

NEBOSH

International Technical Certificate in Oil and Gas Operational Safety

Unit IOG1: Management of international oil and gas operational safety

Exam questions and answers

NEBOSH examiners' reports*



SAMPLE

*Feedback for the NEBOSH example Oil and Gas question paper (downloadable from the [NEBOSH website](#)), and the sample question paper from the [NEBOSH guide](#).

Other examiners' reports can be purchased from the [NEBOSH shop](#).

Unit IOG1: Management of international oil and gas operational safety

Element 1: Health, safety and environmental management in context

exam question

Risk management tools and techniques are used to minimise hazardous events associated with oil and gas exploration and production activities.

- (a) **Identify** risk management tools and techniques. **6 marks**
- (b) **Identify** the steps of risk management **AND outline EACH** of the steps identified. **8 marks**
- (c) **Identify** project phases where risk management applies. **6 marks**

answer expected by examiners

- (a) Suitable tools and techniques include:
- ✓ bow-tie analysis
 - ✓ hazard and operability studies (HAZOP)
 - ✓ Swiss cheese model
 - ✓ job hazard analysis (JHA)
 - ✓ fault tree analysis (FTA)
 - ✓ failure modes effects analysis (FMEA).
- (b) The steps of risk management are as follows.
- ✓ Identifying hazards – an outline of a range of hazards is required.
 - ✓ Evaluating risk – an outline of determining the acceptability of a specific risk is required.
 - ✓ Risk reduction measures – an outline of mitigating measures, setting functional requirements and necessary risk reduction measures is required.
 - ✓ Review – an outline of a review is required.
- (c) Suitable phases include:
- ✓ design
 - ✓ construction
 - ✓ commissioning
 - ✓ start-up
 - ✓ shut down
 - ✓ decommissioning.

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exam question

Outline the following terms.

- (a) Upper flammable limit (UFL). **2 marks**
- (b) Lower flammable limit (LFL). **2 marks**
- (c) Flashpoint. **2 marks**
- (d) Highly flammable liquids. **2 marks**

answer expected by examiners

- (a) The highest concentration of a flammable substance in air that will ignite when exposed to an ignition source. Above the UFL the mixture is too rich to burn.
- (b) The lowest concentration of a flammable substance in air that will ignite when exposed to an ignition source. Below the LFL the mixture is too lean to burn.
- (c) The minimum temperature to which a material must be heated for the vapours emitted to ignite in the presences of a flame.
- (d) Substances which remain liquid under pressure and having a flashpoint lower than 21°C.

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exam question

Many major oil/gas incidents have occurred in recent years, for example, Texas City, Mumbai High.

- (a) **Outline FOUR** reasons why such incidents should be investigated by employers. **4 marks**
- (b) **Identify FOUR** parties, other than the employer, who may want to investigate these types of incident. **4 marks**

answer expected by examiners

- (a) Reasons include:
- ✓ preventing re-occurrence
 - ✓ meeting legal requirements
 - ✓ gathering evidence to defend against legal action
 - ✓ determining costs.
- (b) Interested parties include:
- ✓ the local authority
 - ✓ the police
 - ✓ the coroner
 - ✓ insurance companies.