

ABB Marine Academy course description (EN)

H854 – High Voltage Technology, Management Level

Course goal

This course has been designed to satisfy the HV requirements laid out in the Standards of Training, Certification and Watchkeeping (STCW), Manila Amendments, and it is approved by the Italian Minister of Transportation, decree 15th February 2016 (16A01447).

The course defines the mandatory knowledge and training to meet the competence for management of marine High Voltage electrical installations, for engine officers designed to work on vessels equipped with High Voltage devices (>1000V) and Electro Technical Officers (ETO), as per sections A-III/2, A-III/3 e A-III/6 of STCW code.

Learning objectives

Upon completion of this course, the trainees will be able to manage a high voltage installation, trouble shoot and restore marine HV systems to an operating condition. This will mean that the trainee meets the requirements laid down in the Knowledge, Understanding and Proficiencies for High Voltage installations set out in Tables A-III/2 (part) of the STCW Convention and Code 1978, as amended.

Contents

- Safety rules on marine HV environment according to current regulations and recommendations (STCW, SOLAS, IT HSE etc.)
- Marine HV safety aspects and safe working procedures
- Special considerations for offshore electrical installations
- Dangers of electricity and arc-faults in switchgears
- Personal protective equipment
- Marine Electrical, Propulsion and Distribution Systems
- Protection system of electrical installations
- Accident analysis workshop
- Practical exercises

Methods

Highly interactive lectures with group work and case studies, as well as practical exercises and assessments.

Student profile

Engine personnel at the operational & management levels and all electro-technical personnel who are dealing with high voltage equipment and systems.



Prerequisites

At least 5 days prior to the course, trainees must satisfy following conditions:

- Own High Voltage Technology, Operational Level certification (ABB H855 or equivalent)
- Own Basic Training certification
- Discharge Book/Seamen Book copy
- CoC owned copy
- If embarked, copy of the document proving his/her license, signed by the Coastguard, issued for course attendance.

Duration

5 days

Venue

Genova (Italy),
c/o ABB Marine Academy and University of Naval Architecture (DITEN)

Language

Italian, English

Additional information

Maximum 10 participants per course.

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Course Outline

Day 1

- Safe Steps for working on HV equipment
- International Requisites for HV Work On-board
- Practical exercises
- Polarization Index exercise (Workshop)

Day 2

- Safe Working Procedures while working in HV environments
- PPE and Tools for HV Work
- Practical exercises
- “Lock out – Tag out” procedures

Day 3

- International Technical Standards
- D/E Propulsion and High Voltage Power Systems
- Floating neutral network systems
- Practical exercises
- Arc Faults in Switchgears

Day 4

- Important Considerations in Marine Electrical Installations
- Individual Accident Analysis
- Group Work Case Analysis (Educational Workshop)
- Protection Relay Exercise

Day 5

- General Protection and Power Plant Regulation
- Practical exercises
- Final Exam with Italian Coastguard
- Certification and wrap up