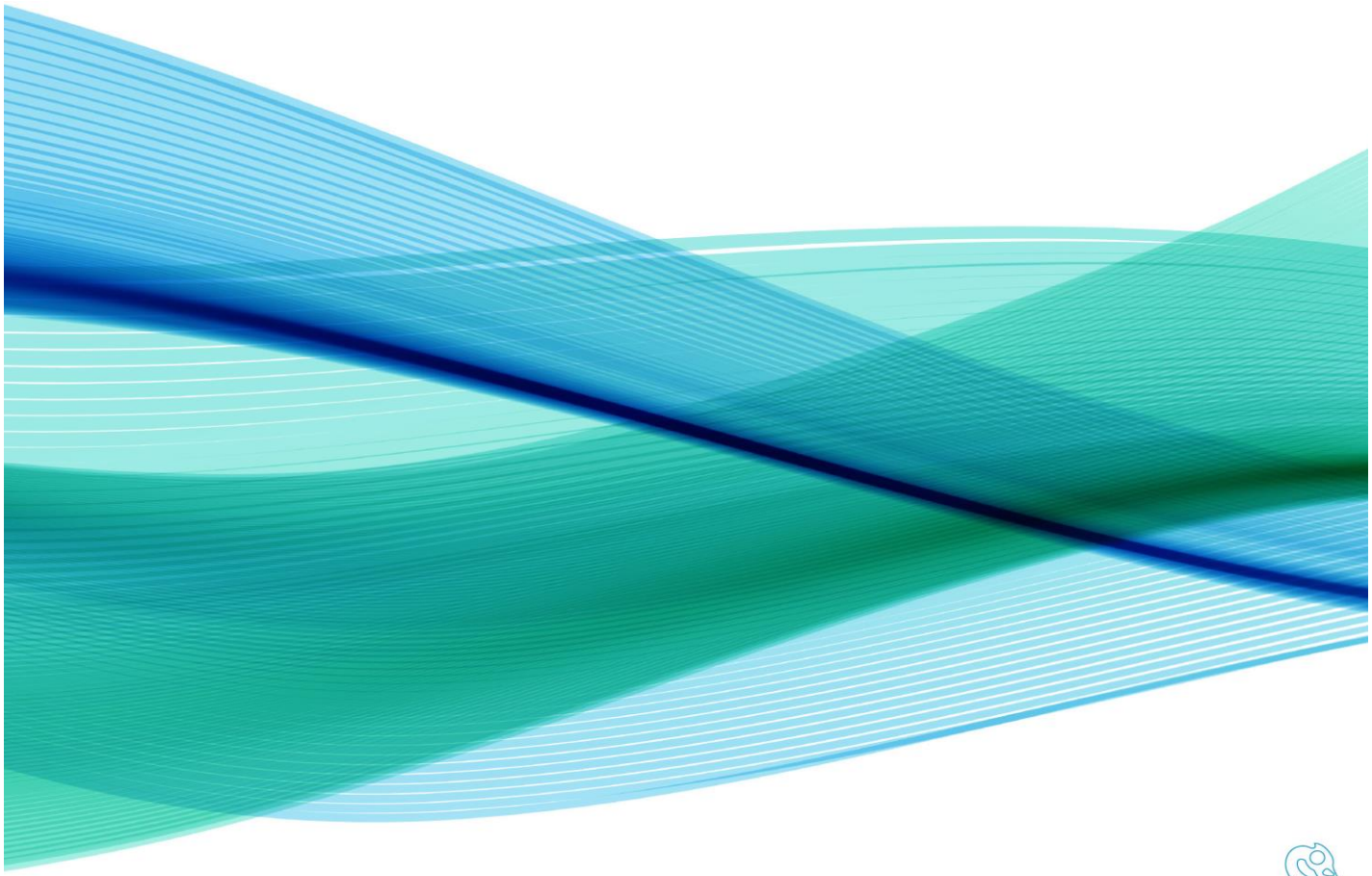
Nō te rere moana Aotearoa
MARITIME NEW ZEALAND

Inspection Report Cook Islands

MV Maungaroa, Lady Moana and *Grinna II*

JULY 2019



Prepared by
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Pacific Maritime Safety Programme Advisor

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Figures

Peer Review

PMSP Report Quality Review Checklist

Step 1 - Draft report prepared by contractor or MNZ to be submitted within one month of trip taking place, using the PMSP report template. Report writer to send draft report to Team Administrator.			
Person Responsible *(Report Writer)*	Gareth Argyle	**Date Sent**	25/08/2019
Step 2 - Team Administrator to put the report into MNZ report template and send back to report writer. Report saved as Version 1.			
Person Responsible *(Team Administrator)*	Tyler Hall	**Date Sent**	30/08/2019
Step 3 - Report writer to review report in new format and save as Version 2. Send the report to Communications Advisor for peer review.			
Person Responsible *(Report Writer)*		**Date Sent**	
Step 4 - Communications Advisor to provide feedback to the report writer. Once amendments are agreed, report writer saves report as Version 3.			
Person Responsible *(Communications Advisor)*		**Date Sent**	
Step 5 - Report writer to circulate the report for technical peer / subject matter expert review. Report writer to incorporate amendments and save as Version 4.			
Person Responsible *(Report Writer)*		**Date Sent**	
Step 6 - Report writer to send to Communications Advisor for final proof. Once feedback is incorporated and agreed, report writer to save report as Version 5 and send to Team Manager.			
Person Responsible *(Report Writer)*	Sophie Hazelhurst	**Date Sent**	4 September 2019
Step 7 - Team Manager to undertake final review and make decision on recommendations and distribution in the report. Team Manager to send approved report to Team Administrator.			
Person Responsible *(Team Manager)*	David Billington	**Date Sent**	16 September 2019
Step 8 - Team Administrator to mark as Final and save to FileM8 as PDF. Team Administrator to send final report to Business Operations Officer.			
Step 9 - Business Operations Officer to update Report Register and enter recommendations into Recommendations Register for discussion at next team meeting.			
Step 10 - Business Operations Officer to send final report to all on distribution list.			

Note: The "person responsible" is responsible for driving the report through this step in the process.

Glossary

IACS	International Association of Classification Societies
IAMSAR	International Aeronautical and Maritime Search and Rescue manual
IMO	International Maritime Organization
MARPOL	International Convention on the Prevention of Marine Pollution from Ships
MCI	Maritime Cook Islands
PMSP	Pacific Maritime Safety Programme
SOLAS	International Convention for the Safety of Life at Sea
SPC	Pacific Community
STCW	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers

Executive summary

Background

Under the Ministry of Foreign Affairs and Trade (MFAT)-funded Pacific Maritime Safety Programme Phase 3 (PMSP3), Maritime New Zealand (Maritime NZ) provides support to seven Pacific Island Countries and Territories (PICTs) via a wide range of projects. The projects are focused on supporting the Pacific Island governments to increase their capacity for maritime safety.

This report was prepared following inspections undertaken in the Cook Islands in July 2019.

Stakeholders

Cook Islands Ministry of Transport

- The Cook Islands Ministry of Transport is a Government department in a country dependent upon maritime and aviation transport, both nationally and internationally. The Ministry of Transport is charged with carrying out all of the functions of maritime and aviation administration necessary under international and national law in a rapidly changing and developing transport environment.

Ministry of Foreign Affairs and Trade

- Funds the PMSP through the New Zealand Aid programme.

Maritime NZ

- New Zealand administration for maritime safety, security and environmental protection.
- Programme managers of the PMSP under a memorandum of understanding with MFAT.
- For the purpose of these inspections, a Maritime NZ-employed technical expert from the PMSP team acted under an instrument of delegation from the Cook Islands Ministry of Transport.

Maritime Cook Islands (MCI)

- Cook Islands operates an open register for ships and yachts via a network of deputy registrars around the world.
- MCI performs all flag state duties for the Cook Islands government through an agreement with the Ministry of Transport.

