

DEPARTMENT OF HOMELAND SECURITY
 U.S. Coast Guard
INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE

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 UNITED STATES OF AMERICA

By the

United States Coast Guard

Particulars of Ship

Name of Ship	Distinctive Numbers or Letters	IMO Number+	Port of Registry	Gross Tonnage
MAKANI LOA	1343931	-	Honolulu, Hawaii	14052

THIS IS TO CERTIFY:

1. That the ship has been surveyed in accordance with regulation 5 of Annex VI of the Convention; and
2. That the survey shows that the equipment, systems, fittings, arrangements and materials fully comply with the applicable requirements of Annex VI of the Convention.

Completion date of survey on which this Certificate is based: 03/18/2024 (mm/dd/yyyy)

This Certificate is valid until 03/18/2029 * subject to surveys in accordance with Regulation 5 of Annex VI of the Convention.

Issued at Seattle, Washington 03/18/2024
 (Place of issue of certificate) (Date of issue mm/dd/yyyy)

K. M. MOODY, CDR, USCG, By Direction

Digitally signed by CDR
 Kira M. Moody
 Date: 2024.03.15
 06:44:29 -07'00'



(Name of authorized official issuing the certificate)

(Signature of authorized official issuing the certificate)

+ In accordance with IMO ship identification number scheme (resolution A.1117(30)).

* Insert the date of expiry as specified by the Administration in accordance with regulation 9.1 of Annex VI of the Convention. The day and month of this date correspond to the anniversary date as defined in regulation 2.3 of Annex VI of the Convention, unless amended in accordance with regulation 9.8 of Annex VI of the Convention.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number.

The Coast Guard estimates that the average burden for this report is 6 minutes. You may submit any comments concerning the accuracy of this burden estimate or any suggestions for reducing the burden to: Commandant (CG-CVC), U.S. Coast Guard Stop 7501, 2703 Martin Luther King Jr Ave SE, Washington, DC 20593-7501 or Office of Management and Budget, Paperwork Reduction Project (1625-0041), Washington, DC 20593.

ENDORSEMENT FOR ANNUAL AND INTERMEDIATE SURVEYS

THIS IS TO CERTIFY that at a survey required by regulation 5 of Annex VI of the Convention the ship was found to comply with the relevant provisions of that Annex:

Annual Survey:



Signed:

(Signature of authorized official)

Place:

Date:

Annual/Intermediate Survey*



Signed:

(Signature of authorized official)

Place:

Date:

Annual/Intermediate Survey*



Signed:

(Signature of authorized official)

Place:

Date:

Annual Survey:



Signed:

(Signature of authorized official)

Place:

Date:

* Delete as appropriate

ANNUAL/INTERMEDIATE SURVEY IN ACCORDANCE WITH REGULATION 9.8.3

THIS IS TO CERTIFY that, at an Annual/Intermediate Survey* in accordance with regulation 9.8.3 of Annex VI of the Convention, the ship was found to comply with the relevant provisions of that Annex:

Signed: _____

(Signature of authorized official)

Place: _____

Date: _____



ENDORSEMENT TO EXTEND THE CERTIFICATE IF VALID FOR LESS THAN 5 YEARS WHERE REGULATION 9.3 APPLIES

The ship complies with the relevant provisions of the Annex, and this Certificate shall, in accordance with regulation 9.3 of Annex VI of the Convention, be accepted as valid until *(mm/dd/yyyy)*:

Signed: _____

(Signature of authorized official)

Place: _____

Date: _____



ENDORSEMENT WHERE THE RENEWAL SURVEY HAS BEEN COMPLETED AND REGULATION 9.4 APPLIES

The ship complies with the relevant provisions of the Annex, and this Certificate shall, in accordance with regulation 9.4 of Annex VI of the Convention, be accepted as valid until *(mm/dd/yyyy)*:

Signed: _____

(Signature of authorized official)

Place: _____

Date: _____



* Delete as appropriate

ENDORSEMENT TO EXTEND THE VALIDITY OF THE CERTIFICATE UNTIL REACHING THE PORT OF SURVEY OR FOR A PERIOD OF GRACE WHERE REGULATION 9.5 OR 9.6* APPLIES

This Certificate shall, in accordance with regulation 9.5 or 9.6* of Annex VI of the Convention, be accepted as valid until (mm/dd/yyyy): _____

Signed: _____

(Signature of authorized official)

Place: _____

Date: _____



ENDORSEMENT FOR ADVANCEMENT OF ANNIVERSARY DATE WHERE REGULATION 9.8 APPLIES

In accordance with regulation 9.8 of Annex VI of the Convention, the new anniversary date is (mm/dd/yyyy): _____

Signed: _____

(Signature of authorized official)

Place: _____

Date: _____



In accordance with regulation 9.8 of Annex VI of the Convention, the new anniversary date is (mm/dd/yyyy): _____

Signed: _____

(Signature of authorized official)

Place: _____

Date: _____



* Delete as appropriate

DEPARTMENT OF HOMELAND SECURITY
U.S. Coast Guard
**SUPPLEMENT TO INTERNATIONAL AIR POLLUTION
PREVENTION CERTIFICATE (IAPP CERTIFICATE)**



Record of Construction and Equipment

Notes

1. This Record shall be permanently attached to the IAPP Certificate. The IAPP Certificate 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. Entries in boxes shall be made by checking "Yes", "No", or "Not Applicable (N/A)" as appropriate.
4. Unless otherwise stated, regulations mentioned in this Record refer to regulations of Annex VI of the Convention and resolutions or circulars refer to those adopted by the International Maritime Organization.

