

PROCESS SAFETY AND RISK MANAGEMENT (**PSRM**SM) CERTIFICATION

COMMITMENT:**5 Weeks of study (5 DAYS (F2F), PTA 2 hours & PTE 4 Weeks)****PREREQUISITIES:****NIL**

WHAT THIS COURSE DELIVERS

This course is tailor made for anyone with strong interest in the growing field of **process safety** which is an essential consideration in a diverse range of energy sector industries from petrochemicals, oil and gas field development, mining, fertilizers, etc. This course will give learners an overview of process safety, risks posed by process hazards and available techniques for managing risks.

SOG's **Process Safety and Risk Management (PSRMSM)** course examines the following five (5) critical aspects:

- Introduction to Process Safety
- Hazard Identification
- Assessment of Hazards
- Safety Barriers
- Review and Improvement

The content is learner-centred with high interconnectedness between learners and instructors. The course would include tasks and world examples relevant for practice, delivered in an interactive and engaging approach. The course designed is structured and guided with clear expectations, coupled with knowledge validation aligned with outcome.

WHO SHOULD ATTEND

This course is aimed at anyone with strong desire to develop their understanding of process safety and is ideal for energy sector personnel at all organisational levels with an emphasis on operational / maintenance supervisors, facilities engineers, design personnel and workforce members with responsibility for site safety. This course would also greatly benefit higher education students aspiring to future careers within the energy or safety fields.



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LEARNING OUTCOMES

**Pre-
Training** **Pre-Training Assessment (PTA)**

The PTA is administered as a survey prior to the training to gauge the current awareness level of the Learner with regards to process safety (both individually and collectively as a group). This identification process helps in customization of the training intervention and makes it real, practical and applicable.

Day 1 **Introduction to Process Safety**

This module aims to introduce the Learners to the concept and importance of process safety through a series of examples and case studies. Upon completion of this module, the Learner will easily be able to differentiate between Process Safety and Occupational Safety and what are the types of hazards associated with each. This module will also introduce the key elements of a typical Hazard Management Process which is a structured approach for dealing with process safety hazards and their associated consequences. Legislative requirements are addressed, as well as applicable techniques for analysing and mitigating process safety hazards and risks. Reference is also made to historical incidents to emphasise the importance of Process Safety Management.

Day 2 **Hazard Identification**

Within this module, Learners will be exposed to numerous techniques applied to identify credible process safety hazards relevant to a given facility. Learners will also be exposed to practical hands-on application of hazard identification techniques, conducted through a series of individual and group exercises. Upon completion of this module, learners will be familiar with hazard identification techniques, when to apply the respective techniques and also how to carry out simple hazard identification independently.



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LEARNING OUTCOMES

Day 3 **Assessment of Hazards**

This module aims to familiarise Learners with the concept of Hazard Assessment to quantify hazard risk levels. Hazard Assessment is essential as without clear risk quantification, judgement on tolerability and requirement for risk mitigation would not be possible. As with Hazard Identification, several techniques of Hazard Assessment are available. Learners will be provided with step by step walkthrough of the most widely used hazard assessment methods, based on actual project experience. Upon completion of this module, learners will be able to understand the steps and outcomes from hazard assessment.

Day 4 **Safety Barriers**

In this module, Learners are instructed in the principles of applying Safety Barriers aimed at minimising the likelihood of hazard consequences occurring. The degree to which safety barriers are implemented is dependent upon the risk levels evaluated from Hazard Assessment. Learners will be shown the typical safety barriers employed as well as their varying levels of effectiveness in preventing / mitigating the impact of hazards. The Learners will also be shown real life case studies to illustrate instances of safety barrier failure contributing towards the realisation of the incident.

Day 5 **Review and Improvement**

Within this module, Learners will be taught key indicators for reviewing the performance of Safety Barriers as well as commonly employed means for reporting, tracking, and investigating incidents. This process also manages the resolution and documentation of recommendations generated by the investigations. An essential aspect of health, safety and environment (HSE) and process safety performance improvement is learning from incidents and 'near misses' and taking appropriate action to prevent their recurrence.



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**Post-
Training****Post-Training Evaluation (PTE)**

In order to align the learning outcome with the personal objective, a PTE is administered following the training to ensure a better learning retention and applicability of the learning outcome. This is done through a Capstone Project.

- Taught By:** Industry Specialists
- How to Pass:** Pass all graded assignments to complete the course
- Language:** English
- Accomplishment:** Certificate of Course Completion