Stormwater management and emergency response templates for Z Energy customers

DISCLAIMER

Z Energy Limited (Z) provides this material as a resource for our customers to assist them in meeting their obligations with respect to stormwater management and emergency response. Z takes no responsibility for the application of these guidelines and makes no warranty in respect of their use. We have used our best endeavours to provide a useful template that will meet the requirements of most sites. However it is the site operator’s responsibility to assess this guidance and develop a site specific system that is fit for purpose.

Contents

This pack of templates contains:

1. **Stormwater management plan**

   This basic stormwater management plan should be sufficient for smaller operations. Review the environmental checklist to identify gaps and unique issues that you should address in your site specific management plan. For larger sites, Auckland Council outlines a very detailed stormwater management plan format on their website [arc.govt.nz/albany/fms/main/Documents/Environment/Pollution/EMP%20Guide.pdf](http://arc.govt.nz/albany/fms/main/Documents/Environment/Pollution/EMP%20Guide.pdf)

2. **Interceptor/sump emergency response**

   Use this information to identify what stormwater controls you have in place and gain familiarity with them so that they can be utilised in an emergency.

3. **Hazard information**

   Material safety data sheets should be held for all products stored on site. A summary of hazards may be of value. The template could be used as a starting point.

   NOTE: the template’s accuracy (in its current form) will depend on the products stored.
4. Emergency procedures notice template

This template is intended to provide a quick summary of actions in the event of an incident occurring. You must check these procedures and tailor them to meet your individual site. They should be posted in a prominent position where someone discovering a spill or fire will be able to clearly read them and take appropriate action.

5. Emergency contacts template

Populate this with your local contacts and tailor it to your site and post in a prominent location.

6. Environmental checklist

Use this checklist to identify any potential issues that need to be addressed in relation to fuels handling areas of your site. This should be completed before developing the stormwater management plan into a site specific document.

A more complete environmental audit (upon which this is based) is available at the Auckland Council website
arc.govt.nz/albany/fms/main/Documents/Environment/Pollution/EOP%20checklists.pdf
You may wish to review all your operations using the full audit.
Stormwater management plan

Site name ............................................................................................................................

Address ............................................................................................................................... 

Interceptor on site Y/N? ..................................................................................................... 

Stormwater drains to (describe where)............................................................................... 

Maintenance contractor ..................................................................................................... 

Programmed maintenance schedule (specify frequency and dates) 

...........................................................................................................................................

General controls

- No forecourt washing down or scrubbing down is to take place unless wash water is collected or dry methods are used.
- Window washing water must go to sewer.
- At no stage should detergent enter the interceptor (if installed) or stormwater system.
- Interceptors and drains must be regularly inspected (monthly for a seldom used facility weekly if in regular use).
- The interceptor and drains should be cleaned annually regardless of observations and more frequently if observations indicate it to be necessary.
- The level for cleaning is a maximum silt build-up of 150mm depth and product thickness greater than 3 mm.

Attach as-built site drainage drawings include a laminated copy documentation (site drawings) must be available on-site.

Attach interceptor/forecourt sump emergency procedures
Emergency procedures

Fire
1. Stop pumps (activate emergency stop button) and isolate power
2. Evacuate area and keep bystanders away
3. Phone fire brigade 111
4. Use fire extinguisher if it is safe to do so
5. Ensure your own and others safety at all times
6. Phone Z Energy 0800 474 355 and press 1 for emergencies
7. Complete an incident report and copy to Z Energy

Fuel spill
1. Stop pumps (activate emergency stop button) and isolate power
2. If serious or more than 5 litres
3. Phone fire brigade 111
4. Keep bystanders away
5. Stop or shut off the source of the spill and contain using spill kit
6. Close interceptor outlet valve (under blue lid) where fitted*
7. Ensure sump outlet valve (under red lid) remains closed where fitted*
8. Instruct people to put out any ignition sources i.e. no smoking and no starting engines protocol is enforced
9. Ensure you have a fire extinguisher easily accessible in case of fire
10. Phone Z Energy 0800 474 355 and press 1 for emergencies
11. Complete an incident report and copy to Z Energy

* For further information on interceptors and/or sumps refer ‘Interceptors/ forecourt sump emergency procedures (if a fuel spill occurs)’

A laminated copy of this sheet is to be posted on site in a clearly visible location and another is to be located in spill kit.
Interceptor and fuelling area sumps

Fuel spills - Emergency Procedures

1. Determine whether your site has an interceptor and/or a forecourt sump BEFORE an emergency happens.

The boxes below will assist you with identifying whether you have one – or both – at your site.

**Does my site have an interceptor?**
An interceptor looks like one of the following:

![Interceptor Images]

**Yes** refer to Step 2.
**No** there is nothing further you need to do in the event of a fuel spill other than follow the steps on the EMERGENCY PROCEDURES card.

