

## SECTION 13.8 HAZARDOUS SUBSTANCES DISTRICT WIDE ACTIVITY

### 13.8.1 INTRODUCTION

Hazardous substances are extensively used in a wide range of activities from dry-cleaning clothes, manufacturing industrial products, to controlling pests and plant diseases. Problems occur because of conflict between the use of and reliance on hazardous substances and the potential adverse effects on human health, ecosystems, damage to property and contamination of land.

Hastings District has some major industries which store and use hazardous substances. These include the timber industry and food production and processing industries. Numerous smaller industrial activities use hazardous substances as raw material or as part of an industrial process. Hazardous substances are also used in small quantities by public authorities and throughout the rural sector.

The potential for environmental damage from spills is of particular concern where hazardous substances are stored or used next to streams, lakes, aquifers and other sensitive areas.

The management of hazardous substances is an issue under the Resource Management Act 1991. Under sections 30 and 31 of the Act, Councils are required to take steps to prevent or mitigate any adverse effects of the storage, use, disposal or transportation of hazardous substances.

The reliance on hazardous substances means that there is a need to ensure that:

- (a) The potential effects on the environment, including ecosystems, due to unintentional release or loss of control of hazardous substances, is effectively managed.
- (b) The potential for damage to human health and property, caused by unintentional release or loss of control of hazardous substances, is effectively managed.
- (c) Methods are sought to reduce the use of hazardous substances over time where alternatives exist or can be developed.
- (d) People are adequately informed about the use of hazardous substances.

In order to manage the effect of hazardous substances the rules of the District Plan must focus on those facilities which use, store or dispose of hazardous substances, rather than on the substances themselves. The provisions of the District Plan are used therefore to control the location, development and performance of hazardous facilities.

### 13.8.2 RESOURCE MANAGEMENT ISSUES

- ***Protecting the health and well being of the environment, people and property.***

Under Sections 30 and 31 of the Resource Management Act 1991, Councils are required to take steps to prevent or mitigate the potential for hazardous substances to have adverse effects on human health, the environment and property. Possible adverse effects of hazardous substances can be predicted by the nature 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.
- ***The storage and use of hazardous substances is integral to the successful operation of the District's economy.***

Hastings District contains a wide variety of industrial, commercial and agricultural activities which utilise and store hazardous substances as raw materials or for part of the industrial process. The District Plan needs to address the management of the use and storage of these in a manner that minimises their likely threat to the environment.

- ***Protecting the environment from the adverse effects of the uncontrolled discharge of hazardous substances.***

Activities involving hazardous substances may cause adverse environmental effects when the substances are not adequately controlled and escape into the environment. Such releases, whether caused by accident or poor management practices, may cause environmental contamination and damage. To prevent or mitigate potential adverse environmental effects these activities need to be located appropriately and managed correctly.

- ***Management of the effects of the remediation or redevelopment of contaminated sites (or potentially contaminated sites).***

The presence of hazardous substances on sites, as a result of contamination from previous land uses, may lead to adverse effects if remediation or redevelopment is carried out without suitable precautions to avoid the spread of contaminants.

- ***The need for a robust model for screening facilities that store and use hazardous substances.***

The District Plan needs a screening mechanism that will assess risk factors at facilities which store and use hazardous substances in a consistent manner.

- ***A hazardous substances control regime should provide flexibility for users.***

The control regime needs to be flexible in its approach so that the District Plan accommodates the use and storage of hazardous substances where their risk to the environment is low or where recognised codes of practice limit the risk.

### 13.8.3 OBJECTIVES

- *HSO1 To avoid, remedy or mitigate adverse environmental effects and risks of hazardous facilities to people, ecosystems or the built environment.*
- *HSO2 To enable activities to utilise hazardous substances where necessary for their operations.*
- *HSO3 To enable the remediation and redevelopment of contaminated sites while avoiding or mitigating any adverse effects.*

**13.8.4 POLICIES**

- HSP1 Ensure that activities that store and use hazardous substances are located so that they do not pose a risk to the environment.**

Explanation

Under the Resource Management Act, Local Authorities have a duty to control the adverse effects of activities on the environment. The nature and scale of environmental effects and risks associated with activities storing or using hazardous substances are influenced by their location i.e. their proximity to sensitive environmental areas including residential areas. Specific controls relating to the use and storage of hazardous substances will therefore directly affect the nature of environmental effects and the level of risk.

- HSP2 Ensure that activities that store and use hazardous substances are subject to effective and consistent controls.**

Explanation

A consistent hazardous facility screening procedure will enable the Council to assess the risk factors at various sites throughout the District and determine if certain activities need a resource consent and need to be subject to controls and additional assessment criteria.

- HSP3 Ensure that the information is disseminated to the public regarding the nature and effects of the use and disposal of hazardous substances.**

The community needs to be informed about the risks involved with the storage and use of hazardous substances including what will be subject to the Hazardous Facility Screening Procedure. This will enable businesses and individuals to make informed decisions and encourage self regulation.

- HSP4 Ensure that activities that store and use hazardous substances include facilities which are designed, constructed and managed to reduce risks to the environment.**

Explanation

Site design, layout and operational/management procedures can greatly reduce the risks to the environment from activities storing or using hazardous substances.

- HSP5 Ensure that remediation or redevelopment of contaminated sites is managed in a way that avoids or mitigates the adverse effects of those activities.**

Explanation

The remediation and redevelopment of contaminated sites may present a risk to the community. In some cases this risk may be of particular concern because of the proximity of sensitive ecological areas or residential land uses. Controls will be imposed to ensure that precautions are undertaken to avoid the spread of contaminants.

**13.8.5 METHODS**

These Objectives and Policies will be implemented through the following Methods.

- **Hastings District Plan**

Activity Zones: Council will utilise its zoning and planning strategy to control the establishment of hazardous facilities in the vicinity of incompatible land uses.

Hazardous Substances DWA: These provisions enable Council to assess the hazard posed by various substances and the risk they present and to set appropriate controls.

Hazardous Facility Screening Procedure (HFSP): The Hazardous Facility Screening Procedure has been designed as a screening tool to assist Council in deciding whether an activity is permitted or requires a resource consent with additional assessment of the risks posed by hazardous substances. It can be applied to most facilities storing or using hazardous substances. Existing facilities (as at 12 November 1997) however, are not subject to the HFSP unless they expand or alter their operations, resulting in a significant change in environmental effects, as defined by Sections 10, 10A and 20 of the Resource Management Act.

