



Certificate No:
TAA0000333

TYPE APPROVAL CERTIFICATE

This is to certify:

That the **Electronic record book (ELRB)**

with type designation(s)
Phoenix Electronic Record Books

Issued to
South Nests Software Solutions Pvt. Ltd.
CHENNAI, Tamilnadu, India

is found to comply with
DNV rules for classification – Ships
Resolution MEPC.312(74)
DNV class programme DNV-CP-0569 – Type approval – Electronic record book – MARPOL

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2021-12-17**

This Certificate is valid until **2023-12-31**.

for **DNV**

DNV local station: **Certification of Materials - Singapore**

Approval Engineer: **Thorbjørn Hansen**

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Jan Tore Grimsrud
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2021-03

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Page 1 of 3

Product description

This Type Approval Certificate (TAC) covers software (SW) for electronic recording, storing and presentation of data for the below listed *Electronic Record Book* (ELRB). The SW may either be installed on a dedicated computer, alternatively on client(s)/server in the vessels (existing) computer network system. The SW enables automatic storage of recorded entries to an offline storage device.

The following ELRB's are covered by the subject TAC:

ELRB	Type, reference	Covered by this TAC
MARPOL - MEPC.312(74)	Oil Record Book, parts I (MARPOL Annex I, Reg. 17.1)	Yes
	Oil Record Book, parts II (MARPOL Annex I, Reg. 36.1)	Yes
	Cargo Record Book (MARPOL Annex II, Reg. 15.1)	Yes
	Garbage Record Book, parts I (MARPOL Annex V, Reg. 10.3)	Yes
	Garbage Record Book, parts II (MARPOL Annex V, Reg. 10.3)	Yes
	Ozone-depleting Substances Record Book (MARPOL Annex VI, Reg. 12.6)	Yes
	Recording of the Tier and on/off status of marine diesel engines (MARPOL Annex VI, Reg. 13.5.3)	Yes
	Record of Fuel oil Changeover (MARPOL Annex VI, Reg. 14.6)	Yes
	Record Book of Engine Parameters (NOx Technical Code, paragraph 6.2.2.7)	Yes
Engine Record Book	ISO21745	No
Radio Record Book	SOLAS Regulation V/28, ISO21745	No
Deck Record Book	IMO Res. A.916(22), SOLAS Reg. II/22, SOLAS Reg. III/26, SOLAS Reg. V/14, ISO21745	No

Optional specifications for improved non-repudiation is NOT covered by this TAC (ref. DNV-CP-0569, section 3, Table 2)

SW no/rev installed during TA test:3.0.0001^A.

^A: Any SW change made after October 27th 2021 (SW FAT) shall be identified in the SW version log and shall follow the SW structure as described in document "Phoenix 3.0 – Versioning".

SW no/rev covered by this TAC: 3.0.xxxx.

Place of manufacture

South Nests Software Solutions Pvt Ltd
78 Shenton Way #21-00
Singapore 079120

Application/Limitation

To accept the subject SW for Electronic Record Book in lieu of the traditional paper-based record book on DNV classed vessels, and further to issue the corresponding *Declaration of MARPOL Electronic Record Book*, the following is required:

- The subject TAC is accepted by the vessels Flag Administration.
- Installation onboard has been successfully tested and verified as per manufacturers document "Installation Guide / Electronic Record Book – MARPOL" Rev. 1.3onboard.
- The below listed system requirements and HW/installation requirements are complied with:

Main workstation / client(s) – minimum system requirements:

- Operating System: Windows 10 Professional
- Minimum RAM: 8GB
- Minimum available storage capacity: 500GB
- Screen resolution: 1280 x 800
- Minimum available storage capacity in offline storage device: 1TB

Installation requirements:

- One computer-, or the client/server where the ELRB SW is installed shall be defined as the *main workstation*.
- When a workstation is installed on bridge it shall not interfere with the operator's night vision on the bridge.
- When a workstation is installed on bridge or in the engine control room, it shall comply with the environmental specifications in IACS UR E10 with respect to EMI/EMC.
- The offline storage device shall be independent from the main workstation.

- The manufacturersSW shall not be installed on computer(s) holding class-required functionality or SOLAS carriage requirements.
- If the ELRB can be accessed from shore, the ship-shore link shall be in line with the applicable class requirements to cyber security to prevent unauthorized access.
- The interface to VDR for recording of the signed record book is not covered by this TAC.

When the type approved software is revised DNV is to be informed by forwarding updated software version documentation. If the changes are judged to affect functionality for which rule requirements and/or MEPC specifications apply, a new functional type test may be required and the certificate may have to be renewed to identify the new software version.

Application software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes shall be forwarded to DNV for evaluation and approval before implemented on board.

Type Approval documentation

Tests carried out

Performance testing as per DNV-CP-0569 Electronic record books under MARPOL, Edition September 2021 and MEPC.312(74) for:

- Oil Record Book, parts I (MARPOL Annex I, reg. 17.1)
- Oil Record Book, parts II (MARPOL Annex I, reg. 36.1)
- Cargo Record Book (MARPOL Annex II, reg. 15.1)
- Garbage Record Book, parts I (MARPOL Annex V, reg. 10.3)
- Garbage Record Book, parts II (MARPOL Annex V, reg. 10.3)
- Ozone-depleting Substances Record Book (MARPOL Annex VI, reg. 12.6)
- Recording of the Tier and on/off status of marine diesel engines (MARPOL Annex VI, reg. 13.5.3)
- Record of Fuel oil Changeover (MARPOL Annex VI, reg. 14.6)
- Record Book of Engine Parameters (NOx Technical Code, paragraph 6.2.2.7)

Marking of product

The products to be marked with "Version 3.0.xxxx".

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE