

ABB Marine Academy course description

H910K – ACS800AC Drilling drive system

Course goal

The goal of this course is to train the participants to start-up, operate, maintain and troubleshoot ABB power management and drilling drive system for jack-ups with ACS800.

Learning objectives

Upon completion of this course, the participants will be able to locate hardware components, to verify and replace ACS800 supply and inverter units. The participants will also be able to perform basic troubleshooting of ABB power management and drilling drive system. DriveWindow, a software tool for drive monitoring will be used and trained during practical exercises. Project control system recovers with CF card and preventive maintenance is also included.

Contents

General topics

- Describe the construction of ACS800
- Discuss the system function of ABB power management system
- Discuss the system function of ABB drilling drive system
- Preventive maintenance

Hardware description

- Construction and function of diode supply units
- Construction and function of liquid cooling units
- Construction and function of inverter units
- Construction and function of brake units
- AC800M controller and S800I/O
- AC800M communication Modules
- Function of DP/DP couple, OLM modules and ATEX relay

Operation

- Removal and installation of DSU and INU
- Change the fans
- Control panel operation
- Process panel operation
- Download/save parameters to/from drive units with DriveWindow
- Download project configuration to AC800M with CF card

Software introduction

- DriveWindow
- Compact control builder
- PMS Operator Interface



Project power management and drilling drive system

- Interface to drilling control system, power management system and drilling drive system
- System and safety functions
- PMS operator station and CDP interface

Fault-tracing and troubleshooting

- Interpret alarms and fault messages of CDP (Control Drive Panel) and DriveWindow
- Trace fault messages of AC800M

Methods

Classroom lectures

Demonstration and practical lessons on training ACS800 and drilling simulator system

H910K - Drilling drive system course (jack-up with ACS800)

Course outline

Student profile

Marine engineers and electro-technical personnel at the operational and management level

Prerequisites

Basic knowledge of electronics, AC drive, process control system and experience with Microsoft Windows is advisable.

Duration

5 days

Venue

Singapore

Beijing

Houston

Additional information

Minimum 6, maximum 8 participants

On-site training on request

Course outline

Day 1

- Introduction
- ACS800 system presentation
- Diode Supply Unit (DSU)
- Inverter Unit (INU)

- Brake unit
- Commissioning procedures

Day 2

- DriveWindow software
- CDP control panel
- Exercise: DSU module replacement

Day 3

- DriveWindow software
- Exercise: INU module replacement
- Exercise: start-up
- Fault tracing

Course outline (continued)

Day 4

- System functions of power management system
- System functions of drilling drive system
- AC800M and communication hardware
- Basic function of compact control builder

Day 5

- Interface with drilling control system
- Interfacing with AC800
- Troubleshooting and case studies
- Exercise: troubleshoot AC800M hardware
- Exercise: system recover with CF card

