



APPENDIX 12

ENVIRONMENTAL EMERGENCIES

Before commencing on any site the following must be completed by all Staff:

- Read and sign Site safety statement
- Read and discuss Risk Assessments and Method Statement for Project
- Be present and attend the Tool box talks weekly

Yet emergencies occur and in these instances we must be prepared and take all the required steps on site to minimise the impact:

SPILL CONTROLS

Safety management systems

Generation and implementation of effective emergency response and spill control procedures are fundamental aspects of a safety management system.

Site emergency plan

The on-site emergency plan, addresses procedures for dealing with emergency situations involving loss of containment in general terms.

Main points for inclusion are:

- Containing and controlling incidents so as to minimise the effects and to limit danger to persons, the environment and property;
 - Implementing the measures necessary to protect persons and the environment;
 - Description of the actions which should be taken to control the conditions at events and to limit their consequences, including a description of the safety equipment and resources available;
 - Arrangements for training staff in the duties they will be expected to perform;
 - Arrangements for informing local authorities and emergency services; and
 - Arrangements for providing assistance with off-site mediatory action.
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- Raise the alarm and call the fire brigade;
 - Tackle a fire or control spills and leaks (when it is safe to do so);
 - Evacuate the site, and if necessary nearby premises.

Area evacuation

Evacuation of areas in the event of fire or toxic gas emission should be addressed in an emergency evacuation procedure. This should specify designated safe areas, assembly points and toxic gas shelters. The procedure should also identify responsible personnel whose duties during area evacuation include:

- Responsibility for a specific area;
- Collecting ID badges from plant racks;
- Ensuring roll calls are undertaken to identify missing persons;
- Communication of missing persons to central emergency services

Fire fighting

A fire fighting strategy should consider:

- Appointment of fire wardens, with subsequent training;
- Location plans of fire hoses, extinguishers and water sources;
- Access for emergency services;
- Provision of firewater lagoons

Removal of substance to safe place

The emergency spill control procedure should include the following key sections:

- Spills involving hazardous materials should first be contained to prevent spread of the material to other areas. This may involve the use of temporary diking, sand bags, dry sand, earth or proprietary booms / absorbent pads;
- Wherever possible the material should be rendered safe by treating with appropriate chemicals (refer to Stabilisation / dilution to safe condition);
- Hazardous materials in a fine dusty form should not be cleared up by dry brushing. Vacuum cleaners should be used in preference, and for toxic materials one conforming to type H (BS 5415) should be used;
- Treated material should be absorbed onto inert carrier material to allow the material to be cleared up and removed to a safe place for disposal or further treatment as appropriate;
- Waste should not be allowed to accumulate. A regular and frequent waste removal procedure should be adopted.

Stabilisation / dilution to safe condition

Once the hazardous material has been contained to prevent spread of the material to other areas, the material should be treated wherever possible to render it safe. Acids and alkalis may be treated with appropriate neutralising agents. Due to the differing properties of the various groups of chemical, an appropriate treatment strategy with suitable chemicals should be established in each case. For example, highly concentrated hydrochloric acid will fume when spilled so prior to neutralisation the spill should be diluted with a water spray.

Once the material has been treated the cleared up the area should be washed with large volumes of water. Most chemical plants and associated areas are serviced by chemical drains that feed to the effluent treatment plant. The washing operation will represent an abnormal loading on the effluent treatment plant, and it is vital that in any situation where this is likely to happen the staff responsible for operation of the effluent treatment plant are notified so that appropriate measures can be adopted. The effluent treatment plant operatives are likely to require the following information:

- Approximate quantity of hazardous material;
- Approximate composition of hazardous material;

- Physical properties of hazardous material;
- State of hazardous material (whether neutralised etc.).

In the case of fire water runoff, much larger volumes of water are employed and the provision of firewater lagoons to contain potentially toxic firewater is required

Availability of neutralising substances / foam

Process specific emergency spill kits (acid, alkali, solvent, toxic etc) and appropriate personal protective equipment should be readily available with supporting procedures. These spill kits should be maintained on a regular basis to ensure that they are always available and fit for purpose. This ensures that the most appropriate measure is at hand to deal with a spill or fire in the most effective way.

Issues that should also be addressed include:

- Containment;
- Maintenance and condition of fire hoses, extinguishers.