Pacific Community (SPC)

- MFAT funds SPC to deliver the Pacific Island Domestic Shipping Safety programme (PIDSS). The Cook Islands has been by SPC and MFAT as a country that requires support with domestic ferry safety.

Context

This technical report is intended to support and build on the positive relationship already established between the Cook Islands Ministry of Transport and Maritime NZ under the MFAT-funded PMSP.

Maritime NZ would like to thank and acknowledge the support during the trip by the Cook Islands Ministry of Transport and the owners and operators of the vessels involved with the inspections. Without this support, PMSP cannot add value nor contribute to supporting Pacific island governments with increasing capacity towards maritime safety.

Introduction

This trip to the Cook Islands originated with a request by SPC as part of their agreement with MFAT under the PIDSS, a New Zealand Aid-funded programme.

Maritime NZ agreed to support the trip with SPC taking the lead and the PMSP providing technical support. The primary focus was PIDSS work. SPC planned the work stream and was to provide the technical lead, support and logistics to deliver the PIDSS element in Cook Islands.

SPC cancelled the work stream at short notice, due to unavailability of SPC personnel.

The PMSP continued and planned a modified work stream at the request of Cook Islands. The work stream involved two technical advisors being sent to Cook Islands. This work stream was supported in full by the Cook Islands Ministry of Transport.

The modified work stream comprised two elements:

1. An inspection of three larger domestic trade ferries:
    - *MV Maungaroa*
    - *Lady Moana*
    - *Grinna II*

2. Inspections of seven smaller vessels to support SPC's PIDSS programme. A separate report has been issued for the smaller vessels and shared with MFAT and the Cook Islands' Ministry of Transport.

All vessels are commercial operators and are under Cook Islands' maritime legislation in some form or another.

The three larger domestic ferries are Cook Islands-registered and are engaged in inter-atoll trade within the Cook Islands. The vessels provide a critical transport and cargo service to the atolls. Cook Islands Ministry of Transport advised that the ferries are on a domestic trade route and are surveyed by MCI.

Cook Islands Ministry of Transport advised the PMSP technical advisor that MCI performs all flag state duties for the Cook Islands government through an agreement with the Ministry of Transport.

The three domestic ferries have Cook Islands' certification issued on the basis they meet the minimum requirements under the International Association of the Classification Societies (IACS).

International Association of the Classification Societies

On its website, www.iacs.org.uk, IACS describes its purpose, vision and mission in the following terms:

> "The purpose of a Classification Society ("CS") is to provide classification, statutory certification and services as a Recognised Organisation acting on behalf of a flag Administration, and assistance to the maritime industry and regulatory bodies as regards maritime safety and pollution prevention, based on the accumulation of maritime knowledge and technology".

IACS VISION

> "To be a trusted partner of regulators with respect to the development of maritime regulations and to maintain classification as the primary mechanism for practical self-regulation of the maritime industry."

IACS MISSION

> "To establish, review, promote and develop minimum technical requirements in relation to the design, construction, maintenance and survey of ships and other marine related facilities, and,
>
> To assist international regulatory bodies and standard organisations to develop, implement and interpret statutory regulations and industry standards in ship design, construction and maintenance with a view to improving safety at sea and prevention of marine pollution."

Cook Islands Ministry of Transport advised that MCI should have surveyed the ferries against the IACS standard No. 99 - Recommendations for the Safety of Cargo Vessels of less than Convention Size).

The standard covers basic safety elements such as:

- Stability
- Water tight integrity
- Fire-fighting
- Lifesaving
- Navigation
- Radio

It does not cover or provide for crew certification and training under the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW).

It would appear that Cook Islands have developed a draft rule incorporating most of the guidance in the IACS recommendations for vessel safety. At the time of the inspections the draft rule was not yet implemented under domestic legislation.

Inspections of the ferries

The inspections of the ferries were conducted to the requirements of the Cook Islands Ministry of Transport under an Instrument of Delegation issued by the Cook Islands Ministry of Transport.

Under international maritime agreements, a government of the state can delegate its authority to an agency or individual to perform a function or functions under government maritime legislation. In this case, the Cook Islands Ministry of Transport issued an Instrument of Delegation pursuant to section 156(1) of the Cook Islands' Maritime Transport Act 2008 to a PMSP technical advisor.

The technical advisor is an employee of Maritime NZ and is a qualified port state control inspector meeting the agreed international standards set by the IMO under port state control and the Paris and Tokyo MOU. New Zealand is a signatory to the IMO and Tokyo MOU.

The Tokyo MOU

The main objectives of the Tokyo MOU are to:

- establish an effective port state control regime in the Asia-Pacific region through co-operation of its members and harmonisation of their activities;
- eliminate substandard shipping so as to promote maritime safety;
- protect the marine environment; and
- safeguard working and living conditions on board ships.

Findings

The inspections of all three vessels identified multiple deficiencies related to structural integrity, equipment maintenance and certification. The vessels do not meet the standard as set out in the IACS recommendations. Full details of the inspections and analysis are attached to this report.

Summary

The inspection report concludes that the vessels do not meet the IACS recommendation set as the benchmark by the Cook Islands Ministry of Transport.

The main areas of concern are:

1) **Oversight and survey undertaken by MCI**

From the inspections, it is evident that the vessels have multiple deficiencies and do not meet the requirements set out in the IACS recommendations in many areas as highlighted in the attached technical reports.

This raises concerns about the level of oversight and survey conducted by MCI under delegation from the Cook Islands Ministry of Transport.

2) **Navigational equipment / certification of crew and watch keeping**

The vessels are being operated on the bare minimum of navigational equipment and do not meet the minimum mandatory requirements under the SOLAS Convention. Lack of suitably trained and qualified crew on board is a genuine concern.

3) **Fire safety**

The level of risk on board is higher than necessary and the inspections identified the failure of fire detection systems on several vessels. This, combined with unreliable emergency fire pumps, significantly raises the chance of fire getting out of control on all of the inspected vessels.

Carriage of dangerous cargos must be reviewed given the lack of fire suppression in the holds and fire-fighting equipment in general.

4) **Stability**

All the vessels have issues with stability manuals, some of which are not relevant to the vessel they are held on and some of which are missing. There is also a concern that the vessels' masters are not familiar with the stability manuals or the loading requirements of the vessels.

Recommendations

That the Cook Islands Government consider:

1. Engaging an independent surveyor to determine whether other areas of concern exist. PMSP can support this under the programme.
2. Addressing the findings identified in this report with the operators.
3. Raising the findings with MCI.
4. It is suggested the draft rule incorporating most of the guidance in the IACS recommendations be implemented as the present arrangement is informal and relies on the recommendations as guidelines only.

The PMSP would welcome the opportunity to assist the government in this work if required.

MV Maungaroa

Figure 1 ***MV Maungaroa***

IMO 8957223

Type Cargo vessel

Trade Inter-island trade in Cook Islands

LOA 29.02

GRT 153.7

PAX The vessel on occasion carries passengers when issued a licence to do so by the Cook Islands administration. This is done in discussion with the surveyor, MCI.

Load line rules

Under the IMO IACS recommendations, the IMO Load Line Regulations apply to this vessel.

A number of smaller hatches did not close correctly and dogs/locking mechanisms were seized. Some fire and weather tight doors had electrical cords passed through. This appeared to be a permanent arrangement and may prevent the door being closed properly.

The main cargo hatch securing mechanisms were not used by the crew.

Figure 2 Access doors in bulwark not closing correctly.

Figure 3 Heavy corrosion on starboard side fuel vents in area of gangway.

Potential consequence

Unsecured hatches present an opportunity for water ingress in rough seas. Poorly maintained vents can allow tanks to flood. Bulwark that does not close can pose a risk to crew on deck.

Stability

The IACS recommendations state that the 2008 Intact Stability Code (IMO Resolution MSC.267(85)) applies to this vessel as it exceeds 24m in length. As such the following is noted:

- The master had not seen a stability booklet on board. Loading a vessel without reference to a stability booklet is not in compliance with accepted procedure.

Potential consequence

Miscalculation in loading or ballasting is more likely without reference to a stability book. This is a significant risk that could also result in the loss of the vessel.

