FUEL HANDLING AND STORAGE PROCEDURE

PURPOSE

To provide information and guidance for the safe storage and handling of fuel, including petrol and diesel.

PERMANENT FUEL STORAGE

### HAZARDOUS SUBSTANCES & NEW O RGANISMS (HSNO) REGULATIONS 1996 REQUIREMENTS

***SECTION 4*** *Operational Procedures and Guidelines*

HSNO Regulations detail specific requirements for storage of diesel and petrol summarised below:

***PROCEDURE***

### DIESEL

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **DIESEL STORED (LITRES)** | **100 -500** | **500 -1000** | **1000 -2000** | **2000- 5000** | **15000- 0,000+** |
| Supplier documents Required? | Yes | Yes | Yes | Yes | Yes |
| Person in Charge Documentation Required? | Yes | Yes | Yes | Yes | Yes |
| Fire Extinguishers |  | 2 | 2 | 2 | 2 |
| Signage |  |  |  |  | Yes |
| Emergency Response Plans |  |  |  |  | Yes |
| Secondary Containment |  |  |  |  | Yes |
| Stationary Container System Test Certificate |  |  |  |  | Yes |

### PETROL

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PETROL STORED (LITRES)** | **1 - 100** | **1 - 500** | **1000 - 2500** | **2500 - 5000** | **5000 +** |
| Supplier documents Required? | Yes | Yes | Yes | Yes | Yes |
| Person in Charge Documentation Required? | Yes | Yes | Yes | Yes | Yes |
| Fuel Handling Training? | Yes | Yes | Yes | Yes | Yes |
| Fire Extinguishers | 1 | 2 | 2 | 2 | 2 |
| Signage |  | Yes | Yes | Yes | Yes |
| Emergency Response Plans |  | Yes | Yes | Yes | Yes |
| Secondary Containment |  | Yes | Yes | Yes | Yes |
| Location Test Certificate? |  | Yes | Yes | Yes | Yes |
| Secondary Container test certificate? |  |  |  | Yes | Yes |

### FLAMMABLE LIQUID SEPARATION

***SECTION 4*** *Operational Procedures and Guidelines*

Fuel storage locations must be situated a minimum distance from buildings and other areas of land where people may be present. Minimum separation distances tabulated below are dependent on the nature of the land use, the volume and type of fuel stored:

|  |  |  |  |
| --- | --- | --- | --- |
| **TANK VOLUME (LITRES)** | **DISTANCE REQUIRED (METRES)**  HIGH INTENSITY LAND: BUILDINGS, WORKPLACES, AMENITIES AND WORK AREAS. | | **DISTANCE REQUIRED: (METRES)**  LOW INTENSITY LAND: PARKS, RESERVES, ETC. |
| 600 | 2 | 0 | 0 |
| 1,000 | 2 | 1.5 | 0 |
| 2.500 | 3 | 2 | 0 |
| 5,000 | 4 | 3 | 2 |
| 25,000 | 5 | 4 | 3 |

Where fire extinguishers are required they should be dry powder type of at least 2 KG. Extinguishers shall be located within 30 metres of the fuel storage area, but not attached to or directly adjacent to the fuel storage tank.

***PROCEDURE***

### SITE SIGNAGE AND DOCUMENTATION

When a site has more than 50 litres of petrol, or 10,000 litres of diesel storage the organisation must ensure appropriate signs are in place to notify workers, public and emergency services of the presence of fuel.

Signs must be at least A3 in size and display:

 Information about the hazardous mature of the fuel stored

 Information about ignition sources and how to ensure safety of stored fuel

 Information about contacts for emergency situations

Storage of petrol in quantities greater than 50 litres requires a Location Test Certificate to be obtained to approve the storage location. The test certifier will visit site to confirm that the substance is stored safely, consistent with the hazardous substances legislation.

Quantities of more than 100 litres of petrol requires storage in a secure and locked facility.

Diesel does not require a Location Test Certificate or an approved handler. When stored in a bulk storage tank of more than 5,000 litres, a Stationary Container Test Certificate is required.

