Fundamentals of Electrical, Electronics & Control Engineering

TE245

Course Overview:

This course applies fundamental electrical engineering principles to oil and gas facilities. The course is designed for Facilities Engineers who interface with electrical systems, and provides practical insight and development of new Facilities Electrical Engineers

Course Objective:

- -The key components of facilities electric power distribution, which include circuit arrangements, low and medium voltage switchgear, and single-phase and three phase schemes
- -Operation, components, electromotive forces, turns and voltage ratios, losses, efficiency, rating, and connections of transformers
- -The difference between direct current, induction and synchronous current motors, motor enclosures, and how to select motors
- -The principles of protecting electrical equipment, including time current curves, fuses, circuit breakers, and coordination
- -What standby power is, including generators and UPS power systems
- -The purpose for power generation, which includes standby, prime, base, peak, and co-generation
- -About power factor and correction

Course Outline:

- -Fundamentals of Electrical
- -Fundamentals of Electronics
- -insulation and conduction
- -Direct current, alternating current
- -Transformers power and instrument
- -Motors Induction and synchronous
- -Power distribution
- -System protection and coordination
- -Standby power systems
- -Power generation
- -Control Engineering
- -Variable speed drive principles

Who Should Attend:

Those facilities personnel who interface with facility electrical power systems, including project engineers, operation leads, instrumentation, controls personnel, and electrical engineers who are new to electrical power systems within oil and gas facilities.

Training Language:

EN / AR

Training Methodology:

- -Presentation & Slides
- -Audio Visual Aids
- -Interactive Discussion
- -Participatory Exercise
- -Action Learning
- -Class Activities
- -Case Studies
- -Workshops
- -Simulation