The HFSP works by calculating a base quantity for storage of hazardous substances depending on the chemical properties and adjusts by various factors including site separation distances, environmental sensitivity, substance and storage type. The quantities of hazardous substances stored are then compared to the adjusted base quantities to get the "Effects Ratio". Each zone has a threshold effects ratio for a permitted activity. If the site exceeds this threshold the activity requires a resource consent.

This procedure was originally designed by a consortium of District and Regional Councils and the Ministry for the Environment. The model has been adopted and tailored to reflect the Hastings District context. The Hazardous Facility Screening Procedure has been designed to operate within the framework of the Hazardous Substances and New Organisms Act 1996 (HSNO Act). It is recognised that some modification to the HFSP may be needed once the regulations under the HSNO Act are implemented.

HFSP Consent Status Matrix: The Consent Status Matrix shows the trigger levels associated with each zone in the District. These are set in order to reflect appropriate levels of risk for different land use zones. This ensures that proposed facilities or activities in more sensitive areas are subject to a higher degree of security.

Site Management Systems and Emergency Plans: When considering activities under the Hazardous Facility Screening Procedure and where a resource consent is required the Council may impose conditions requiring the provision of a Site Management Plan.

Heretaunga Plains Unconfined Aquifer RMU (Section 12.1): The Unconfined Aquifer has specific protection which modify the requirements relating to the storage and use of hazardous substances exercised under this section of the District Plan.

Network Utilities DWA (Section 13.3): This section covers activities relating to gas and oil in pipelines and trade waste sewerage and waste treatment.

Contaminated Sites: These are identified in Appendix 13.8-2 'List of Contaminated Sites' and referenced on the Planning Maps. Sites will be added to this Appendix through the Plan Change process, as information comes available identifying that a site is contaminated in a manner whereby its normal use could pose a hazard to people and the environment.

- **Dangerous Goods Act 1974 and Associated Regulations**

This Act and associated regulations are administered by the Department of Labour but licensing is carried out by territorial local authorities. The focus is on Class 2, 3, 4 and 5 substances, these being gases, flammable liquids, flammable solids and oxidising agents. Typical premises which have Dangerous Goods Licences are petrol stations, spray painters, paint suppliers and a variety of other premises with diesel, petrol or LPG storage.

- **Toxic Substances Act 1979 and Toxic Substances Regulations 1983**

This Act and associated regulations are administered by the Ministry of Health and cover Class 6, 7 and 8 substances - toxic, radioactive and corrosive.

- **Pesticides Act 1979**

This Act administered by the Ministry of Agriculture and Fisheries and regulates the control, sale and use of pesticides.

- **Building Act 1991**

Relevant sections include F1 Hazardous Agents on Site, F3 Hazardous Substances and Processes, F8 Signs, G4 Ventilation, G11 Gas and Energy Source and G14 Industrial Liquid Waste of the Building Regulations (Code) 1992. Also under Section 64 of the Building Act a building may be deemed dangerous by reason of fire hazard where a building is used for the storage and processing of hazardous substances.

- **Radiation Protection Act 1965 and Radiation Protection Regulations 1982.**

The use, storage and transport of radioactive material is controlled and licensed by the Ministry of Health through the National Radiation Laboratory. (Note: Radiation has been deliberately excluded from the risk assessment procedures as the type and degree of risk that is posed by radioactive material is different from and additional to that of chemical compounds).

- **Transport Act 1962**

This Act deals with the transport of hazardous substances on land. It establishes classes of substances and deals with labelling, documentation and training of drivers. Specific regulations are provided in the NZS5433(1988).

- **Explosives Act 1957**

This Act is administered by the Department of Labour and provides for the storage and transport of explosives (Class 1 substances).

- **Hazardous Substances and New Organisms (HSNO) Act 1996**

The Purpose of the 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. It brings together previous legislation on hazardous substances including the Dangerous Goods and Toxic Substances Regulations. In time HSNO regulations will supersede existing controls such as the Dangerous Goods Regulations. This is anticipated to occur in the year 2000. The Environment Protection Authority is the central government agency responsible for establishing and administering core conditions for the management of all hazardous substances and new organisms.

- **Hastings District Council Bylaws**

A number of bylaws have provisions relating to risks from hazardous substances. Part II "Fire Prevention" covers storage of goods. Part 13 "Nuisances" requires that no waste be allowed to run from a building or over land except in an approved manner. Part 18 "Trade Waste" requires that any discharge to a Council sewer is subject to controls and that the flow and composition of trade waste is monitored annually.

- **New Zealand/Australian Standards**

A number of New Zealand and Australian Standards are used for aspects of hazardous substances. For instance NZS5433 (1992) covers fixed bulk containers containing toxic substances and corrosives, AS3780 (1994) also covers corrosives, AS1596 (1989) "LPG Storage and Handling - Siting of LP Gas Automotive Retail Outlets" covers LPG installations. There are also a number of construction standards which apply to storage tanks for petroleum products both steel and fibreglass.

- **Codes of Practice**

This includes the Code of Practice for Design, Installation and Operation of Underground Petroleum Storage Systems (1992) published by the Department of Labour. This covers underground petrol and diesel tanks and was jointly prepared by the Ministry for the Environment and the major oil companies to complement the Dangerous Goods Regulations. In the case of Agrichemicals there is the "Agrichemical Code of Practice" developed by the Agrichemical Education Trust which has since become a NZ Standard (NZS 8409(1995)).

- **Integrated Management**

Hastings District Council will consult with Hawke's Bay Regional Council, NZ Fire Service, other statutory agencies and industries to ensure that a consistent approach is adopted for hazardous facility management.

- **Education**

The Council will provide the community with information regarding the nature of and effect of the use and disposal of hazardous substances commonly found or used within the District including those that are subject to the HFSP (including exemptions).

- **Voluntary Measures and Self Regulation**

Council will assist with the identification and promotion of suitable Industrial Standards and Codes of Practice to avoid, remedy or mitigate environmental effects and risks associated with hazardous substances and facilities. Council will also assist with the development of guidelines to assist operators of hazardous facilities in achieving compliance with relevant management requirements.

- **Monitoring and Information Requirements**

Monitoring initiatives which includes the gathering of site information shall be undertaken to ensure that the methods outlined in the District Plan continue to achieve the Objectives and Policies for hazardous substances.

- **Advocacy**

Council will promote "Cleaner Production" and "Waste Minimisation" initiatives.

- **LIMS and PIMS**

Where a Land Information or Project Information Memorandum is requested, Council will indicate the location of contaminated sites, based on information contained in Appendix 13.8-2 'List of Contaminated Sites'. Council will also advise if it knows that the general location of a site is currently, or has historically, been occupied by land use activities commonly associated with hazardous substances and whether this location is currently under investigation (to determine if it is contaminated) by Council or whether it has been confirmed as being contaminated.

