



Global Professionals Institute for Training  
معهد المحترفون العالميون للتدريب الأهلي

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## Asset Operational Integrity for Operations (Intermediate)



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## Introduction

Operating Integrity become a strategic focus area within the oil & gas industry Operational Excellence program. It is an imperious within the Oil and Gas industry in order to Ensure Safe Production and optimize availability. Several catastrophic process safety incidents within the industry have demonstrated that poor risk management and a lack of good operating practices by site operators can lead to massive business and human costs

## Course Objectives:

- ✓ Identify the main hazards in gas processing, transportation and distribution facilities.
- ✓ Explain the risk in normal operations and emergency conditions.
- ✓ Apply knowledge of HAZID, HAZOP, Safety Critical Equipment and QRA to identify and assess risk of gas operations.
- ✓ Explain how barriers and controls are used to minimize the risks to the ALARP level in gas operations.
- ✓ List the important normal operating parameters of own facility.



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## Who should attend?

- ❖ Production engineers
- ❖ Mechanical Integrity & reliability Engineers
- ❖ Plant inspectors

## Program Syllabus

### First Day

- Team acquaintance and ice breaking.
- Course objective plan and rules.
- Safety moment
- Hazards Identification in gas processing, transportation and distribution facilities
- Normal operations risk and emergency conditions risk
- **Video 1:** HAZARD vs RISK
- **Video 2:** How to Identify Hazards Rapidly (Workplace Risk Assessment)
- **Video 3:** Risk Assessment
- HAZID & HAZOP studies basic knowledge
- Safety Critical Elements Identification.
- QRA Study basic knowledge



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- **Field Case 1:** Divide the trainees in groups and perform HAZID & Job hazard analysis on the field drawing.
- **Assignment 1:** mini report about the differences between JHA, HAZID & HAZOP

## Second Day

- Day1 recap.
- Review and discuss day 1 assignment for all trainees.
- ALARP Study and how to minimize risk
- O&G Normal operating parameters
- Emergency situation (Safe Operation limits exceeding)
- Control Room response in Emergency Situation
- **Video 4:** major accidents in O&G Fields related to poor operational safety such as
  - The Seveso Dioxin Disaster
  - Bhopal disaster
  - BP Texas City Explosion
- Means of Proactive monitoring systems for plant and facilities
- Standard Operating Procedures
- Plant stabilization, slowdown and shutdown philosophies



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- **Field Case 2:** Identify the SCE for pre-performed bow-tie analysis
- **Assignment 2:** mini report about the ESD levels and their related operational response in gas field

### Third Day

- Day2 recap.
- Review and discuss day 2 assignment for all trainees.
- Instrumented Protective Systems (IPS)
- High Integrity protection System (HIPS)
- **Video 5:** An Introduction to Safety Instrumented Systems (SIS) in the Process Industries
- Levels of ESD
- actions during the activation of different levels of ESD.
- Fire & Gas System.
- **Field Case 3:** F&G system components in Field
- **Assignment 3:** mini report for the most common corrosion cases in oil & gas remote fields



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## Fourth Day

- Day3 recap.
- Review and discuss day 3 assignment for all trainees.
- Alarm Management Philosophy
- Types of corrosion mechanisms
- Types of Damage Mechanisms
- **Video 6:** Different videos illustrated most common types of corrosion mechanisms in O&G industry

## Fifth Day

- **Video 7:** Different videos illustrated most common types of corrosion mitigation techniques in O&G industry
- Corrosion Consequences in O&G Operations
- Corrosion Control & Mitigation Techniques & methods
- Role of operating personnel in maintaining asset / operational integrity.
- **Video 8:** major accidents in O&G Fields related to corrosion failures such as
  - Flixborough Disaster
  - Husky Energy Refinery



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## Program Methodology

A highly interactive combination of lecture and discussion sessions will be managed to maximize the amount and quality of information, knowledge and experience transfer. The sessions will start by raising the most relevant questions, and motivate everybody finding the right answers. The attendants will also be encouraged to raise more of their own questions and to share developing the right answers using their own analysis and experience. Course material through power point equipped with necessary animation, learning videos, and general discussion to provide participants with full understanding concerning the subject course will be provided.

## Percentage of Delivery Methodologies

50% Presentation

20% Group & Individual Exercises

20% Case Studies

10% Active Movies and Videos

## العرض المالي

السعر	مكان الانعقاد	تايخ الانعقاد	مدة البرنامج
1200 kd	Istanbul	08-12 December/ 2024	5 days

## تفاصيل التكلفة :

المحاضرة العلمية ❖

المادة العلمية ❖

الشهادات ❖



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بوفيه خفيف ❖



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