Formation - E&I Technology for Oil and Gas Facilities

E&I-EN-P | Présentiel | 5 jours

Provides the basic knowledge for electrical & instrumentation equipment used in the Oil & Gas industry

Niveau

Fondamentaux

Public

Personal working in the Oil & Gas industry, needing overview on E&I

Objectifs

Attendees will be able to implement the following skills:

- Identify electrical and instrumentation equipment used in Oil & Gas
- Acquire the technological knowledge necessary to understand the control and safety schemes

Pédagogie & ressources techniques

Demonstration (illustration) of process control on dynamic simulator (IndissPlus de CORYS)

Évaluation des acquis

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prérequis

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Programme

ELECTRICAL & ELECTROTECHNIC BASICS — 1.5 days

Generalities: origin of electricity, electrical energy production, alternate and direct currents, the electrical circuits. Standards, symbols, different types of electrical drawings.
Electrical generation: alternator, coupling of sources and throughput on structured networks.
Equipment monitoring and maintenance.
Electrical networks: constitution of an HV and LV network, architectures and equipment. Constituents: HV & LV boards and cabinets. Transformers. Breakers, control elements and isolation. UPS and batteries. Protections.
Asynchronous motors: constitution and operation of three-phases AC electric motors. Electric motor-related equipment.
Electrical risks: hazards in the electrical installations. Effects and consequences of the electrical risks. Protection against the electrical risks.

- Hazardous areas classification: current standards (API RP 500, European ATEX standards) and applications on Oil & Gas facilities. Protection and identification of the material set in hazardous area.

FIELD INSTRUMENTATION — 2 days

Control loop: function and symbolization.
Field instrumentation: main technologies for measuring pressure, temperature, level, flow.
Automatic valves: technologies of control valves and on-off valves. Role of accessories: limit switches, solenoid valves, positioners...

CONTROL SCHEMES — 1 day

Single loop: structure and representation.
Control schemes: single loop, cascade, split-range. Case of overrides.
PID controller: control diagrams. Function, operation, direction of action and operating modes.
Automatism: distributed control systems. Operation of a controller, operator interface, network architecture.

SAFETY INSTRUMENTED SYSTEMS (SIS) — 0.5 day

Identification of Safety Instrumented Systems.
Fire and gas sensors: main technologies and applications.
Different safety systems and architecture.

Sessions

Pau - Du 12/10/2026 au 16/10/2026 — **4360 €/HT**

IFP Training est référencé au DataDock. Rapprochez-vous de votre OPCO pour connaître les possibilités de financement de cette formation.
Pour vérifier l'accessibilité de cette formation à une personne en situation de handicap, contactez notre référent à l'adresse suivante : referent.handicap@ifptraining.com