



PROCESS SAFETY MANAGEMENT (PSM) TRAINING



MTBM Group Sdn. Bhd. (1600656-M)

Level 8, MCT Tower, Sky Park, One City, Jalan USJ 25/1, 47650 Subang Jaya, Selangor

Course Title: Process Safety Management (PSM) Training

Course Validity: 3 Days

Validity: Not Applicable

HRD Corp Scheme: Claimable

INTRODUCTION:

This training provides participants with a comprehensive understanding of Process Safety Management (PSM) principles used to prevent catastrophic incidents involving hazardous chemicals, high-risk operations, and complex process systems. The programme covers regulatory expectations, process hazard analysis, operating procedures, mechanical integrity, emergency response, and performance monitoring. Participants will gain the competencies needed to identify process-related risks, implement effective controls, and strengthen organisational process safety culture in accordance with OSHA standards, CCPS guidelines, and ISO/IEC best practices.

OBJECTIVE(S):

- Understand the key elements of Process Safety Management.
- Identify significant process hazards and risk control barriers.
- Apply Process Hazard Analysis (PHA) methods such as HAZOP, What-If & FMEA.
- Strengthen safe operating practices and permit-to-work processes.
- Ensure mechanical integrity of equipment and critical safeguards.
- Improve incident investigation and management of change (MOC) systems.
- Enhance emergency planning and response for process-related events.
- Promote a strong process safety culture across operations.

TARGET GROUP(S):

- Engineers (Process, Mechanical, Chemical, Instrumentation)
- OSH Practitioners (SHO/SSS)
- Supervisors & Technical Personnel
- Production / Operation Leaders
- Maintenance Personnel
- Emergency Response Team (ERT)
- Anyone involved in hazardous process operations

ENTRY REQUIREMENT(S):

- Able to read and communicate in Malay/English
- Basic industrial safety or process knowledge is recommended

TOPIC(S):

1. Introduction to Process Safety Management
2. Laws, Standards & Regulatory Framework (OSHA, CCPS, IChemE Guidelines)
3. Elements of PSM – Overview & Implementation Strategy
4. Process Hazard Analysis (PHA) Techniques – HAZOP, What-If, FMEA
5. Operating Procedures & Safe Work Practices
6. Mechanical Integrity & Asset Reliability
7. Process Safety Information (PSI) & Critical Documentation
8. Permit-to-Work System & Control of Hazardous Energy (LOTO)
9. Management of Change (MOC) & Operational Readiness
10. Incident Investigation & Root Cause Analysis
11. Emergency Planning & Response
12. Process Safety Culture & Performance Monitoring
13. Case Studies, Practical Exercises & Group Workshops

LIST OF REFERENCE BOOK(S):

- OSHA 1994 & OSHA (Amendment) Act 2022
- DOE Environmental Quality Act 1974 (for process risk & emissions)
- CCPS Guidelines for Process Safety Management
- ISO 45001:2018 (Operational Control & Emergency Response)
- ISO 31000:2018 (Risk Management Guidelines)
- API & IChemE Recommended Practices

LIST OF TEACHING AID(S):

- LCD projector
- PHA templates (HAZOP, What-If, FMEA)
- Case study handouts
- Process diagrams (P&ID, Process Flow Diagrams)
- Flip chart / whiteboard

METHODOLOGY(S):

- Interactive lecture
- Group discussion
- Case studies
- Workshop activities
- Scenario-based exercises

TRAINING SCHEDULE

Day 1

Time	Activity / Topic
8:30 am – 9:00 am	Registration & Introduction
9:00 am – 10:15 am	Topic 1: Introduction to PSM & Regulatory Framework
10:15 am – 10:30 am	Morning Tea Break
10:30 am – 12:30 pm	Topic 2: PSM Elements & Implementation Strategy
12:30 pm – 1:30 pm	Lunch Break
1:30 pm – 3:30 pm	Topic 3: Process Safety Information & Documentation
3:30 pm – 3:45 pm	Afternoon Tea Break
3:45 pm – 5:00 pm	Topic 4: Process Hazard Analysis (Part 1 – HAZOP Basics)

Day 2

Time	Activity / Topic
8:30 am – 9:00 am	Recap of Day 1
9:00 am – 10:15 am	Topic 5: PHA Techniques – What-If, FMEA
10:15 am – 10:30 am	Morning Tea Break
10:30 am – 12:30 pm	Topic 6: Operating Procedures & Safe Work Practices
12:30 pm – 1:30 pm	Lunch Break
1:30 pm – 3:30 pm	Topic 7: Mechanical Integrity & Critical Safeguards
3:30 pm – 3:45 pm	Afternoon Tea Break
3:45 pm – 5:00 pm	Topic 8: Permit-to-Work & LOTO Programs

Day 3

Time	Activity / Topic
8:30 am – 9:00 am	Recap of Day 2
9:00 am – 10:15 am	Topic 9: Management of Change (MOC) & Operational Readiness
10:15 am – 10:30 am	Morning Tea Break
10:30 am – 12:30 pm	Topic 10: Incident Investigation & RCA for Process Events
12:30 pm – 1:30 pm	Lunch Break
1:30 pm – 3:30 pm	Topic 11: Emergency Planning & Response Integration
3:30 pm – 3:45 pm	Afternoon Tea Break
3:45 pm – 5:00 pm	Topic 12–13: Performance Monitoring, Case Studies & Group Workshop