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**GP 24-20**

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# **Fire and Explosion Hazard Management (FEHM) of Offshore Facilities**

## **Group Practice**

**BP GROUP  
ENGINEERING TECHNICAL PRACTICES**

## Foreword

This revision of Engineering Technical Practice (ETP) GP 24-20 includes deletion of Annex A, reorganization of the text, and reformatting of the entire Group Practice (GP). Because the reorganisation of this GP was so extensive, revisions have not been identified by bars in the margin as in normal practice.

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## 1. Scope

- a. This GP describes fire and explosion hazard management (FEHM) which is the active management of fire and explosion hazards from knowledge of the causes, likelihood, severity, and consequences of major accidents that could arise.
- b. This GP delivers a hazard management strategy such that major accidents can be preferentially eliminated, prevented, and controlled such that evacuation is not necessary, or in extreme cases, that safe evacuation can be achieved.
- c. FEHM is applicable to:
  1. Design of a new offshore facility during each of the CVP stages, and
  2. Design changes to an existing operating offshore facility in accordance with a management of change process.
- d. For an existing offshore facility where the BP entity determines that fire and explosion hazards need to be better understood, the general principles of FEHM identification, evaluation, and categorisation should be implemented.
- e. This GP conforms with the requirements for continuous risk reduction defined in GP 48-50 and support GP 44-32.

## 2. Normative references

The following referenced documents may, to the extent specified in subsequent clauses and normative annexes, be required for full compliance with this GP:

- For dated references, only the edition cited applies.
- For undated references, the latest edition (including any amendments) applies.

### BP

|          |                                    |
|----------|------------------------------------|
| GP 24-21 | Fire Hazard Analysis.              |
| GP 24-22 | Gas Explosion Hazard Analysis.     |
| GP 48-50 | Major Accident Risk (MAR) Process. |

## 3. Terms and definitions

For the purposes of this GP, the following terms and definitions apply:

### Cause

Event, situation, or condition that results, or could result, directly or indirectly in an accident or incident.

### Consequences

Direct, undesirable result of an accident sequence usually involving a fire, explosion, or release of toxic material. Consequence descriptions may be qualitative or quantitative estimates of the effects of the accident in terms of factors such as health impacts, economic loss, and environmental damage.

### Demand

Condition or event that requires a protective system or device to take appropriate action to prevent or mitigate hazards.



**Entity or BP entity**

An organizational unit within BP which may be a Performance Unit, Business Unit, Strategic Performance Unit, Segments or some logical sub group of one of these, defined by the Segment, Function or Region.

**Facility**

General term for a complete onshore or offshore installation, vessel, or rig.

**Hazard**

Condition or practice with the potential to cause harm to people, the environment, property, or BP reputation.

**Hazard Categories:****Controllable hazard**

Hazard that has potential for local damage, harm to personnel in the immediate area, and could escalate to a higher category if not effectively controlled and mitigated by inherently safer design (ISD) measures and SCDM.

**Evacuation hazard**

Hazard that has the potential, after a defined period of time under major accident conditions, to endanger lives of personnel on a facility through progressive escalation or through eventual impairment of muster locations, temporary refuge and evacuation systems. ISD measures and SCDM combine to delay escalation long enough for controlled evacuation to take place.

**Catastrophic hazard**

Hazard of such severity that preservation of lives of personnel on facility cannot be demonstrated, and design is such that effects cannot be mitigated to allow controlled evacuation.

**Hazard identification (HAZID)**

Brainstorming approach used to identify possible hazards. HAZID studies are very broad in their scope. The HAZID is sometimes called a preliminary hazard analysis.

**Modification**

Change to existing facility.

**Muster location**

Designated place where personnel can muster and survive the effect of a major hazard accident while awaiting evacuation.

**Probability of failure on demand (PFD)**

Probability that a system fails to perform a specified function on demand.

**Risk**

A measure of loss/harm to people, the environment, compliance status, Group reputation, assets or business performance in terms of the product of the probability of an event occurring and the magnitude of its impact. Throughout this GP the term “risk” is used to describe health, safety, security, environmental, and operational (HSSE&O) undesired events.

**Safety critical design measure (SCDM)**

Safety systems, devices, and controls that are designed to prevent, detect, control, or mitigate a major accident, or facilitate the escape and survival of people. SCDMs are also referred to as “safety critical elements” in some regions and “protective systems” in GDP 5.0-0001 and GRP STD 01.

