Certificate no.:
TAA00003J7

TYPE APPROVAL DESIGN CERTIFICATE

This is to certify:

that the Electronic fuel injection system

with type designation(s)
Advance Diesel Engine Management - ADEM

issued to
Caterpillar Inc.
Peoria, IL, USA

is found to comply with
DNV rules for classification – Ships Pt.6 Ch.5 Sec.21 Cyber security [2.2] Exclusion based on negligible risk

Application:

This type approval covers the criteria for exclusion from the mandatory application of Pt.6 Ch.5 Sec.21 Cyber security, subject to conditions stated in this certificate.

Issued at **Høvik** on **2025-01-27**

This Certificate is valid until **2027-01-26**.

for **DNV**

DNV local unit: **AC Europe Digital Ship Systems**

Approval Engineer: **Simen Vike Lande**

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.

Product description

This type approval design certificate is issued to state conformance with DNV-RU-SHIP Pt.6 Ch.5 Sec.21 [2.2], indicating that a design assessment is performed to confirm that the criteria for exclusion from mandatory application of cyber security requirements in DNV-RU-SHIP Pt.6 Ch.5 Sec.21 [4], are met.

The following engine control modules are covered by this certificate:

ECM	*Part number*	*Software version descriptor*
A6E4 v3.1	616-8915	CAT SL01 VER 1.0
A6E4 v3.1	616-8896	CAT SL01 VER 1.0
A5E4 v2	488-9094	CAT SL01 VER 1.0
A5E4 v2	488-9093	CAT SL01 VER 1.0
A5E2 v1	619-3483	CAT SL01 VER 1.0
A5E2 v2	462-0006	CAT SL01 VER 1.0
A5E2 v2	462-0007	CAT SL01 VER 1.0
A4E4 v2	478-7926	CAT SL01 VER 1.0
A4E4 v2	372-2900	CAT SL01 VER 1.0
A4E4 v3.1	488-4884	CAT SL01 VER 1.0
A4E4 v3.1	488-4881	CAT SL01 VER 1.0

Application/Limitation

The following conditions shall be met when the ECMs are installed on board:

- The ECM shall be installed in a restricted or controlled area.
- The service port of the device shall be arranged such as to avoid unauthorized access.
- The ECMs CAN interface shall only be connected to components and systems meeting the requirements in DNV-RU-SHIP Pt.6 Ch.5 Sec.21.
- If the ECM is equipped with an ethernet interface, this shall be disabled in software.

For vessels where the Cyber secure notation is applicable, the above listed conditions shall be verified on board.

Marking of product

The products to be marked with:
- maker
- type designation
- serial number.