

SERVICE STATIONS

Vehicle refuelling facilities

Straightforward advice to help vehicle repairers get ahead in today's business environment

Vehicle repair businesses are often associated with service stations where activities have the potential to pollute stormwater, soil and groundwater – environmental resources that contribute to our health, wealth and lifestyle.

Typical environmentally hazardous activities at service stations include:

- forecourt and vehicle washing
- delivery, storage and use of large volumes of fuels and oils
- customer self-service refuelling

Additional information on some of these subjects can be found in fact sheet:

- 2 for more on stormwater management best practices and vehicle washing
- 3 for more on hazardous substances storage and use
- 4 for more on spill control

KEY POINTS

This fact sheet gives practical tips on managing the key environmental risks at service stations and introduces some more environmentally sustainable ideas for improving your business.

It covers:

- site layout and drainage plans
- forecourt drainage and cleaning
- underground fuel storage
- waste oil storage
- mixed-fuel incidents
- remote fill points and uncovered fuel dispensers
- beyond compliance – taking a bigger step towards sustainability

ENVIRONMENTAL GUIDELINES FOR WATER DISCHARGES FROM PETROLEUM INDUSTRY SITES IN NEW ZEALAND

A joint environmental working group drawn from the oil industry, councils and the Ministry for the Environment produced the 1998 *Environmental guidelines for water discharges from petroleum industry sites in New Zealand*. Available at www.mfe.govt.nz/publications/hazardous/water-discharges-guidelines-dec98, it aims to protect the environment and promote monitoring at both new and existing facilities.

The guideline identifies the potential sources of contamination on service station sites and promotes separate treatment of runoff from areas that:

- are not contaminated by oil or fuel
- can become contaminated by oil or fuel
- generate commercial effluent, for example forecourt washwater

The guideline also recognises that different regional councils may have specific rules, regulations, policies and priorities, and advises service station owners and operators to ask their council about these.

SITE LAYOUT AND DRAINAGE PLANS

You must know where your drains go and what's going into them, or you may not know when your site is polluting the environment. An up-to-date and accurate site layout and drainage plan will help you manage your chemicals, wastes, stormwater, washwater, leaks and spills in an environmentally responsible way.

A site drainage and layout plan should show:

- the location of the final discharge point/s of your stormwater system to any public stormwater or ground disposal system or any nearby water bodies
- the locations of all stormwater structures, including pipes, drains, catchpits, manholes and treatment systems
- the location of the major areas of activity on the site, including the forecourt, workshops, car wash and other wash down areas
- all service lines, sanitary sewers and their inlets, gully traps, trade waste connections, floor drains and manholes

FORECOURT DRAINAGE AND CLEANING

Forecourt runoff can go into the stormwater system – provided you can keep the work area clean.

The main contaminants are forecourt washdown water and waste windscreen washwater. Fact sheet 2 has more detailed information, but basic forecourt management tips are outlined below:

- make sure that staff empty buckets of waste windscreen washwater into the sanitary sewer or through a tub or gully trap, or else onto a garden area – never into a stormwater grate
- options for responsible forecourt washdown include:
 - a trade waste connection: various contaminants accumulate on forecourts, but the extensive roof areas of modern service stations keep most of the rain off them. This means that you can ask your city or district council for approval to connect the covered forecourt area to the sanitary sewer
 - onsite recycling: collect your wastewater in an underground storage tank and re-use it on site
 - off-site disposal: collect your wastewater in an underground storage tank that is emptied by a reputable waste contractor (ask to see their permits)
 - stormwater connection: all washwater from forecourts that are connected to the stormwater system must be collected for on-site recycling or disposal off site or to the trade waste sewer, as outlined above



UNDERGROUND FUEL STORAGE

Underground storage tanks should be installed and operated as set out in the 1992 *Code of practice for the design, installation and operation of underground petroleum storage systems* (www.osh.govt.nz/order/catalogue/230.shtml) and/or the 1995 *Supplement No. 1 – Management of existing underground petroleum storage systems* (www.osh.govt.nz/order/catalogue/231.shtml).

