ENVIRONMENTAL BALANCE IN DESIGN AND CONSTRUCTION

Appendix 5

EP15 Containing and Cleaning Up Spills

Purpose:	To provide guidance on the management of spills of hazardous substances, particularly oil and fuel, which have the potential to pollute the environment.
Scope:	All sites and activities
Responsibility:	Contract/Project Manager, Site Agent, General Foreman, Site HSE Officer

Regulatory Requirements:

- Air Pollution Act, 1987
- Local Government (Water Pollution) Act, 1977 and Amendment Act, 1990
- Environmental Protection Agency Act, 1992 (Control of Volatile Organic Compound Emissions resulting from Petrol Storage and Distribution) Regulations, 1997
- Water Quality (Dangerous Substances) Regulations, 2001
- European Communities (Water Policy) (Amendment) Regulations 2008
- EPA Acts 1992-2003
- European Communities Environmental Objectives (Surface Water) Regulations 2009
- European Communities Environmental Objectives (Ground Water) Regulations 2010

Management Requirement:

Spillages of fuels or oils from fixed or mobile storage tanks, or other harmful substances on construction sites can result in significant contamination of soil, surface waters and groundwater beneath and around the site. The release of fuel, oil or chemicals into waterways can reduce the level of oxygen available for fish, coat fish, aquatic animals, birds and plants, and contaminate waters that may be used for irrigation or drinking water. Such contamination represents a breach of several pieces of national legislation. Project planning must take account of the need to contain and limit the impact of any spills through a quick, coordinated response.

If hazardous or potentially polluting substances are being used on site an emergency spill response procedure must be developed under the Site Health & Safety Plan and referenced in the Environmental Management Plan. A template Emergency Spill Response Plan is attached to this procedure.

Management Procedure:

1. Planning

When considering the risk of a spill occurring on the site the first step is to minimise the potential for spills to occur, and should they occur, to minimise the impact of the spill on the environment. It is essential to ensure that all oils, fuels and harmful substances are stored in appropriate containers in suitably bunded or otherwise protected areas. The storage area should be as far away as possible from any sensitive receiving environment such as a river or habitat area. Refer to procedures EP-13 Bulk Fuel & Oil Storage and EP-14 Storage & Handling of Drums and Containers for further details.

It is also important during the planning stage to have a good understanding of the drainage of the site and the location of potential receiving environments so that spill containment can effectively block the pathway of the pollutant to those environments. Consult drainage drawings and ensure that up-to-date information is available.

Points to consider:

- The type and quantity of harmful substances being used on site, and thus the appropriate amount and type of spill containment materials required for their containment and clean up;
- PPE required to safely handle contaminated materials. As a minimum gloves must be worn, however, further equipment may be required, including respiratory equipment;
- The Safety Data Sheet (SDS) contains essential information – including ecological impacts, recommended containment and clean up methods, PPE and disposal requirements;
- Ensure that any booms for rivers or exposed shorelines are long enough and have suitable anchorage points;
- Absorbent granules and fibres generally absorb much more than their own weight. Check the manufacturer's

guidelines for application rates and do not apply too much of the material, which will be classified as hazardous waste once used and will require specialist disposal (refer to Disposal below).

- Ensure that appropriate waste disposal containers are available to place contaminated material into following the clean up. These can be obtained from waste disposal contractors (refer to Disposal below).
- Contact the Purchasing Department for a list of suppliers of spill kits and absorbent materials.

2. Spill Kits & Absorbent Types

Adequate spill kits must be available on site to deal with a spill, should it occur. The type and amount of spill containment materials will depend on the substance being used and volume that can potentially be spilled. The following types of absorbents are available:

Oil-selective absorbents: white or light blue in colour. Do not absorb water. For spills in water or on land.

Universal absorbents: grey in colour. For spills on land. Cannot be applied to spills in water.

Chemical absorbents: may be yellow or grey in colour. For chemical or acid spills on land.

These absorbent types may be available as:

- Granules and shredded fibres, which can be applied to spills on land;
- pads and sausages, which can be used to contain or direct spills on land, particularly hard surfaces; and
- booms, which can be used to contain and absorb spills on the surface of waters.

Spill kits must be placed as close as possible to where they may be required, in a clearly marked container such as a wheelie bin. They must be available at fuel storage or refuelling areas, and next to watercourses when work is being carried out in their vicinity, or within their drainage catchment. All mobile bowsers must have a spill kit and drip tray with them at all times.

In addition to the spill containment materials spill kits must contain appropriate PPE (gloves as a minimum) and a copy of the Emergency Spill Response Plan. They must also contain disposal bags suitable for the removal of used absorbents and contaminated material, which are classified as hazardous waste. Alternatively, additional clearly marked containers may be provided in the same location as the spill kit). Refer to Disposal section below for further information.

