



Overview

Globally, the Exploration and Production (E&P) industry has adapted its approach to managing offshore oil pollution risks. Regulators have responded within the bounds of their national legislation. A logical next step is for regulators to work together internationally to improve global oil pollution preparedness by developing a set of preparedness principles for application in the E&P sector. Six principles are outlined for monitoring the quality and quantity of industry oil spill preparedness for offshore E&P activities. Accordingly, an appropriate level of *preparedness* should:

1. be fit for purpose
2. set levels of performance
3. be adaptable
4. have clear roles and responsibilities
5. be scalable
6. be sustainable

While individual regulators may have varied application in their respective jurisdiction, the guiding principles outlined below generally reflect the thinking behind each principle from a regulator's perspective, and provides examples of characteristics for each principle for context and is aimed at promoting further discussion among E&P stakeholders.

Principle 1: Response capability should be fit for purpose

Operational effectiveness relies heavily on the capability being suited to the nature, severity, and extent of the oil spill and the characteristics of the natural resources at risk. Incident scenarios vary across E&P operations, but many parameters will be known or reasonably predicted for planning purposes. Experience from past spills or exercises can also help improve planning. A well prepared operator should ensure that the various elements of their response capability are fit for purpose and match the risk scenarios from their activities. Accordingly, the E&P operator should be able to show, before commencing activities that may entail oil spill risk, that:

- Appropriate risk assessment has been carried out, where hazards are identified, consequences described, and likelihoods studied (i.e. risk analysis), so as to understand the risk and therewith the appropriate response capability needed (i.e. risk evaluation).
- Appropriate response measures, including early detection/ monitoring, are selected to manage the particular oil pollution risks (i.e. risk treatment) and that these are commensurate with the risk.
- The selected countermeasures do not introduce unacceptable additional impacts.
- The level to which they are prepared includes all measures that are reasonable and practicable taking into account the actual natural resources at risk.

Principle 2: Performance levels are set to promote effective preparedness

A regulator wants to know, before issuing a permit to operate how an E&P operator is likely to perform. One way of gaining indications as to the expected effectiveness of a future response operation is to set performance levels that promote optimal preparedness. These should focus on the functionality, availability, reliability, independence, survivability and compatibility of response countermeasures. Accordingly:

- Improved environmental outcomes are achieved by setting and working to performance level targets.
- Performance levels should capture the preparedness side of each aspect of response capability.
- Performance levels should clearly articulate the *planned* effectiveness of:
 - E&P operator (including contactors) performance and any national response capability.
 - Selected response measures (e.g. source control, mechanical recovery, dispersants, burning).
 - Administrative and other controls that support a response (i.e. contingency plan, communications resources, NEBA).
 - Incident management system which should be function-based and managed-by-objective.



Principle 3: Response capability is built to be adaptable

Every spill scenario, even at the same facility, differs, leaving even the best prepared plans lacking when unpredicted events occur. Therefore, responsible preparedness includes measures to adapt to the circumstances encountered at the time of the spill. Accordingly:

- Flexible processes should be included as part of a response capability to verify planning assumptions, validate information inputs, test decision-making, and expedite changes to set performance levels.
- Response capability takes a tiered response approach and is designed around supply chains with access to a variety of equipment, resources, and skills.

Principle 4: Roles and responsibilities are clearly stated

In order to execute a timely, coordinated, cooperative, and effective response, the roles, accountabilities and responsibilities of all parties involved, including government must be defined in advance. The roles may vary depending on factors such as the severity, source or destination of the spill and the national system for oil spill preparedness and response. Accordingly:

- Responsibilities should be defined at strategic, operational and tactical levels.
- Actions should be established for all stakeholders at all levels of response.
- Responsibilities should extend from the start to the end of a response and encompass initial actions, monitoring, information sharing, and media/community engagement.
- Accountabilities accepted by E&P operators for obtaining a permit to operate should be well defined, in particular those for impact assessment, cost recovery, compensation and environment remediation.

Principle 5: Levels of response are scalable

Because large offshore oil spills are very rare and variable in scope the basic tenet of risk-based preparedness is that arrangements are in place to call in appropriate quantities of resources as required, rather than to require the on-site stockpiling of all the resources that may be required in all foreseeable scenarios. This is the origin of the tiered preparedness and response concept. Accordingly:

- The escalation of response is based on what is reasonably practicable in a variety of circumstances, as defined when developing the contingency plan.
- Capability planned in terms of scalable and compatible packages to allow both up- and down-scaling.
- Incident management systems must be scalable according to the circumstances of the spill.

Principle 6: Response capability is sustainable

Preparedness includes maintaining the relevant capability over the duration of an incident, as any response capability will degrade if not adequately supported and reinforced. This includes replenishing stocks of materials, maintaining/ repairing/ substituting equipment, and replacing a tiring workforce (including leadership). Tools to demonstrate in advance that capability can be sustained include the use of performance levels such as the documentation of training, contracts, equipment maintenance/ testing. Accordingly:

- Measures should be in place to ensure response personnel attain required competencies and are aware of their roles and responsibilities.
- Set levels of preparedness should be regularly tested to guarantee delivery in the event of a spill.
- Arrangements should be in place to assess third-party capability.
- Response capability should be built on supply chain theory, with appropriate arrangements in place for replenishment of stocks.
- Arrangements should be in place to ensure sufficient waste management capacity onshore to receive and process recovered oil and oil contaminated equipment.

Go to www.ioper.org for more information on this project, IOPER or a contact in your jurisdiction.