

FUNDAMENTALS OF HEALTH, SAFETY AND ENVIRONMENT

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INTRODUCTION

What Is HSE?

- HSE is concerned with protecting and preserving human, material and facility resources in the workplace.
- Practitioners in this field try to prevent needless deaths, injuries to workers and material loss.
- It involves more than first aid activities and is far reaching in both scope and practice.

Why HSE is so Important in the Oil & Gas Industry?

- This industry involves high risk activities including but not limited to exploration, production and processing of highly flammable and explosive substances.
- Massive manpower, heavy, complicated and expensive machinery including extensive support systems.
- High investment cost and long payback periods.

Why HSE is so Important in the Oil & Gas Industry Continued

- Strategic and vital industry which affects economies of nations
- Accident consequences could be catastrophic in terms of number of casualties, environmental pollution, lost of investment, and reputation damage
- Remote and harsh environment
- The need to meet both local and international regulatory requirements

Pictures of Some Serious Accidents in History



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PRODUCTS OF THE OIL AND GAS INDUSTRY

- Crude oil (from oil production)
- Gasoline (petrol)
- Liquefied petroleum gas (LPG)
- Kerosene
- Gasoil (Diesel)
- Fuel oil

HAZARDS IN THE OIL AND GAS INDUSTRY

- A hazard is something that can cause harm or adverse effects such as to individuals as health effects, to the environment or to organizations as property or equipment damage.
- We shall look at them as;
 - Occupational health hazards
 - Safety hazards
 - Environmental hazards

Occupational Health Hazards

- Noise

- Naturally occurring radioactive materials
- Chemical agents e.g. H₂S
- Disease causing insects and animals
- Prolonged immobility in cramped conditions
- Organizational stress due to poor communication, inappropriate targets, insufficient manpower
- Exposure to violent, threatening or traumatic situations e.g. robbery, assault, explosion etc.

Safety Hazards

- Road traffic hazards (e.g. rollovers)
- Office trips, slips,
- Falling objects,
- Fire, flammable materials, electricity, welding
- Confined space works
- Lifting (cranes, backhoes, forklifts and other earth moving equipment)

Environmental Hazards

- Flaring of gases (Greenhouse Effect)
- Oil discharge to sea (water pollution)
- Wastewater discharge
- Oil and Chemical spills
- Hazardous wastes (water and land contamination/pollution)
- Noise
- Odour
- vibration