OIL SPILL MANAGEMENT AND CONTINGENCY PLAN

### Fernhill Substation

# TRANSPOWER CONTRACTOR MANAGED DOCUMENT

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## PURPOSE OF THE OIL SPILL MANAGEMENT AND CONTINGENCY PLAN

## To provide particular information to assist Transpower contractors, subcontractors and other Transpower approved employees in the operation of oil spill equipment and the management of oil spill emergency responses at this site.

1. **DOCUMENT STATUS**

The Oil Spill Management and Contingency Plan complements but does not take precedence over any Transpower standards, manufacturer's information or similar documents or any specific instruction from Transpower. The manual also complements contractor's work procedures and training information.

As a Transpower Contractor managed Document, the Oil Spill Management and Contingency Plan has to meet contract requirements for its preparation and management which include quality, content, current applicability and suitability to be passed on to a succeeding contractor.

A copy of the Oil Spill Management and Contingency Plan must be retained and readily available on site to assist in meeting Transpower's and the contractors’ statutory obligations and to protect Transpower's assets.

1. **REFERENCES**

**TP.GS 54.01** Oil spill management

**TP.SS 05.10** Environmental management of existing assets

OIL SPILL EMERGENCY NOTICE

Ensure all Personnel are safe

MAJOR SPILL

If insufficient resources on site contact others who could assist. CONTACT LIST IN OIL SPILL MANAGEMENT AND CONTINGENCY PLAN

Use Contractor Oil Spill Kits. If insufficient use Transpower Oil Spill Kits.

Stop or limit the oil flow from source

Stop or limit the flow into any storm water drain or waterway

Contact: NGOC

Ph: (04) 563 8161

or 5555 (via TPSN)

Mop up and spread absorbent material over affected area to absorb oil

WASTE DISPOSAL PROCEDURE.

Please refer to Oil Spill Management & Contingency Plan

Oil Spill Accident report in the Oil Spill Management & Contingency Plan MUST be filled out.

If contractor Oil Spill Kits are insufficient two Transpower Oil Spill Kits are located in a yellow “wheelie bin” in the T1 and T2 bund area. Access to these kits can be obtained by acquiring an entry approval to the substation.

The Oil Spill Management and Contingency Plan (OSMCP) for TRANSPOWER equipment at this site is located at the Control Room desk.

Please remember that Oil spill Accident Reports must be filled out and sent to the Transpower Service Delivery Manager

OIL FIRE EMERGENCY

**SCHEDULE OF HIGH RISK OIL AREAS**

**OIL FIRE**

Ensure all Personnel are safe

Call Emergency Services

( 111 )

Call National Grid Operating Centre

Ph: 04 563 5087

Is the fire on in service or isolated equipment?

In Service

**If it is safe to do so**:

Isolate the equipment from the network

Are skills & resources available to contain & fight the fire?

Out of Service

No

Wait for Fire Service & direct them to the fire

Yes

Stop oil flow at the source

Limit oil flow to storm water &/or waterways & contact Regional Council

Ph: 0800 108 838

Use NON-WATER extinguishers

Clean up oil and all affected areas

Oil Spill Accident Report

Dispose of oil & any waste

Areas of High Risk are identified in ‘TP.SS 05.10 Environmental management of existing assets’ under ‘Appendix B - Site Oil Management Requirements’ as:

1. Underground aquifers
2. Stormwater drains
3. Neighbours properties
4. Waterways

**Type of High Risk:** Stormwater drain discharge into field drain.

**Location:** The discharge point of the Interceptor tanks is directly into 150mm field drain to the west of the last Interceptor tank, refer to drainage drawing.

**Procedure:** Check to ensure that oil is not being discharged from the discharge point. If so, use ‘Matasorb’ absorbent pads and pillows to stop or limit the flow of oil from the discharge point. Contact the approved waste disposal agency as soon as possible to pump out the full containment tanks.

**Type of High Risk:** Seepage into the aquifer

**Location:** Full 110kV and 33kV Switchyards.

**Procedure:** At first sign of oil leakage outside of the bunded areas, investigate immediate steps to minimize the leak and to soak up the spilled oil using materials from the onsite oil spill kits located in T2 and T3. Amount of oil is likely to be 400 litres or less so onsite kits should manage containment.

**Type of High Risk:** Neighbouring Land

**Location:** Adjacent to Switchyard on all 4 sides

**Procedure:** Check to ensure that oil is not leaking into adjacent farmland. If so use onsite oil spill kits to stop or limit the flow

**Type of High Risk:** Major spill in bunded area

**Location:** Bund surrounding T2 and T3 Transformer Banks

**Procedure:** Arrest the flow of oil into the containment tanks by placing rubber mats (Located in Transpower onsite oil spill kits) over the drain holes. Check that drain holes are covered. After oil leak is stemmed arrange to pump out oil into containment tank and wash bunded area. Arrange for containment to be pumped out and cleared of all contaminants.

Please Remember: Oil Spill Risk Typically Increases When People Are

Working on Equipment at the Site.