### REQUIREMENTS FOR SECONDARY CONTAINMENT

Secondary containment, are systems that contain fuel in the event of spills or tank failure. The containment area must be capable of holding 110% of the capacity of the storage tank.

Secondary containment may be in the form of a bund, or a double skinned tank. Bunded areas must be maintained clean of rubbish and water.

**Tanks Installed before 2004:** Bunded area required for diesel > 2,500 litres and petrol > 2,000 litres

**Tanks Installed after 2004:** Bunded area required for diesel and petrol > 2,000 litres.

### TRAINING

Workers who are required to use fuel storage tanks must be properly trained to:

 Use the storage system correctly

 Understand the potential hazards when using the storage facility

 Implement correct safety controls, including use of PPE

 Respond in case of emergency

### PORTABLE CONTAINERS

Fuel must only ever be decanted into, and used from, approved, labelled containers.

Fuel containers should not be overfilled – ideally there should be a gap of 10% of the total container height from the top of the stored fuel surface to the top of the container. When fuel gets

warm some of the liquid will turn into vapour and this will make the container expand.

Petrol should only be stored in containers with the correct lid which must always be tightly fastened.

Petrol containers must not be left in direct sunlight or in the boot of a car, and should be stored in a cool place.

Containers of fuel, must be secure when transported.

FUEL HANDLING

### GENERAL PRECAUTIONS

When handling fuel, always ensure that the appropriate Material Safety Data Sheet (MSDS) is available and that persons handling fuel have read and understand the requirements of the MSDS.

Ensure that fuel handling is conducted away from ignition sources. Turn off vehicles/engines when refuelling vehicles or equipment.

Personal Protective Equipment (PPE), including gloves, eye protection and skin protection must be worn when handling fuel. If there are dangers of exposure to vapours that natural or

mechanical ventilation cannot eliminate then suitable respiratory protection shall be worn.

Persons handling fuel, shall be trained to the requirements outlined in this procedure.

EMERGENCY RESPONSE

An Emergency Response Plan (ERP) shall be developed when more than 2,000 litres of fuel are stored at a site.

The ERP must provide:

 information about emergencies that are have been determined as reasonably likely, based on risk assessment to occur at the fuel storage area

 details of actions to be taken in the event of an emergency

 details and contact information of people with responsibilities or actions in the event of emergencies

 information on the location, type and use of equipment to respond to emergencies

 contact details for local emergency services

The organisation must ensure that the ERP is tested and reviewed at least every 12 months. Records of testing and review activities shall be retained for 2 years.

REFERENCES

### WATER NEW ZEALAND PROCEDURES & GUIDELINES:

***SECTION 4*** *Operational Procedures and Guidelines*

#### Health and Safety Procedures:

 Contractor Health and Safety Management

***PROCEDURE***

 Mobile Plant and Equipment

 Health and Safety in Design

 Workplace Chemicals

 Job Safety Analysis

 Health and Safety Training Program

### LEGISLATION, REGULATION AND STANDARDS

 Health and Safety at Work Act 2015

 Hazardous Substances & New Organisms (HSNO) Regulations 1996

 HSNO Guidance: Diesel: WorkSafe New Zealand:

[*http://www.worksafe.govt.nz/worksafe/information-guidance/all-*](http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/hsno/hsno-guidance-pages/diesel)[*guidance-items/hsno/hsno-guidance-pages/diesel*](http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/hsno/hsno-guidance-pages/diesel)

 HSNO Guidance: Petrol WorkSafe New Zealand:

[*http://www.worksafe.govt.nz/worksafe/information-guidance/all-*](http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/hsno/hsno-guidance-pages/petrol)[*guidance-items/hsno/hsno-guidance-pages/petrol*](http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/hsno/hsno-guidance-pages/petrol)

 AS1319 Symbolic Safety Signs

 AS1692 Tanks for Flammable and Combustible Liquids

 AS1940 The Storage and Handling of Flammable and Combustible Liquids

