

**E-617**

▲ Who should attend?

Engineers and technicians, requiring a technical knowledge relative to electrical installations and equipment used for Oil & Gas industry.

▲ Duration

**3 days**

▲ Sessions in English

**September 15-17, 2010**  
Rueil-Malmaison (Paris)

**French sessions: F-617**

▲ Registration

Fees: € 1,690

Contact:

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▲ Course Coordinator

**Frank BEIJER**

Ref. **I&R / ELECGB**

At request, this course may be organized for a single company, and tailored to its specific requirements.

# ELECTRICITY AND ELECTRICAL MOTORS

## OBJECTIVES

To provide a better understanding of electrical network architecture, its operation and the technology of involved equipment.

Upon completion of the course, participants know the:

- typical arrangement of an electrical network,
- role and operating principle of the different pieces of equipment constituting a typical electrical network.

## COURSE CONTENT

### OVERALL ARCHITECTURE OF ELECTRICAL POWER DISTRIBUTION NETWORK

**0.75 day**

Constraints to be considered for the design of an electrical power network

Typical architecture of electrical power network:

- Voltage levels
- Priority classification
- Back-up management

Neutral choice and influence on network operation

Different connection modes to public network

### DESCRIPTION AND OPERATING PRINCIPLE OF ELECTRICAL EQUIPMENT

**0.75 day**

Transformers

Electrical cables

Electrical panels

Control and protection equipment

Equipment used for **back-up power supply**: diesel/fuel generators, power accumulators, redresser... - Role and uses

### SYNCHRONIC AND ASYNCHRONIC ELECTRICAL MOTORS - POWER GENERATORS

**0.75 day**

Operating principle

**Characteristics**: current intensity, torque, efficiency depending on rotational speed or load

Different **start-up modes**, depending on driven machine and/or network possibilities

Electrical and thermal protection/switches of motors

Speed variation

### VIABILITY AND SAFETY OF INSTALLATIONS

**0.75 day**

Selectivity of protections: different techniques

Isolation checking

Equipment for Explosive Atmospheres: standards and maintenance constraints

Rules for equipment Isolation/Consignment prior to and after maintenance