



NIPPON KAIJI KYOKAI

Certificate No. 15-034-2

## Statement of Product Quality

**THIS IS TO CERTIFY that the below-mentioned simulator is found to comply with the NK Standard for Certification of Maritime Education & Training Simulator Systems and the following applicable standards:**

Product description:

**Liquid Cargo and Ballast Handling Simulator**  
Physical and Cloud-Based Online Installations

Type designation:

**LCHS 5000 TechSim**

Manufacturer:

**Wärtsilä Voyage Limited**

10 Eastgate Avenue, Eastgate Business park, Little Island, Cork, Ireland

Applicable Standards:

- |                                |   |
|--------------------------------|---|
| 1) STCW 2010 Manila amendments | Regulation I/12   |
| 2) STCW 2010 Manila amendments | Code A -I/12, B-I/12  |
| 3) STCW 2010 Manila amendments | Code A/ Table A-V/1-1-1, A-V/1-1-2, A-V/1-1-3, A-V/1-2-1, A-V/1-2-2, A-V/3-1 and A-V/3-2          |
| 4) IMO model course 1.01       | Basic Training for Oil and Chemical Tanker Cargo Operations                                       |
| 5) IMO model course 1.02       | Advanced Training for Oil Tanker Cargo Operations   |
| 6) IMO model course 1.03       | Advanced Training for Chemical Tanker Cargo Operations  |
| 7) IMO model course 1.04       | Basic Training for Liquefied Gas Tanker Cargo Operations  |
| 8) IMO model course 1.05       | Advanced Training for Liquefied Gas Tanker Cargo Operations                                       |
| 9) IMO model course 1.06       | Specialized Training for Liquefied Gas Tankers  |
| 10) IMO model course 1.35      | Liquefied Petroleum Gas (LPG) Tanker Cargo & Ballast Handling Simulator                           |
| 11) IMO model course 1.36      | Liquefied Natural Gas (LNG) Tanker Cargo & Ballast Handling Simulator                             |
| 12) IMO model course 1.37      | Chemical Tanker Cargo & Ballast Handling Simulator  |
| 13) IMO model course 2.06      | Oil Tanker Cargo and Ballast Handling Simulator   |
| 14) IMO model course 7.13      | Basic Training for Masters, Officers, Ratings and other Personnel on Ships Subject to IGF Code    |
| 15) IMO model course 7.14      | Advanced Training for Masters, Officers, Ratings and other Personnel on Ships Subject to IGF Code |

**NIPPON KAIJI KYOKAI**

Date of Initial Registration : 4 August, 2015

Validity : 18 June, 2023

Issued at Tokyo on 19 June, 2020

( H. Takano )

Director of Innovation Development Division



## APPENDIX-A Simulator System

### Simulator system specification

Documentation (identity)	<p>General Product Guidelines:</p> <ul style="list-style-type: none"> <li>■ TechSim 5000 ver.8.8 General Trainee Manual Ship Model Product Guidelines:</li> <li>■ LCHS 5000 TechSim LPG Tanker (ver.1.0) Trainee Manual</li> <li>■ LCHS 5000 TechSim LCC Tanker (ver.1.0) Trainee Manual</li> <li>■ LCHS 5000 TechSim LNG Tanker Membrane (ver.2.0) Trainee Manual</li> <li>■ LCHS 5000 TechSim LNG Regasification Terminal (ver.2.0) Trainee Manual</li> <li>■ LCHS 5000 TechSim Product Tanker and Product Terminal (ver.2.1) Trainee Manual</li> <li>■ LCHS 5000 TechSim Chemical Tanker and Chemical Terminal (ver.1.1) Trainee Manual</li> <li>■ LCHS Load Calculator Manual</li> <li>■ LCHS 5000 TechSim VLCC Tanker and Crude Oil Terminal (ver. 1.0)</li> <li>■ LCHS 5000 TechSim LNG Tanker Spherical Trainee Manual (ver.1.0)</li> <li>■ LCHS 5000 TechSim LNGPac Trainee Manual (ver.1.0)</li> <li>■ LCHS 5000 TechSim LNG Bunkering Trainee Manual (ver.1.0)</li> <li>■ LCHS 5000 TechSim LNGPac Pump and Compressor Trainee Manual (ver.1.0)</li> </ul>
Documentation reviewed (date)	<p>Initial: 7 July, 2015  Renewal: 21 June, 2018  Occasional: 3 July, 2019  Occasional: 11 June, 2020</p>
Tests and physical inspection performed (date)	<p>Initial: 15 and 16 July, 2015 (at Portsmouth in UK)  Renewal: 21 June, 2018 (at Portsmouth in UK)  Occasional: 15 June, 2020 (at Tokyo by online)</p>

