STATEMENT OF COMPLIANCE

Statement No:
n1760855-gvb
DNV Id No:
10564901

Particulars of Product

Function Area: **MACHINERY OPERATION SIMULATOR**

Name and type designation: **K-Sim® Engine DEDF42 Cruise Ferry – II**

Particulars of Manufacturer

Manufacturer: **Kongsberg Digital AS**

Manufacturer address: **Maritime Simulation, Horten, Norway**

This is to confirm:

That the above product is found to comply with Class A, B, C, D - Standard for Certification of Maritime Simulators No. DNV-ST-0033 June 2021.

Application

The above Standard is based on requirements in the STCW Convention, Regulation I/12 and corresponding industry standard and guidelines.

This Statement is valid until **2027-06-15**, provided the requirements for the retention of the Statement will be complied with.

Issued at **Horten, Norway** on **2022-06-15**

for **DNV**

This document is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication can be obtained from trust.dnv.com by using the Unique Tracking Number (UTN):
n1760855-gvb and ID: 10564901

Aksel David Nordholm
Approval Expert

Application/Limitation

The simulator can simulate a realistic environment for selected STCW competence requirement referred to in Table 4-2.

Table 4-2 Competencies addressed by machinery operation simulator class

STCW reference	*Competence*	*Class A (ENG)*	*Class B (ENG)*	*Class C (ENG)*	*Class D (ENG)*
Table A-III/1.1	Maintain a safe engineering watch.	A	B		
Table A-III/1.3	Use internal communication systems.	A	B		
Table A-III/1.4	Operate main and auxiliary machinery and associated control systems.	A	B	C	D
Table A-III/1.5	Operate fuel, lubrication, ballast and other pumping systems and associated control systems.	A	B	C	D
Table A-III/1.6	Operate electrical, electronic and control systems.	A	B	C	D
Table A-III/1.11	Maintain seaworthiness of the ship.	A	B		
Table A-III/2.1	Manage the operation of propulsion plant machinery.	A	B		
Table A-III/2.2	Plan and schedule operations.	A	B		
Table A-III/2.3	Operation, surveillance, performance assessment and maintaining safety of propulsion plant and auxiliary machinery.	A	B		
Table A-III/2.4	Manage fuel, lubrication and ballast operations.	A	B	C	D
Table A-III/2.5	Manage operation of electrical and electronic control equipment.	A	B		
Table A-III/2.6	Manage troubleshooting restoration of electrical and electronic control equipment to operating condition.	A			
Table A-III/2.8	Detect and identify the cause of machinery malfunctions and correct faults.	A			
Table A-III/2.10	Control trim, stability, and stress.	A	B		
Table A-III/2.11	Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and protection of the marine environment.	A	B		
Table A-III/2.14	Use leadership and managerial skills.	A			
Table A-III/4.2	For keeping a boiler watch: Maintain the correct water levels and steam pressures.	A	B	C	D
Table A-III/6.1	Monitor the operation of electrical, electronic and control systems.	A	B		
Table A-III/6.2	Monitor the operation of automatic control systems of propulsion and auxiliary machinery.	A	B		
Table A-III/6.3	Operate generators and distribution systems.	A	B		
Table A-III/6.4	Operate and maintain power systems in excess of 1,000 Volts.	A	B		D
Table A-III/6.5	Operate computers and computer networks on ships.	A	B		
Table A-III/6.7	Use internal communication systems.	A	B		
Table A-III/6.9	Maintenance and repair of automation and control systems of main propulsion and auxiliary machinery.				D
Table A-III/6.10	Maintenance and repair of bridge navigation equipment and ship communication systems.				D
Table A-III/6.11	Maintenance and repair of electrical, electronic and control systems of deck machinery and cargo-handling equipment.				D
Table A-III/6.12	Maintenance and repair of control and safety systems of hotel equipment.				D
Table A-III/7.5	Contribute to the maintenance and repair of electrical systems and machinery on board.				D

Sec. 4, Table 4-3 Physical realism, the following additional requirements for simulators used for training ship's electrical officers (STCW Table A-III/6 -7) Class S apply

2.2.1 It shall be possible to demonstrate systematically the tests that are made on the UMS (unmanned machinery space) alarm system.
2.2.2 It shall be possible to simulate auto slow-down and emergency shutdown.
2.2.3 It shall be possible to simulate safe methods to test inert gas generator (IG) alarms and controls.
2.2.6 It shall be possible to simulate of reading a power factor meter with reference to four segments.
2.2.7 It shall be possible to simulate testing of the devices and relays provided for generator protection.
2.2.8 It shall be possible to simulate tests related to AVR (Automatic Voltage Regulator).
2.2.12 It shall be possible to simulate routine tests on an emergency generator.
2.2.13 It shall be possible to simulate how a generator circuit breaker OCR (Over Current Relay) is set and tested.
2.2.14 It shall be possible to simulate the process of connecting a shaft generator on load and specific conditions for taking off load.
2.2.16 It shall be possible to simulate paralleling of generators using synchro-scope and demonstrate the method to parallel, if synchro-scope is faulty.
2.2.17 It shall be possible to simulate the maintenance and checks carried out on an ACB (air circuit breaker).
2.2.18 It shall be possible to simulate recovery from "dead ship" condition.
2.2.19 It shall be possible to simulate methods to test the "Preferential Tripping Sequence"
2.2.20 It shall be possible to simulate methods to test auto "Cut In" of stand by generator.
2.2.21 It shall be possible to simulate methods of diagnosing single phasing fault.
2.2.23 It shall be possible to simulate operational test methods of oily water separator monitors.
2.2.24 It shall be possible to simulate test methods for level alarms and function tests of bilge pumping arrangement.
2.2.25 It shall be possible to simulate the functional tests of ODMCS (oil discharge monitoring and control system) and ODME (oil discharge monitoring equipment) system.
2.2.26 It shall be possible to simulate the function test of OWS (oily water separator) and PPM (parts per million) unit.

2.3 Additional requirements for simulators used for training ship's officers onboard a vessel using LNG as fuel

2.3.1 It shall be possible to simulate a LNG bunkering operation and sufficient control relevant for the particular ship type to enable simulation of the ship/truck/shore to ship interface.
2.3.2 It shall be possible to simulate LNG connection/disconnection of shore connection.
2.3.3 It shall be possible to simulate flow rate related to LNG bunkering.
2.3.4 It shall be possible to simulate purging control related to LNG bunkering.
2.3.5 It shall be possible to simulate effects of excess line pressures and resulting actions related to LNG bunkering.
2.3.6 It shall be possible to simulate a propulsion plant integrated automation system including alarm safety warning system, power management system and propulsion control system.
2.3.7 It shall be possible to simulate at least one dual fuel engine and support systems.
2.3.8 It shall be possible to simulate LNG monitoring for bunker operation.
2.3.9 It shall be possible to simulate the onboard LNG storage system.
2.3.10 It shall be possible to simulate dual fuel engine gas trip.
2.3.11 It shall be possible to simulate fuel and gas supply system for gas engines.
2.3.12 It shall be possible to simulate gas leakage test prior to engine start-up.

This Statement of Compliance is for the manufacturer offering the simulator for examination or mandatory simulator training and complies with the requirements of DNV-ST-0033 Maritime Simulator Systems.

Based on this statement of compliance, maritime training providers in possession of simulators that comply with the requirements of the standard can apply for a product certificate for "Maritime simulator". The simulator's function area and the simulator class according to the standard will be stated on the certificate.