- **Gas Act 1992**

This Act makes provision for the regulation, supply, and use of gas in New Zealand by distribution pipeline. Gas Codes of Practice and Standards are issued through the provisions of the Act.

### 13.8.6 ANTICIPATED OUTCOMES

It is anticipated that the following specific outcomes will be achieved:

- Appropriate siting and control of hazardous facilities.
- Avoidance of unacceptable risk to the community and the environment from the use, storage and transport of hazardous substances.
- A reduction in the number of accidents and the extent of adverse environmental effects due to the release of substances stored and used at hazardous facilities.
- Adoption of better site management and operational practices.
- Avoidance of contamination of the natural environment from facilities storing and using hazardous substances.
- Improved community and industry awareness of risks posed by activities using, storing or transporting hazardous substances.
- An integrated approach to the management of hazardous substances in line with the Hazardous Substances and New Organisms (HSNO) Act.

### 13.8.7 RULES

The activity status and performance standard requirements provided for by these Rules may be modified by the specific provision of individual Resource Management Units (RMUs). It will be necessary to check first whether the activity is located within a RMU because any activity must comply with the RMU provisions first, before applying the following rules.

#### 13.8.7.1 PERMITTED ACTIVITIES

The following activities shall be Permitted provided they can comply with the General Performance Standards and Terms in Section 13.8.8 and the relevant Specific Performance Standards and Terms in Section 13.8.9.

- ACTIVITIES STORING AND USING HAZARDOUS SUBSTANCES

#### 13.8.7.2 CONTROLLED ACTIVITIES

- (a) The following activities shall be controlled provided that they comply with the General Performance Standards and Terms in Section 13.8.8 and the relevant Specific Performance Standards and Terms in Section 13.8.9.
- ANY REMEDIATION ACTIVITY ON A CONTAMINATED SITE AS IDENTIFIED IN APPENDIX 13.8-2
- (b) Applications for Controlled Activities will be considered without notification or the need to obtain the written approval of affected parties. Conditions may be imposed in relation to the matters over which control will be exercised, identified in the Assessment Criteria in Section 13.8.10 of the Plan.

#### 13.8.7.3 RESTRICTED DISCRETIONARY ACTIVITIES

- (a) The following activities shall be Restricted Discretionary Activities.
- ANY PERMITTED OR CONTROLLED ACTIVITY NOT MEETING ONE OR MORE OF THE GENERAL PERFORMANCE STANDARDS AND TERMS IN SECTION 13.8.8 OR THE SPECIFIC PERFORMANCE STANDARDS AND TERMS IN SECTION 13.8.9.
  - ANY ACTIVITY WHICH PROPOSES TO LOCATE ON A CONTAMINATED SITE AS IDENTIFIED IN APPENDIX 13.8-2.
- (b) Applications may be considered without the need to obtain the written approval of affected persons and may be considered without notification. Activities will be assessed and conditions may be imposed in relation to those matters identified in Section 13.8.11 that Council has restricted its discretion over.

#### 13.8.7.4 DISCRETIONARY ACTIVITIES

- (a) The following activities shall be Discretionary Activities, and may be assessed against, but not restricted to those matters identified in the Assessment Criteria in Section 13.8.11 of the Plan, and the Objectives and Policies of the Zone.
- ANY ACTIVITY WHICH INVOLVES A PROCESS UTILISING A RADIATION SOURCE OF COBALT 60 OR AN ACCELERATOR AS A MACHINE SOURCE OF RADIATION.



## 13.8.8 GENERAL PERFORMANCE STANDARDS AND TERMS

The following Performance Standards and Terms apply to all Permitted and Controlled Activities.

### 13.8.8.1 EFFECTS RATIO THRESHOLDS FOR THE STORAGE AND USE OF HAZARDOUS SUBSTANCES

Hazardous Facilities (see Section 18.0 definition) shall comply with the effects ratio specified in Table 13.8.8-1 below which is a value derived from undertaking a Hazardous Facilities Screening Procedure (HFSP) outlined in Appendix 13.8.1.

Exceptions:

- (i) Provided that in the case of the storage of petrol, diesel and LPG by service stations, adherence to the following Code of Practice/Standard shall be deemed an acceptable alternative means of compliance with this Rule:
  - Code of Practice for the Design, Installation and Operation of Underground Petroleum Systems (Department of Labour, 1992)
  - Australian Standard (AS 1596 – 1989) for LPG Storage and Handling – Siting of LPG Automotive Retail Outlets.
- (ii) Provided that in the case of hazardous substances associated with temporary military training activities adherence to the following Code of Practice shall be deemed an acceptable alternative means of compliance with this Rule:
  - The New Zealand Defence Force Orders as contained in Ammunition and Explosives Regulations Volume One (A&Ers Vol 1) for the storage of ammunition and explosives, and NZ P2, Safety in Training.
- (iii) Provided that in the case of the use and storage of agrichemicals adherence to the following Code of Practice shall be deemed an acceptable alternative means of compliance with this Rule:
  - New Zealand Standard 8409:1999 Code of Practice for the Management of Agrichemicals.

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#### Outcome

*The potential effects of activities associated with hazardous substances will be known. An indication of the appropriateness of the location of an activity associated with hazardous substances and the possible environmental effects associated with that location will be known.*

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TABLE 13.8.8-1: CONSENT STATUS MATRIX

ZONE	EFFECTS RATIO FOR PERMITTED ACTIVITIES
Industrial 1	≤0.5
Havelock North Industrial Precinct	≤0.5
Havelock North Employment Precinct	≤0.5
Industrial 2 (General) [within 50m of residential zone]	≤1 ≤0.5
Deferred Industrial 2	≤0.02
Industrial 3 (Stortford Lodge)	≤0.5
Industrial 4 (Whirinaki)	≤1
Industrial 5 (Winery)	≤0.5
Industrial 6	≤1
Industrial 7 (Tomoana Food Industry Cluster) Zone	≤1
Deferred Industrial 7 (Tomoana Food Industry Cluster) Zone	≤0.75 (Health & Environment) ≤0.1 (Fire/Explosion)
Central Commercial	≤0.1
Havelock North Retail Precinct	≤0.1
Havelock North Mixed Used Precinct	≤0.02
Flaxmere Village Centre Zone Commercial and Commercial Service Precincts	≤0.1
Commercial Service	≤0.2
Central Residential Commercial	≤0.02
Suburban Commercial	≤0.02
Rural	≤0.75 (Health & Environment) ≤0.1 (Fire/Explosion)
Plains	≤0.75 (Health & Environment) ≤0.1 (Fire/Explosion)
Rural Residential	≤0.1
General Residential [within land identified in Appendix 8.0-4]	≤0.02 ≤0.5
Flaxmere Village Centre Zone Community/Residential Precinct	≤0.02
Plains Residential	≤0.02
Coastal Residential	≤0.02
Deferred Residential	≤0.75 (Health & Environment) ≤0.1 (Fire/Explosion)
Te Mata S.C.	≤0.04 (Health & Environment) ≤0.1 (Fire/Explosion)
District Wide Activities	As per the underlying zoning.
Resource Management Units	As per the underlying zoning unless otherwise specified in the R.M.U.