3. Inspections & Maintenance of Spill Kits

Spill kits must be inspected regularly to ensure they are adequately stocked and in good order (if in remote locations they may be vandalised, have materials taken from them or rubbish thrown into them). Following use the spill kit must be restocked as soon as practical to ensure it is adequate to deal with any subsequent spills. An inventory of the spill kit contents may be contained in the spill kit (for example attached to the lid of a wheelie bin) or in the site office as a minimum.

The location and type of spill kits must be noted in the EMP and, for large sites, the spill kit locations must also be included on site plans attached to the EMP.

4. Emergency Coordinator & Other Responsible Personnel

It is a requirement under the Health and Safety Plan to have a designated Emergency Coordinator for the site, who will generally have primary responsibility for the implementation of the spill response procedure. However, other employees on site including the General Foreman, Area Supervisor, Safety Officers, Fitters and those responsible for refuelling should also be aware of the spill response procedure. Training may be required for all personnel responsible for responding to spills, who must:

- Know the location of spill kits and/or materials and how to apply them;
- Understand the principles of spill containment and be aware of the site drainage and locations of receiving

environments;

- Know the appropriate PPE requirements to deal with oils, fuels and other harmful substances used on the site;

- Know how to dispose of contaminated materials; and
- Know the appropriate authorities to notify, if required, and emergency services to contact if the spill is beyond the capacity of the site resources to contain. The emergency contact list may include details for:
    - Emergency Services;
    - The Local Authority;
    - Inland Fisheries Board;
    - The Coast Guard;
    - The Health & Safety Authority;

Specialist clean up and waste disposal contractors.

5. Employee / Contractor Awareness

All employees and contractors must be made aware of the procedure to deal with spills and, in particularly, who to contact in the event of a spill. Consideration should be given to:

- Providing general information on spill response during site inductions and pre-start safety meetings;
- Providing copies of the spill response procedure to all contractors; and
- Conducting tool box talks and emergency drills on spill response at regular intervals.

Disposal of Contaminated Materials

Used absorbent pads, sausages and contaminated granules, sand or earth are classified as hazardous waste and require specialist disposal (usually incineration overseas). For disposal they must be placed into UN Approved barrels (clamp-lidded 240L steel drums) or lined fibre international bulk carriers (FIBCs). These can be provided by a waste contractor, or check with the Purchasing Department for suppliers. Note that the Company has existing agreement with numerous waste contractors for the disposal of waste at agreed rates. Contact The Plant Department for details.

If barrels or FIBCs are not available on the site any contaminated waste must be stored in impermeable containers and/or placed in an impermeable bunded area until barrels/FIBCs are sourced.

Large volumes of soil or other materials contaminated with hazardous substances must be stored in an impermeable bunded area and will need to be removed by a suitably licensed waste contractor. If the material is to be stored for more than 24 hours it should be covered with polythene sheeting or similar to prevent ingress of rainwater and leaching of the hazardous substance.

For further information refer to EP-21 Handling & Disposal of Hazardous Waste

References:

FAS & CIF (2004) Construction & Demolition Waste Management – A Training Programme for Contractors & Site Managers (Course Notes).

P Hyde & P Reeve (2001) Essentials of Environmental Management. IOSH

UK Environment Agency (2001) PPG 18 Managing Fire Water and Major Spillages

UK Environment Agency (2004) PPG 21 Pollution Incident Response Planning

Attachments:

Photos

Template - Emergency Spill Response Plan

Photo 1: Oil-selective absorbent booms and pads applied to stop the flow of diesel down a stream

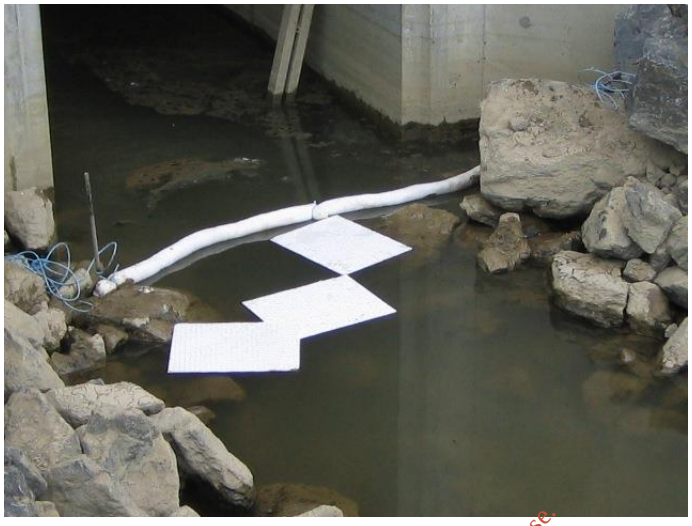


Photo 2: Spill kits located in diesel storage and refuelling area

Photos 3 & 4: Spill kits located next to watercourses

Absorbent Granules:

