

OVERVIEW:

This training course will help participant to gain a high-level understanding of steam plant energy and cost saving. This program is specifically engineered for Engineers, Boiler Foremen, and Plant Managers. Unlike general courses, this training dives deep into the high-value components of your facility: Increasing Our Capabilities, Steam and Energy Usage, Where Energy is Lost, How to Improve your Plant, Many Areas for Energy Saving and Improvement Flash Steam and Flash Steam Recovery. Empowering your technical team to achieve precision cost saving in steam delivery, this training ensures your system maintains peak stability and parameter integrity before it reaches the customer's boundary. Introduction and over view of steam trap. Application and right selection of steam trap for total solution of energy and cost saving. This course is specially developed to upgrade theoretical and operational skills in handling steam boilers for the current workforce.

In addition, it will give participant sufficient knowledge to engage with colleagues or external professionals who are operating, implementing, or auditing health and safety management systems that are aligned to Steam Boiler requirements under OSHA 1994 (Amendment 2022), OCCUPATIONAL SAFETY AND HEALTH ACT 1994 (PLANT REQUIRING CERTIFICATE OF FITNESS) REGULATIONS 2024; P.U (A) 99

SPEAKER: Ir.Mohamad Hatta Bin Abu Bakar, Ir.Dr Suhaimi Hassan

LEARNING OUTCOMES

This course is specially developed to upgrade theoretical and operational skills in handling steam boilers for the current workforce.

Upon completion of this training, participants will be equipped to immediately implement best practices of:

- 1) **Design** steam trap configurations that act as a buffer against pressure fluctuations.
- 2) **Execute** flawless steam trap application sequences according to OEM standards.
- 3) **Optimize** the steam trap to optimize energy saving.
- 4) **Minimize** energy loss and water hammer risks through effective trapping and distribution.
- 5) **Maintain** precise steam parameters (Pressure & Temp) as required by the end- user or process.
- 6) **Ensure** steam quality (Dryness/Superheat) for maximum heat transfer at the customer's end.
- 7) **Application and right selection of steam traps** to prevent water hammer and energy wastages
- 8) **Overall routine and preventive maintenance of steam traps for maximum efficiency of steam management system and** emergency response protocols for sudden pressure surges or steam trap.

DURATION: 2 DAYS

TARGET PARTICIPANTS:

Plant Manager, Mill Manager, Maintenance Manager, Steam Boiler Engineer Grade 1 and 2, Steam, Boiler Operator Gradel and 2, Safety and Health Officer, Plant Superintendent and Plant Supervisor

COURSE CONTENT/ DETAILS

MODULE 1 – INTRODUCTION & SCOPE

- Increasing Our Capabilities, Steam and Energy Usage
- Where Energy is Lost
- How to Improve your Plant
- Many Areas for Energy Saving
- Improvement Flash Steam
- Flash Steam Recovery

MODULE 2 – STEAM TRAP PART 1

- Introduction to Steam Trap
- Type of Steam Trap
- Mechanical Steam Trap
- Thermostatic Steam Trap
- Thermodynamic Steam Trap
- Why it's necessary to install Steam Traps
- Function of Steam Traps
- Liquid expansion steam trap
- Balanced Pressure Steam Trap

MODULE 3 – STEAM TRAP PART 2

- Considerations for Steam Trap Selection
- Condensate removal
- Temperatures & Pressures: Plant performance
- System Design Considerations & Installation Aspects
- Drain Point
- Pipe Sizing
- Air Binding

MODULE 4 – STEAM TRAP PART 3

- Water Hammer
- Maintenance of Steam Traps
- Routine maintenance
- Replacement of traps
- Performance Testing of Steam Traps

LEARNING METHODOLOGY

- Slide Presentation
- Picture /Video
- Model/Parts Assembly

TRAINING SCHEDULE

	TIME	DESCRIPTION
DAY 1	8.30-8.45	REGISTRATION DAY 1
	8.45-9.00	INTRODUCTION AND ICE BREAKING
	9.00-10.30	MODULE 1
	10.30-11.00	TEA BREAK
	11.00-12.30	MODULE 1
	12.30-14.00	LUNCH AND ZOHOR PRAYER BREAK
	14.00-15.30	MODULE 2
	15.30-15.45	TEA BREAK
	15.45-17.15	MODULE 2
	17.15	ADJOURN DAY 1
DAY 2	8.30-8.45	REGISTRATION DAY 2
	8.45-9.00	RECAP OF PREVIOUS DAY LESSONS
	9.00-10.30	MODULE 3
	10.30-11.00	TEA BREAK
	11.00-12.30	MODULE 3
	12.30-14.00	LUNCH AND ZOHOR PRAYER BREAK
	14.00-15.30	MODULE 4
	15.30-15.45	TEA BREAK
	15.45-17.15	MODULE 4
	17.15	END OF COURSE