Fire-fighting

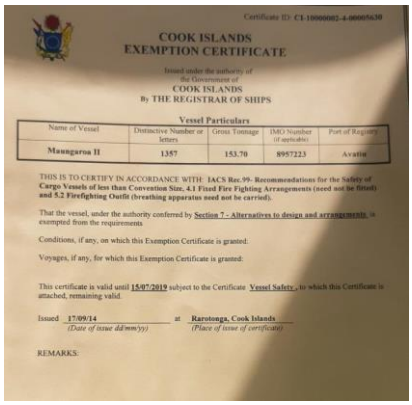
The following issues were noted:

Figure 4 Fire Detection System.

Fire detection system is fitted but does not work in any space. Never tested by crew. Further inspection shows detection heads in very poor condition. It is likely this system has not worked for a long time.

Figure 5 Emergency fire pump.

Pump could not be made to work when requested. The strainer required for intake was missing. This was fixed on the last day of the visit to the vessels (11 July).



COOK ISLANDS
EXEMPTION CERTIFICATE

Issued under the authority of
the Government of
COOK ISLANDS
By THE REGISTRAR OF SHIPS

Vessel Particulars

Name of Vessel	Distinctive Number or letters	Gross Tonnage	IMO Number (if applicable)	Port of Registry
Maungaroa II	1357	153.70	8957223	Avatiu

THIS IS TO CERTIFY IN ACCORDANCE WITH: IACS Rec.99- Recommendations for the Safety of Cargo Vessels of less than Convention Size, 4.1 Fixed Fire Fighting Arrangements (need not be fitted) and 5.2 Firefighting Outfit (breathing apparatus need not be carried).

That the vessel, under the authority conferred by Section 7 - Alternatives to design and arrangements is exempted from the requirements

Conditions, if any, on which this Exemption Certificate is granted:

Voyages, if any, for which this Exemption Certificate is granted:

This certificate is valid until 15/07/2019 subject to the Certificate Vessel Safety , to which this Certificate is attached, remaining valid.

Issued 17/09/14 (Date of issue dd/mm/yy) at Rarotonga, Cook Islands (Place of issue of certificate)

REMARKS:

Figure 6 Exemption certificate.

The vessel did not have a (working) fixed fire-fighting system or fire-fighting outfits and carried an exemption from MCI for this as per the procedure in the IACS guideline. However, the IACS guidelines also state that even when an exemption is issued, the objectives of the fire safety section still need to be met.

IACS 99 section 7.4.2 requires the documentation indicating the approval and how this was undertaken be kept on board. This was not found in the inspection; from discussion with the crew it is unclear how an equivalent or acceptable level of fire safety is being maintained without this equipment.

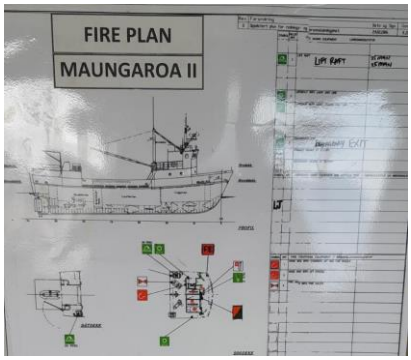


Figure 7 Fire control plan.

Fire control plan does not show the information required as per the IACS guidelines:

- Fire sections enclosed by A-Class divisions
- The ventilating systems
- Location of emergency stops for fuel tanks
- Extra copy of fire plan not found in external location for shore use

Potential consequence

Poorly maintained or non-functional fire-fighting equipment raises the likelihood a small fire will become a large one. Lack of suitable equipment to detect and fight fires is a significant risk.

Lifesaving

The following issues were noted:

Figure 8 Liferaft and Lifebuoys expired.

Noted expired at time of inspection; some replacement parts did arrive in the following days however it should be noted that these items had expired at least 6 to 12 months earlier.

The vessel is not provided with a rescue boat. The boat is marked on the fire plan and required under the IACS guideline.

Potential consequence

Expired or insufficiently prepared lifesaving equipment increases the likelihood of equipment failure in the event of an abandon ship or rescue situation.

No rescue boat means recovery of people from the water will be difficult.

Both of these issues raise the possibility of loss of life in an emergency situation.

Radio installations

Radio installation section **does not apply** as the vessel is less than 300GT and not on international trade. A radio certificate was issued however the survey was not recorded if done for 2018.

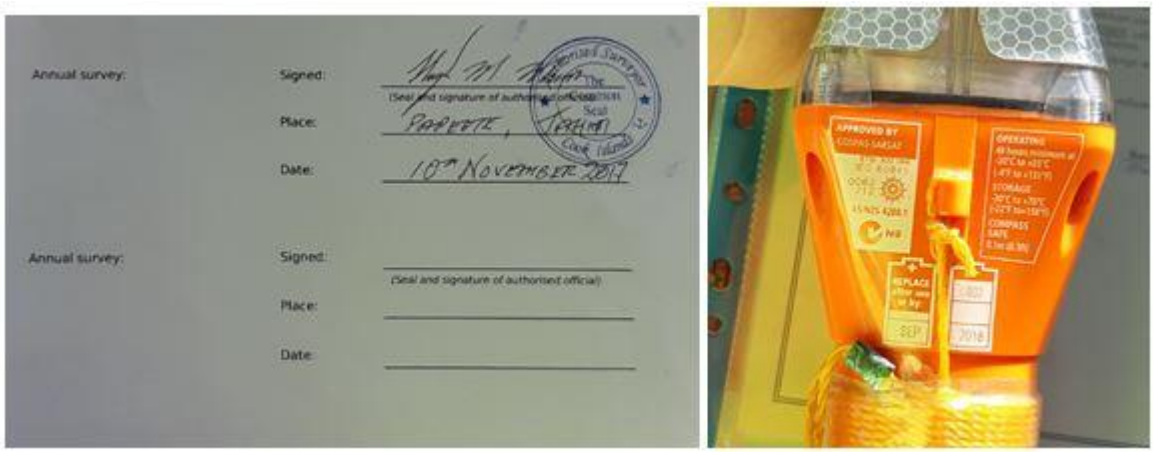


Figure 9 Radio Equipment Certificate / Expired EPIRB.

Navigational equipment

The IACS recommendation states that the requirements as specified in SOLAS 1974, as amended, Chapter V, as applicable based on ship's size, should be complied with unless the flag administration specifies otherwise.

Based on the ***Maungaroa*** GRT of 153.7 tons the following is noted:

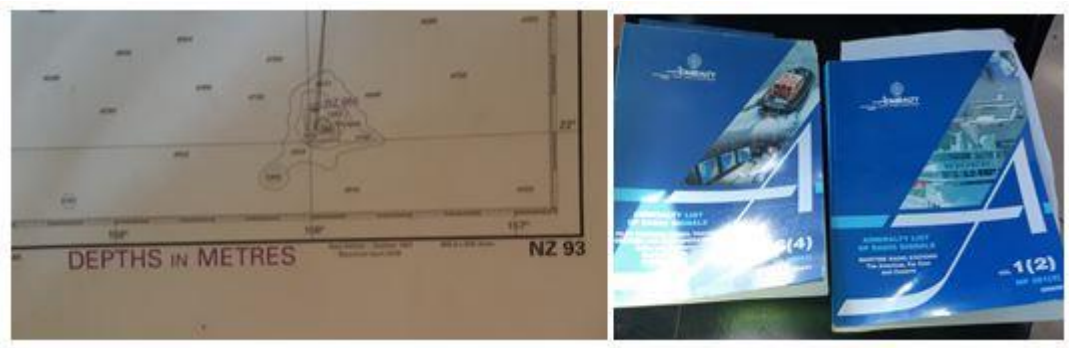


Figure 10 Charts and nautical publications.

Most of the charts are expired old editions and corrections have not been applied (in some cases since 2002). Nautical publications are provided but as old editions and again not corrected or up to date.

