6.2 (CONT.) CASE STUDY 2 – RESOURCE CONSENT CONDITIONS FOR A HAZARDOUS FACILITY

d) Site drainage systems

Site drainage systems must be designed, constructed and operated in a manner which prevents the entry or discharge of hazardous substances into the stormwater and/or sewerage systems unless permitted to do so by a network utility operator.

Suitable means of compliance include clearly identified stormwater grates and manholes, roofing, sloped pavements, interceptor drains, containment and diversion valves, oil-water separators, sumps and similar systems.

e) Spill containment systems

Any parts of the hazardous facility site where a hazardous substances spill may occur must be serviced by suitable spill containment systems that are:

- constructed from impervious materials resistant to the hazardous substances used, stored, manufactured, mixed, packaged, loaded, unloaded or otherwise handled on the site
- for liquid hazardous substances:
- able to contain the maximum volume of the largest tank present plus an a allowance for stormwater or fire water
- for drums or other smaller containers, able to contain 50 percent of the maximum volume of substances stored plus an a allowance for stormwater or fire water
- able to prevent the entry of any spill or other unintentional release of hazardous substances, or any contaminated stormwater and/or fire water into site drainage systems unless permitted to do so by a network utility operator.

Suitable means of compliance include graded floors and surfaces, bunding, roofing, sumps, fire water catchments, overfill protection and alarms, and similar systems.

f) 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 must be designed, constructed and managed to prevent any contaminated wash water from:

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

Suitable means of compliance include roofing, sloped pavements, interceptor drains, containment and diversion valves, oil-water separators, sumps and similar systems.

Continued next page…….

EXERCISE 6.2 (CONT.) CASE STUDY 2 – RESOURCE CONSENT CONDITIONS FOR A HAZARDOUS FACILITY

g) Underground storage tanks

Underground tanks for the storage of petroleum products must be designed, constructed and managed to prevent any leakage and spills and resulting adverse effects on people, ecosystems and property.

Suitable means of compliance include:

- using materials that are resistant to the hazardous substances concerned
- using secondary containment facilities in areas of environmental sensitivity
- providing leak detection or a monitoring system capable of detecting a failure or breech in the structural integrity of the primary containment vessel
- adherence to the Code of Practice for Design, Installation and Operation of Underground Petroleum Systems (OSH) is deemed to be one method of complying with this condition.

h) Building construction and site coverage

The site shall be built on in accordance with the plans submitted to allow sufficient space for manoeuvring of heavy vehicles away from hazardous substance storage areas. The back yard is not to be used for the storage of hazardous substances, empty containers or any wastes. Planting with native trees or shrubs along the back boundary of the site shall be carried out in accordance with the landscape plan submitted.

i) Fire safety

Design, management and operations shall comply with the submitted fire safety provisions at all times.

j) Signage

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

Suitable means of compliance include adherence to relevant Codes of Practice or the HAZCHEM signage system.2. Waste management

Any process waste or waste containing hazardous substances shall be managed to prevent:

- 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.

The storage and management of any process waste or waste containing hazardous substance on the site shall at all times comply with the conditions specified for hazardous substances.

Continued next page…….

EXERCISE 6.2 (CONT.) CASE STUDY 2 – RESOURCE CONSENT CONDITIONS FOR A HAZARDOUS FACILITY

All waste containing hazardous substances shall be disposed of to facilities holding the necessary consents, or be serviced by a registered waste disposal contractor.

3. Transport

The transport of hazardous substances to and from the site shall be undertaken by licensed transport operators. Necessary documentation shall be made available to the council upon request.

4. Monitoring and reporting

The operator has to provide an annual audit report to the council outlining any significant changes to hazardous substance management on the site, changes in type and quantities of substances used or stored, and any incidents with the potential for off-site effects. The report shall also specify the training and monitoring procedures and activities for the period covered.

An emergency response and contingency plan shall be prepared for the site and contain all necessary procedures, including fire safety and spill response, plans, responsibilities and contact details to deal with any incident involving hazardous substances. A copy of the plan shall be submitted to council before commencement of operations.

Dated: …..

Signed:…

EXERCISE 7.1 GROUP DISCUSSION ON LOCAL AUTHORITY PLANS FOR COMPLIANCE AND ENFORCEMENT UNDER THE HSNO ACT

Exercise

Discuss in a small group what you know about the plans and actions of your or another local authority in terms of complying with and enforcing the HSNO Act.

Notes

EXERCISE 7.2 WHAT NEEDS TO BE CONSIDERED BY A TERRITORIAL AUTHORITY IN MEETING THE COMPLIANCE AND ENFORCEMENT PROVISIONS OF THE HSNO ACT?

Exercise

You are the Chief Executive of a territorial authority and are required to set up systems and processes to meet the requirements of the HSNO Act in terms of compliance and enforcement. What key actions/areas will you need to ensure will be covered in this exercise?

Refer to Section 7.3.3 of the workshop manual.

Notes