**Does my site have a forecourt sump**
A forecourt sump looks like one of the following:

![Forecourt Sump Images]

**Yes** refer to Step 3.
**No** there is nothing further you need to do in the event of a fuel spill other than follow the steps on the EMERGENCY PROCEDURES card.
2. Once your interceptor has been located:

If you are uncertain where on the forecourt your toby is, often a blue arrow (as pictured above) on the forecourt will point you in the right direction.

Firstly, lift the lid and locate the outlet valve. The valve can be found below a blue toby (or lid) as pictured below.

Lift the lid and locate the outlet valve. The valve will need to open; this can be found below a red toby (or lid) as pictured on the left.

Next, turn OFF/CLOSE the outlet valve.

Some valves use a push and pull mechanism, some screw, some have a lever and some have a chain (see below).

Determine what sort of valve you have, and how to close it off in an emergency.

3. Once your forecourt sump has been located:

Lift the lid and locate the outlet valve. The valve will need to open; this can be found below a red toby (or lid) as pictured on the left.

Ensure the outlet valve remains closed.

Below the toby will be a valve – some valves use a push and pull mechanism, some screw and some have a lever (please refer to the interceptor photographs).
### Emergency contact numbers

<table>
<thead>
<tr>
<th>Service</th>
<th>Contact Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Service</td>
<td>111</td>
</tr>
<tr>
<td>Police</td>
<td>111</td>
</tr>
<tr>
<td>Ambulance</td>
<td>111</td>
</tr>
</tbody>
</table>

Person in charge: ______________________

Department of Labour
Hazardous Substance Officer: ______________________

Regional Council: ______________________

Pollution Control: ______________________

District or City Council: ______________________

Fuel Supplier: ______________________
Hazard Information

Hazards of material stored on site

We recommend that you attach MSDS’s for all products stored and use the following as a starting point for a primer on the hazards associated with materials stored.

Fire or explosion
• May be ignited by heat, sparks or flame.
• Vapours may form explosive mixtures with air.
• Vapours may travel to source of ignition and flash back.
• Most vapours are heavier than air and will spread along ground and will collect in low or confined areas (drains, basements, pits etc)
• Many liquids are lighter than water.
• Containers may explode when heated.
• Fire may produce irritating, poisonous and/or corrosive gases.
• Vapours from runoff may create an explosive hazard.

Health
• May irritate or burn skin and eyes.
• Runoff from fire control or dilution water may pollute waterways.
• Vapours may cause dizziness or drowsiness.

Public safety

IMMEDIATELY CONTACT FIRE SERVICE - DIAL 111

• Spill or leak area should be isolated immediately for at least 15 m in all directions.
• Keep unauthorised personnel away.
• Keep upwind and to higher ground.
• Ventilate enclosed spaces before entering.

Evacuation

Large spill
Consider initial downwind evacuation for at least 100 m.

Fire
When large containers are involved in fire consider initial evacuation for 500 m in all directions.

First aid
• Remove victim to fresh air – apply resuscitation if victim not breathing – administer oxygen if breathing is difficult.
• Remove contaminated clothing and shoes immediately.
• In case of contact with material, immediately flush eyes or skin with running water for at least 15 minutes.
• Keep victim warm and quiet – obtain immediate medical care.
• Ensure that attending medical personnel are aware of identity and nature of the Product(s) involved, and take precautions to protect themselves.
Spill response

1. **Be safe**
   - What is it?
   - Do you need safety gear?
   - Be aware of static hazards

2. **Stop the source**
   - If it is safe to do so then turn off the tap, plug the leak or roll the drum over.

3. **Protect stormwater**
   - Confine the spill with sandbags or booms.
   - Block off access to stormwater grates with drain covers.

4. **Notify**
   - Tell your supervisor.
   - Inform other agencies if needed.

5. **Clean up**
   - Soak up with sorbent spill materials.
   - Pump or sweep into a safe container.
   - Clean up within the contained area.
   - Stop wash water or sweepings getting into stormwater grates or soil.

6. **Dispose responsibly**
   - Call your waste disposal contractor to take away contaminated materials and clean up gear or clothing.

**Minor spill**
- Stop the product flow (shut valves, stop pumps).
- Switch off electricity to area.
- Cordon off area of spill.
- Do not allow smoking in spill area.
- Remove visitors from area.
- Use spill kit to contain and absorb spill.
- Block adjacent drains to stop spill entering.
- Clean up area of spill into plastic bags or drums for disposal.

