QUANTITATIVE RISK ASSESSMENT TRAINING PROGRAMME

COMMITMENT: **3 DAYS**

PREREQUISITIES: **NIL**

WHAT THIS COURSE DELIVERS

This course is tailor made for anyone with strong interest to gain a thorough understanding of the different aspects of Quantitative Risk Assessment (QRA) to allow the learner to assess and evaluate the risk arising from all foreseeable Major Accident Hazard (MAH) identified within a facility. SOG's **QRA Training** course examines the following five (5) critical aspects:

- Hazard Identification (HAZID);
- Fire and Explosion Assessment (consequence modelling & frequency assessment);
- Non-Hydrocarbon Hazard Analysis (NHHA);
- Quantitative Risk Assessment (QRA); and
- Risk Reduction through ALARP principle.

The content is learner-centred with high interconnectedness between learners and instructors. 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 quantitative risk assessment on process safety and is ideal personnel at all organisational levels with an emphasis on operational / maintenance supervisors, facilities engineers, design personnel and workforce members with responsibility for site safety.

Taught By: Industry Specialists

Language: English

Accomplishment: Certificate of Course Completion

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LEARNING OUTCOMES

Day 1	**Hazard Identification and Consequence Modelling (Part 1)**
	This module aims to introduce the Learners to the concept and importance of hazard identification through a series of examples and case studies. Hazard identification forms the basis of risk management efforts to develop the full set of barriers to help prevent / mitigate the hazards. Following this, learners will be introduced to consequence scenarios developed to represent the process major accident hazard (MAH) and how these are modelled to determine the event severity. These include typically adopted hazard event out comes for identified hazards.
Day 2	**Consequence Modelling (Part 2), Frequency Assessment & NHHA (Part 1)**
	Within this module, Learners will be exposed to techniques for modelling different types of hazard scenarios using a well-recognised process modelling software and understand how these scenarios impact on personnel and asset risk. Once the key aspects of the consequence modelling are understood, the training will shift focus to the frequency side, identifying how the likelihood of each end event is determined through leak frequency assessment in combination with the development of an Event Tree. In addition, risk assessment of Non-hydrocarbon type of hazard such as ship collision, dropped object, etc will be also be explained. Learners will also be exposed to practical hands-on application conducted through a series of individual and group exercises.
Day 3	**NHHA (Part 2), QRA and ALARP Demonstration**
	The next stage of the training is dedicated to understanding how the fire and explosion, and non-hydrocarbon hazard results are translated into personnel risk. The participants will be taught how to interpret the results from a QRA and how to evaluate the key risk drivers to determine means to further reduce the risks. Learners will also be exposed to the "As Low As Reasonably Practicable" (ALARP) principle and the feedback role of ALARP within the design of a facility.