**PROTECTION AGAINST OIL DISCHARGE**

The greatest risk of contamination of the watercourses surrounding Fernhill Substation comes from the many items of equipment in service at the substation which contain oil for electrical insulating purposes, detailed below in the ‘Inventory of Equipment Containing Oil’.

As all stormwater collected on the site passes through oil containment facilities, any spilt oil should be contained in the oil containment tanks thereby preventing the risk of contamination of local rivers and streams.

**1.0 PRIMARY SPILL CONTAINMENT**

In the event of a major oil spill the following basic steps are advised, although the location and nature of the spill may require a different sequence to that detailed:

1. Attempt to halt or reduce the leakage at the source if possible. The Transpower Oil Spill Kit contains ‘Plug N Dike’ compound which can be used as a temporary means of plugging leaking tanks or containers.
2. Prevent the spilt oil from entering the station stormwater system, by closing off the isolation valves within the bunded area if applicable (see Subsection 2.0 below), or by blocking the entrance to nearby drains.
3. If the oil spill occurs outside a bunded area, attempt to contain the spill by using the ‘Matasorb’ sock from the Transpower Oil Spill Kit or similar means to enclose the oil and prevent it escaping.
4. Once the spilt oil has been contained it can be soaked up using ‘Matasorb’ absorbent material and Castrol ‘Mop’ oil absorbent granules. If a large volume of oil has been spilt contact the local waste oil disposal company detailed in the Contact List (Waste Disposal agency) to arrange for the oil to be pumped directly into a road tanker for approved disposal.
5. When all the oil has been soaked up, the materials used to achieve this should be placed in plastic bags for safe disposal. If a large amount of oil has contaminated the soil, the effected material may need to be removed for disposal at an approved landfill.

2.0 major items of plant

The items of plant which contain the largest volumes of oil at Fernhill are power transformers. All power transformers are surrounded by bund walls, which in the event of a major spillage will contain the spilt oil and feed it directly into the station’s stormwater drainage system for ultimate collection in the appropriate downstream oil containment tanks.

**NOTE: There is no shut-off valve at Fernhill for T2**. Use ‘Matasorb’ absorbent pads and/or pillows over the bund sumps during maintenance to stop or limit the flow of oil from the bund area in the event of an oil spill.

The bunded area surrounding the power transformer T3 has an oil shut-off valve which shall be immediately closed in the event of a major oil spillage, to isolate the area from the stormwater drainage system. This allows the leaked oil to be more easily pumped out into suitable vessels.

The T3 shut-off valve shall be closed when maintenance is carried out on the power transformer, thereby reducing the risk of any spilt oil entering the stormwater system.

In addition to bunding, all of the power transformers have low oil level alarms which are initiated if the oil level in any of the units drops below a pre-determined point.

If a low level alarm is detected in the NGOC, maintenance staff shall be notified and sent to investigate the cause.

3.0 minor items of plant

The minor items of plant (instrument transformers and local service transformers) located in the switchyard at Fernhill Substation contain electrical insulating oil, are detailed below in the ‘Inventory of Equipment Containing Oil’, along with the major plant items.

Because of the relatively small volumes of oil contained in these items, they are not surrounded by bund walls or provided with dedicated connections to the station’s stormwater system.

If oil spillage from any minor item of plant should occur every attempt shall be made to collect and mop up the spilt oil following the procedures detailed above in Section 1.

The coarse rock ground cover found in the switchyard should assist in containing the oil in the immediate area of any spill, and if any oil does run away, it may find its way to one of the general drainage sumps on site and into the station’s stormwater system.

4.0 DESCRIPTION OF oil CONTAINMENT system

The T2 oil containment system at Fernhill works by allowing any entrapped oil to separate out of the run-off water due to the different specific gravities of the two fluids. The run-off water enters the successive tanks at a high level and is drawn off from a low level, thereby allowing the lighter oil to rise to the surface while the heavier water flows through the system and away.

The T3 oil containment system at Fernhill works by allowing any oil spill from the equipment to drain to the Oil Containment Tank, below the Sepa Plate Separator. The Sepa unit operates when the oil level is above the second float switch. This pumps the liquid from the tank through the plate separator and any oil is contained in the waste oil tank and the water is discharged.

The oil containment tanks at Fernhill are routinely inspected on a 12 monthly basis by maintenance staff, for oil build up and general operational condition.

The location and catchment areas of the oil containment tanks is as follows:

1. Discharge Interceptor Tanks – (2 x 7,500 litre) are located to the northeast of the T1 & T2 Transformer banks.
2. Oil Containment Tank – (64,700 litre) is located to the south-southwest of T3 Transformer unit.

If oil is detected in the tanks, arrangements should be made for the contents to be pumped out into a road tanker and transported away for recycling or approved disposal. See details of the approved Waste Disposal agency below in ‘Contact List - When an Oil Spill Has Occurred’.

Drawings of oil containment tanks located at Fernhill Substation are contained in Transpower Drawing Management System (RedEye) section FHL/IF2.

