

Training Title MAINTAIN INSTRUMENTED PROTECTION SYSTEM (IPS)

Training Duration 5 days

Training Venue and Dates

Maintain Instrumented Protection	5	22 nd to 26 th	\$5,500	Dubai, UAE.
System (IPS)		December 2025		

Trainings will be conducted in any of the 4 or 5 star hotels.

Training Fees

• 5,500 US\$ per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch.

Training Certificate

Prolific Consultants FZE Certificate of Course Completion will be issued to all attendees.

COURSE OVERVIEW

COURSE DESCRIPTION

Process operating facilities utilize instrumentation to monitor and control processes. The process may become hazardous to operating facility personnel, the community, and the environment if control is lost. The Instrumented Protection System (IPS) plays a vital role in providing a protective layer around industrial process systems. Whether called an IPS, SIS, emergency or safety shutdown system, or a safety interlock, its purpose is to take process to a "safe state" when pre-determined set points have been exceeded or when safe operating conditions have been transgressed.

An Instrumented Protection System (IPS) is a safety system composed of sensors, logic solvers, final elements, and support systems that is designed and managed to achieve a specified risk reduction.

In this Course Participants will gain sound and practical understanding of Instrumented Protection System (IPS) layout, Functional Safety, Instrumented Protection System Technologies, and how to Maintain Instrumented Protection System.

This training course introduces participants to Basics Maintenance and Testing procedures for the IPS, Wiring and Loop Diagrams, Input / Output System, and Explain the types of equipment used for carrying out fault diagnosis on IPS system.



This Course Serves as a Solid Fundamental Course for Introduction to Advanced Understanding of Maintain Instrumented Protection System.

COURSE OBJECTIVES:

At the end of this course, the Trainee will be able to:

- Describe the purpose of the Instrumented Protection System (IPS).
- Explain the general layout of the Instrumented Protection System (IPS).
- State the inputs and outputs of the Instrumented Protection System.
- State the faults that could potentially occur in the Instrumented Protection System.
- Explain the types of equipment used for carrying out fault diagnosis on IPS system.
- Obtain and interpret relevant drawings and technical data for fault diagnosis on Instrumented Protection System.
- Use correct test equipment and procedures to determine the faults on the Instrumented Protection system or equipment.

SUITABLE FOR:

Senior foremen in instrument maintenance, maintenance supervisors, control system technicians, and personnel involved in the maintenance and testing of IPS, current to pneumatic converters, process control systems, and emergency shutdown valves within the oil and gas sector.

TRAINING METHODOLOGY:

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions, and motivate everybody find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course. Very useful Course Materials will be given.

COURSE OUTLINE :-

<u>Day 1</u>

Introduction to Instrumented Protection Systems.

- Design and Engineering of IPS.
- Maintenance Strategies
- Diagnostic and Troubleshooting.
- Testing and Validation.
- Regulatory and Compliance.
- Safety and Risk Management.
- Emerging Technologies.
- Overview of IPS in the oil and gas industry.
- Key components and their functions.



• Importance of IPS in ensuring safety.

<u>Day 2</u>

Design and Engineering of IPS:

- Advanced design principles.
- Engineering standards and best practices.
- Integration with other safety systems.

Maintenance Strategies:

- Preventive and predictive maintenance techniques
- Condition-based maintenance (CBM).
- Reliability-centered maintenance (RCM)

Day 3

Diagnostic and Troubleshooting:

- Advanced diagnostic tools and techniques.
- Root cause analysis.
- Case studies of common IPS failures and solutions.

Testing and Validation:

- Testing methodologies and protocols.
- Functional safety testing.
- Performance validation.

<u>Day 4</u>

Regulatory and Compliance:

- Industry standards (IEC 61511, IEC 61508).
- Compliance requirements and audits.
- Documentation and record-keeping

Safety and Risk Management:

- Hazard and operability study (HAZOP).
- Layer of protection analysis (LOPA).
- Safety integrity level (SIL) assessment

<u>Day 5</u>

Emerging Technologies:

- Latest advancements in IPS technology.
- Digital transformation and its impact on IPS.
- Future trends in IPS maintenance.

Case Studies, Last Day Review, Discussions & Pre & Post Assessments will be carried out.



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