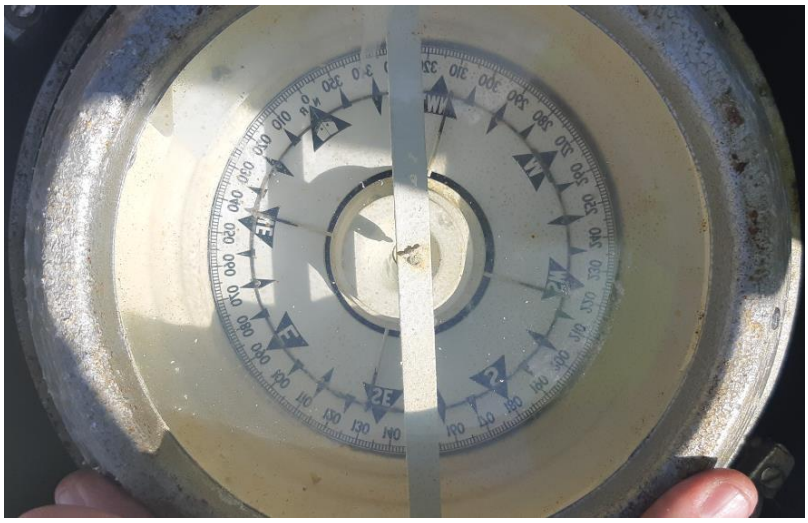


Figure 11 Ships magnetic compass.

The compass was found to be completely dry. This is not in working condition and must be addressed. No spare compass found as required by SOLAS.

The daylight signalling lamp could not be found on board.

Prevention of collisions

Figure 12 Navigational lights could not be shown to operate.

In addition to this, no ship's bell was found and no daytime signal shapes.

Crew certification

This is not covered in the IACS recommendation. However, the following is noted:

COOK ISLANDS
MINIMUM SAFE MANNING CERTIFICATE

Ship Registration CERT.6A v.4

Particulars of Ship

OFFICIAL NUMBER	IMO NUMBER	NAME OF SHIP	PORT OF REGISTRY	YEAR OF REGISTRATION
1357	-	MAUNGAROA II	AVATIU	2009
LENGTH OVERALL	GROSS TONNAGE	TYPE OF VESSEL	CALL SIGN	POWER OF MAIN ENGINES
29.02 m	153.70	General Cargo	E5U2273	530 HP

Vessel Certified for GMDSS	Yes ☒	No ☐
Vessel Certified for UMS (unattended Machinery Space Operations)	Yes ☒	No ☐

Trading Area & Nature of Service

Nature Of Service:	International: ☐	Coastal: ☒	Other:
Any Special Conditions:	Cook Islands EEZ		

Certificated Minimum Manning Requirements

Grade/Capacity	Certificate (STCW Reg.)	No. of Persons	Grade/Capacity	Certificate (STCW Reg.)	No. of Persons
Master	II/3	1	Engineer		1
Mate	II/3	1			
Watchkeeper		1			
Deckhand		1			

Issued 20th July 2009 (Date of issue) at Rarotonga (Place of issue of certificate)

The Registrar of Ships Official Seal

Moeroa M. Mamaia, Cook Islands
REGISTRAR OF SHIPS

Figure 13 MCI–issued Safe Manning document.

MCI-issued Safe Manning document required three licensed persons on board at the time of the inspection.

- The Master's Certificate of Competency had expired (in 2017)
- The Chief Engineer's licence could not be produced, lost
- No flag state endorsements for any officers could be provided.
- No other crew on board held an STCW licence

As such the vessel does not meet the minimum safe manning document as issued by MCI.

Further to this it is noted that the bridge and engine watches were being kept by unlicensed persons.

Note: Vessel is being regularly used for the carriage of passengers. It is not certified or surveyed for the carriage of passengers as its previous use was general cargo work.

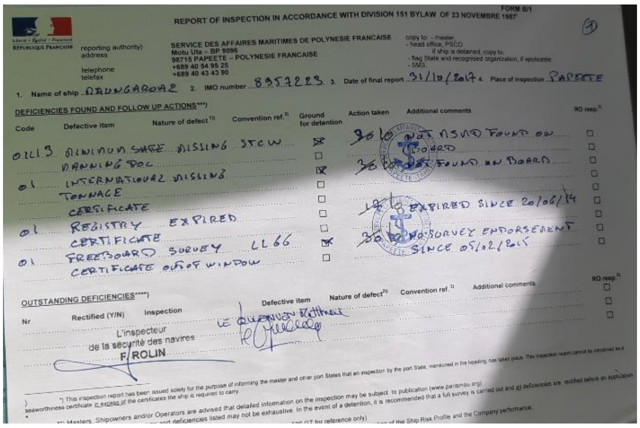
Potential consequence

Crew not having formal certification and meeting an accepted, assessed standard significantly raises the likelihood of incident. It is also likely that any insurance provided to the vessel would be invalid given a human error incident.

Additional items noted

SOLAS / MARPOL additional requirements not specifically in IACS recommendation worthy of note:

1. No material data safety sheet (MSDS) information found for fuels/cargoes (SOLAS VI Reg 5-1)
2. No record of steering gear tests (SOLAS V)
3. No emergency towing booklet (SOLAS II-I Reg 3.4.2
4. No emergency steering instructions or means of operation noted in the steering gear space
5. No International Code of Signals or IAMSAR Manual (SOLAS V)
6. Drills not completed as required for boat/fire and enclosed space entry (SOLAS III Reg 19)
7. Mechanical ventilation fan for engine space missing



FORM B/1

REPORT OF INSPECTION IN ACCORDANCE WITH DIVISION 151 BYLAW OF 23 NOVEMBRE 1987

RÉPUBLIQUE FRANÇAISE

reporting authority) address: SERVICE DES AFFAIRES MARITIMES DE POLYNESIE FRANCAISE, Motu Uta – BP 9096, 98715 PAPEETE – POLYNESIE FRANCAISE

telephone: +689 40 54 95 25

telefax: +689 40 43 43 90

copy to: - master, - head office, PSCO; if ship is detained, copy to: - flag State and recognised organization, if applicable - SM3.

1. Name of ship: DAUNGAROA 2 2. IMO number: 8957223 3. Date of final report: 31/10/2017 4. Place of inspection: PAPEETE

DEFICIENCIES FOUND AND FOLLOW UP ACTIONS***)

Code	Defective item	Nature of defect	Convention ref.	Ground for detention	Action taken	Additional comments	RO resp.
01113	MINIMUM SAFE MANNING DOC	MISSING	STCW	☒	30	NOT MSMD FOUND ON BOARD	☐
01	INTERNATIONAL TONNAGE CERTIFICATE	MISSING		☒	30	NOT FOUND ON BOARD	☐
01	REGISTRY CERTIFICATE	EXPIRED		☐	17	EXPIRED SINCE 20/06/14	☐
01	FREEBOARD CERTIFICATE	SURVEY OUT OF WINDOW	LL66	☒	30	NO SURVEY ENDORSEMENT SINCE 05/02/2015	☐

OUTSTANDING DEFICIENCIES****)

Nr	Rectified (Y/N)	Inspection	Defective item	Nature of defect	Convention ref.	Additional comments	RO resp.
							☐

L'inspecteur de la sécurité des navires F. ROLIN

*) This inspection report has been issued solely for the purpose of informing the master and other port States that an inspection by the port State, mentioned in the heading, has taken place. This inspection report cannot be construed as a seaworthiness certificate in excess of the certificates the ship is required to carry.

**) Masters, Shipowners and/or Operators are advised that detailed information on the inspection may be subject to publication (www.parismou.org). ... and deficiencies listed may not be exhaustive. In the event of a detention, it is recommended that a full survey is carried out and all deficiencies are rectified before an application ...

Figure 14 Note from Tahiti Port State of detention when arrival in port. Not known to the Cook Islands administration.

Figure 15 Lighting in engine room is broken. Power cords run to extra lights. This is unsuitable as doors cannot be closed fully to prevent fire. Demonstration of poor maintenance.

Figure 16 Corrosion in way of forward focsle hatch access from sleeping quarters.

