



PE141: Relief and Flare Systems: Flaring, Venting and Purging

Training Description:

This intensive training course provides a comprehensive overview of relief and flare systems for oil and gas processing facilities. The training 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 sizing the components of a relief and flare system.

The material of the training course is applicable to onshore field production facilities, pipelines, gas plants, terminals, refineries, and offshore production facilities. The use of dynamic simulations for relief load determination is discussed and demonstrated.

Training Objectives:

By the end of the training, participants will be able to learn:

- ✓ Codes and Standards used in relief systems
- ✓ Ways to mitigate relief, such as HIPPS
- ✓ How to define the possible relief scenarios and calculate their relief loads
- ✓ Commonly used pressure relieving devices, and how to size them
- ✓ How to calculate relief valve inlet losses
- ✓ How to fix relief valve excessive inlet losses
- ✓ How to size relief valve outlet piping and flare headers
- ✓ How to calculate relief valve backpressure
- ✓ How to size flare knockout drums
- ✓ How to calculate flare stack height based on radiation limits
- ✓ About flare gas recovery systems
- ✓ Flare ignition systems that are available
- ✓ Advantages of using dynamic simulation for calculating relief loads

Training Designed for:

This course is intended for Engineers responsible for designing, operating, and maintaining relief and flare systems in oil and gas facilities.

Training Requirement:

“Hand’s on practical sessions, equipment and software will be applied during the course if required and as per the client’s request.”

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

FIVE DAYS:

- ❖ Overview of typical relief and flare systems and key components
- ❖ Codes and standards as well as good practices typical in oil and gas facilities
- ❖ Safety implications and causes of overpressure
- ❖ Overpressure protection philosophy including source isolation and relief

- ❖ Determination of relief requirements and defining set point pressures
- ❖ Types, applications, and sizing of common relief devices
- ❖ Blowdown/depressurizing - purpose and design/operational considerations
- ❖ Design and specification considerations for relief valves and header systems, including fluid characteristics, services conditions, material selection, and header sizing
- ❖ Environmental considerations
- ❖ Radiation calculations and the impact of flare tip design
- ❖ Selection and sizing of key components: knockout and seal drums, vent/flare stack, vent/flare tips, and flare ignition systems
- ❖ Defining need and quantity of purge gas
- ❖ Flare gas recovery, smokeless flaring, and purge gas conservation
- ❖ Operational and troubleshooting tips
- ❖ The use of dynamic simulations to determine relief loads
- ❖ Course Conclusion
- ❖ POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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