

ENGINE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE



Rewritten

Certificate No. 23HO0202800-EAP-1
(Ex.Cert.No. 23HD004300-EAP-1)

Issued under the provisions of the Protocol of 1997, as amended, 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 **NIPPON KAIJI KYOKAI**

Engine manufacturer	Model number	Serial number	Test cycle(s)	Rated power (kW) and speed (rpm)	Engine approval number
Mitsui Engineering & Shipbuilding Co., Ltd.	6S50MC-C	5456	E3	9,480 kW 127 rpm	100Y02370

THIS IS TO CERTIFY:

1. 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 atTokyo..... on14 August 2023.....

The undersigned declares that he is duly authorized by the said Government to issue this certificate.



Note: This certificate was issued for correction of clerical errors.

S. SASAKI
General Manager of Classification Department

NIPPON KAIJI KYOKAI



SUPPLEMENT TO
ENGINE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE
(EIAPP CERTIFICATE)

RECORD OF CONSTRUCTION, TECHNICAL FILE AND MEANS OF VERIFICATION

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 ship at all times.
2. 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.
3. 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 revised NOx Technical Code 2008.

1. Particulars of the engine

- 1.1 Name and address of manufacturer Mitsui Engineering & Shipbuilding Co., Ltd.
3-1-1, Tama, Tamano, Okayama, Japan
- 1.2 Place of engine build Tamano Works
3-1-1, Tama, Tamano, Okayama, Japan
- 1.3 Date of engine build November 2010
- 1.4 Place of pre-certification survey Tamano, Japan
- 1.5 Date of pre-certification survey 10 November 2010
- 1.6 Engine type and model number 6S50MC-C
- 1.7 Engine serial number 5456
- 1.8 If applicable, the engine is a parent engine ☐ or a member engine ☒ of the following engine family ☐
or engine group ☒ S50MC-C NOx Group 22
- 1.9 Individual engine or engine family / engine group details:
- 1.9.1 Approval reference 09MM00034
- 1.9.2 Rated power (kW) and rated speed (rpm) values or ranges 9,480 kW / 127rpm
- 1.9.3 Test cycle(s) E3
- 1.9.4 Parent engine(s) test fuel oil specification DM grade(ISO8217)
- 1.9.5 Applicable NOx emission limit (g/kWh), regulation 13.3, ~~13.4~~ or ~~13.5.1~~ (delete as appropriate)
17.0 g/kWh
- 1.9.6 Parent engine(s) emission value (g/kWh) 16.2 g/kWh



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	5QD415 / 10OY02370TF
2.2	Technical file approval date	6 December 2010

3. Specifications for the onboard NOx verification procedures

The specifications for the onboard 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
3.1.2	Approval date
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 Tokyo on 14 August 2023



S. SASAKI

General Manager of Classification Department

NIPPON KAIJI KYOKAI



ENGINE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE



Rewritten

Certificate No. 23HO0202800-EAP-2
(Ex.Cert.No. 23HD004300-EAP-2)

Issued under the provisions of the Protocol of 1997, as amended, 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 **NIPPON KAIJI KYOKAI**

Engine manufacturer	Model number	Serial number	Test cycle(s)	Rated power (kW) and speed (rpm)	Engine approval number
Shaanxi Diesel Engine Heavy Industry Co., Ltd.	5DK-20	D2005100 13	D2	660 kW 900 rpm	10SC01790

THIS IS TO CERTIFY:

1. 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 atTokyo..... on14 August 2023.....

The undersigned declares that he is duly authorized by the said Government to issue this certificate.



Note: This certificate was issued for correction of clerical errors.

S. SASAKI
General Manager of Classification Department

NIPPON KAIJI KYOKAI



SUPPLEMENT TO
ENGINE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE
(EIAPP CERTIFICATE)

RECORD OF CONSTRUCTION, TECHNICAL FILE AND MEANS OF VERIFICATION

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 ship at all times.
2. 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.
3. 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 revised NOx Technical Code 2008.

1. Particulars of the engine

- 1.1 Name and address of manufacturer Shaanxi Diesel Engine Heavy Industry Co., Ltd.
Xicheng District, Xingping City, Shaanxi Province, China
- 1.2 Place of engine build as above
- 1.3 Date of engine build August 2010
- 1.4 Place of pre-certification survey Shaanxi Province, China
- 1.5 Date of pre-certification survey 26 August 2010
- 1.6 Engine type and model number 5DK-20
- 1.7 Engine serial number D200510013
- 1.8 If applicable, the engine is a parent engine ☐ or a member engine ☒ of the following engine family ☒
or engine group ☐ DK-20 (T)
- 1.9 Individual engine or engine family / engine group details:
- 1.9.1 Approval reference 10SC01790
- 1.9.2 Rated power (kW) and rated speed (rpm) values or ranges 660 kW / 900rpm
- 1.9.3 Test cycle(s) D2
- 1.9.4 Parent engine(s) test fuel oil specification DM grade(ISO8217)
- 1.9.5 Applicable NOx emission limit (g/kWh), regulation 13.3, ~~13.4~~ or ~~13.5.1~~ (delete as appropriate)
11.3 g/kWh
- 1.9.6 Parent engine(s) emission value (g/kWh) 10.4 g/kWh



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	Q7LT330300FE / 10SC01790TF
2.2	Technical file approval date	13 October 2010

3. Specifications for the onboard NOx verification procedures

The specifications for the onboard 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	Q7LT322620FA / 10SC01790TF
3.1.2	Approval date	13 October 2010
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 Tokyo on 14 August 2023



S. SASAKI

General Manager of Classification Department

NIPPON KAIJI KYOKAI



ENGINE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE



Rewritten

Certificate No. 23HO0202800-EAP-3
(Ex.Cert.No. 23HD004300-EAP-3)

Issued under the provisions of the Protocol of 1997, as amended, 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 **NIPPON KAIJI KYOKAI**

Engine manufacturer	Model number	Serial number	Test cycle(s)	Rated power (kW) and speed (rpm)	Engine approval number
Shaanxi Diesel Engine Heavy Industry Co., Ltd.	5DK-20	D200510014	D2	660 kW 900 rpm	10SC01791

THIS IS TO CERTIFY:

1. 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 Tokyo on 14 August 2023

The undersigned declares that he is duly authorized by the said Government to issue this certificate.