Notes: Where there are multiple hazardous facilities on a single site, owned or controlled separately, they may be assessed separately if the facilities are more than 30 metres apart.

Council holds the following information which it will provide on request:

- Technical information on particular hazardous substances necessary for carrying out

- a HFSP;
- Worked examples of HFSP assessments; and
- A computerised HFSP Spreadsheet available via e-mail

Council will undertake HFSP assessments for applicants when requested, provided the applicant supplies the relevant details about where and how the substances are proposed to be used/stored on-site and the quantities of the substances involved. Given these details Council could also advise the maximum quantity of hazardous substances permitted to be stored on a site.

#### 13.8.8.2 SPILL CONTAINMENT

Any activity storing or using a hazardous substance shall ensure that the activity is designed, constructed and managed to prevent:

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

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Outcome

*Hazardous substances will be contained within an area which is safe for their use.*

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#### 13.8.8.3 CONTAMINATION OF STORMWATER

Any activity storing or using a hazardous substance shall ensure that the activity is designed, constructed and managed to prevent any stormwater originating on or collected on the site from contaminating:

- (a) Any land and/or water (including groundwater and potable water supplies) by acting as a transport medium for hazardous substances unless permitted by a Regional Plan or a discharge consent.
- (b) The stormwater drainage system or the public sewerage system unless permitted by the network utility operator responsible for that system.

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Outcome

*Hazardous substances will not be allowed to escape into the stormwater system and sewer system .*

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#### 13.8.8.4 WASHDOWN AREAS

Any activity using vehicles, equipment or containers that are or may have become contaminated with hazardous substances and are required to be washed down shall ensure that:

- (a) Any area used is designed, constructed and managed so that process effluent from the washdown area is not discharged into the

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Outcome

*Washdown areas shall be designed to contain hazardous substances from entering public stormwater and sewerage systems and water supplies.*

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stormwater drainage system or the sewerage system unless permitted by the network utility operator responsible for that system.

- (b) Any area used shall be designed, constructed and managed to limit discharge into or onto land/or water (including groundwater and potable water supplies) unless such discharge is permitted by the relevant Regional Plan or a discharge consent.

NB: Suitable means of compliance may include: sloped pavements, interceptor drains, contaminant and diversion valves, oil-water separators, sumps and similar systems.

**13.8.8.5 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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Outcome  
*Hazardous substances will be contained within an area which is safe for their use.*

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NB: 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 monitoring systems which are capable of detecting a failure or breach 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).

**13.8.8.6 SIGNAGE**

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

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Outcome  
*The public will be aware of the use and location of hazardous substances.*

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**13.8.8.7 STORAGE OF WASTE**

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

- (a) The exposure to ignition sources
- (b) The corrosion or other alteration of the containers used for the storage of the waste
- (c) The unintentional release of the waste
- (d) Any hazardous facility generating waste containing hazardous substances shall dispose of these wastes to suitable facilities or be serviced by a reputable waste disposal contractor.

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Outcome  
*Hazardous substances will be contained within an area which it is safe for their storage.*

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**13.8.8.8 SAFE HANDLING PRACTICES**

Activities which manufacture, mix, pack, store, load, use

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Outcome  
*Hazardous substances will be used in a*

or handle hazardous substances shall use safe handling practices. Compliance with the Codes of Practice below is deemed to be an acceptable means of compliance.

- (a) Agrichemical Code of Practice (NZS 8409:1995) - Storage of Agrichemicals, Emergency, Evacuation and Fire Fighting Requirements.
- (b) Code of Practice for the Safe Use of Timber Preservatives and Anti-Sapstain Chemicals (Department of Labour, February 1994).

*manner that prevents adverse effects.*

### 13.8.9 SPECIFIC PERFORMANCE STANDARDS AND TERMS

The following specific performance standards, and terms apply to the activities specified below:

#### 13.8.9.1 STORAGE AND USE OF HAZARDOUS SUBSTANCES ASSOCIATED WITH SERVICE STATIONS

##### (1) Maximum Volumes of Hazardous Substances

Notwithstanding the requirements of Section 13.8.8.1, the storage and use of hazardous substances by service stations shall comply with the following maximum limits:

- (a) Petrol 100,000 litres
- (b) Diesel 50,000 litres
- (c) LPG 6 tonnes (single vessel storage)

##### Outcome

*Service stations will use or store hazardous substances in a safe manner that is in compliance with recognised national standards.*

#### 13.8.9.2 REMEDIATION ACTIVITIES ON CONTAMINATED SITES

A health and safety plan covering the intended work and indicating the measures by which the site will be remediated, and by which remediation workers and neighbouring land users will be protected from the adverse effects of contaminants, shall be produced.

##### Outcome

*Hazardous sites will be remediated without causing further risks to the environment.*

### 13.8.10 ASSESSMENT CRITERIA FOR CONTROLLED ACTIVITIES

#### Explanation of Assessment Criteria:

For Controlled Activities, the following identify those matters which Council may exercise its control over, or matters in respect of which Council may impose conditions, in accordance with the Rules above.

#### 13.8.10.1 REMEDIATION ACTIVITIES ON CONTAMINATED SITES

The remediation of contaminated sites will be assessed in terms of:

- (a) The extent to which the site is contaminated.
- (b) Whether the methodology to remediate the contaminated site conforms to the standards specified in the following documents, according to the particular site:
  - (i) Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC 1992).
  - (ii) Hawke's Bay Regional Council Protocols for Contaminated Site Investigation and Reporting (Worley, November 1995).
  - (iii) Health and Environmental Guidelines for Selected Timber Treatment Chemicals (Ministry for the Environment, Ministry of Health June 1997).
  - (iv) Guidelines for the Management of Contaminated Gasworks Sites in New Zealand (Ministry for the Environment, August 1997).
  - (v) Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (Draft for Consultation August 1997, Ministry for the Environment).

