

# WOODFIELD

ENGINEERED FOR A LIFETIME

## WOODFIELD SYSTEMS LIMITED

### OPERATOR & MAINTENANCE PERSONNEL TRAINING PROGRAMME

#### LEVEL 3

WSL level 3 training programme is intended for operations personnel with no or limited experience of Loading Arms. The training will be performed by a WSL Commissioning Engineer and WSL Training Engineer.

Training shall take place over two days (based on group sizes up to 10 persons) and comprise a mixture of classroom and practical training. The training package is based on procedures detailed in WSL Operation and Maintenance Manual. Training is not intended to replace the operation manual.

Attendees completing the course shall receive a Certificate of Attendance.

#### OBJECTIVES

Each trainee shall: -

- Be able to safely connect and disconnect the loading arm to a ship and arm the ERS.
- Understand the alarm signals and required actions.
- Be conversant with the events that take place before and during an ERS event.
- Understand the sequence of events necessary to reassemble the emergency release collar and re-set the electro-hydraulic control system.
- Understand the basic maintenance requirements of the WSL loading arm.

## **TRAINING SESSION PROGRAMME**

### **SESSION CLASSROOM 1 – DAY 1 09:00 to 12:00**

This session shall be based on a Powerpoint presentation. The topics covered will include: -

- WSL scope of supply
- Advantages of the WSL arm
- Primary component parts
- Triple swivel assembly (TSA)
- Locking (stowing) devices
- Manifold support jack
- Drains and draining techniques
- Vacuum breaker
- Operating envelope
- Jetty layout
- Electro-hydraulic control system
- Loading arm operation

### **SESSION PRACTICAL 1 – DAY 13.00 to 16.00**

Review of the Woodfield Loading Arm, its component parts – name and functions  
Electro-hydraulic control system components

Each attendee shall have the opportunity to start-up and un-stowing the loading arm

- Power on – hydraulics in 'Control'
- Selection of arm
- Outer arm hydraulic / mechanical stow lock valve
- Main stow lock
- Slew lock
- Manoeuvring the loading arm
- Selecting operation mode – panel or pendant
- Demonstrate overreach alarms and full reach of loading arm
- Connecting to a ship's flange
- Preparation of ships flange
- Preparation of loading arm flange
- Connection – hydraulics in 'Freewheel'
- Arming the ERS
- Final preparations for transfer of product
- Principle for draining the loading arm, disconnection and re-stowing loading arm
- Draining the outer arm
- Draining the inner arm and riser
- Disarm the ERS
- Disconnection sequence
- Stowing the loading arm
- System shut-down

## **SESSION CLASSROOM 2 – DAY 2 09:00 TO 12:00**

This session shall be based on a Powerpoint presentation. The topics covered will include: -

- Review of previous sessions and resolution of any points arising.
- Loading arm alarms
- Emergency release system
- Following an ERS
- Simulated ERS procedure
- ERS reset procedure
- Basic maintenance
- Contact details

## **SESSION PRACTICAL 2 – DAY 2 13.00 to 16.00**

A repeat of previous practical session with limited input from the trainer with special emphasis on the following: -

- Emergency release system (ERS)
- Component parts
- Sequence of operation
- Perform a routing simulated release test
- Re-setting the ERS
- Perform a manual (hydraulic valve) simulated release test
- Re-setting the ERS
- Maintenance
- Lubrication
- Hydraulic system
- Planned maintenance suggestions
- Testing of loading arm, emergency release system and control system
- Exercising / regular arm manoeuvring
- Monthly check of insulation joint

Attendees will be encouraged to operate the arm / controls and perform regular stowage and simulated ERS functions.