**Major spill**
- Stop the product flow (shut valves, stop pumps).
- Stop all site activities.
- Call fire service, notify department of labour hazardous substance officer and regional council pollution control (refer emergency contact numbers).
- Switch off electricity to area.
- Stop all smoking and other ignition sources near site.
- Remove visitors and non-essential personnel from area.
- Evacuate and cordon off site.
- Attempt to contain spillage and prevent it entering drains if safe to do so.
• Provide assistance to emergency services, regional Council and Hazardous Substance Officer as required.
• Assist with clean-up of spill as directed.

Ensure all staff are familiar with the abbreviated emergency response checklist and have received training in emergency response.
Spill Incident Report

Summary form - spills and air emissions

From ________________________________________

To ________________________________________________________________________

Date ______________________________________________________________________

Subject ____________________________________________________________

Date of event ____________________________________________________________

Location of discharge _____________________________________________________

________________________________________________________________________

Material/s discharged ______________________________________________________

________________________________________________________________________

Amount/s discharged _______________________________________________________

________________________________________________________________________

Cause of discharge _______________________________________________________

________________________________________________________________________

Did any material escape off site? If yes, where to?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What environmental or other effects resulted?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Spill Incident Report - continued

Action taken

Who detected the discharge and what did they do?
_______________________________________________________________________
_______________________________________________________________________

Who else on the staff was notified and what did they do?
_______________________________________________________________________
_______________________________________________________________________

Other agency response

Were there any other agencies involved in the event? If yes, please list and describe their role.
_______________________________________________________________________
_______________________________________________________________________

Incident review

What was done well? ________________________________
_______________________________________________________________________
_______________________________________________________________________

What wasn’t done that should have been done? _______________
_______________________________________________________________________

What was done wrong or could have been done better? _____________
_______________________________________________________________________

What non-compliance caused the incident? ________________________
_______________________________________________________________________

Prevention

Discuss any changes needed to prevent similar incidents in future:
_______________________________________________________________________
_______________________________________________________________________

Spill/air emission procedures___________________________________________
_______________________________________________________________________

Equipment_____________________________________________________________
_______________________________________________________________________

Staff training___________________________________________________________
Spill Incident Report - continued

Drains or structures__________________________________________________________
__________________________________________________________________________

Housekeeping practices_______________________________________________________
__________________________________________________________________________

Site management systems____________________________________________________
__________________________________________________________________________

Standard operating procedures_______________________________________________
__________________________________________________________________________

Other things to prevent a similar event________________________________________
__________________________________________________________________________

Future response

Have spill control and safety supplies been topped up? __________________________
__________________________________________________________________________

Have staff been de-briefed, and if necessary, re-trained? _______________________
__________________________________________________________________________

Other recommendations_____________________________________________________
__________________________________________________________________________

Further action

Actions, timing, responsibility, budget, completion, review
__________________________________________________________________________
__________________________________________________________________________

__________________________________________________________________________
## Environmental Checklist

### Recommended Site Audit

<table>
<thead>
<tr>
<th>Storage Tanks</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Is all HSNO certification (e.g. Location Test Certificate Stationary Container Certificate see <a href="epa.govt.nz/hazardous-substances/certifications/certification-sites/Pages/default.aspx">epa.govt.nz/hazardous-substances/certifications/certification-sites/Pages/default.aspx</a>)</td>
<td></td>
</tr>
<tr>
<td>Are all above ground and underground storage tanks clearly labelled to show what is in them, including any hazardous characteristics?</td>
<td></td>
</tr>
<tr>
<td>Is all equipment relating to all storage tanks regularly inspected and maintained?</td>
<td></td>
</tr>
<tr>
<td>If you have a monitoring bore for your underground tank or tanks, do you check it regularly?</td>
<td></td>
</tr>
</tbody>
</table>

### Reconciliations

Do you:
- complete reconciliations of stock in underground tanks and aboveground tanks with underground pipework at a regular frequency (See EPA website)
- keep records of all reconciliations
- review sudden reconciliation losses or losses or gains consistently in excess of 0.5% of throughput
- complete visual inspections of above ground tanks and pipes?

### Incident Reporting

Are incidents such as spills formally reported and records maintained to identify opportunities for improvement?

Are spills over 20 litres reported to the Regional Council?

### Bunds

Do you regularly inspect and maintain as required:
- valves
- locks or other controls on valves
- stains/leaks inside or around bunds, nib walls and other secondary containments
- crash barriers
- pipework across roofs (like tank vents) to ensure no contaminants get onto the roof and into downpipes and stormwater?

For outdoor bunds with stormwater valves, do you have:
- frequent and regular inspection schedules
- security on valves against unauthorised use or vandalism
- designated staff who open the valves only to dispose of uncontaminated stormwater?
- specified procedures for environmentally responsible disposal of contaminated liquids from the bund (to sanitary sewer or waste operator)
- specified procedures or identifying the cause of contamination and preventing future contamination from the identified source?