<b>13.8.11 ASSESSMENT CRITERIA FOR RESTRICTED DISCRETIONARY AND DISCRETIONARY ACTIVITIES</b>
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Explanation of Assessment Criteria:

For Restricted Discretionary Activities, the following identify those matters which Council has restricted its discretion over in assessing resource consent applications; For Discretionary Activities, the following identify those matters which Council may assess the activity against. Council's assessment is not however restricted to these matters.

**13.8.11.1 ACTIVITIES STORING AND USING HAZARDOUS SUBSTANCES WHICH EXCEED THE HFSP EFFECTS RATIO SPECIFIED FOR THE ZONE.**

An application will be assessed having regard to the matters listed below.

- (a) Consistency with the Objectives, Policies and Methods for this Section of the District Plan and the relevant zone.
- (b) Risk assessment.
 

A qualitative or quantitative risk assessment may be required, depending on the scale or 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:

  - (i) Identification of potential hazards, failure modes and exposure pathways.
  - (ii) 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.
  - (iii) The distance to environmentally sensitive areas such as wildlife habitats or water catchments, aquifers, waterway, coast or other sensitive environments.
  - (iv) The nature of the sub-soil and the site geology.
  - (v) Identification of cumulative and/or synergistic effects.
  - (vi) Assessment of the probability and potential consequences of an accident leading to a release of a hazardous substance or loss of control.
  - (vii) Spill contingency and emergency planning, monitoring and maintenance schedules.
  - (viii) Fire safety and fire water management.
  - (ix) Adherence to health and safety and/or environmental management systems, including, as appropriate:
    - Agrichemical Code of Practice (NZS 8409:1995) – Storage of Agrichemicals, Emergency, Evacuation and Fire Fighting Requirements
    - Code of Practice for the Safe Use of Timber Preservatives and Anti-Sapstain Chemicals (Department of Labour, February 1994).
    - Code of Practice for the Design, Installation and Operation of Underground Petroleum Systems (Department of Labour, 1992)

- Australian Standard (AS1596-1989) for LPG Storage and Handling – Siting of LPG Automotive Retail Outlets.
- (x) Site drainage and off-site infrastructure, e.g. stormwater drainage system, sewer type and capacity.
- (xi) The transport of hazardous substances.
- (xii) The disposal of waste containing hazardous substances.
- (c) 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.
- (d) 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.
- (e) 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.

#### **13.8.11.2 ANY ACTIVITY WHICH PROPOSES TO LOCATE ON A CONTAMINATED SITE**

An application will be assessed having regard to the matters listed below.

- (a) The extent to which the site is contaminated
- (b) Whether a health and safety plan covering the intended work, can demonstrate that there are no off-site effects, indicating the measures by which the site will be remediated and what measures will be taken to ensure the safe operation of the proposal on the contaminated site
- (c) The extent to which the methodology and information requirements for the proposal conforms to those documents listed in Section 13.8.11.1 (b) "Risk Assessment".

<b>13.8.12 INFORMATION REQUIREMENTS FOR ALL ACTIVITIES</b>
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For facilities subject to the Hazardous Facility Screening Procedure the following information is required either for the applicant to undertake the hazardous facility screening procedure and supply the Council with the results (or supply Council with the information to carry out the HFSP calculations) as detailed in Appendix 13.8-1.

#### **13.8.12.1 SUBSTANCE SPECIFIC INFORMATION**

It is necessary, as part of the HFSP, to collect substance specific information. The information required is collated on a Substance Worksheet (Attachment B-1). These sheets form the basis to determine the hazard levels within each Effects Group for each substance concerned. Sample Substance Worksheets and summary information of over 100 commonly used hazardous substances are available on inquiry from the Council.

Additional relevant information for the Substance Worksheet can be extracted from Material Safety Data Sheets, national and international data bases, and text/reference books.

#### **13.8.12.2 SITE SPECIFIC INFORMATION**

In addition to substance specific information, there is a need to assemble site specific information. For this purpose a Site Information Form (Attachment B-2) will be filled in. The

information compiled in this form will be used together with the Substance Worksheets to carry out the necessary HFSP calculations.

**13.8.12.3 SITE MANAGEMENT PLAN**

A Site Management Plan shall be prepared to cover storage and use of hazardous substances on the site and actions and information required in event of a spill or other emergency involving hazardous substances.



## APPENDIX 13.8.1

**HAZARDOUS FACILITIES SCREENING PROCEDURE****1.0 INTRODUCTION**

The Hazardous Facility Screening Procedure (HFSP) has been designed as a screening tool to assist the Council in making decisions on whether a proposed hazardous facility is permitted or a discretionary activity requiring additional assessment of risks.

The HFSP will be applied to any proposed activity using or storing hazardous substances. Its purpose is to determine whether the facility will be permitted subject to defined minimum performance standards, or will require a land use resource consent.

Activities using hazardous substances range from home occupations using hazardous or environmentally damaging substances to large chemical factories. Common examples of hazardous substances are acids, solvents, paints, fuels and pesticides. Environmentally damaging substances include seemingly harmless substances such as foodstuffs, which kill aquatic life when released into water ways in large quantities, for example, due to depletion of oxygen.

**2.0 OVERVIEW AND TERMINOLOGY**

The HFSP is based on the assessment of hazardous substances in terms of three major Effects Groups: fire/explosion, human health, and the environment. Each substance is assigned a Base Threshold (B) - expressed as a weight or volume - for each of the three defined Effect Groups. The Base Threshold is dependent only on the intrinsic hazardous properties of a substance.

Depending on the physical state of the substance(s), the type of storage and activity, site separation distances and the environmental sensitivity of the location, Adjustment Factors (F) are applied to the Base Thresholds. Base Thresholds and Adjustment Factors are then multiplied to generate an Adjusted Threshold (T) for each of the Effects Groups.

The next step is the calculation of the Effects Ratio (R), which represents the proposed quantity of a substance (Q) to be used/stored in relation to the Adjusted Threshold. The Effects Ratio forms the basis to determine the consent status of a particular facility, and to evaluate the cumulative effects presented by multiple substances. An overview of the HFSP concept is shown in Figure 1.

