

Flare System Specialist: Flaring Operations & Emission Control

COURSE OUTLINE 2025

Contact Us On :

Tel : +971 7 2042072 | Email: training@maestrouae.net Website: <u>www.maestrouae.net</u>

TRAINING TITLE

FLARE SYSTEM SPECIALIST: FLARING OPERATIONS & EMISSION CONTROL

<u>VENUE</u>

CAIRO, EGYPT

DURATION

5 Days

DATES

30 November – 04 December 2025

PRICE

\$5,250 per attendee including training material/handouts, morning/afternoon coffee breaks, and Lunch.

TRAINING INTRODUCTION

This course offers a thorough understanding of flare systems, focusing on the design, operation, and environmental aspects of flaring in oil, gas, and petrochemical facilities. It emphasizes compliance with environmental regulations, safe handling of flared gases, system optimization, and methods for reducing emissions. Participants will gain the knowledge necessary to assess flare system performance and contribute to improved operational efficiency and regulatory compliance.

TRAINING OBJECTIVES

By the end of the course, participants will be able to:

- □ Understand the principles, components, and types of flare systems.
- Analyze the operational behavior of flaring systems under normal and emergency conditions.
- □ Identify emission sources and evaluate control strategies for flare gas.
- Apply knowledge of international environmental and safety standards related to flaring.
- Recommend measures to optimize flare performance and reduce atmospheric emissions.

TRAINING AUDIENCE

- □ Process and mechanical engineers
- Environmental and HSE professionals
- Operations and maintenance supervisors
- □ Project and design engineers
- □ Regulatory compliance officers
- Professionals involved in gas processing, petrochemical, and refining operations

TRAINING OUTLINE

Day 1: Introduction to Flare Systems

- Purpose and functions of flaring systems
- Types of flare systems: elevated, ground, enclosed
- Components: flare headers, knockout drums, seal legs, tips, and pilots
- Overview of flare operation scenarios (startup, shutdown, emergency)

Day 2: Design and Sizing Principles

- Flare system design criteria and considerations
- Sizing of flare headers and sub-headers
- Flare tip design and flame stability
- Velocity and backpressure limitations
- API standards and best practices (e.g., API 521)

Day 3: Flare Operation and Safety

- Operational modes: continuous, intermittent, emergency flaring
- Pilot monitoring and ignition systems
- Relief scenarios and dynamic simulation overview
- Safety systems and pressure relief integration
- Fire and explosion risk associated with flaring

Day 4: Emission Control and Environmental Compliance

- Combustion efficiency and destruction removal efficiency (DRE)
- Sources of flare emissions: CO₂, VOCs, NOx, soot

- Emission measurement and estimation techniques
- Flare gas recovery systems (FGRS) and vent gas treatment
- National and international environmental regulations (EPA, EEA, etc.)

Day 5: Flare System Optimization and Troubleshooting

- Common flare system issues and operational challenges
- Flare minimization strategies and process adjustments
- Energy efficiency and heat recovery opportunities
- Maintenance practices for reliable flare operation
- Monitoring tools and performance improvement

TRAINING CERTIFICATE

MAESTRO CONSULTANTS Certificate of Completion for delegates who attend and complete the training course.

<u>METHODOLOGY</u>

Our courses are highly interactive, typically taking a case study approach that we have found to be an effective method of fostering discussions and transferring knowledge. Participants will learn by active participation during the program through the use of individual exercises, questionnaires, team exercises, training videos and discussions of "real life" issues in their organizations. The material has been designed to enable delegates to apply all of the material with immediate effect back in the workplace.