# SUPPLEMENT TO ENGINE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE

# RECORD OF CONSTRUCTION, TECHNICAL FILE, AND MEANS OF VERIFICATION

| 1     | Particulars of the engine   |  |                     |
|-------|---|--|---------------------|
| 1.1   | Name and address of manufacturer  | Yanmar Co., Ltd.<br>1-1, 1-Chome, Higashi-Do<br>Amagasaki, Japan | ori Nagasu          |
| 1.2   | Place of engine build   | Amagasaki, Japan   |                     |
| 1.3   | Date of engine build  |  | 2015                |
| 1.4   | Place of pre-certification survey   | Amagasaki, Japan   |                     |
| 1.5   | Date of pre-certification survey  |  | 2015                |
| 1.6   | Engine type and model number  |  | 6EY22ALW            |
| 1.7   | Engine serial number  |  | 0866FMG             |
| 1.8   | If applicable, the engine is a parent engine of the following engine family ✓ | or a member engine<br>engine group                               |                     |
|       |   | 6EY2   | ZALW-A              |
| 1.9   | Individual engine or engine family / engine group details:                    |  |                     |
| 1.9.1 | Approval reference  |  | EIAPP-S-900000-0579 |
| 1.9.2 | Rated power (kW) and rated speed (rpm) values or ranges                       |  | 970 kW at 900 rpm   |
| 1.9.3 | Test cycle(s)   |  | D2                  |
| 1.9.4 | Parent engine(s) test fuel oil specification                                  |  | n/a                 |
| 1.9.5 | Applicable NOx emission limit (g/kWh), regulation 13.4                        |  | 9.2                 |
| 1.9.6 | Parent engine(s) emission value (g/kWh)                                       |  | 8.8                 |

Certificate No. EIAPP-S-900000-0579

# ENGINE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE

Issued under the provisions of the Protocol of 1997, as amended by resolution MEPC.176(58) in 2008, to amend the **INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973,** as modified by the Protocol of 1978 related thereto (hereinafter referred to as "the Convention")

under the authority of the Government of

### THE REPUBLIC OF PANAMA



by DNV GL

PARTICULARS OF THE ENGINE:

Engine manufacturer:

Yanmar Co., Ltd.

Model number:

6EY22ALW

Serial number:

0866FMG

Test cycle(s):

D2

Rated power [kW] and speed [rpm]:

970 @ 900

Engine approval number:

EIAPP-S-900000-0579

### THIS IS TO CERTIFY:

- That the above-mentioned marine diesel engine has been surveyed for pre-certification in accordance with the requirements of the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines 2008 made mandatory by Annex VI of the Convention; and
- 2. That the pre-certification survey shows that the engine, its components, adjustable features, and technical file, prior to the engine's installation and/or service on board a ship, fully comply with the applicable regulation 13 of Annex VI of the Convention.

This certificate is valid for the life of the engine, subject to surveys in accordance with regulation 5 of Annex VI of the Convention, installed in ships under the authority of this Government.

Issued at Hamburg, 21st June, 2016

Stine Mundal

Head of Section Environmental Certification

#### 2 Particulars of the technical file

The technical file, as required by chapter 2 of the NOx Technical Code 2008, is an essential part of the EIAPP Certificate and must always accompany an engine throughout its life and always be available on board a ship.

2.1 Technical file identification/approval number R4-B19401-(1) & G2-50633-0090-(2) / 26966N

2.2 Technical file approval date 2015-11-16

#### 3 Specifications for the onboard NOx verification procedures

The specifications for the on board NOx verification procedures, as required by chapter 6 of the NOx Technical Code 2008, are an essential part of the EIAPP Certificate and must always accompany an engine through its life and always be available on board a ship.

- 3.1 Engine parameter check method:
- Identification/approval number

G2-50633-0080 / 26966N

3.1.2 Approval date 2015-11-16

- 3.2 Direct measurement and monitoring method:
- 3.2.1 Identification/approval number

3.2.2 Approval date

Alternatively the simplified measurement method in accordance with 6.3 of the NOx Technical Code 2008 may be utilized.

Issued at Hamburg, 21st June, 2016

Stine Mundal

Head of Section Environmental Certification

Notes:
1 This Record and its attachments shall be permanently attached to the EIAPP Certificate, The EIAPP Certificate shall accompany the engine throughout its life and shall be available on board

The Record and its attachments stain be permanently adapted to the EAPP Certificate. The Eart Certificate state accompany one engine anothing in case of a dispute or discrepancy.

The Record shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.

Unloss otherwise stated, regulations mentioned in this Record refer to regulations of Annex VI of the Convention and the requirements for an engine's technical file and means of verifications refer to mandatory requirements from the NOx Technical Code 2008.

Certificate No. EIAPP-S-900000-0577

# ENGINE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE

Issued under the provisions of the Protocol of 1997, as amended by resolution MEPC.176(58) in 2008, to amend the **INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973,** as modified by the Protocol of 1978 related thereto (hereinafter referred to as "the Convention")

under the authority of the Government of

## THE REPUBLIC OF PANAMA



by DNV GL

### PARTICULARS OF THE ENGINE:

Engine manufacturer:

Yanmar Co., Ltd.

Model number:

6EY22ALW

Serial number:

0864FMG

Test cycle(s):

D2

Rated power [kW] and speed [rpm]:

970 @ 900

Engine approval number:

EIAPP-S-900000-0577

### THIS IS TO CERTIFY:

- That the above-mentioned marine diesel engine has been surveyed for pre-certification in accordance with the
  requirements of the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines 2008
  made mandatory by Annex VI of the Convention; and
- 2. That the pre-certification survey shows that the engine, its components, adjustable features, and technical file, prior to the engine's installation and/or service on board a ship, fully comply with the applicable regulation 13 of Annex VI of the Convention.