Summary

The inspection report concludes that the vessel does not meet the IACS recommendation set as the benchmark by the administration.

There are significant areas of concern; these are:

1) Oversight and survey undertaken by MCI (Maritime Cook Islands)

From the inspection it is evident that the vessel has deficiencies and issues in many areas of the IACS recommendations.

2) Navigational equipment / certification of crew

The vessel is being run on the very basic, bare minimum of navigational equipment and does not meet the minimum mandatory requirements under the SOLAS Convention. It is possible the vessel could be involved in a navigational incident. Lack of suitably trained and qualified crew on board is a genuine concern.

3) Fire safety

The level of risk on board is higher than necessary with the failure of the fire detection system. This combined with an unreliable emergency fire pump significantly raises the chance of a fire getting out of control.

Carriage of dangerous cargos must be reviewed given the lack of fire suppression in the holds and fire-fighting equipment in general.

4) **Stability**

The IACS recommendations state that the 2008 Intact Stability Code (IMO Resolution MSC.267(85)) applies to this vessel as it exceeds 24m in length. As such the following is noted:

The master had not seen a stability booklet on board. Loading a vessel without reference to a stability booklet is not in compliance with accepted procedure

References

Ref – IACS Recommendation 99

rec_99_pdf721.pdf

MV Lady Moana

Figure 17 ***MV Lady Moana***

IMO 8730900

Type Cargo vessel

Trade Inter-island trade in Cook Islands

LOA 27.34

GRT 163

PAX The vessel on occasion carries passengers when issued a licence to do so by the Cook Islands Administration. This is done in discussion with the surveyor, MCI.

Load line rules

Under the IACS recommendations, the IMO Load Line Regulations apply to this vessel.

Figure 18 Cargo hatch does not seat correctly on the compression bar (port side).

Figure 19 Vessel was carrying aggregate for construction. Loading plan was to load cargo on board until vessel on marks.

Figure 20 Smaller hatches (aft) missing securing cleats / dogs. Forepeak sounding pipe securing cleats broken. A number of doors with stiff dogs noted and electrical cords passed through.

Potential consequence

Incorrectly seated hatch covers and broken locking mechanisms present a risk for flooding.

Stability

The IACS recommendations state that the 2008 Intact Stability Code (IMO Resolution MSC.267(85)) applies to this vessel as it exceeds 24m in length. As such the following is noted:

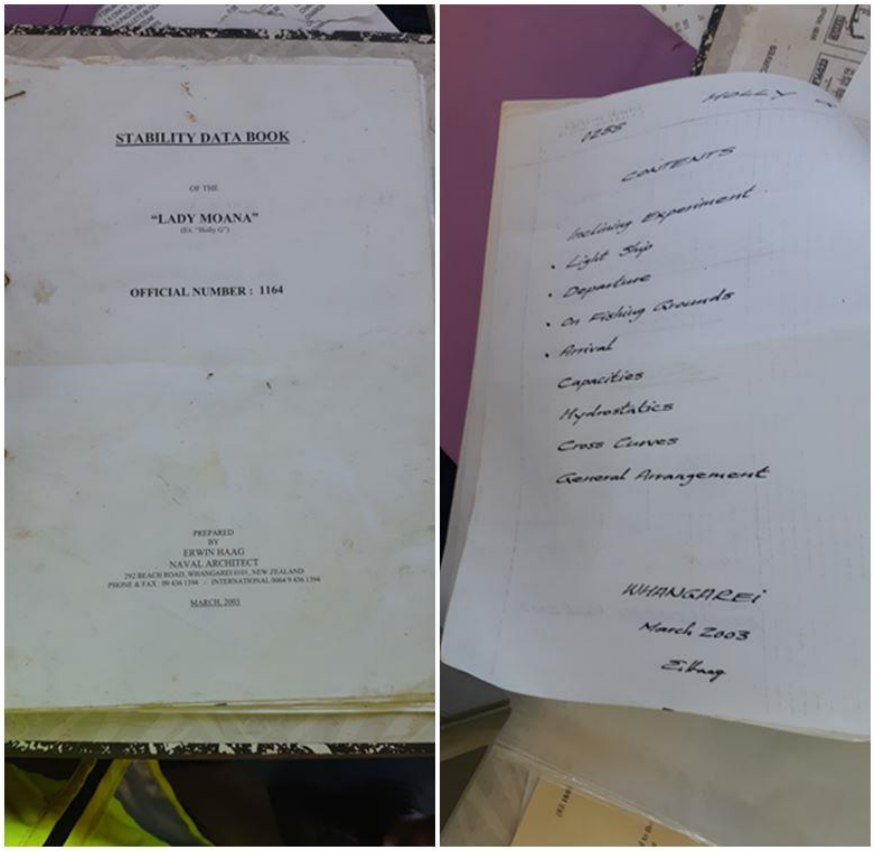


Figure 21 ***Lady Moana*** Stability Data Booklet.

The stability booklet provided for the vessel is from 2003. The booklet is produced on the basis of the vessel being used as a fishing boat.

This has not been the case for a number of years. The loading conditions are those for fishing.

MSC.267(85) recommends cargo ships have the following loading conditions evaluated:

1. Ship in the fully loaded departure condition, with cargo homogeneously distributed throughout all cargo spaces and with full stores and fuel;
2. Ship in the fully loaded arrival condition with cargo homogeneously distributed throughout all cargo spaces and with 10% stores and fuel remaining;
3. Ship in ballast in the departure condition, without cargo but with full stores and fuel; and
4. Ship in ballast in the arrival condition, without cargo and with 10% stores and fuel remaining.

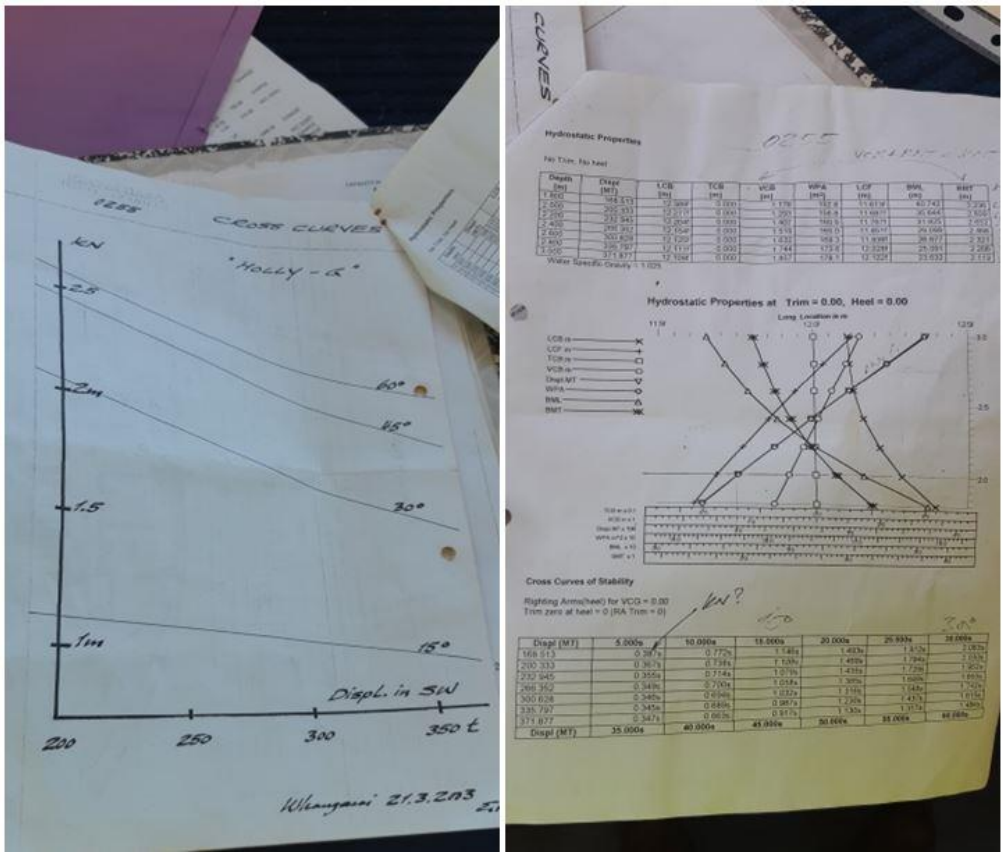


Figure 22 Cross Curves and Stability information for ***Lady Moana***

When reviewing the cross curves and stability information, the Master was unable to explain how he used the stability documents to determine whether it was safe to proceed to sea.

