

## Operate a Power Plant on a Simulator Under Normal and Disturbed Circumstances

### TRAINING OBJECTIVE

- Training on how to operate a diesel power plant connected to the network under normal circumstances
- Put the trainees in accident situations during operation. With the main faults in the engine and on the network to understand the interactions during abnormal operation
- Understand the physical phenomena and the auxiliary circuits encountered in the same type of plants

### PEDAGOGY

- Theoretical and practical training on the simulator
- Simulation hosted and managed by an instructor who introduces faults in real time in order to put trainees in real life situations
- Team role play and sharing of feedback

### TRAINING PROGRAM

- Normal operation (preheated engine start-up: hot or cold, coupling, socket load, load change and stop)
- Operation under accident or disturbed circumstances
- Operating in the presence of faults that cause an evolution of fixed-charge or blocking parameters for a start-up or stop sequence
- Operating in the presence of faults resulting in automatic fuel oil / gas oil change, or automatic trigger of the group or islanding
- Operate during a motor trip
- Operation in an environment with faults outside the plant that cause sudden changes in voltage or power
- Operation with partial lack of information (e.g. lost logbook)
- Understand all the physical parameters and control loops of the plant through the analysis of educational images animated in real-time ( alternator P/Q diagram, droop line, heat balance, operating point of the turbocharger, regulating speed and load, generator excitation control, etc.)
- Assistance in fault diagnosis by analysing the impact on the process of different types of electrical or mechanical defects
- Understand the constraints and demands of the electricity dispatch centre