This certificate is valid for the life of the engine, subject to surveys in accordance with regulation 5 of Annex VI of the Convention, installed in ships under the authority of this Government.

Issued at Hamburg, 21st June, 2016

Head of Section Environmental Certification

Stine Mundal

## **DNV·GL**

PLUS Engineering Co., Ltd.

17, Centum Leaders Mark Building Rm no. 3806

APEC-ro

Haeundae-gu

Busan 48060

Republic of Korea

DNV GL SE Approval

**Environmental Certification** 

Brooktorkai 18

20457 Hamburg

Germany

Tel: +49 40 361490

Date:

Our reference:

Your reference:

Job ID:

2016-06-21

MCADE695/CHRLANG/

14876-J-449

300 ID.

EIAPP20160621-6

IMO NOX CERTIFICATION OF DIESEL ENGINES ACC. MARPOL ANNEX VI, REG. 13

IMO No.: 8508905; "INNOVATOR" Order No.: 9063 16 36236 153 Manufacturer: Yanmar Co., Ltd.

| Engine type | Serial No. | Certificate No.     | Flag State |
|-------------|------------|---------------------|------------|
| 6EYZZALW-A  | 0864FMG    | EIAPP-S-900000-0577 | Panama     |
| 6EY22ALW-A  | 0865FMG    | EIAPP-S-900000-0578 | Panama     |
| 6EY22ALW-A  | 0866FMG    | EIAPP-S-900000-0579 | Panama     |

Dear Sir or Madam,

For the above-mentioned engines, please find enclosed certificate(s) in accordance with MARPOL Annex VI, provided with our sign of approval.

The original certificate and technical file shall be with the respective engine during its whole lifetime. These documents are to be kept always on board the vessel.

The certificate is valid for the life of the engine subject to surveys in accordance with regulation 5 of the Revised Annex VI of the MARPOL Convention, provided that the corresponding technical file is either tied up by an unbroken GL seal, originally stamped page by page with the applicable approval number or equipped with the NV perforation stamp on all pages.

Sincerely

for DNV &LSE

Stine Mundal

Head of Section

Mobile: +49 170 785 1363 Direct: +49 40 36149 7138

Stine.Mundal@dnvgl.com

Christin Langusch

Techn. Exp. Env. Certification Direct: +49 40 36149 3630 christin.langosch@dnvgl.com

Encl. 1 set original of certificate for each of above-mentioned engines

DNV GL Headquarters, Veritasveien 1, P.O.Box 300, 1322 Høvik, Norway. Tel: +47 67 57 99 00. www.dnvgl.com

Certificate No. EIAPP-S-900000-0578

# ENGINE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE

Issued under the provisions of the Protocol of 1997, as amended by resolution MEPC.176(58) in 2008, to amend the **INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973,** as modified by the Protocol of 1978 related thereto (hereinafter referred to as "the Convention")

under the authority of the Government of

## THE REPUBLIC OF PANAMA



by DNV GL

### PARTICULARS OF THE ENGINE:

Engine manufacturer: Yanmar Co., Ltd.

Model number: 6EY22ALW
Serial number: 0865FMG
Test cycle(s): D2

Rated power [kW] and speed [rpm]: 970 @ 900

Engine approval number: EIAPP-S-900000-0578

### THIS IS TO CERTIFY:

- That the above-mentioned marine diesel engine has been surveyed for pre-certification in accordance with the
  requirements of the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines 2008
  made mandatory by Annex VI of the Convention; and
- 2. That the pre-certification survey shows that the engine, its components, adjustable features, and technical file, prior to the engine's installation and/or service on board a ship, fully comply with the applicable regulation 13 of Annex VI of the Convention.

This certificate is valid for the life of the engine, subject to surveys in accordance with regulation 5 of Annex VI of the Convention, installed in ships under the authority of this Government.

Issued at Hamburg, 21st June, 2016

Head of Section Environmental Certification

Stine Mundal

#### Particulars of the technical file 2

The technical file, as required by chapter 2 of the NOx Technical Code 2008, is an essential part of the EIAPP Certificate and must always accompany an engine throughout its life and always be available on board a ship.

2.1 Technical file identification/approval number R4-B19401-(2) & G2-50633-0090-(2) / 26966N

2.2 Technical file approval date 2015-11-16

#### 3 Specifications for the onboard NOx verification procedures

The specifications for the on board NOx verification procedures, as required by chapter 6 of the NOx Technical Code 2008, are an essential part of the EIAPP Certificate and must always accompany an engine through its life and always be available on board a ship.

- 3.1 Engine parameter check method:
- 3.1.1 Identification/approval number

G2-50633-0080 / 26966N

Approval date

2015-11-16

- 3.2 Direct measurement and monitoring method:
- 3.2.1 Identification/approval number

3.2.2 Approval date

Alternatively the simplified measurement method in accordance with 6.3 of the NOx Technical Code 2008 may be utilized.

Issued at Hamburg, 21st June, 2016

Stine Mundal

Head of Section Environmental Certification

This Record and its attachments shall be permanently attached to the EIAPP Certificate. The EIAPP Certificate shall accompany the engine throughout its life and shall be available on board

This Nector and its automitients shall be permanently attached to the EAPP Certificate shall be attached and the ship at all times.

The Record shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.

Unless otherwise stated, regulations mentioned in this Record refer to regulations of Annex VI of the Convention and the requirements for an engine's technical file and means of verifications refer to mandatory requirements from the NOx Technical Code 2008.