No stability calculations have been taken to the Master's knowledge and he does not refer to this document.

Master was also unable to accurately read the draft marks and stated that the ship had 6 metres draft (2.5 metres at time of inspection).

Potential consequence

As the stability book was created before modification of the vessel for cargo carriage, it needs to be resubmitted to a Naval Architect. At this time, it is not clear whether a compliant book would ensure safe stability.

Lack of understanding by the ship's master with regard to his stability leaves the potential for overloading or other issue which could result in a serious situation.

Fire-fighting

The following issues were noted:

Figure 23 Emergency fire pump.

Portable fire pump does not work. Also the water uptake is not fitted with a strainer (Ref IACS Chapter IV - 1.1.3).

Figure 24 View into engine room from cargo space.

Figure 25 Corroded piping in cargo hold that leads to engine room ventilation.

Fire safety compromised from following:

- Penetration in engine room bulkhead to cargo space (A-60 breach Ref Chapter IV - 2.1.1.6)
- No approved fire detection system found on board for cargo or machinery spaces (no Approval document under Section 7 for Alternative under Charter IV Section 7 noted)
- No fixed fire-fighting system found in the machinery space (Ref Chapter IV - 4.1)
- No fire-fighting outfit provided as per Fire Safety System (FSS) Code (Ref Chapter IV - 5.2)
- No self-contained breathing apparatus set on board (SOLAS II-2 reg 10)

11.2	Fixed fire fighting system in control stations, accommodation and service spaces (ref. II-2/10.6)	--------
11.3	Fixed fire fighting system in spaces containing flammable liquids (ref. II-2/10.6.3)	--------
11.4	Fixed fire fighting system in cargo spaces - General cargo (ref. II-2/10.7.1)	**Provided**
11.5	Fixed fire fighting system in cargo spaces – Dangerous goods (ref. II-2/10.7.2)	--------
11.6	Fixed fire fighting system in cargo tank (ref. II-2/10.8)	--------
11.7	Fixed fire fighting system in cargo pump-rooms in tanker (ref. II-2/10.9)	--------

. Details of navigational systems and equipment

	Item	Actual Provision
1.1	Standard magnetic compass[2]	**Provided**
1.2	Spare magnetic compass[2]	--------
1.3	Gyro-compass[2]	--------
1.4	Gyro-compass heading repeater[2]	--------
1.5	Gyro-compass bearing repeater[2]	

Figure 26 Flag issued safety equipment certificate stating fixed fire-fighting system in the hold.

Figure 27 Hatch to engine room does not appear to be A–60 rated.

Door with self-closer separating engine room hatch from galley/mess room is wood and does not provide A60 protection.

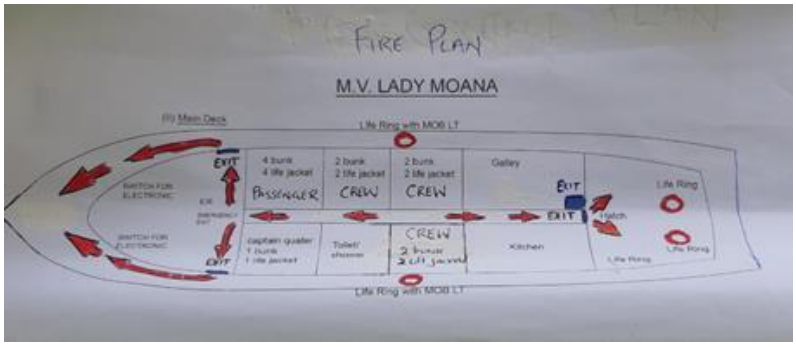


Figure 28 Fire plan provided on board, not in compliance with IACS recommendation.

Fire control plan does not show:

- Fire sections enclosed by A-Class divisions
- The fire extinguishing appliances
- The ventilating systems
- Location of emergency stops for fuel tanks
- Extra copy of fire plan not found in external location for shore use

(Ref IACS 99 - Chapter IV - 5.3)

In addition to the items noted the crew were asked to perform a fire drill. It was evident that this was not a well-practised occurrence.

Potential consequence

Non-functioning fire-fighting appliances reduce the crew's ability to respond in an emergency. Poor subdivision of the vessel for fire would result in fire being more difficult to contain in an incident. This significantly raises the likelihood of a small fire becoming a significant fire.

Lifesaving

The following issues were noted.

Figure 29 Bridge lifebuoy smoke float.

One lifebuoy on bridge wing smoke floats expired. Other bridge wing light not working and no smoke float provided. All rings in poor condition with faded retro tape.

Figure 30 Aluminium boat is not a rescue boat.

Aluminium boat is not a rescue boat as per LSA code, specifically:

- It contained no fuel (minimum 4 hrs)
- Has no towing arrangements
- Has no self-bailing pump
- Provided with none of the equipment as per LSA code Section 5.1.2.2

Figure 31 Line throwing device expired 03/18.

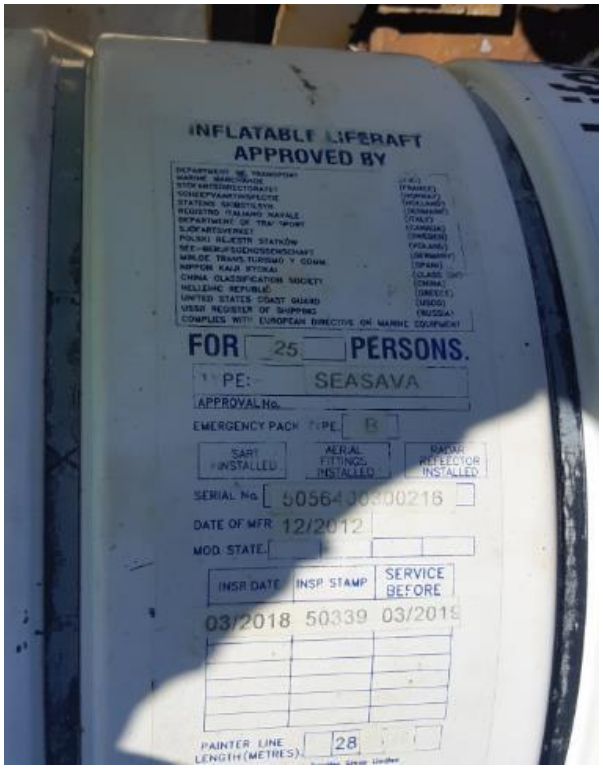


Figure 32 Life rafts port and starboard due service in March 2019 / four parachute flares in date (12 required).

Potential consequence

Expired or insufficiently prepared lifesaving equipment increases the likelihood of equipment failure in the event of an abandon ship or rescue situation. This raises the possibility for loss of life.

