



Global Professionals Institute for Training  
معهد المحترفون العالميون للتدريب الأهلي

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## Flaring System Operation – Advanced



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## Introduction

This Course will provide a comprehensive overview of process flare systems in oil and gas processing facilities. The course begins with the need for pressure control/overpressure protection, continues with the key engineering and design aspects including code considerations, and concludes with selecting and defining the components of flare, blow-down and relief systems. It outlines the many different flare technologies available and the type of application each is most suited for. It will also demonstrate to the attendee how to control smoke, noise, radiation and flame luminosity. Philosophy of Zero Flaring/flare gas recovery and its limitations will be covered as well. In addition to the scientific procedures and contents of this course, many real-life case studies and implementations are planned to be presented in an open discussion forum with the participants. All case studies are developed from "Actual Case Studies".



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## Course Objectives:

- ✓ Demonstrate a significant understanding of operating and monitoring elevated (HP and LP, single point and multipoint, smokeless and non-smokeless, air-assisted and steam-assisted, COANDA), incinerators and ground (burnpits) flare systems.
- ✓ Explain the purpose and working of flare system equipment (safety relief devices, headers (warm/cold, high pressure/low pressure (HP/LP) and wet/dry), knock out drum, flare tip (single point, multipoint and enclosed), stack
- ✓ seals, pilot system, blowers, steam systems, monitoring instrumentation, recovery systems, drains, pumps, pilot fuel/emergency fuel systems, purge systems, interlocks and other safety systems, ignition systems and liquid

burners/systems

- ✓ Perform start-up, monitor, shutdown and troubleshooting of flaring systems and equipment including elevated and ground flare systems, incinerators and equipment.
- ✓ Resolve operational problems like iced lines, high levels in pots/vessels, smoke from flare, flame out, lack of header purge flow, flash back, inconsistent header composition, blockage and cold feed to warm header etc.





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## Who should attend?

- ❖ Operating (Up-Stream)

## Program Syllabus

### First Day

- Have a comprehensive overview of flare, blow down and pressure relief systems, and the system components.
- Identify the different types of flares and review to improve the operation.
- Understand types, design, sizing of a pressure relief valve and a rupture disk.
- Understand the process hazards, LOPA, SIL, ESDs levels, ESD philosophy.
- Understand all terminologies related to flare & overpressure protection.
- Understand of design, operation, and maintenance of the flare system



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## Second Day

- Identify/understand overpressure protection guidelines.
- Describe flare knock out drum and liquid seal drum functions and troubleshooting.
- Be aware of the important role of steam in smokeless flare operations.
- List the components used in relief and blowdown system and discuss its function

## Third Day

- Understand how to operate a flare system competently.
- Be aware with the flare emissions and their effects on personnel and the environment.
- List the components used in relief and blowdown system and discuss its function.
- Explain what is meant by 'maximum relief load' and 'relieving capacity'.



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## Fourth Day

- Describe which scenarios should be considered for sizing a relief valve and explain which criteria should be used for sizing a depressurizing valve.
- Explain the effect of thermal radiation.
- Understand the philosophy of zero flaring/flare gas recovery.

## Fifth Day

- Environmental aspects of elevated flare stack systems (noise, light, loss of pilots etc).
- Managing the hazards of flare systems, nine hazards (e.g. steam hammer – as steam to elevated flare headers is usually at end of a header).



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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	Dubai	22-26 December/ 2024	5days

## تفاصيل التكلفة :

- المحاضرة العلمية ❖
- المادة العلمية ❖
- الشهادات ❖
- بوفيه خفيف ❖
- ❖



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