

Service Stations

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Service stations are one of several industries that pose significant risk to Auckland's environment from contamination. This Pollutionfacts pamphlet outlines these risks, lists the standard requirements for avoiding them and includes a site assessment questionnaire.

The Auckland Regional Council has identified a number of industry types, which have significant potential to contaminate land and/or water and hence are a priority for proactive pollution control. Service stations are included in this group because:

1. There are in excess of 500 service stations in the Auckland region with more than a dozen new stations opening annually.
2. Each service station is a bulk hazardous chemical storage and transfer facility, accessible by the public and operated with varying degrees of efficiency and diligence.
3. Some sites have exhibited a high degree of environmental non-compliance, causing incidents resulting in severe damage to receiving aquatic environments, killing stream life and destroying habitat.

In response to these issues with Joint Oil Industry Environmental Working Group has worked closely with Auckland Regional Council and other regional and territorial authorities, and the Ministry for the Environment, to produce "Environmental Guidelines for Water Discharges from Petroleum Industry Sites in New Zealand".

This guideline identifies the potential contamination sources on service station sites and promotes the utilisation of separate provisions for the treatment of run-off from 'non-oily' contaminated areas, 'potentially oily' contaminated areas and commercial effluent such as forecourt wash water. The guideline is aimed at protecting natural systems and monitoring, at both new and existing facilities.

The guideline also recognises individual regional Councils may have specific rules, regulations, policies and priorities within their regional boundaries and that each Council should be consulted to ascertain what these may be.

This 'Pollutionfacts' is supplemental to the Industry Guideline. It details the steps required within the Auckland region to ensure that the daily operation of a service station results in minimal pollution of the environment.

Every day service stations produce pollutants from many sources. These range from drips and spills from fuel dispensers and waste oil storage areas, to wash water from windscreen and forecourt cleaning, through to spills while filling underground tanks. Specific elements of hydrocarbon fuels and oils, such as polycyclic aromatic hydro

carbons (PAH's), benzene, ethylbenzene, toluene and xylene (BTEX) are extremely hazardous and toxic when discharged into the environment. Each of these can cause both short and long term adverse effects even when discharged in small quantities.

Experience shows that a majority of these pollutants gain access to the local stormwater either through direct discharge or by being washed off the site by rainfall. The following requirements are best management practices accepted by the Auckland Regional Council in the Auckland region. This sheet can be used as a checklist when operating a service station and when establishing or upgrading daily site operational procedures. If all the items on the list are fully addressed then the potential for pollution from activities on service station sites is minimised.

Service stations standard requirements

1. Spill Response Plans (SRP)

A pilot survey of 40 service stations in the Auckland region undertaken by the Auckland Regional Council found 50% had spill response plans that wouldn't cope with likely spills.

All service stations must have an SRP tailored to the site's operation and drainage system, outlining action to be taken to prevent spilt material contaminating land or entering the stormwater or sanitary sewage systems.

The plan must include at least the following:

- Readily accessible containment and clean-up materials (a spill kit). These kits should always be fully stocked and stored near the places of highest risk, ideally on the forecourt, to enable an immediate response when a spill occurs.
- A set of instructions and an emergency telephone list for the area, displayed in a prominent position at the service station site, ideally both the spill kit and in the site office.
- Accurate site drainage plans in or by the spill kit.
- Training of all staff in spill response procedures and equipment use.
- The incorporation of a shut-off valve in the site's stormwater drainage system or a similar mechanism to prevent spilt material and/or contaminated stormwater from leaving the site is also recommended.

Note: All spills or produce releases over 20 litres or spills of any volume that enter the stormwater system or have contacted unsealed ground must be immediately reported to the Auckland Regional Council's Water Pollution Hotline on (09) 377 3107.

2. Forecourt Management

55% of stations surveyed illegally discharge their forecourt wash water to the stormwater system. Forecourt wash and rinse water must not be allowed to enter the site's stormwater drainage system or the sewer system, without the approval of the Auckland Regional Council or the local drainage authority respectively. If required, daily forecourt cleaning should be done by broom, with the collected dust disposed of in the rubbish bin.

As modern forecourts are essentially covered operational areas receiving minimal rainwater, the Auckland Regional Council does not consider the area under the forecourt canopy needs to be drained to the stormwater system. All wastewater from this area must be collected for recycling or disposal as a trade waste. Any stormwater runoff needs to be appropriately treated prior to discharge to the stormwater system.

Should more thorough cleaning of the forecourt be required, then a method must be used that involves the collection of all wastes (wash and rinse water) generated, for recycling or disposal as a trade waste.

3. Wind Screen Cleaning

65% of service stations dispose of their windscreen wash water onto the forecourt or into the nearest stormwater drain. Windscreen wash water must be disposed of as a trade waste, not tipped into a nearby stormwater drain.

