

COURSE DESCRIPTION

# G861 PCS6000 Service & Commissioning

# Course goal

The goal of the course is to introduce and instruct the service and operation engineer to the PCS6000 Product Family. To allow them to learn in a safe and instructive environment the techniques required to carry out the correct procedure in commissioning and troubleshooting of the PCS6000 Product Family converters.

## Main learning objectives

Upon completion of this course, the participants will be able to:

- Understand the most important operation & maintenance topics (repetition of G860)
- Operate the converter, energizing, deenergizing, start, stop & state changes
- Carry out commissioning (or hall test) of the PCS6000 converter system in the most efficient manner using the corresponding tools
- Carry out fault tracing work in the converter system using tools & documents in the most efficient manner
- Locate and replace faulty hardware components

# Participant profile

Service and commissioning engineers, testing and maintenance personnel from ABB or certified technical partners.

# **Prerequisites**

- Completion of the G860 O&M training
- Electrical engineering knowledge and experience
- Laptop

## **Topics**

- G860 O&M Training repetition
- Commissioning preparation
- Installation inspection
- Service software: ABB Commissioner,
   PEC Tool, IPC, PecTool
- Software upload
- Software parameterization
- Commissioning of cooling unit
- Introduction to MV measurements
- Hot commissioning: Sequences
- Documentation and reporting
- Troubleshooting
- Practical exercises
- Final exam

#### Course type

This is a face to face class room training with maximum 4 participants.

# Learning methods and tools

This is an instructor led course with lectures and demonstrations. For maximum effectiveness it's based on a good balance between theoretical training and practical exercises with training equipment

# To register:

Please apply online (signup required): ABB MyLearning/G861

Additional course dates are available on request.

# Duration

4 days

<u>Please note</u>: The course is only carried out if at least 4 participants have been booked.

#### **Course outline**

#### DAY 1

- Welcome, course goals and schedule
- Repetition of G860 O&M course
- System engineering aspects
- Safety instructions for training unit
- Commissioning preconditions
- Installation inspection

#### DAY 2

- Cold commissioning
  - Auxiliary power supply
  - Software initialization
  - Cooling system
  - Current transducer
  - Disconnector Module (GDM) / Generator Breaker (GEB)
  - Grid Breaker (GRB) control interface
- Safety interface
  - Safety interface to upper level control
  - Emergency circuits

## DAY 3

- Control software overview
- Introduction to hot commissioning
- Introduction to oscilloscope
- Hot commissioning
  - Synchronising checks
  - $\bullet \ \, \text{Sequence OFF} \to \text{Standby} \\$
  - $\bullet \; \; \text{Sequence Standby} \rightarrow \text{VSC}$
  - Sequence Standby  $\rightarrow$  Production

## DAY 4

- Final commissioning tasks
- Advanced Troubleshooting
  - Case studies
  - Fault finding exercises
- Course conclusion and feedback



Classroom training



Hands-on training

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