

Oil spill responder safety guide

IPIECA, London, UK

Health and safety should be the cornerstone of all oil spill preparatory measures. The purpose of the report is to investigate the safety aspects of oil spills and their response, focusing on identifying the principal safety issues when an oil spill occurs, their degree of severity and the practical steps that can be taken to minimise the impact of the spill. It is recognised that safety is managed in many different ways around the world and no attempt is made to provide a 'blue-print' safety document.

Management control of spill safety

The safety of the general public and responders is assigned the highest priority during spill response operations. A response management system, with safety as its core element, should start from the top and penetrate to all levels within the organisations participating in response activities.

To ensure that safety takes its proper place during response operations special actions need to be taken. The management team should appoint an individual and, if necessary, a supporting team, with a responsibility for safety management. Responders can often become too involved in operations and not be able to take an overall view of the situation. The safety manager needs to be able to step back from the operation and consider wider issues.

The safety manager should be responsible for monitoring and maintaining awareness of active and developing situations, assessing hazardous and unsafe situations and developing measures to assure personnel safety. The following measures are described more fully in the report:

- Site assessment
- Developing and implementing a Site Safety and Health Plan (SSHP)
- Participating in planning meetings to identify health and safety concerns
- Correcting unsafe acts or conditions through the regular line of authority
- Establishing first-aid stations and medical facilities in accordance with the SSHP

Risk assessment

The first task that should be undertaken when preparing to conduct oil spill response operations is a comprehensive risk assessment and hazard analysis. When an oil spill occurs the management team will need to carry out a high level risk assessment of the overall situation as soon as possible to ensure that oil spill responders or the wider population are not in danger. The initial approach should be to answer such questions as:

- Is there a potential gas cloud and therefore an explosion risk?
- Should people be evacuated or excluded?
- Is the environment safe for people?
- Will oil enter water systems that may affect people?

The risks posed by particular operations or locations should be assessed on a case by case basis; an example of a typical Site Safety Survey Form is given in the report.

The risk assessment should be fully documented and filed.

Spilled product and response clean-up: chemical safety

Responses to oil spills inevitably put responders and chemicals together in the same environment. Potential exposure of personnel should be assessed, monitored and controlled if health effects are to be avoided. Each type of product, when spilled into the environment, will have its own set of chemical characteristics that will determine the most effective response strategy and, indeed, which strategies are safe to use. It should be borne in mind that the chemical characteristics of the spilled product will usually change over a period of time as a result of what is known as 'the weathering process', i.e. the action of the elements on the product and its reaction with the surroundings.

Oils, whether in the crude state or as refined products, represent a safety hazard. The main hazards that can arise are described in the report and result from the following properties:

- Flammability
- Explosive vapours
- Toxicity
- Hydrogen sulphide
- Exclusion of oxygen
- The slippery nature of oil.

The working environment and safety during response operations

Oil spills can occur in practically any type of environment and under all climatic and meteorological conditions. This poses a number of challenges to responders and has an overriding influence on the response options available. Some aspects of the working environment (such as site layout, security, working shifts) may be controlled by the responders themselves.

Others, including the weather and the terrain, must be given consideration and accommodated when response targets are set. In every working environment, safety must remain the top priority, and measures to control any risks put in place. A variety of spill site hazards are described in the report.

Personal protective equipment selection and site facilities

PPE selection

Personal protective equipment (PPE) is essential for ensuring responders are able to work in a safe manner.

The proper selection and use of PPE requires skill and experience. The following points should be taken into consideration when selecting the appropriate PPE:

- The expected working conditions and hazards
- The activities to be performed
- The person(s) being exposed
- The compatibility of the equipment – each piece of PPE should be capable of performing effectively without hindering the proper operation of other pieces

Safety and welfare facilities on site

Potable water, non-potable water, toilets and personal hygiene facilities should be readily available. Details of the location of hygiene facilities should be contained on the Site Safety Map.

Decontamination is best performed in a specific sequence, described in the report, to reduce levels of contamination on personnel, PPE, equipment or transport until no contaminant remains. Facilities should be established to deal with the waste from cleaning stations so it can be disposed of in an approved manner in order to prevent secondary pollution.

Management of volunteers

Volunteers will frequently offer their services to assist, either as part of the clean-up team or to assist with wildlife rescue. Volunteers are often inexperienced and untrained in spill response activity, so this resource can be both an asset and a liability if their use is not controlled and insufficient care is given to safety and welfare. For this reason, safe use of volunteers needs careful thought and planning.

If volunteers are used in a response activity, it should be in such a way that their safety is assured. A specific training programme should be provided, identifying the risk and hazards and how to avoid injury. Volunteers should also be provided with appropriate PPE and integrated in to the overall command structure to ensure that they have the benefit of safety information briefings.

Conclusions

The clean-up of spilled oil is important, but not as important as ensuring the safety of those who are involved with, or may be affected by, the spill. The health and safety of the public and the responders is a critical aspect of a successful operation. The problem is not a particularly complex one, but one that requires management, planning and common sense to minimise the risk of accidents.

Reprinted with kind permission from the IPIECA Oil Spill Preparedness and Response Report Series Summary. This summary brings together, for the first time, the complete IPIECA oil spill report series under one cover. It provides a complete overview of issues that can be referenced in the preparation for, and response to, oil spills at sea.

The core content of this publication is made up of report summaries which reference the full report series. In the printed version of the summary (which is available from the secretariat) the full report series is included on CD-ROM in English, French, Spanish and Russian.

Please visit www.ipieca.org for more details.

ABOUT THE ORGANISATION

The International Petroleum Industry Environmental Conservation Association (IPIECA) was established in 1974. It is a voluntary non-profit organisation whose membership includes both petroleum companies and associations at the national, regional or international levels. Separate working groups within IPIECA address global environmental and social issues related to the petroleum industry: oil spill preparedness and response, global climate change, biodiversity, social responsibility, fuel quality and vehicle emissions, and human health. IPIECA also helps members identify new global issues and assesses their potential impact on the oil industry. IPIECA holds formal United Nations status, which allows it access as a Non-Governmental Organisation (NGO) to all UN negotiations. The Association represents the views of its members in public fora and provides an interface between the petroleum industry and the United Nations Agencies.

ENQUIRIES

IPIECA, 5th Floor, 209-215 Blackfriars Road, London, SE1 8NL UK

Tel: +44 20 7633 2388

Fax: +44 20 7633 2389

Email: info@ipieca.org

Web: www.ipieca.org



Oil Spill Response Products

Skimmers & Pumps with capacities up to 140 m³/h

Micro Skimmers
Mini Skimmers
TDS Skimmers
TDS Pumps
Hyd. Powerpacks
Hose Packages
Oil Booms



All Foilex patented products are manufactured according to ISO 9002 quality assurance system

FOiLEX
OIL SKIMMERS & PUMPS

Säterigatan 25 · SE-417 64 Gothenburg · SWEDEN · info@foilex.com
Phone: +46-31 222525 · Fax: +46-31 222595 · www.foilex.com