Purpose:

Davit-launched lifeboat simulator LBS-A.1 is intended for drilling practical skills of candidates for a certificate of proficiency in survival craft and rescue boats other than fast rescue boats in accordance with requirements of:

- Regulation VI/2 STCW Convention,
- Section A-VI/2, Table A-VI/2-1 STCW Code,
- Section A-VI/1, Table A-VI/1-1 STCW Code,
- IMO Model Course 1.23 Proficiency in Proficiency in survival craft and rescue boats other than fast rescue boats (2024 Edition)

The simulator can be used to train the coxswains of free fall lifeboats operated on mobile offshore units in accordance with OPITO standard "Offshore Lifeboat Coxswain Training".

LBS-A.1 belongs to class A in the classification given in the model course and based on the DNV standard.

LBS tackles the task of gaining competencies, which earlier were not accessible in the Training Center due to the disadvantages of its technical resources:

- impossibility of internal combustion engine's start in the premises or closed pools,
- absence of applicably big and customized water area,
- complexity of rough weather simulation,
- adverse climatic conditions in impossibility of internal combustion engine's start in the premises or closed pools the open air.

Implementing of simulator into the training process will provide training center conformity with new 2024 revision of IMO Model Course 1.23 on Proficiency in survival craft and rescue boats other than fast rescue boats.

New revision emphasizes practical training sessions, that require access to a navigable river, lake or the sea, preferably in harbour or estuarial waters. The practical drills and evaluation could be carried out aboard a ship, making use of its equipment and facilities.

At the same time, the training elements of the practical drills and exercises related to the **launch, recovery, operation** and **maneuvering** of lifeboats and rescue boats, including night drills, drills into **rough seas,** and drills **in ice covered waters** may be conducted using simulation.

Training elements related to equipment familiarization and survival craft seamanship should still be delivered using an **actual** survival craft conforming to the LSA Code.

Target groups

Deck - Management

Deck - Operational

Deck - Maintenance

Engine - Management

Engine - Operational

Ship types

All ships

Content and functions

The simulator allows to practice the following skills:

- boarding lifeboat,
- launching and recovery lifeboat,
- clear the ship's side,
- handling and manoeuvring of lifeboats, in different weather conditions, including rough seas, and at night,
- steer a lifeboat by compass,
- beaching lifeboat.

The simulator includes the following equipment and software:

- gangway and embarkation station,
- lifeboat model, conforming with LSA Code,
- 6 DoF dynamic platform,
- falls and links,
- local control panel of launching and recovery appliance,
- computer equipment,
- CCTV equipment,
- software that provides the operation of the simulator.

Lifeboat model

The used lifeboat is a shorten part of a real fire-retardant lifeboat, that is comply LSA Code.

The model is designed to seat a coxswain and 4 crew members.

The main parts of lifeboat model:

- Doors and clips, portholes,
- Coxswain seat with safety seatbelts,
- Local control panel of launched and recovery device,
- Lever for remote release,
- Hooks of release device,
- Lifeboat control panel: engine control panel, steering wheel, engine control throttle, compass repeater,
- Crewmember seats with seatbelts,
- Battery switch,
- Lighter.

VHF stations are used for the instructor's interaction with the coxswain.

Dynamic platform

The dynamic platform is designed for mounting a model of a lifeboat with a crew on it and ensures the movement of the lifeboat along the trajectories and at the speed set in the software, including launching, recovery and float free, as well as the behavior of the lifeboat on the water surface in rough sea.

Video equipment

A video surveillance system is installed in the cockpit of the lifeboat with information display to the instructor's workplace, and with the possibility of recording and archiving performance of exercises.

The dynamic platform ensures the movement of the boat in three-dimensional space: forward/backward, up/down, left/right, as well as making turns around mutually perpendicular axes, i.e. the roll, trim and yaw of the boat is ensured.

Before launching, the dynamic platform performs movements that simulate the movement of a vessel on the waves.

Software

The software consists of:

- Instructor WorkPlace (IWP),
- Student WorkPlace (SWP),
- Dynamic platform control module,
- Module for processing commands from the lifeboat controls.

IWP functions:

- choice of the navigation area;
- adjusting: wave height, visibility restrictions, time of day,
- lifeboat drift speed and direction.
- video and audio monitoring of what is happening inside and outside the cockpit.
- video recording for debriefing.
- emergency stop of the exercise, return of the simulator to its initial state.

SWP functions:

- operating an engine,
- launch and recovery,
- clearing the distress ship's side and lifeboat handling in rough weather and in different weather conditions,
- use of steering gear,
- lifeboat beaching,
- steer the lifeboat by compass,
- display of the surface situation.

Navigation areas:

- Open sea.
- A part of the sea near coastline, for drilling skills of lifeboat beaching.

Module for processing commands from the lifeboat controls

The module provides processing commands from the following controls:

- engine control panel buttons,
- throttle,
- main steering gear,
- release device,
- local and remote-control panel of a launch and recovery device,
- compass repeater.

Configurations

LBS can be delivered in the following configurations:

- LBS-A1 - full mission, on the dynamic platform, class A,
- LBS-A2 - full mission, without the dynamic platform, class A,
- LBS-B - with simplified lifeboat model, class B,
- LBS-C - computer version with pseudo-real control organs, class C.

Legislation

- Regulation VI/2 STCW Convention, Section A-VI/2 STCW Code, Table A-VI/2-1 "Specification of the minimum standard of competence in survival craft and rescue boats other than fast rescue boats"
- IMO Model Course 1.23 "Proficiency in Survival Craft and Rescue Boats (other than Fast Rescue Boats)" (2024 Edition)
- Regulation VI/1 STCW Convention, Section A-VI/1 STCW Code, Table A-VI/1-1 "Specification of minimum standard of competence in personal survival techniques"
- OPITO Offshore Lifeboat Coxswain Training Standard.