

# HSE for offshore and petroleum engineers

## TUTORIAL-3

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### PART-A

1. HSE standards are circumscribed around activities that are **Reasonably practical**
2. What is the major objective of oil and gas industries, in HSE perspective?  
  
To carryout intended operations (exploration, production, transportation, processing, discharges, decommissioning) without causing injury or damage to the equipment the personnel (employee) the society (public) &the environment.
3. **Audit** are vital to create continual awareness and improvement towards risk reduction.
4. **Accident** refers to occurrence of events and not its magnitude.
5. **Risk** is a measure of magnitude along with its probability of occurrence.

### PART-B

#### 6. List a few factor that contribute to formulation of good HSE practices

- Prevention of death (or) to the employee, general public.
- Prevention of physical, financial loss to the employer
- Prevention of damage to public property in the neighbourhood
- Protection of environment.

#### 7. Why is safety important in oil and gas production?

- Oil &gas sector (Hydrocarbon exploration, production &processing) is always associated with risk which can happen in day to day
- Levels of risk associated with oil & gas sector may be higher or lower
- Affects the society & economic
- Creates negative impact about the company in the market

**8. Explain ALARP in terms of risk acceptance.is ALARP declaration a known invitation of risk acceptance? Explain**

**ALARP-As Low As Reasonably Practical**

- ❖ The intention is to reduce risk to an ALARP level in a given system
- ❖ Balance the risk reduction against time, trouble, difficulty, cost of achieving it.
- ❖ ALARP is a threshold level of risk acceptance beyond which the risk reduction measures will become unreasonably disproportionate to the additional risk reduction obtained.

**9. How do you differentiate incident and accident?**

**Incident**

Incident is an event or chain of events which has caused or likely to cause injury to people and damage to the assets. Near miss events are also included.

**Accident**

Accident refers to a single or sequence of events that produced unintended loss. This refers only to the occurrence of the events not their magnitude, frequency.

**10. List primary differences between hazard and risk analysis?**

**Hazard**

Hazard is a chemical or physical condition that has potential to cause damage to people, property or environment.

**Risk analysis**

- Quantitative estimate of risk using engineering evaluation and mathematical techniques
- It involves estimation of hazard, their probability of occurrence and combination of both.