**3.0 EFFECTS GROUPS**

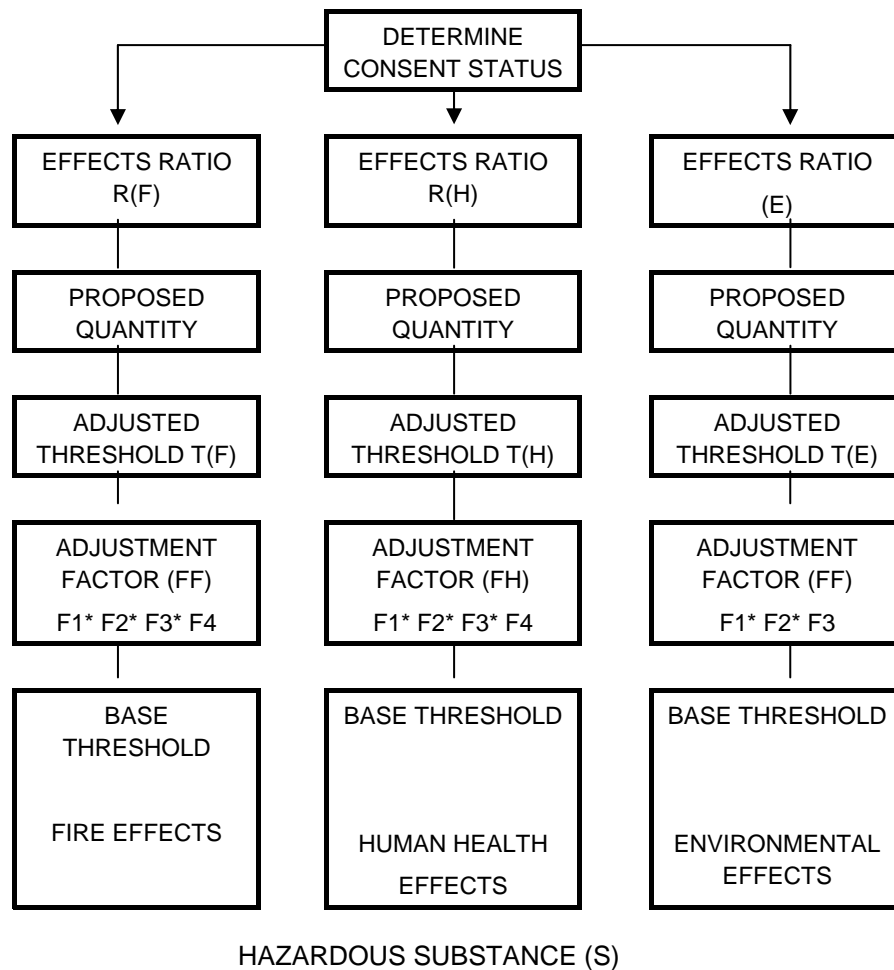
The effects of any particular substance can be categorised into three groups:

- **Fire/Explosion effects:**  
This Effects Group is concerned with damage to property, the built environment and the safety of people.
- **Human health effect:**  
The Effects Group is concerned with the well being, health and safety of people.
- **Environmental effects:**  
This Effects Group is concerned with damage to ecosystems and natural resources.

Each Effects Group is divided into three levels: high, medium and low. Mostly, the division into low, medium, and high levels is based on the UN (United Nations) Classification System.

It is of importance to note that a substance may exhibit different levels in each of the Effects Groups; for example, a substance may present a medium explosion effect, a high human health effect, and a high environmental effect. Hence, it is often possible that a substance will fit into more than one Effects Group.

**FIGURE 1: HFSP CONCEPT**



**4.0 BASE THRESHOLDS (B)**

The Base Threshold (B) represents base quantities of a substance for each level in the three Effects Groups. These Base Thresholds, in combination with relevant Adjustment Factors have been assessed to present non-significant off-site environmental effects on a heavy industrial site.

The Base Threshold for the individual Effects Groups are shown in Table 1.

**TABLE 1: BASE THRESHOLDS (B) FOR ALL EFFECT TYPES AND HAZARD RATINGS**

HSNO CATEGORY	UN CLASS EQUIVALENT	HAZARD LEVEL	UNIT	BASE QUANTITY (B)		
				Fire/Explosion	Human Health	Environment
<b>EXPLOSIVENESS</b>						
1.1	Class 1.1	High	tonnes	0.1	-	-
1.2	Class 1.2	Medium	tonnes	1	-	-
1.3	Class 1.3	Low	tonnes	3	-	-
<b>FLAMMABLE GASES</b>						
2.1 A+B (LPG)	Class 2.1	Medium	tonnes	30	-	-
2.1 A+B (excluding LPG)	Class 2.1	High	m <sup>3</sup>	10,000*	-	-
<b>FLAMMABLE LIQUIDS</b>						
3 A and 3 B	Class 3PGI and 3PGII	High	tonnes	10	-	-
3 C	Class 3PGIII	Medium	tonnes	30	-	-
3 D		Low	tonnes	100	-	-
<b>FLAMMABLE SOLIDS</b>						
4.1 (all categories)	Class 4.1	Medium	tonnes	10	-	-
4.2 (all categories)	Class 4.2	High	tonnes	1	-	-
4.3 (all categories)	Class 4.3	High	tonnes	1	-	-
<b>OXIDISING GASES, LIQUIDS AND SOLIDS</b>						
5.1 (all categories)	Class 5.1	Medium	tonnes (m <sup>3</sup> )	10 (10,000*)	-	-
5.2 (all categories)	Class 5.2	High	tonnes	1	-	-
<b>TOXIC GASES, LIQUIDS AND SOLIDS</b>						
6.1 A	Class 6.1 PGI	High	tonnes	-	0.5	-
6.1 A	Class 2.3 PGI	High	m <sup>3</sup>	-	30*	-
6.1 B	Class 6.1 PGII	Medium	tonnes	-	10	-
6.1 B	Class 2.3 PGII	Medium	m <sup>3</sup>	-	50*	-
6.7-6.9 (chronic toxicity categories)	OECD	Medium	tonnes	-	10	-
6.1 C	Class 6.1 PGIII	Low	tonnes	-	30	-
6.1 C	Class 2.3 PGIII	Low	m <sup>3</sup>	-	500*	-
<b>CORROSIVE GASES, LIQUIDS AND SOLIDS</b>						
(8A) 6.3-6.4 (corrosives, all categories)	Class 8	Medium	tonnes (m <sup>3</sup> )	-	10	-

ECOTOXIC GASES, LIQUIDS AND SOLIDS						
9.1-9.4A	(OECD 1)	High	tonnes (m <sup>3</sup> )	-	-	1 (30*)
9.1-9.4B	(OECD 2)	Medium	tonnes (m <sup>3</sup> )	-	-	30 (50*)
9.1-9.4C	(OECD 3)	Low	tonnes (m <sup>3</sup> )	-	-	100 (500*)

\* Base Quantity in m<sup>3</sup> at 101.3 kPa and 20 °C for permanent or compressed gases.

## 5.0 ADJUSTMENT FACTORS (FF, FH, FE)

Adjustment Factors (FF, FH and FE) differ for each of the Effects Groups to take account of the specific circumstances influencing the severity of the effect. Adjustment Factors take into account the following considerations:

- the physical state of the substance;
- the type of storage;
- separation distances to site boundary; and,
- the environmental sensitivity of the site location.

