

Controlled switching training agenda

Level 3 - Commissioning engineer

PREPARED		STATUS		SECURITY LEVEL		
2023-11-21	Patrik Lindfors-Dahlin	Approved		Internal		
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2023-11-28	Hakan Enback	Agenda				
TITLE						
Controlled switching training agenda						
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Course goal:

The training in this document aim to provide the required knowledge to be certified to independently commissioning Controlled switching systems for all common applications as well as procedures for commissioning of special applications.

Prerequisites:

- ❖ Complete CS Level 2 certification
- ❖ Complete HE HSE fundamental training
- ❖ Commissioning experience is highly recommended

Topics:

- ❖ Health & safety
- ❖ Introduction & key factors
- ❖ Circuit breaker technologies
- ❖ Controlled switching devices & features
- ❖ Application & target determination
- ❖ PCM600 (SST / PST / APC)
- ❖ Installation & pre-commissioning
- ❖ Commissioning
- ❖ Case studies
- ❖ Q&A

This is a practical & theoretical training course:

Classroom training

On training completion:

Confirmation of attendance

Certification:

Follows the Hitachi Energy guidelines for certification according to respective certification policy.

Duration:

5 days

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Day	Subject	Location
1 – 5	Welcome / Introduction to Controlled switching <ul style="list-style-type: none"> ❖ Training Introduction / Presentation (Short introduction of the presenter, attendees, the curriculum and training information) ❖ Safety Induction (The participant should be acquainted and understand local and site-specific rules & legislation and comply with them). ❖ Controlled switching introduction ❖ Controlled switching key factors Health and safety <ul style="list-style-type: none"> ❖ Local safety and legislations ❖ The participant should be acquainted and understand local and site-specific rules & legislation and comply with them ❖ Hitachi Energy product specific HSE. Circuit breaker technologies <ul style="list-style-type: none"> ❖ Hitachi Energy Circuit breaker technologies ❖ Mechanical characteristics ❖ Electrical characteristics Controlled switching devices & features <ul style="list-style-type: none"> ❖ Hitachi Energy portfolio ❖ Features & algorithms Application & target definition <ul style="list-style-type: none"> ❖ Standard & special applications ❖ Use-cases for Controlled switching ❖ Target definition for different load types PCM600 (SST / PST / APC) <ul style="list-style-type: none"> ❖ Fundamentals of PCM600 ❖ PCM600 advanced features ❖ PWC600 configuration 	Classroom

Installation & pre-commissioning

- ❖ HV/LV System design & layout
- ❖ IED Installation on-site
- ❖ Installation checks
- ❖ Configuration software & parametrization of Controlled switching device/s
- ❖ Pre-commissioning including off-load operations

Commissioning

- ❖ Commissioning procedure
- ❖ Live switching
- ❖ Result interpretation

Case studies

- ❖ Case studies for various applications by field experience

Q & A session
