

# **MAINTENANCE AND INSPECTION PLAN FOR FIRE FIGHTING SYSTEM AND APPLIANCES**

**SS177**

**M. V. LENA B**

**TSUNEISHI SHIPBUILDING CO., LTD.**

**DELIVERED 2017/JANUARY**

## INTRODUCTION

As a result of a comprehensive review of SOLAS chapter II-2 (fire protection, fire detection and fire extinction) which has been taking place in the fire protection sub-committee of IMO since 1994, it was eventually finalized and the new SOLAS chapter II-2 adopted at IMO MSC73 (73rd Marine Safety Committee) in Dec. 2000, effective on July 2002, in which newly defined "Maintenance Plan for Fire Protection System and Appliances" becomes a mandatory requirement onboard, as required by Regulation 14.

### 1. Operational Readiness

All fire protection system and appliances should at all times be in good order and available for immediate use while the ship in service. If a fire protection system is under repair, then suitable arrangement should be made to ensure safety would not be diminished.

### 2. Maintenance, Test and Inspection

In order to conduct the maintenance works surely, it is important to draw up a planning for maintenance by specifying the items and dates, based on which the works shall be carried out.

- 1) To be marked as "○" maintenance month
- 2) To be marked as "●" after completed plan of the work and filled in working date
- 3) To be marked as "△" if change maintenance month
- 4) To be marked as "▲" after completed changed plan of the work and filled in working date

### 1. Weekly Testing and Inspection for Fire Detecting and Alarm System

### 1.1.Fire Detector

Refer to the finished plan.

[illegible]

## 1.2. Public Address System and General Alarm

Refer to the finished plan.

[illegible]

## 2. Weekly Testing and Inspection for Breathing Apparatus Cylinder for Fireman' s Outfitt.

Refer to TRAINING MANUAL FOR FIRE FIGHTING

[illegible]

### 3. Testing and Inspection for Fire Detecting and Alarm System

#### 3.1. Fire Detector

Refer to the finished plan.

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Fire Detector	Operating Test	Weekly	Please see weekly test and inspection for Fire Detector: 1.1											
Fire Alarm Panel	Fire Alarm Test	1 year												
	Function Test for Emergency Power Operation	1 year												
	Trouble Function Test	1 year												
Details of non-conformities								Target Date		Completion	Remarks			

3.2.Public Address System and General Alarm

Refer to the finished plan.

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Public Address System	Function Test for Emergency & Alarm Broadcasting	Weekly	Please see weekly test and inspection for Public Address System and General Alarm: 2.1											
General Alarm	Function Test													
Details of non-conformities					Target Date		Completion		Remarks					

#### 4. Testing and Inspection for Fire Hydrant etc.

##### 4.1. Fire Hydrant

Refer to Fire Control Plan

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
On Upper Deck	Proper Condition	Monthly												
	Proper Inventory	3 months												
	Tested Operation	1 year												
In Accommodation	Proper Condition	Monthly												
	Proper Inventory	3 months												
	Tested Operation	1 year												
In Engine room	Proper Condition	Monthly												
	Proper Inventory	3 months												
	Tested Operation	1 year												
In Bos' n Store	Proper Condition	Monthly												
	Proper Inventory	3 months												
	Tested Operation	1 year												
In Steer. Gear Room	Proper Condition	Monthly												
	Proper Inventory	3 months												
	Tested Operation	1 year												
Details of non-conformities								Target Date		Completion		Remarks		



#### 4.2.Fire Hose, Nozzle and International Shore Connection

Refer to Fire Control Plan

[illegible]

[illegible]

### 5.1.CO2 Fire Extinguishing System

<hr/>	

[illegible]

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
All CO2 cylinders	All CO2 cylinders shall be hydrostatically tested before 20 years from the date of manufacture and the pressure test shall then be completed every 10 years thereafter. Any percentage of CO2 bottles can be hydrostatically tested at any interval of time but all (100%) shall be hydrostatically pressure tested no later than the datelines already established.	20years												
Details of non-conformities							Target Date		Completion		Remarks			

Refer to Fire Control Plan

[illegible]

[illegible]

## 6. Testing and Inspection for Ventilator

### 6.1. Ventilator for Accommodation and Engine Room

Refer to Fire Control Plan

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Bearing for Fan	Check Noise, Temp.	Monthly												
	Grease Up	6 months												
	Change Bearing	5 years												
Details of non-conformities								Target Date		Completion	Remarks			