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S. SASAKI
General Manager of Classification Department

NIPPON KAIJI KYOKAI



SUPPLEMENT TO
ENGINE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE
(EIAPP CERTIFICATE)

RECORD OF CONSTRUCTION, TECHNICAL FILE AND MEANS OF VERIFICATION

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 ship at all times.
2. 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.
3. 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 revised NOx Technical Code 2008.

1. Particulars of the engine

- 1.1 Name and address of manufacturer Shaanxi Diesel Engine Heavy Industry Co., Ltd.
Xicheng District, Xingping City, Shaanxi Province, China
- 1.2 Place of engine build as above
- 1.3 Date of engine build August 2010
- 1.4 Place of pre-certification survey Shaanxi Province, China
- 1.5 Date of pre-certification survey 26 August 2010
- 1.6 Engine type and model number 5DK-20
- 1.7 Engine serial number D200510014
- 1.8 If applicable, the engine is a parent engine ☐ or a member engine ☒ of the following engine family ☒
or engine group ☐ DK-20 (T)
- 1.9 Individual engine or engine family / engine group details:
- 1.9.1 Approval reference 10SC01791
- 1.9.2 Rated power (kW) and rated speed (rpm) values or ranges 660 kW / 900rpm
- 1.9.3 Test cycle(s) D2
- 1.9.4 Parent engine(s) test fuel oil specification DM grade(ISO8217)
- 1.9.5 Applicable NOx emission limit (g/kWh), regulation 13.3, ~~13.4~~ or ~~13.5.1~~ (delete as appropriate)
11.3 g/kWh
- 1.9.6 Parent engine(s) emission value (g/kWh) 10.4 g/kWh



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	Q7LT330300FE / 10SC01791TF
2.2	Technical file approval date	13 October 2010

3. Specifications for the onboard NOx verification procedures

The specifications for the onboard 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
3.1.2	Approval date
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 Tokyo on 14 August 2023



S. SASAKI

General Manager of Classification Department

NIPPON KAIJI KYOKAI



ENGINE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE



Rewritten

Certificate No. 23HO0202800-EAP-4
(Ex.Cert.No. 23HD004300-EAP-4)

Issued under the provisions of the Protocol of 1997, as amended, 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 **NIPPON KAIJI KYOKAI**

Engine manufacturer	Model number	Serial number	Test cycle(s)	Rated power (kW) and speed (rpm)	Engine approval number
Shaanxi Diesel Engine Heavy Industry Co., Ltd.	5DK-20	D200510015	D2	660 kW 900 rpm	10SC01792

THIS IS TO CERTIFY:

1. 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.

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The undersigned declares that he is duly authorized by the said Government to issue this certificate.



Note: This certificate was issued for correction of clerical errors.

S. SASAKI
General Manager of Classification Department

NIPPON KAIJI KYOKAI



SUPPLEMENT TO
ENGINE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE
(EIAPP CERTIFICATE)

RECORD OF CONSTRUCTION, TECHNICAL FILE AND MEANS OF VERIFICATION

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 ship at all times.
2. 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.
3. 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 revised NOx Technical Code 2008.

1. Particulars of the engine

- 1.1 Name and address of manufacturer Shaanxi Diesel Engine Heavy Industry Co., Ltd.
Xicheng District, Xingping City, Shaanxi Province, China
- 1.2 Place of engine build as above
- 1.3 Date of engine build August 2010
- 1.4 Place of pre-certification survey Shaanxi Province, China
- 1.5 Date of pre-certification survey 26 August 2010
- 1.6 Engine type and model number 5DK-20
- 1.7 Engine serial number D200510015
- 1.8 If applicable, the engine is a parent engine ☐ or a member engine ☒ of the following engine family ☒
or engine group ☐ DK-20 (T)
- 1.9 Individual engine or engine family / engine group details:
- 1.9.1 Approval reference 10SC01792
- 1.9.2 Rated power (kW) and rated speed (rpm) values or ranges 660 kW / 900rpm
- 1.9.3 Test cycle(s) D2
- 1.9.4 Parent engine(s) test fuel oil specification DM grade(ISO8217)
- 1.9.5 Applicable NOx emission limit (g/kWh), regulation 13.3, ~~13.4~~ or ~~13.5.1~~ (delete as appropriate)
11.3 g/kWh
- 1.9.6 Parent engine(s) emission value (g/kWh) 10.4 g/kWh



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	Q7LT330300FE / 10SC01792TF
2.2	Technical file approval date	13 October 2010

3. Specifications for the onboard NOx verification procedures

The specifications for the onboard 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
3.1.2	Approval date
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 Tokyo on 14 August 2023



S. SASAKI

General Manager of Classification Department

NIPPON KAIJI KYOKAI