### Refuelling, Maintenance and Oil Storage Areas

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you undertake regular cleaning (with no wash waters getting into stormwater) around diesel pumps, refuelling, lube, vehicle maintenance and fuel and oil stores?</td>
<td></td>
</tr>
<tr>
<td>Is a spill kit available at fuel handling locations?</td>
<td></td>
</tr>
<tr>
<td>Are automatic shut-off and other valves frequently inspected and regularly maintained?</td>
<td></td>
</tr>
<tr>
<td>Is a spill response plan posted at the fuel handling location?</td>
<td></td>
</tr>
<tr>
<td>Are company vehicles (trucks, fork hoists) regularly inspected and maintained to minimise oil leaks?</td>
<td></td>
</tr>
<tr>
<td>Is a set of instructions and a list of emergency telephone numbers displayed in a prominent position (ideally by both the spill kit and in the site office)?</td>
<td></td>
</tr>
<tr>
<td>Is an accurate site drainage plan (laminated) located in or by the spill kit?</td>
<td></td>
</tr>
<tr>
<td>Are all staff members trained in spill response procedures and equipment use?</td>
<td></td>
</tr>
<tr>
<td>Are fill points located in an area:</td>
<td></td>
</tr>
<tr>
<td>• able to be isolated from the rest of the site drainage system?</td>
<td></td>
</tr>
<tr>
<td>• with a containment capacity at least equal to the largest tanker compartment likely to be delivering fuel to that site?</td>
<td></td>
</tr>
<tr>
<td>Is the fill area sealed?</td>
<td></td>
</tr>
<tr>
<td>Is a shut-off valve incorporated in the site’s stormwater drainage system to prevent spill material from leaving the site?</td>
<td></td>
</tr>
</tbody>
</table>

### Stormwater Systems and Outfalls

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are yards, car parks and other surfaces that drain to the stormwater system maintained in a clean and tidy state?</td>
<td></td>
</tr>
<tr>
<td>Are Fish stencil labels on stormwater grates clearly legible and repainted before they start to fade, or are metal or other?</td>
<td></td>
</tr>
</tbody>
</table>
permanent stormwater grate labels firmly attached and clearly legible?

Are stormwater cesspits or sumps inspected and cleaned out by a reputable waste disposal contractor:
- before sediments fill 60% of the area between the cesspit floor and the lower end of the T-outlet, or
- whenever they are clogged with leaves or other material, or
- at least once a year?

Are oil separators, grease traps other stormwater treatment devices regularly inspected and cleaned out, with oily wastes removed by a reputable waste disposal contractor:
- whenever there is a layer or visible sheen on the water surface, or
- at least once a year?

Do you regularly:
- lift the last manhole lid on the stormwater pipes and trade waste lines on your site to check no unacceptable discharges are occurring
- inspect the outfall where your site’s stormwater is discharged for evidence of problems like spills or rubbish washing off your site?

Are all liquid or solid spills cleaned up immediately they happen, especially in outdoor areas?

**Site Drainage Plans**

Is a drainage plan for your site available on site?

**If NO**, ask your city or district council if they have one. If they do not hold a copy, you will need to get a new one drawn up that shows all the things in these checklists relevant to your site.

A clear sketch plan is adequate as an interim measure until a more accurate plan can be prepared

Does your drainage plan show:
- a scale
- the site boundaries
- all outdoor spaces, with labels showing what they are used for
- all buildings on the site, with labels showing what they are used for
- the direction of flow of sewers and stormwater pipes?

Does your drainage plan show:
- stormwater pipes and their inlets: down pipes, stormwater grates and manholes
• any open drains
• any internal low point where runoff might pond
• any areas where unpiped runoff leaves your site
• any stormwater treatment systems, for example:
  - oil or grease interceptors
  - flow control or shut-off devices on cesspits
  - swales
  - ponds
  - filters?

Are all stormwater pipes and inlets connected to the stormwater system?

Do your stormwater pipes contain any trace of waste?
If YES, trace the source and remove it.

Does the plan show the stormwater manhole which is the last point on your site where you can intercept a spill and stop it from escaping from your site?

Stormwater Outfalls
Does the drainage plan show or point to the place where your on-site stormwater pipes discharge into either:
• the council’s reticulation system
• a soak hole
• an open watercourse or harbour?
If you know where stormwater off your site reaches a stream or beach, you will be able to go straight there to contain a spill that gets off your site.

If your stormwater goes into the council’s pipes, does your drainage plan show or indicate the outfall where it eventually discharges into the stream, beach or other receiving waters?

Show or tell your staff where your stormwater ends up, making them more aware of the consequences of a spill.