6.2.Fire Damper and Fire Door  
Refer to Fire Control Plan

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Fire Damper	Check Local Operation	3 months												
	Check Remote Operation	1 year												
Fire Door	Check Local Operation 3 months													
Details of non-conformities							Target Date		Completion		Remarks			



## 7. Testing and Inspection for Emergency Generator

Refer to Fire Control Plan

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Operation	Operation Test	Monthly												
Valve	Check Clearance	600 hrs												
Fuel Strainer	Cleaning	400 hrs												
Fuel Filter Elements	Replacement	1,000 hrs												
V-Belt	Check Belt Tension	400 hrs												
Air Cleaner	Cleaning	400 hrs												
Coolant	Replacement	2 years												
L.O.	Check Level	Monthly												
Turbocharger	Check Condition	3,000 hrs												
Nozzle	Replacement	5,000 hrs												
Overhaul	–	5 years												
L.O. Low Pressure	Alarm Test	1 year												
L.O. High Temp.														
C.W. Low Pressure														
C.W. High Temp.														
Injection Pipe Leakage														
Details of non-conformities							Target Date		Completion		Remarks			

8. Testing and Inspection for Fire Pump

8.1. Emergency Fire Pump

Refer to Fire Control Plan

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Pump	Check Operation	Monthly												
	Test for proper Press. and Water Flow	1 year												
Grand packing	Check Condition	3 months												
Details of non-conformities							Target Date		Completion		Remarks			

## 8.2. Fire & G. S. Pump

Refer to Fire Control Plan

[illegible]

### 8.3. Fire & Bilge Pump

Refer to Fire Control Plan

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Pump	Check Operation	Monthly												
	Test for proper Press. and Water Flow	1 year												
Grand packing	Check Condition	3 months												
Details of non-conformities							Target Date		Completion		Remarks			

## 9. Testing and Inspection for Portable Fire Extinguisher

Refer to Training Manual for Fire Fighting

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
9L FOAM	Proper Arrange	Monthly												
	Proper Condition	Monthly												
	Validity(Incl. Spare)	1 year												
6.0 kg Dry Powder	Proper Arrange	Monthly												
	Proper Condition	Monthly												
	Validity(Incl. Spare)	1 year												
25 kg Dry Powder (Semi-Portable)	Proper Arrange	Monthly												
	Proper Condition	Monthly												
	Validity(Incl. Spare)	1 year												
50 kg Dry Powder (Fixed Type)	Proper Arrange	Monthly												
	Proper Condition	Monthly												
	Validity(Incl. Spare)	1 year												
Portable Foam Applicator Unit with 20 L Spare	Proper Arrange	Monthly												
	Proper Condition	Monthly												
	Validity(Incl. Spare)	1 year												

[illegible]

## 10. Testing and Inspection for Fireman' s Outfit

Refer to Training Manual for Fire Fighting

[illegible]

[illegible]



# 11. Testing and Inspection for Emergency Escape Breathing Device

Refer to Training Manual for Fire Fighting

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Emergency Escape Breathing Device	Proper Arrange	Monthly												
Air Bottle	Proper Condition	Monthly												
	Check Press. Reducing Valve	1 year												
Hood and Tube	Proper Condition	1year												
	Check Strap	1 year												
Details of non-conformities								Target Date		Completion	Remarks			

## 12. Testing and Inspection for Emergency shut down of fuel supply

Refer to Training Manual for Fire Fighting

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Remote shut off	Function Test	Weekly												
Details of non-conformities							Target Date		Completion		Remarks			

13. Testing and Inspection for Fire doors  
Refer to Fire Control Plan

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Door	Close correctly	Weekly												
Details of non-conformities								Target Date		Completion		Remarks		

#### 14. Testing and Inspection for Hydro Carbon Detector

Item	Testing, Inspection Items	Interval	Schedule and Records of Testing, Inspections and Maintenance											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Battery	Check Voltage	Monthly												
Detector Casing	Proper Condition	Monthly												
Meter Glass	Check No Fracture	Monthly												
Indicator	Adjust Zero Point	Monthly												
Span Adjust	Confirm with Proof Gas	3 months												
	Measuring Range (%LEL)	3 months												
	Measuring Range (Vol. %)	3 months												
Details of non-conformities								Target Date		Completion	Remarks			