1. Particulars of Ship

1.1 Name of Ship	1.2 IMO Number	1.3 Date on Which Keel was Laid or Ship was at a Similar Stage of Construction	1.4 Length (L)* (meters)
MAKANI LOA	-	06/07/2023	133.5

* Completed only in respect of ships constructed on or after 1 January 2016 that are specially designed, and used solely for recreational purposes and to which, in accordance with regulation 13.5.2.1 or regulation 13.5.2.3, the NOX emission limit as given by regulation 13.5.1.1 will not apply.

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The Coast Guard estimates that the average burden for this report is 6 minutes. You may submit any comments concerning the accuracy of this burden estimate or any suggestions for reducing the burden to: Commandant (CG-CVC), U.S. Coast Guard Stop 7501, 2703 Martin Luther King Jr Ave SE, Washington, DC 20593-7501 or Office of Management and Budget, Paperwork Reduction Project (1625-0041), Washington, DC 20503.

2. Control of Emissions from Ships

2.1 Ozone Depleting Substances (regulation 12)

2.1.1 The following fire-extinguishing systems, other systems and equipment containing ozone depleting substances, other than hydro-chlorofluorocarbons, installed before 19 May 2005 may continue in service:

System or Equipment	Location on board	Substance
N/A	N/A	N/A

2.1.2 The following systems containing hydro-chlorofluorocarbons (HCFCs) installed before 1 January 2020 may continue in service:

System or Equipment	Location on board	Substance
N/A	N/A	N/A

2.2 Nitrogen Oxides (NO_x) (regulation 13)

2.2.1 The following marine diesel engines installed on this ship are in accordance with the requirements of regulation 13, as indicated.

Applicable regulation of MARPOL Annex VI (NTC = NOX Technical Code 2008) (AM = Approved Method)		Engine #1	Engine #2	Engine #3	Engine #4	Engine #5	Engine #6
1	Manufacturer and model	N/A	N/A	N/A	N/A	N/A	N/A
2	Serial number						
3	Use (applicable application cycle(s) – NTC 3.2)						
4	Rated power (kW) (NTC 1.3.11)						
5	Rated speed (RPM) (NTC 1.3.12)						
6	Identical engine installed ≥ 1/1/2000 exempted by 13.1.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Identical engine installation date (dd/mm/yyyy) as per 13.1.1.2						
8a	Major	13.2.1.1 & 13.2.2					
8b	Conversion	13.2.1.2 & 13.2.3					
8c	(dd/mm/yyyy)	13.2.1.3 & 13.2.3					
9a	Tier I	13.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9b		13.2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9c		13.2.3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9d		13.2.3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9e		13.7.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10a	Tier II	13.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10b		13.2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10c		13.2.2 (Tier III not possible)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10d		13.2.3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10e		13.5.2 (Exemptions)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10f		13.7.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11a	Tier III (ECA-NOx only)	13.5.1.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11b		13.2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11c		13.2.3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11d		13.7.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12		installed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	AM*	not commercially available at this survey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14		not applicable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* Refer to the 2014 Guidelines on the approved method process (resolution MEPC.243(66)).

2.3 Sulphur Oxides (SO_x) and Particular Matter (regulation 14)

2.3.1 When the ship operates outside an emissions control area specified in regulation 14.3, the ship uses:

- .1 fuel oil with a sulphur content as documented by bunker delivery notes that does not exceed the limit value of 0.50% m/m, and/or Yes No N/A
- .2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 2.6 that is at least as effective in terms of SO_x emission reductions as compared to using a fuel oil with a sulphur content limit value of 0.50% m/m Yes No N/A

2.3.2 When the ship operates inside an emissions control area specified in regulation 14.3, the ship uses:

- .1 fuel oil with a sulphur content as documented by bunker delivery notes that does not exceed the limit value of 0.10% m/m, and/or Yes No N/A
- .2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 2.6 that is at least as effective in terms of SO_x emission reductions as compared to using a fuel oil with a sulphur content limit value of 0.10% m/m Yes No N/A

2.3.3. For a ship without an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 2.6, the sulphur content of fuel oil carried for use on board the ship shall not exceed 0.50% m/m as documented by bunker delivery notes Yes No N/A

2.4 Volatile Organic Compounds (VOCs) (regulation 15)

2.4.1 The tanker has a vapour collection system installed and approved in accordance with MSC/Circ.585. Yes No N/A

2.4.2.2 VOC Management Plan approval reference. Yes No N/A

2.5 Shipboard Incineration (regulation 16)

The ship has an incinerator:

2.5.1 installed on or after 1 January 2000 which complies with:

- .1 resolution MEPC.76(40), as amended* Yes No N/A
- .2 resolution MEPC.244(66) Yes No N/A

2.5.2 installed before 1 January 2000 which complies with:

- .1 resolution MEPC.59(33), as amended** Yes No N/A
- .2 resolution MEPC.76(40), as amended* Yes No N/A


2.6 Equivalentents (regulation 4)

The ship has been allowed to use the following fitting, material, appliance, or apparatus to be fitted in a ship or other procedures, alternative fuel oils, or compliance methods used as an alternative to that required by this Annex:

System or Equipment	Equivalent Used	Approval Reference
N/A	N/A	N/A

Issued at Seattle, Washington, on 03/18/2024
(Place of issue of certificate) (Date of issue)

K.M. MOODY, CDR, USCG, By Direction
(Name of authorized official issuing the certificate)


(Signature of authorized official issuing the certificate)

Digitally signed by CDR Kira M. Moody
 Date: 2024.03.15 06:44:04 -07'00'



* As amended by resolution MEPC.93(45)
 ** As amended by resolution MEPC.92(45).