

The Voice of the Networks

Guidance on the National Operating Code for the Management of Fluid-Filled Cable Systems



The Operating Code describes the way electricity companies respond to leaks from the high voltage fluid-filled underground cable networks. It has been drawn up between the Environment Agency and the Energy Networks Association Member Companies.

There are 7800 km of fluid filled cable in the UK. The majority of these types of cables were installed in the 1960s.

The fluids found in cables are:

- mineral naphthenic oil; or
- linear alkylbenzene or a mixture;
- provisionally determined as List 1 substances under the Groundwater Regulations.

The fluid is used as an insulator and must be kept under constant positive pressure to maintain the integrity of the electrical circuit. This means that even once a leak has been detected fluid may still be pumped in to the circuit and out in to the ground.

Responsibilities of Network Operators

In sensitive areas (see definitions below) to:

- determine the length of cable passing through the area;
- report all leaks above 40 litres / month as soon as confirmed (this is the limit of leak detection/location);
- prioritise leak location and repairs in consultation with the Agency.

In non-sensitive areas to:

- report all leaks above 100 litres / month during office hours once confirmed;
- repairs to be put in hand without delay;
- repairs to be put in hand within two months for leaks below 100 litres / month (subject to the practical thresholds of leak location);

Definitions of Sensitive areas

Groundwaters

- Major Aquifers (high or Intermediate vulnerability)
- Groundwater table that is less than 10 m from the surface
- All Source Protection Zones (Zones I, II , III and Special Interest)

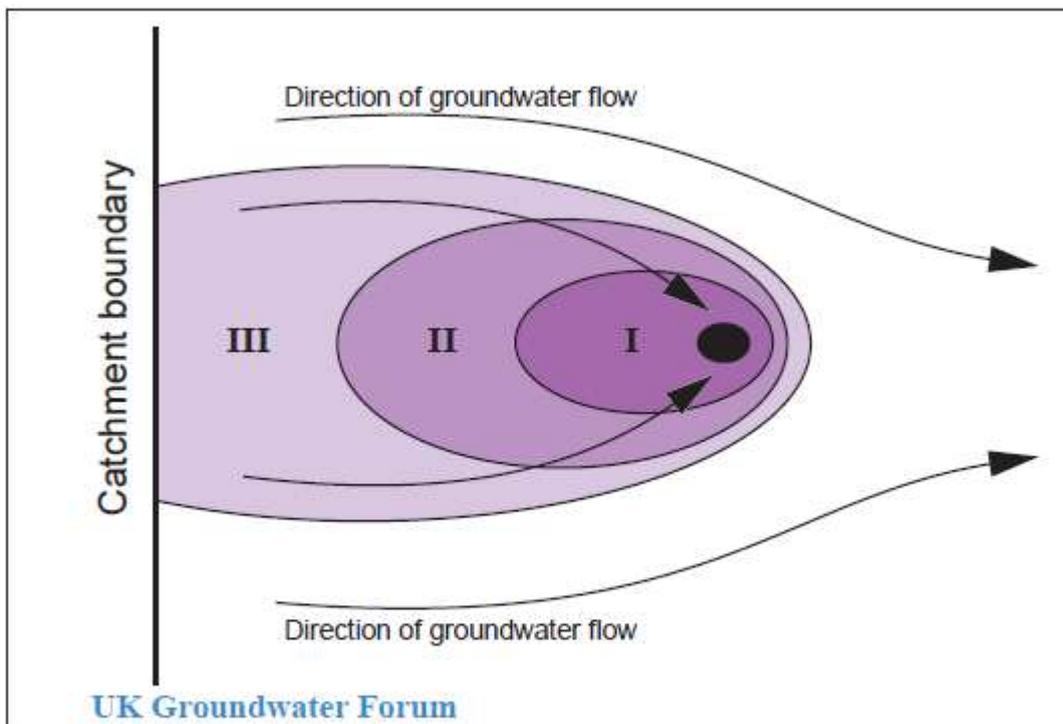


Diagram showing Source Protection Zones

- Source Protection Zone (SPZ) I – 50 day travel time to borehole
- SPZ II – 400 day travel time to borehole or 25% of source catchment
- SPZ III – Limit of total catchment area
- Zone of Special Interest - local conditions may mean that incidents outside the normal catchment of the source could still have an impact.

Surface waters

- Within 50 m of a watercourse

Examples of surface water receptors:

- Abstractions (public , commercial , agricultural)
- Recreational
- High amenity
- Fisheries
- SSSI / Nature Reserves

For other types of incident the Companies will consult with the Agency on any remediation requirements.

For all reports the Agency's hotline number [0800 80 70 60](tel:0800 80 70 60) should be used.

The Agency will provide information on groundwater vulnerability and local surface sensitivity to support the risk based assessment of leaks. The Agency will provide local contact details for the relevant Electricity Company to facilitate reporting and leak management.