Radio installations

Radio Installation section **does not apply** as the vessel is less than 300GT and not on international trade. However, an A3 area of operation (MF radio range) certificate has been issued. Equipment is not as per SOLAS VI as follows:

1. No weekly or monthly tests recorded of equipment
2. No ITU publications noted on board
3. No DSC equipment fitted
4. MF fitted (ICOM IC 78) is not that stated on certificate
5. MF/HF watch receiver not seen on board

<300GT

In accordance with the Cook Islands Ship Registration Act 2007 and with the Radio Regulations annexed to the International Telecommunication Convention now in force, the authorization is herewith issued for the installation and for the use of the radio equipment described below
Issued under the provisions of the Cook Islands Ship Registration Act 2007
Under the authority of the Government of
COOK ISLANDS
By THE REGISTRAR OF SHIPS

Ship Particulars

Name of Ship	IMO Number	Call Sign	Gross Tonnage	MMSI No.
Lady Meana	8730900	E5U2087	163.00	518137000

Area(s)	A3
EPIRB Hex ID	COOE4F36800022D
INMARSAT (C) No.(s)	N/A
Dedicated LRIT Terminal No.	N/A
Licensee	20174292

Equipment	Make of Model
MF/HF Transceiver	ICOM IC-M710 Serial no: 03435
MF/HF Watch Reciever	Furuno SSB FS-1503 Serial no: 3513-5483
Portable Radio Apparatus	ICOM IC-GM 1600 (VHF)
VHF/DSC Radiotelephone Stations	Motorola - Triton M200

This Certificate is valid until **10 November 2023** (unless previously cancelled or revoked), subject to annual surveys.

ISSUED AT: Rarotonga, Cook Islands
(Place of issue of certificate)
DATE OF ISSUE: 6 April 2019
SIGNED:
(Signature of authorized official)
Stacey Mischeski

Deputy Registrar
Official Seal
Cook Islands

Figure 33 MCI issued Radio certificate pictured.

Potential consequence

Although the IACS standard does not specify carriage requirements it is clear the equipment on board is not properly tested and crew are not familiar with its use. This would inhibit them making best use of it in an emergency situation.

Navigational equipment

The IACS recommendation states that the requirements as specified in SOLAS 1974, as amended, Chapter V, as applicable based on ship's size, should be complied with unless the Flag Administration specifies otherwise.

Based on the ***Lady Moana*** GRT of 163 tons the following are noted:

- No pelorus or compass bearing device
- Charts in very poor condition, not the latest edition and not corrected.

Figure 34 Charts in poor condition and not current.

- Nautical publications not carried /up to date for tides/ radio and lights
- Communication to steering position not working
- No spare magnetic compass found.
- No daylight signalling lamp found.
- Bridge Navigational Watch and Alarm System not fitted

Potential consequence

Lack of passage planning and mandatory navigational equipment significantly raises the likelihood of grounding or other navigational incident.

Prevention of Collisions

The IACS Recommendation states that the Convention on International Regulations for Preventing Collisions at Sea (COLREG 1972) as amended, should be complied with.

The following are noted:

1. Most navigation lights were not working (one connection smouldering on port side light).
2. No daytime signal shapes found on board.
3. No ship's bell found on board.

Potential consequence

If the vessel does comply with the collision regulations, it is unable to display its intentions / actions. This may result in a collision with another vessel. It should also be noted that the crew operating the vessel are generally not certified and as such may not be familiar with all collision regulations.

This is a significant risk.

Crew certification

This is not covered in the IACS recommendation.

1. Master's Certificate of Competency expired 2014 (only copy on board)
2. Chief Engineer's licence could not be produced
3. No flag state endorsements for any officers provided
4. Nobody else on board had a licence
5. Bridge and engine watches being kept by unlicensed persons

Potential consequence

Crew not having formal certification and meeting an accepted, assessed standard significantly raises the likelihood of incident. It is also likely that any insurance provided to the vessel would be invalid given a human error incident.

Summary

The inspection report concludes that the ship does not meet the IACS recommendation set as the benchmark by the administration.

There are significant areas of concern; these are:

1) **Oversight and survey undertaken by MCI (Maritime Cook Islands)**

From the inspection it is evident that the vessel has numerous deficiencies in almost all sections of the IACS recommendation. The survey system, currently overseen by MCI and designed to ensure vessels maintain accepted standards, is not working its current form.

2) **Navigational equipment / certification of crew**

The vessel is being run on the very basic, bare minimum of navigational equipment and does not meet the minimum mandatory requirements under the SOLAS Convention. It is possible the vessel could be involved in a navigational incident. Lack of suitably trained and qualified crew on board is a genuine concern.

3) **Fire safety**

The level of risk on board is high. Irregular maintenance of fire doors and dampers will prevent isolation and/or spread of the fire. This combined with a lack of fire detection and unreliable emergency fire pump significantly raises the chance of a fire getting out of control.

4) **Structural safety**

The hatch cover is not sealing and a number of hatches and vents are in poor condition. These should be assessed further and action taken if necessary to remedy.

5) **Stability**

The stability booklet provided for the vessel is from 2003. The booklet is produced on the basis of the vessel being used as a fishing boat.

This has not been the case for a number of years. The loading conditions are those for fishing.

MV Grinna II

Figure 35 ***MV Grinna II***

IMO 7719856

Type Cargo vessel

Trade Inter-island trade in Cook Islands

LOA 33.30

GRT 283

PAX The vessel on occasion carries passengers when issued a licence to do so by the Cook Islands Administration. This is done in discussion with the surveyor, MCI.

Load line rules

Under the IMO IACS recommendations, the IMO Load Line Regulations apply to this vessel.

Figure 36 Cargo hatch securing dogs are not used by crew (rectified in inspection).

Figure 37 Aft hatch to steering gear not sealing – note this also has access to engine room which is typically not secured. Flooding into this space could also flood engine room.

Potential consequence

Unsecured hatches present an opportunity for water ingress in rough seas. Flooding of the cargo space or engine/steering rooms is a significant risk and could potentially result in loss of the vessel.

Stability

The IACS recommendations state that the 2008 Intact Stability Code (IMO Resolution MSC.267(85)) applies to this vessel as it exceeds 24m in length. As such the following is noted:

- The master had not seen a stability booklet on board. Loading a vessel without reference to a stability booklet is not in compliance with accepted procedure.

Potential consequence

Miscalculation in loading or ballasting is more likely without reference to a stability book. This is a significant risk that could also result in the loss of the vessel.

Fire-fighting

The following issues were noted:

Figure 38 Fire detection system – main panel and engine room detector head.

The fire detection system was showing fault for all accommodation areas and a test of the engine room space could not activate the alarm in that space. System likely completely non-functional at this time.

	radiotelephone apparatus	-------
11.	Fixed Fire Fighting Systems	
11.1	Fixed fire fighting system in machinery spaces (ref. II-2/10.5)	**Provided**
11.2	Fixed fire fighting system in control stations, accommodation and service spaces (ref. II-2/10.6)	**Provided**
11.3	Fixed fire fighting system in spaces containing flammable liquids (ref. II-2/10.6.3)	-------
11.4	Fixed fire fighting system in cargo spaces - General cargo (ref. II-2/10.7.1)	**Provided**
11.5	Fixed fire fighting system in cargo spaces – Dangerous goods (ref. II-2/10.7.2)	-------
11.6	Fixed fire fighting system in cargo tank (ref. II-2/10.8)	-------
11.7	Fixed fire fighting system in cargo pump-rooms in tanker (ref. II-2/10.9)	-------

Figure 39 Fire Suppression System and Safety Equipment Certificate.

Vessel is fitted with an “INERGEN” fire suppression system that seems to be in working order however it should be noted that this system only covers the ship’s engine room. The Safety Construction Certificate issued by MCI states this extends to the cargo hold. From discussion, the vessel carries dangerous goods in the hold which would be a significant risk without a fixed suppression system.

Figure 40 Emergency fire pump.

Pump could not be made to work when requested. Also, strainer required for intake was missing.

