Simulator

SSH STEERING SIMULATOR FOR HELMSMAN

(version 3.0)

Purpose

The simulator is intended for training ratings forming part of a navigational watch in accordance with Section A-II/4 of STCW Code.

List of basic knowledge and skills, worked out with the use of SSH:

	Competence	Knowledge, understanding and proficiency
1	Steer the ship and also comply with helm orders in the English language.	Use of magnetic and gyro compasses. Helm orders. Change-over from automatic pilot to hand steering and vice-versa. Using of the following autopilot system modes: NFU, Hand and Auto.
2	Keeping a proper look-out by sight and hearing.	Responsibilities of a look-out in day and night, including reporting the approximate bearing of a sound signal, light or other object in degrees or points.
3	Contribute to monitoring and controlling a safe watch.	Shipboards terms and definitions. Ability to understand orders and to communicate with the officer of the watch on matters relevant to watchkeeping duties. Procedures for the relief, maintenance and handover of a watch. Information required to maintain a safe watch.

Simulated models

- active model of crude oil tanker
- target models of crude oil tanker, general cargo vessel, small crafts.

Exercise areas:

- open sea area,
- open sea area with island,
- approaches from the sea to port.

Target groups

Deck department – Management

Deck department – Operational

Deck department – Rating

Ship types

Generic

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Configuration

The simulator consists of the Instructor Workplace (IWP) software and one or several Student Workplaces (SWP).

The minimum recommended configuration of the simulator is 1 instructor workplace and 1 student workplace.

Instructor workplace

The instructor workplace is designed to manage the training of the student.

The instructor has the opportunity to perform:

- choice of exercises and adjusting the initial parameters (area of navigation, hydrometeorological conditions, time of the day, placement and trajectory of the target vessels, emergency situations, installation of navigation signs, drift of the vessel, placement of floating signs);
- entry of new targets;
- activation of lights and signs on the masts of vessels, as well as flags of the International Code of Signals (ICS-65)
- sound signals from the vessel,
- activation of emergency situations: failures of the gyrocompass and magnetic compass, steering system, pumps, failures of the operating modes of the autopilot system – AUTO and Hand,
- activation of the general alarm signal,
- visual control of the students exercising;
- active management of the student's vessel.

Student workplace

Student workplace (SWP) provides the student with the opportunity of multiple fulfillments of the exercises set by instructor and improving practical skills.

At the student workplace, visualization and the steering stand are simulated, including:

- autopilot system with modes:
  - «NFU»,
  - «Hand»,
  - «Auto»,
- off HDG Course Alarm switch,
- course setter buttons for Automatic mode,
- rudder angle indicator,
- order rudder angle indicator,

- magnetic compass and gyrocompass repeater,
- steering wheel,
- engine telegraph;
- sound signal buttons;
- alarm panel;
- pump switch;
- switch of steering systems.

There are standard buttons on the control panel: binoculars, a button to open a window in which you can hang lights, shapes and flags, and switch cameras.

A student has possibility to:

- steer with helm or joystick,
- use of different autopilot system modes.
- listen to and activate sound signals,
- start and stop engine,

SWP can be presented in base or compact configuration.

Base configuration includes steering stand with built-in steering wheel, sensor control panel (where autopilot system control panel simulates). Visualization system is displayed on three TV panels.

Compact configuration includes autopilot system control panel and visualization system which come out on the display of one monitor. Steering is carried out with the help of joystick and mouse.

Documentation

The simulator is supplied with a set of technical and operational documentation, including training and guidance on practical training.

Legislation

- STCW Convention: Regulation II/4;
- STCW Code: Section A-II/4, Table A-II/4 «Mandatory minimum requirements for certification of ratings forming part of a navigational watch».

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Instructor Workplace

Student Workplace of base configuration

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Student Workplace of base configuration

Student Workplace of compact configuration

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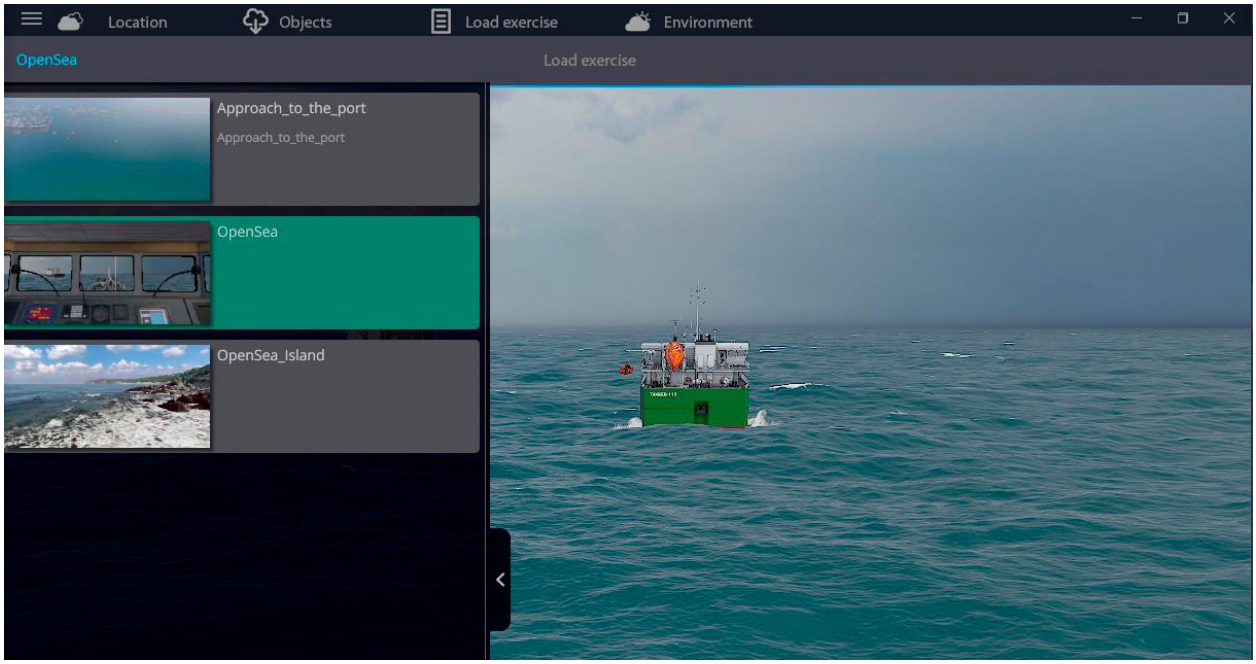

Instructor Workplace window

Student Workplace window

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Autopilot system control panel

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AN APPROXIMATE DIAGRAM OF THE SIMULATOR TRAINING CLASS

Instructor

Student Workplace
Base configuration

Student Workplace
Compact configuration