Key tips for environmental protection:

- set up an inventory control system and make sure stocks are reconciled frequently: so that you will promptly pick up any discrepancy in quantities that could indicate a leak
- regularly monitor any groundwater bores for free phase hydrocarbon: this will also help you detect leaks early
- have a spill plan in the event that the tanks are overfilled



UNDERGROUND FUEL TANKS WARNING

The issue: A transport company failed to reconcile fuel delivery and dispensing records and when its underground fuel tanks leaked, the Auckland Regional Council received a pollution complaint of diesel in a local river and traced it to the site. Internal corrosion had caused three small holes in one tank, although the tank owners, one of the major oil companies, had tested the tanks and found them sound only three months earlier. However, because the transport company had no systems to record the volumes used and detect leaks, it had not realised that significant losses were occurring. An estimated 100,000 litres of diesel had escaped into the ground, some of which had found its way into a stream and then flowed into the river. The ARC received a high degree of co-operation from both the transport and the oil company in dealing with the problem.

The cost: Clean up costs of over \$200,000 and court costs and fines of \$9,000 – not to mention the cost of the wasted diesel

The lesson: Keeping good records and regularly reviewing them for any anomalous readings makes good sense for your business finances and the environment.

MIXED FUELS INCIDENTS

More service stations expect self-service refuelling and with more people owning diesel vehicles, incidents of the wrong fuel being put in the tank are becoming more common. To avoid problems with mixed fuel incidents, consider:

- staffing your forecourt with a trained fuel handler
- developing a procedure, possibly as a supplement to your spill procedure, to deal with mixed fuel incidents, for example by draining mixed fuels into a special container for safe disposal
- giving advice to customers on contractors who can help them drain and dispose of mixed fuels if it happens anywhere else

WASTE OIL STORAGE

Service stations often provide a waste oil collection receptacle for members of the public. While this helps householders protect the environment, waste oil receptacles on forecourts pose a significant risk of spills and leaks. To reduce this risk, you can:

- build and manage used oil storage containers and facilities as set out in the Ministry for the Environment's *Guidelines for the management and handling of used oil* (2000), available from www.mfe.govt.nz/publications/waste/used-oil-guide-dec00.html
- if you have a stormwater treatment device, store the waste oil receptacle in a part of the site that drains to it
- protect the receptacle from vehicle impact and vandalism
- put it where it is in full view of the staff
- if you store the receptacle in a bund, set up a procedure for appropriate disposal of stormwater that accumulates inside the bund. See fact sheet 3 for more on hazardous substances storage and use

REMOTE FILL POINTS AND UNCOVERED FUEL DISPENSERS

- direct the stormwater runoff from around all remote fill points to a treatment device that is designed to fully capture and contain a spill volume of at least 2,500 litres. If there is no stormwater treatment device on the site, put in place a spill procedure specifically for fuel deliveries. See fact sheet 4 for more on spill control
- stormwater runoff from around uncovered fuel dispensers must also be directed into a stormwater treatment device
- regularly clean the yard around the dispenser and collect all the washwater for recycling, disposal to trade waste or off-site removal
- it is also a good idea to put a shut-off valve in the stormwater system, to make it easier to stop a spill or any contaminated stormwater from leaving the site



BEYOND COMPLIANCE – TAKING A BIGGER STEP TOWARDS SUSTAINABILITY

Like other businesses, service stations can choose to do more for the environment. Why not try out some of the ideas below?

- get your roof area working for you by installing some solar power panels – these are becoming more common for New Zealand service stations and could be a good investment as power shortages make spot prices rise. For more tips on energy efficiency, see fact sheet 7
- your roof also sheds a lot of rain water – why not put in a tank and use the water for windscreen, vehicle or forecourt washing, or watering the landscaping? For more on water efficiency, see fact sheet 8
- if you have landscaping, consider planting native species from your local area – some of these plants may not be found in other parts of New Zealand, and you can help preserve them. Ask your local plant nursery for help – if you plant flax and other flowering and fruit-bearing plants, you will also attract native birds to the area
- look at fact sheets 5 and 9 for more on waste minimisation and efficient use of materials
- air pollution is not usually associated with service stations, apart from emissions from their vehicle traffic – but it is common overseas for vapour from underground tanks to be collected as it is displaced up the breather tubes while the tanks are being filled. Vapour from vehicle tanks and dispenser nozzles is also collected, and put back into the storage tanks. Overseas regulations have seen vapour recovery systems save millions of litres of gasoline per year, increasing service station profits while reducing the formation of lung damaging smog, reducing fire risk, fumes and health risk, by keeping these toxic fumes out of the air. To find out more, go to www.smallbiz-enviroweb.org/html/pdf/Self-Inspection_Handbook.pdf

FIND OUT MORE FROM:

- your local, district or regional council
- the Ministry for the Environment: go to www.mfe.govt.nz/publications/

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