## APPENDIX-B

### Application/Limitation (1/2)

#### Application/Limitation

The simulator system, as described above, gives the capability to simulate a realistic environment in physical and cloud based online installations for all of the following competencies:

STCW-2010 Manila amendments	Competence
Table A-II/1.9 Table A-II/3.6	Monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage
Table A-II/1.11 Table A-II/3.8 Table A-III/1.11	Maintain seaworthiness of the ship
Table A-II/2.11	Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes
Table A-II/2.12	Carriage of dangerous goods
Table A-II/2.13 Table A-III/2.12	Control trim, stability and stress
Table A-II/2.14 Table A-III/2.13	Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and protection of the marine environment
Table A-II/2.17	Use of leadership and managerial skill
Table A-II/5.3	Contribute to the handling of cargo and stores
Table A-V/1-1-1.1	Contribute to the safe cargo operation of oil and chemical tankers
Table A-V/1-1-1.2	Take precautions to prevent hazards
Table A-V/1-1-1.3	Apply occupational health and safety precautions and measures
Table A-V/1-1-1.5	Respond to emergencies
Table A-V/1-1-1.6	Take precautions to prevent pollution of the environment from the release of oil or chemicals
Table A-V/1-1-2.1	Ability to safely perform and monitor all cargo operations
Table A-V/1-1-2.2	Familiarity with physical and chemical properties of oil cargoes
Table A-V/1-1-2.3	Take precautions to prevent hazards
Table A-V/1-1-2.4	Apply occupational health and safety precautions
Table A-V/1-1-2.5	Respond to emergencies
Table A-V/1-1-2.6	Take precautions to prevent pollution of the environment
Table A-V/1-1-2.7	Monitor and control compliance with legislative requirements
Table A-V/1-1-3.1	Ability to safely perform and monitor all cargo operations
Table A-V/1-1-3.2	Familiarity with physical and chemical properties of chemical cargoes
Table A-V/1-1-3.3	Take precautions to prevent hazards
Table A-V/1-1-3.4	Apply occupational health and safety precautions
Table A-V/1-1-3.5	Respond to emergencies

**APPENDIX-B**  
**Application/Limitation (2/2)**

STCW-2010 Manila amendments	Competence
Table A-V/1-1-3.6	Take precautions to prevent pollution of the environment
Table A-V/1-1-3.7	Monitor and control compliance with legislative requirements
Table A-V/1-2-1.1	Contribute to the safe operation of a liquefied gas tanker
Table A-V/1-2-1.2	Take precautions to prevent hazards
Table A-V/1-2-1.3	Apply occupational health and safety precautions and measures
Table A-V/1-2-1.5	Respond to emergencies
Table A-V/1-2-1.6	Take precautions to prevent pollution of the environment from the release of liquefied gases
Table A-V/1-2-2.1	Ability to safely perform and monitor all cargo operations
Table A-V/1-2-2.2	Familiarity with physical and chemical properties of liquefied gas cargoes
Table A-V/1-2-2.3	Take precautions to prevent hazards
Table A-V/1-2-2.4	Apply occupational health and safety precautions
Table A-V/1-2-2.5	Respond to emergencies
Table A-V/1-2-2.6	Take precautions to prevent pollution of the environment
Table A-V/1-2-2.7	Monitor and control compliance with legislative requirements
Table A-V/3-1	Specification of minimum standard of competence in basic training for ships subject to the IGF Code
Table A-V/3-2	Specification of minimum standard of competence of advanced training for ships subject to the IGF Code

## APPENDIX-C Application/Limitation

Wärtsilä Liquid Cargo and Ballast Handling Simulator (LCHS 5000 TechSim)  
contains the following ship models:

- LPG Tanker
- LCC Tanker
- LNG Tanker Membrane
- LNG Regasification Terminal
- Product Tanker and Product Terminal
- Chemical Tanker and Chemical Terminal
- VLCC Tanker and Crude Oil Terminal
- LNG Tanker Spherical
- LNG Pac
- LNG Bunkering
- LNG Pac Pump and Compressor

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