In some instances, more than one Adjustment Factor will need to be applied. Where this is the case, the Adjustment Factors are multiplied to generate one combined Adjustment Factor (FF, FH or FE) for each Effects Group. Table 2 presents the Adjustment Factors for each Effects Group.

**TABLE 2: ADJUSTMENT FACTORS**

ADJUSTMENT FACTORS FOR ALL EFFECT TYPES		
Fire/ Explosion	Human Health	Environment
<b>FF1: SUBSTANCE FORM</b>	<b>FH1: SUBSTANCE FORM</b>	<b>FE1: SUBSTANCE FORM</b>
Solid = 1	Solid = 3	Solid = 3
Liquid, powder = 1	Liquid, powder = 1	Liquid, powder = 1
Gas (101.3 kPa and 20°C) = 0.1	Gas (101.3 kPa and 20°C) = 0.1	Gas (101.3 kPa and 20°C) = 0.1
<b>FF2: SEPARATION DISTANCE FROM SITE BOUNDARY (SUB-FACILITY)</b>	<b>FH2: SEPARATION DISTANCE FROM SITE BOUNDARY (SUB-FACILITY) (GASES ONLY)</b>	<b>FE2: ENVIRONMENTAL SENSITIVITY</b>
< 30 metres = 1	< 30 metres = 1	Normal = 1
> 30 metres (>60 metres) = 3 <sup>1</sup>	> 30 metres (>60 metres) <sup>1</sup> = 3	Adjacent to water resource = 0.3 <sup>2</sup>
<b>FF3: TYPE OF ACTIVITY</b>	<b>FH3: TYPE OF ACTIVITY</b>	<b>FE3: TYPE OF ACTIVITY</b>
Use = 0.3	Use = 0.3	Use = 0.3
Above ground storage = 1	Above ground storage = 1	Above ground storage = 1
Underground storage <sup>3</sup> = 10	Underground storage <sup>3</sup> = 10	Underground storage <sup>3</sup> = 3
Final Fire/Explosion Adjustment Factor <b>FF = FF1 x FF2 x FF3</b>	Final Human Health Adjustment Factor <b>FH = FH1 x FH2 x FH3</b>	Final Environment Adjustment Factor <b>FE = FE1 x FE2 x FE3</b>

<sup>1</sup>If the facility is assessed as a sub-facility, the distance to the neighbouring sub-facility must be more than 60 metres (ie 2 x 30 metres) to qualify for an Adjustment Factor of 3 (refer Section 5.5.4).

<sup>2</sup>water resources include aquifers and water supplies, streams, springs, lakes, wetlands, estuaries and the sea, but do not include entry points to the stormwater drainage network. 'Adjacent' must be defined in respective district plans and will depend on the type of water resource potentially affected (adjacent is variably defined as between 30 and 100 metres).

<sup>3</sup>Applicable to UN Class 3 substances (flammable liquids) only.

## 6.0 ADJUSTED THRESHOLD (T)

The Adjusted Threshold (T) is calculated for each Effects Group by multiplying the Base Threshold with the relevant Adjustment Factor, as follows:

$$T = B \times FF$$

- provides the Adjusted Threshold for a substance in the Fire/Explosion Effects Group

$$T = B \times FH$$

- provides the Adjusted Threshold for a substance in the Human Health Effects Group

$$T = B \times FE$$

- provides the Adjusted Threshold for a substance in the Environmental Effects Group

## 7.0 EFFECTS RATIO (R)

The Effects Ratio (R) is obtained by dividing the proposed quantity of a substance (Q) or group of substances by the Adjusted Threshold. The Effects Ratio fulfils two important purposes:

1. It forms the basis to define the trigger levels in the Consent Status Matrix which are used to determine the consent status of a particular facility. The consent status is determined by the highest Effects Ratio in any of the three Effects Groups.
2. By using a ratio of the proposed quantity of a hazardous substance over the Adjusted Threshold instead of Adjusted Threshold itself, it is possible to aggregate the effects presented by multiple substances held on the same site. Hence, it becomes possible to assess the cumulative potential effects which may be created by several substances present on the same site, and with similar hazardous properties.

## 8.0 HFSP STEP BY STEP GUIDE

The following provides a step by step guide on how to use the HFSP. The sequence of necessary steps is shown in Figure 2.

### 8.1 Hazardous Substances Inventory

To use the HFSP, it is necessary to create a full inventory of hazardous substances held on a site. Such an inventory comprises the names, quantities and UN Classification of hazardous substances.

Standard UN Classifications have been adopted for use in the HFSP procedure (Table 1 and Attachment A).

However, UN classifications are inadequate for toxic gases (Class 2.3) and environmentally toxic/damaging substances. The latter have been incorporated into the Eco-toxic grouping for the purposes of the HFSP. Under this additional classification, foodstuffs such as milk are included as potentially "environmentally damaging" substances.

### 8.2 Select Priority Substances

It is very common that multiple hazardous substances are held on a single site. It is neither practical nor necessary to submit every substance to the HFSP, provided that they do not have "priority status". The following "common sense" guidelines apply for sites where multiple hazardous substances are held:

- 1) If the number of substances is below ten, the HFSP will be carried out on all substances (unless it is evident that one single substance is likely to exceed the relevant trigger levels in the Consent Status Matrix).

- 2) If the number of substances is above ten, the HFSP will be carried out on those substances which either have:
  - a) a high or extreme effect rating; or
  - b) are held in quantities exceeding 10% in quantity of the total hazardous substances inventory.

### **8.3 Substance Specific Information**

It is necessary, as part of the HFSP, to collect substance specific information. Sample Substance Worksheets and summary information of over 100 commonly used hazardous substances are available on inquiry from the Council as is the HFSP Spreadsheet which also contains this information.

Additional relevant information for the Substance Worksheet can be extracted from Material Safety Data Sheets, national and international data bases, and text/reference books.

### **8.4 Site Specific Information**

In addition to substance specific information, there is a need to assemble site specific information.

### **8.5 HFSP calculations**

The HFSP calculations can be undertaken using the HFSP Evaluation Form or the HFSP Spreadsheet. The necessary calculations are made to establish the Adjusted Thresholds and the Effects Ratios for each substance. Forms are available on enquiry from the Council.

### **8.6 Aggregation of Effects Ratios**

In the event where multiple hazardous substances are assessed on the same site, it will be necessary to aggregate the Effects Ratios by summing them for each Effects Group. This can be achieved by either linking spreadsheets, or by manual calculation.