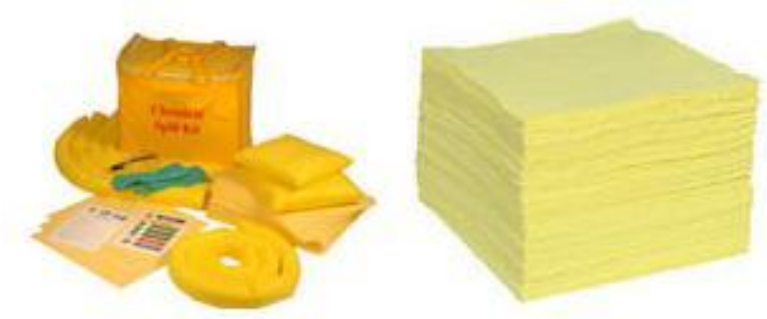
Absorbent Pads / Pillows:

Oil Selective Booms/Sausages:

Oil Selective Absorbents (Pads and Booms):

Universal Absorbents:

Chemical Absorbents:



Emergency Spill Response Plan

Attachment 1 to EP-15: Template Spill Response Plan. May be modified to make site-specific Rev: 03 25.03.2013

Emergency Response Coordinator on this site is: _____ Mob: _____

Site Safety, Health & Environmental (HSE) Officer: _____Mob: _____

Contact the Emergency Response Coordinator or HSE Officer for advice & assistance

Consider Personnel Safety First

1. Immediately alert area occupants to evacuate area if necessary and report the spill to the Area Supervisor, HSE Officer or Emergency Coordinator.
2. The Emergency Response Team (ERT) will attend if there is a fire, or if any people require medical attention or have been exposed to hazardous substances. Contaminated clothing must be removed immediately and the skin flushed with water for at least 15 minutes.
3. If a volatile, flammable material has been spilled, switch off or remove any sources of ignition close to the spill. Ventilate the area if indoors.
4. Put on personnel protective equipment, as appropriate to the substance spilled. As a minimum gloves must be worn (refer to the Material Safety Data Sheet if in doubt or consult the HSE Officer / Emergency Coordinator). Gloves should be available in the spill kit.
5. Consider the need for respiratory protection. Never enter a contaminated atmosphere without training or use a respirator without training. If respiratory protection is needed and no trained personnel are available do no not approach spill and keep up wind.

Contact emergency services on 112 if the spill: cannot be contained; and/or poses a serious public safety hazard; and/or threatens a protected habitat area or watercourse.

Spill Control and Clean Up

1. Try to identify the source of the pollutant and, if possible and safe to do so, stop the flow.
2. Get a spill kit(s) and apply absorbent materials appropriate to the spill type. Ensure that waste containers are available in which to place used absorbents.
3. Prevent the spill from spreading and contain it in as small an area as possible, using absorbent sausages, sand, earth or polythene to dam the flow. Divert any flow away from drains, sewers or watercourses or prevent pollutants from entering drains by placing sausages and/or polythene around or over the opening.

Never wash spillage into the drainage system and never use detergents

4. If any pollutant has entered a watercourse absorbent booms must be positioned to prevent the spread of the pollutant. Ensure that the booms are anchored to the shore and that water cannot flow around the edges of the boom. If there is not enough flow in the water to push the pollutant into the boom you may need to apply absorbent pads to the surface to soak up the pollutant.
5. If a large volume of liquid has been contained and is not soaking into the ground (e.g. if the spill occurs on concrete) it may be more appropriate to have a waste contractor remove the liquid by drawing it directly into a tanker for disposal, or pumping it into an IBC, which can be collected for disposal.
6. Alternatively if an oil interceptor is located nearby, any oil or oil/water mixture may be pumped into this, as long as the capacity of the interceptor is not exceeded.
7. Place used absorbent pads and shovel contaminated sand/earth/absorbent granules into sacks or containers. Store large volumes of contaminated soil/material in a contained impervious area, such as a plastic-lined bund.
8. Used absorbent pads / sausages / booms that are not fully laden with pollutant (i.e. not dripping when they are held up) may be stored in appropriate containers for reuse. Any such containers must be sealed and clearly labelled as to their contents and stored in a bunded area.
9. The HSE Officer or Emergency Coordinator shall notify the relevant authority, the Health & Safety Authority and neighbours, and complete an Environmental Incident Report, if required.

Emergency Spill Response Plan