



Petroleum Hazards

This fact sheet describes risks associated with transport and storage of petroleum products around the Wellington Region.

What are petroleum products?

Petroleum, or oil, was formed over millions of years when dead plants and animals decomposed and became buried under the ground. Oil is pumped out of the ground and refined to make products such as petrol, diesel, kerosene, liquefied petroleum gas (LPG), aviation gas and bitumen.

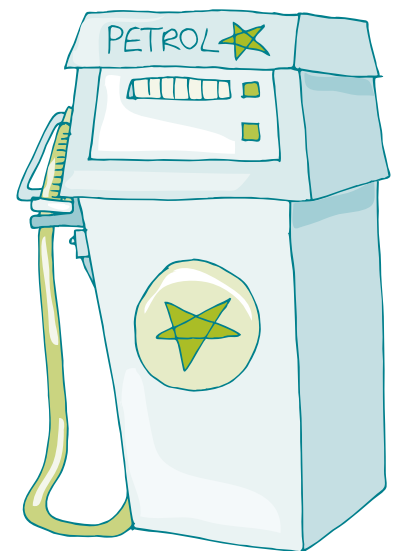
What are the hazards and risks?

Tens of millions of litres of petroleum are stored in the Wellington Region, mostly in the bulk storage tanks at Seaview, Kaiwharawhara and Miramar. Over 800 million litres are transported along roads, railways and across the sea every year. A natural hazard like a storm, earthquake or tsunami, or an accident or equipment failure could cause a petroleum spill or fire. A large spill or fire could have serious results. People could be injured, wildlife harmed, soil and groundwater polluted and buildings damaged or destroyed.

Earthquakes can cause liquefaction which means the ground behaves like a liquid and tanks or pipes can be buckled or broken. Liquefaction can occur along reclaimed land or flat coastal areas, such as Seaview. During an earthquake the ground close to the fault that has ruptured may suffer very strong shaking or cracking. A few service stations are close to the Wellington Fault and the pipeline along the Kaiwharawhara Stream crosses the fault. Landslides caused by an earthquake or storm could damage facilities near steep slopes, such as the Kaiwharawhara storage tanks and the service stations along the Hutt Road, Johnsonville Road and SH 1 at Paekakariki. The pipeline along Kaiwharawhara stream is vulnerable to flooding along the stream, but most storage sites are located away from rivers.

Seaview and some other storage sites are located near the coast; however, damage from tsunami or coastal flooding is not expected to cause a serious spill.

Storage sites or transportation routes are considered to be high risk if a spill or fire would harm large numbers of people or threaten a sensitive natural area. Seaview, some sites in the Hutt Valley and Wellington City and the Kaiwharawhara pipeline are considered high risk. High risk transportation routes include the Hutt Road, some parts of SH 1 near Porirua and the Kapiti Coast and SH 2 near Upper Hutt.



How can spills and fires be prevented?

There are ways that the risks from petroleum spills or fires can be managed, for example:

- Petrol tankers can use alternative routes to avoid areas where large numbers of people live or work.
- District and city councils can use planning and resource consents to locate storage sites away from large residential areas or sensitive natural areas.
- People can prepare for incidents and know what to do if a spill or fire occurs.
- Oil companies can keep containment or fire fighting equipment at storage sites.

What can you do?

- Pay attention to warning signs at service stations or storage sites. Don't use naked flames, cigarettes or electrical sources that could cause sparks, for example, mobile phones.
- Drive carefully near petrol tankers - they are large vehicles and may not be able to stop quickly.
- If there has been an accident involving a spill or a fire, follow the instructions of the emergency services.



For more information, check the Yellow Pages or contact a civil defence emergency management advisor at your local council.

Further reading

Opus International Consultants, 2000. *Natural Hazards Risk associated with Petroleum Storage, Wellington Region: Risk Assessment Report*. Wellington: Opus International Consultants. View or purchase at Greater Wellington.

Opus International Consultants, 1999. *Petroleum Transportation Hazards in the Wellington Region*. Wellington: Opus International Consultants. View or purchase at Greater Wellington.

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