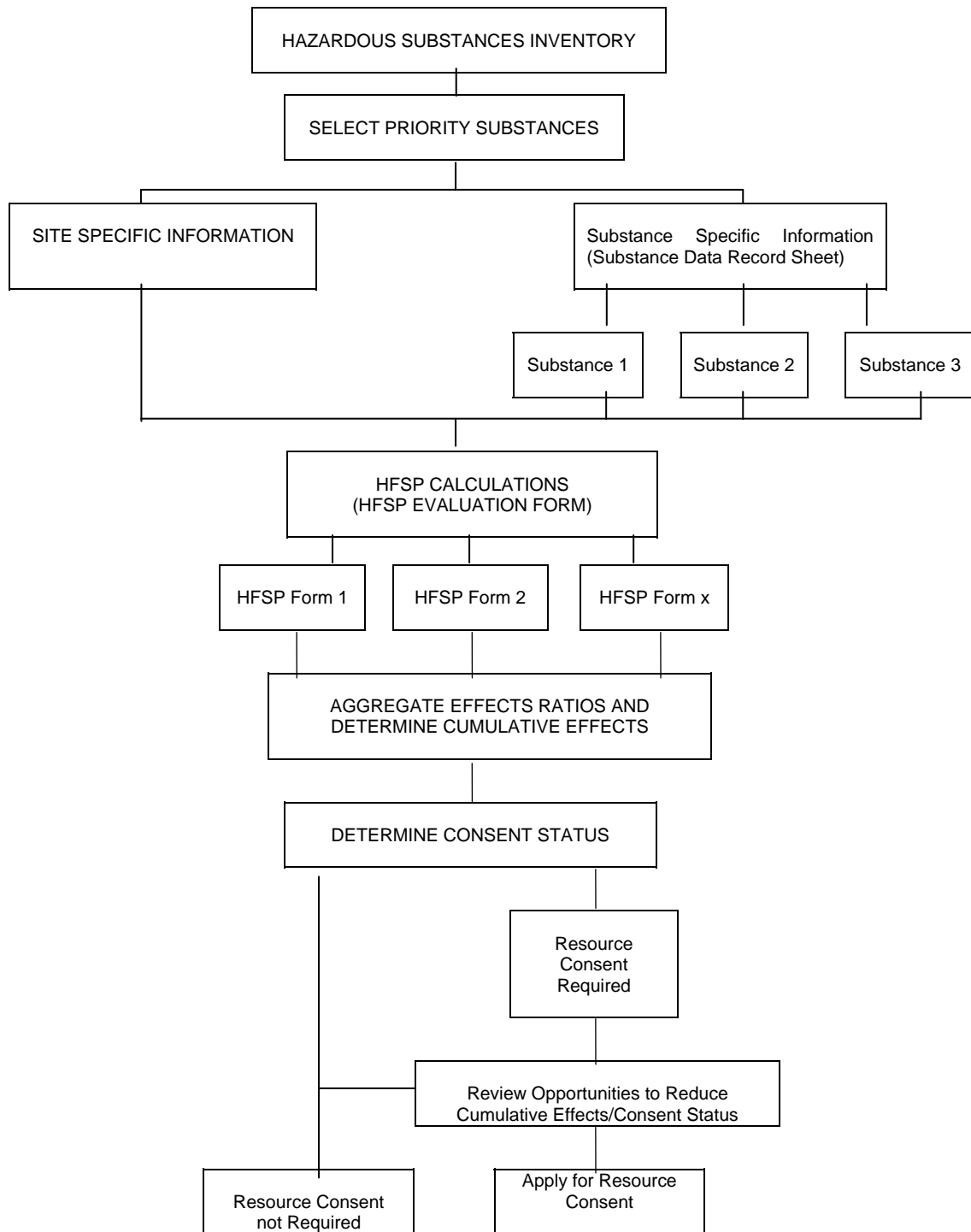
### **8.7 Determination of consent status**

The Effects Ratio of both individual and multiple substances form the basis to determine the consent status of a particular site. For this purpose, the Effects Ratio is compared against the trigger levels in the Consent Status Matrix. Overall, the highest Effects Ratio in any of the three Effects Groups determines the consent status, and whether an activity is permitted, controlled or discretionary.

Where the ratios indicate that an activity is discretionary, it is possible to review opportunities to reduce cumulative potential effects. This may be achieved by reducing the number and quantity of substances used/stored, or by carrying out the HFSP for individual (sub) facilities on the site, as opposed to the site as a whole. The subdivision of one site into more than one facility may be able to be justified on the basis of separation distances (within the site), and/or the lack of interaction between the individual facilities (for example, between above ground and underground storage tanks). However, the subdivision of the site into separate facilities cannot be done without prior consultation and agreement with Council Officers.

FIGURE 2:

**HFSP STEP-BY-STEP**



## **9.0 ADDITIONAL INFORMATION**

### **9.1 Diluted or Mixed Substances**

If a substance is diluted or mixed with other substances, the HFSP is applied to the percentage of the pure substance in the mixture (with the exception where the UN Classification already accounts for mixed/diluted substances). In a case where synergistic (additive) effects result in a mixture which is more hazardous than its components, the mixture may need to be assessed through appropriate testing procedures. In some instances, relevant information on mixtures is readily available (for example, formaldehyde).

### **9.2 Unavailability of Relevant Information**

If the potential effects of a substance are not known, or cannot be readily established with publicly available information, the substance should be rated at least medium for each of the three Effects Groups. This mainly applies to the Environmental and Human Health Effects Group, and to a lesser degree to the Fire/Explosion Effects Group, as information on flammability is generally readily available.

### **9.3 Temporarily Stored Substances**

The temporary storage of hazardous substances should be included in the HFSP.

### **9.4 Application to Small Package Users**

The HFSP is applied to small package users of hazardous substances as if it were a bulk quantity. While small hazardous substances packages reduce the risk of a major spill, they may in the case of fires react like a bulk quantity. Therefore, a conservative approach has been taken. However, users of small hazardous substances packages which are not stored/used in large quantities such as home users, supermarkets, chemist shops and hardware shops are exempt from the procedure.

### **9.5 Quantity versus Volume Units**

As a rule, the HFSP is applied to weights of hazardous substances. However, for permanent and compressed gases, Base Thresholds and Adjusted Thresholds will be applied as a volume (m<sup>3</sup>).



## APPENDIX 13.8-2

## LIST OF CONTAMINATED SITES

Reference	Map Reference	Address and Legal Description	Land Use which has caused Contamination
CS1	55	401 Karamu Road South, Hastings Lot 1 & 3 DP 21562	Gas Works
CS2	30	SH50, Roys Hill Pt Lot 2 DP 9046	Landfill