Drawings of stormwater drainage located at Fernhill Substation are contained in Transpower Drawing Management System (RedEye) section FHL/IB1 & 1B5.

INVENTORY OF EQUIPMENT CONTAINING OIL

Station: Fernhill Last Updated: 2022-08-26

| Device Position/ Location | Number of units and Description | Volume of Oil¹ | Bunded Area | Comments |
| --- | --- | --- | --- | --- |
| LS2 | ABB 200kVA 2018 | 725 |  | 725 ℓ = 650 kg |
| LS3 | ABB 200kVA 2018 | 725 |  | 725 ℓ = 650 kg |
| VT1 | Arteche UTD-123 | 207 |  | 3 x 62 kg |
| CT62 | ABB IMB 123 (2009) | 216 |  | 3 x 65 kg |
| CT72 | Koncar AGU-123 (2021) | 366 |  | 3 x 110 kg |
| T3 | Elsewedy Electric 80MVA | 27,800 | Yes | Installed 2022 |
| CT82 | ABB IMB 123 (2009) | 216 |  | 3 x 65 kg, Spares |
| T1 (spare unit) | Savigliano 110/33kV 10MVA | 8,933 | Yes | 1 x 1,965 Gallons |
| CT102 | ABB IMB 123 (2009) | 216 |  | 3 x 65 kg |
| T2 | Savigliano 110/33kV 16.7MVA | 43,644 | Yes | 4 x 2,400 Gallons |
| CT122 | ABB IMB 123 (2009) | 216 |  | 3 x 65 kg |
| CT142 | ABB IMB 123 (2009) | 216 |  | 3 x 65 kg |
| VT2 | Arteche UTD-123 | 216 |  | 3 x 65 kg |
| CT132 | ABB IMB 123 A5 | 216 |  | 3 x 65 kg |
| CT152 | ABB IMB 123 A5 | 216 |  | 3 x 65 kg |
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¹Note: Quantities shown are totals (litres). Specific Gravity of 0.9 assumed for calculations from weights

CONTACT LIST – WHEN AN OIL SPILL HAS OCCURRED

|  |  |  |
| --- | --- | --- |
| EMERGENCY SERVICES | Ambulance, Fire, Police | Dial: Prefix for outside line then 111 |
| CONTRACTORS PERSONNEL | Name: Hendrik Smit  Maintenance Supervisor  Name: Hagan Burgess  Delivery Manager | Mobile: (027) 439 0313  Mobile: (027) 4262 572 |
| TRANSPOWER PERSONNEL | NGOC  Name: Darryn Welham  Service Delivery Manager | Phone: (04) 563 5087  TPSN: 5555  Phone: (06) 590 7691  Mobile: (021) 243 0014 |
| OTHER (e.g. another Contractor or Generator in the vicinity that could be called in to help) | Name: Lignesh Arunasalum  Ventia Operations  Manager Central | Teams: (06) 358 4965  Mobile: (027) 278 4135 |
| WASTE DISPOSAL AGENCY | Beard’s Environmental Ltd | Phone: (06) 879 5800  Fax: (06) 879 5811 |

If you are unable to contact the NGOC or Transpower Service Delivery Manager and the oil spill has entered waterways contact the Regional Council immediately.

|  |  |  |
| --- | --- | --- |
| REGIONAL COUNCIL  Hawke's Bay Regional Council | Pollution Hotline 24hrs  0800 108 838 | Phone: (06) 835 9200 |

Any contact with the Media will be made by Transpower.

WASTE DISPOSAL PROCEDURE

Pack all contaminated material into bags/drums.

**To dispose of contaminated oil.**

## Contact: Beard’s Environmental Limited

**Ph: 06 879 5800**

## Fax: 06 879 5811

To dispose of oil contaminated waste.

## Contact: Beard’s Environmental Limited

**Ph: 06 879 5800**

## Fax: 06 879 5811

Check kit and replace any material required.

NZ Safety Blackwoods

Ph: 0800 660 660

Record Number …………

OIL SPILL ACCIDENT REPORT

(for spills greater than 5 litres)

Contractor:……………………………….. Site:…………………………………………………..

Date of Spill:……………………………… Time of Spill:………………………………………..

Persons on Site at Time of Spill:……………………………………………………………………….

……………………………………………………………………………………………………………

Describe the Incident – include reason WHY there was an oil spill:

Was there a fire? Yes/No

Did Oil escape into waterways? Yes/No

If yes, what was the name of the waterway? ………………………………………………………….

If Oil escaped into waterways, what were the waterway levels? Low/Typical of that waterway/High

What were the weather conditions? ………………………………………………………………….

…………………………………………………………………………………………………………..

Estimated Amount of Oil Spilled: …………... Estimated Amount of Oil Recovered: ……………

Describe Clean Up and Corrective Action:

Notification Schedule:

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| --- | --- | --- |
| Organisation | Name of Person Notified | Time Notified |
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Completed By:

Print Name: Position:

Signed: Date:

Please forward this form to the Transpower Service Delivery Manager.