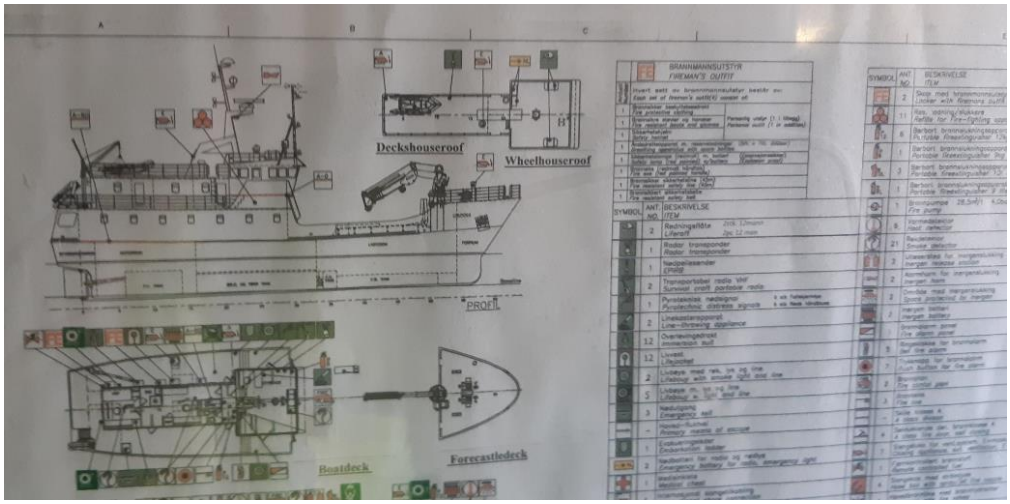


Figure 41 Fire control plan.

Fire control plan shows all equipment that was provided on delivery of the vessel when it was SOLAS compliant and does not accurately reflect current condition. This has not been stamped as approved by MCI.

Figure 42 Extinguishers.

No evidence to show annual tests of the extinguishers has been done. Extinguisher shows last test done in 2016.

Potential consequence

Poorly maintained or non-functional fire-fighting equipment raises the likelihood a small fire will become a large one. Lack of an approved fire control plan means crew are unsure what is required by the flag state and therefore what must be maintained and kept on board.

Lifesaving

The following issues were noted:

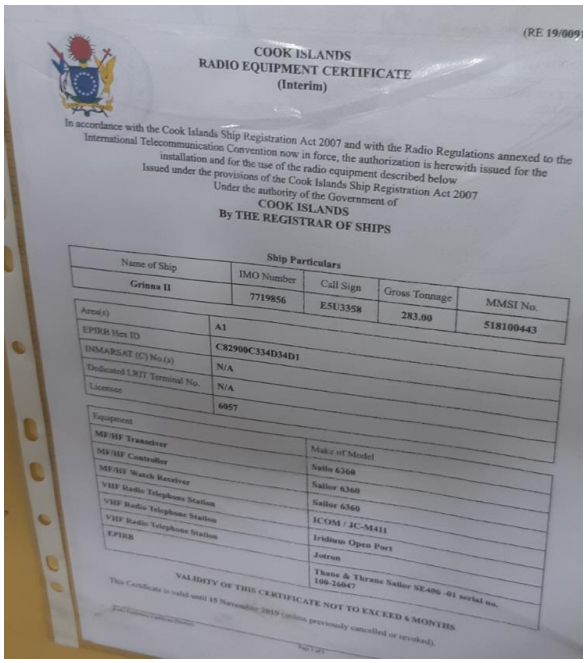
Figure 43 EPIRB Battery and release unit expired.

Figure 44 Rescue boat.

Rescue boat was noted to be in partially deflated condition. This would not be ready for immediate use in an emergency. Overall condition of the boat was poor and retro reflective tape needs to be replaced.

Radio installations

Radio installation section **does not apply** as the vessel is less than 300GT and not on international trade. However, it is worth noting that MCI issued a radio equipment certificate stating vessel is to operate in area A1 only. This is VHF range and the vessel operates outside of this range.



COOK ISLANDS
RADIO EQUIPMENT CERTIFICATE
(Interim)

In accordance with the Cook Islands Ship Registration Act 2007 and with the Radio Regulations annexed to the International Telecommunication Convention now in force, the authorization is herewith issued for the installation and for the use of the radio equipment described below
Issued under the provisions of the Cook Islands Ship Registration Act 2007
Under the authority of the Government of
COOK ISLANDS
By THE REGISTRAR OF SHIPS

Ship Particulars

Name of Ship	IMO Number	Call Sign	Gross Tonnage	MMSI No.
Grinna II	7719856	E5U3358	283.00	518100443

Area(s)	A1
EPIRB Hex ID	C82900C334D34D1
INMARSAT (C) No.(s)	N/A
Dedicated LRIT Terminal No.	N/A
Licensee	6957

Equipment	Make of Model
MF/HF Transceiver	Sailo 6360
MF/HF Controller	Sailor 6360
MF/HF Watch Receiver	Sailor 6360
VHF Radio Telephone Station	JCOM / JC-M411
VHF Radio Telephone Station	Iridium Open Port
EPIRB	Jotron
	Thane & Thrane Sailor SE406 -01 serial no. 100-26047

VALIDITY OF THIS CERTIFICATE NOT TO EXCEED 6 MONTHS

This Certificate is valid until 15 November 2019 (unless previously cancelled or revoked).

Figure 45 Radio equipment certificate.

Navigational equipment

The IACS recommendation states that the requirements as specified in SOLAS 1974, as amended, Chapter V, as applicable based on ship's size, should be complied with unless the flag administration specifies otherwise.

Based on the ***Grinna II*** GRT of 283 tons the following is noted:

- Charts on board are uncorrected and not used regularly for position fixing on voyage. No passage plan found on board. An unapproved electronic cart system is provided on board (CMAP) - this is not to be used for navigation.
- Nautical publications (light lists/ radio lists and tide tables) out of date.

Prevention of Collisions

No items of note in this section.

Crew certification

This is not covered in the IACS recommendation. However, the following is noted:

- Master's Certificate of Competency (CoC) holds II/I without command endorsement (Operational Level) II/III required

- Chief Mate holds II/4 certificate. II/III required
- Chief Engineer's licence could not be produced, confirmed as likely expired
- No flag state endorsements for any officers provided
- No other crew on board hold an STCW licence
- Vessel does not meet the minimum safe manning document as issued by MCI
- Bridge and engine watches being kept by unlicensed persons

Note: Vessel is regularly being used for the carriage of passengers. It is not certified or surveyed for the carriage of passengers being previously used for survey not passenger work.

Potential consequence

Crew not having formal certification and meeting an accepted, assessed standard significantly raises the likelihood of incident. It is also likely that any insurance provided to the vessel would be invalid given a human error incident.

Additional Items noted

SOLAS / MARPOL additional requirements not specifically in IACS recommendation worthy of note:

1. No material data safety sheet (MSDS) information found for fuels/cargoes (SOLAS VI Reg 5-1)
2. No record of steering gear tests (SOLAS V)
3. No emergency towing booklet (SOLAS II-I Reg 3.4.2)
4. Emergency generator in focsle space not operable
5. No emergency steering instructions in the steering gear space
6. Sewage system bypass in place from lower deck bathrooms that bypasses holding tank to discharge directly overboard
7. Drills not completed as required for boat/fire and enclosed space entry (SOLAS III Reg 19)

Figure 46 Sewage holding tank bypass for lower decks.

Summary

The inspection report concludes that the ship does not meet the IACS recommendation set as the benchmark by the administration.

There are significant areas of concern; these are:

1) **Oversight and survey undertaken by MCI (Maritime Cook Islands)**

From the inspection, it is evident that the vessel has deficiencies and issues in many areas of the IACS recommendations. The vessel has just come under Cook Islands' flag and is at the moment issued short term certification. It is recommended the Cook Islands administration monitor the issuance of full-term certificates to the vessel later in 2019.

2) **Navigational equipment / certification of crew**

The vessel is being run on the very basic, bare minimum of navigational equipment and does not meet the minimum mandatory requirements under the SOLAS convention. It is possible the vessel could be involved in a navigational incident. Lack of suitably trained and qualified crew on board is a genuine concern.

3) **Fire safety**

The level of risk on board is higher than necessary with the failure of the fire detection system. This combined with an unreliable emergency fire pump significantly raises the chance of a fire getting out of control.

Carriage of dangerous cargos must be reviewed given the lack of fire suppression in the holds.

4) **Stability**

The IACS recommendations state that the 2008 Intact Stability Code (IMO Resolution MSC.267(85)) applies to this vessel as it exceeds 24m in length. As such the following is noted:

The master had not seen a stability booklet on board. Loading a vessel without reference to a stability booklet is not in compliance with accepted procedure