Certificate no.:
**TAS00004HB**

# TYPE APPROVAL DESIGN CERTIFICATE

## This is to certify:

**that the portable offshore unit**

with type designation(s)
**Thermal Treatment Unit**

issued to
## NOV Downhole Eurasia Ltd
**Peterhead**, **United Kingdom**

is found to comply with
**DNV standard DNV-ST-E273 – 2.7-3 Portable offshore units, April 2016 (Amended May 2022)**

## Application:

| | |
|---|---|
| **Max. gross mass (kg)** | **36000** |
| **Max. payload (kg)** | **24000** |
| **Max. sling leg angle** | **30** |

Issued at **Aberdeen** on **2024-11-25**
This Certificate is valid until **2029-11-24**.
DNV local unit: **Aberdeen**

for **DNV**

Approval Engineer: **Elisabeth Legg**

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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.

## Manufactured by

| Manufacturer name | Location | DNV local office | DNV CIM number |
|---|---|---|---|
| | | Aberdeen | 10124766 |
| | | Mumbai | - |
| | | Abu Dhabi | 10574780 |
| | | Aberdeen | 10780876 |

## Responsibility

NOV Downhole Eurasia Ltd. takes full responsibility that both the design and production are in compliance with the Rules, Standards and / or Regulations listed on page 1 of this Type Approval Certificate.

## Product description

| Type | Maximum external dimensions (LxWxH) | Type | Operational Class | Tare mass* |
|---|---|---|---|---|
| Thermal Treatment Unit | 6058 x 3490 x 3938 mm | A | R45 | 12000 kg |

*) Tare mass is to be confirmed by weighing. The sum of tare and payload shall never exceed the maximum gross mass stated on the front page of this certificate.

## Application/Limitation

| Type | Design temperature | Resultant sling force (RSF) | Shackle size |
|---|---|---|---|
| Thermal Treatment Unit | -20 °C | 343 kN | 35 t |

The DNV surveyor shall witness all important production and testing events and issue a certificate for each unit.

## Type Approval documentation

## Tests carried out

This type approval covers design only. i.e. the type approval is not valid for the final product, but may be used as basis for obtaining a product certificate.

## Marking of product

Marking shall be carried out in accordance with DNV-ST-E273 section 6.

## Periodical assessment

In order to maintain the validity of the type approval certificate, periodical assessments should be carried out according to DNV-SE-0284 at 2 and 3.5 year intervals. Periodical assessments will, when possible, be harmonised with other surveys and audits carried out.

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com