4. Vehicle Cleaning

All wastewater from car washing must be either recycled or disposed of as a trade waste, with the approval of the local territorial Council. In the absence of a suitable sewerage system, the wastewater must be collected for appropriate disposal off-site.

Wash areas must be graded to ensure all wastewater is directed to the collection system and to prevent stormwater contamination from over-spray and vehicle tracking.

Note: Should you wish to dispose of any of the wastewater referred to in Points 2, 3 or 4 above to the stormwater system, ground soakage or natural water, you must first obtain a 'consent to discharge wastewater' from the Auckland Regional Council.

5. Waste Oil Storage

35% of stations surveyed did not have their waste oil vessels adequately contained.

All waste oil storage vessels should be protected from vehicle impact and bunded to contain 100% of the maximum volume of the largest contained vessel plus 175mm of rainfall. Alternatively, waste oil should be stored in a vessel constructed of a suitable material and designed in a way that satisfies both the Auckland Regional Council and other regulating authorities such as the local Council and the Department of Labour. Such vessels may not require bunding.

- The inside of any bunded area must be kept clean so accumulated stormwater can be disposed of appropriately. If waste oil must be stored in drums, then they should be kept covered, bunded and closed, in a clean and tidy state and be regularly disposed of.
- The waste oil vessel is to be located on an area of the site that drains to a stormwater treatment device where such a device exists. Where possible the vessel should be located in full view of on-site staff.
- Waste oil storage vessels should have a suitable decanting dish or platform that prevents the entry of rainwater and allows for easy decanting from the smaller containers without "slopping" of oil which will contaminate the bunded area. The vessels should also be locked so that only service station attendants can pour appropriate wastes into them.

6. Uncovered Diesel Dispensers

These facilities should be drained to an API or other suitable stormwater treatment device and must undergo regular cleaning with all effluent being collected for disposal as a trade waste.

Site SRP's must incorporate potential spillage at these facilities.

7. Mixed Fuels Accidents

A procedure should be established, with equipment located on-site, to deal with this commonly occurring situation. Clear sign posting and customer education is necessary. An appropriate protocol for the disposal of recovered batches of mixed fuels needs to be developed.

8. Chemical Storage

All chemicals such as lubricating oils, kerosene, tyre repair and hydraulic fluids should be stored in a covered and contained area.

Please take 10 minutes to complete the attached short questionnaire, which is designed to gather information necessary to determine the current status of your site. Prompt completion and return of the form may enable the ARC to reduce your site's priority ranking for routine visits by our Pollution Control Team.

Thank you for your co-operation.

9. Stormwater Quality Management

Where stormwater treatment devices exist on the site they must be regularly inspected and maintained to ensure effective treatment of all stormwater runoff received.

10. Remove Filling – Design & Procedure

For new sites, all remote fill points must drain to a device that is designed to fully capture and contain a spill volume of at least 2,500 litres.

For existing sites, spill protection procedures must be set for fuel deliveries. At the least, these must include readily available spill containment equipment.

In addition, the Auckland Regional Council recommends:

- Fill points be located in an area to be isolated from the rest of the site drainage system. This area needs to have a containment capacity at least equal to the largest tanker compartment likely to be delivering fuel to that site. In most cases this can easily be worked into the original site design by utilising site contours, landscaping features, a stormwater cesspit and a single shut-off valve.
- Procedures be set requiring the driver of the site manager to isolate the loading area from the public stormwater system prior to the transfer of product taking place and then inspect the catchment for spills upon completion of the transfer, before reconnection.
- On existing sites, a shut-off valve and/or spill containment device be installed where practicable.

11. Underground Fuel Storage

All underground tanks used for the storage of hydrocarbon products or wastes must be regularly monitored for signs of material escape (see note in Point 1).

Auckland Regional Council staff are concerned the monitoring bore system recommended in the 'Occupational Safety & Health Code of Practice for the Design, Installation and Operation of Underground Petroleum Storage Systems' is rarely installed completely and/or appropriately monitored. In some cases, migration of product along service trenches traversing or bounding the site has led to discharges to local waterways. Regular bore monitoring for free phase hydrocarbon should be initiated. However, it is accepted that there is less need to monitor double-skinned tanks.

Remember...



- Even small quantities of seemingly harmless materials can damage the environment.
- It is **ILLEGAL** to cause or allow water, land or air pollution.
- Always have a current, site specific, Spill Response Plan, with equipment handy and your staff well trained, so that all spilt material can be cleaned up immediately and safely.

If you need advice on any of these matters, call a Pollution Control Officer on (09) 366 2000 – we are keen to help.