MAINTENANCE AND INSPECTION PLAN FOR FIRE FIGHTING SYSTEM AND APPLIANCES

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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 "O" maintenance month
- 2) To be marked as "●" after completed plan of the work and filled in working date
- 3) To be marked as " Δ " 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.

Testing, Inspection Item	Schedule	and Rec	ords of	Testin	g, Insp	ections and	Mainte	enance						
	Jan.			Feb.			Mar.					Apr.		
Functioning Properly														
	May			June			July					Aug.		.1
	Sep.			Oct.			Nov.					Dec.		.1
Details of non-conformit	ies		I				Targe	t Date	Compl	etion	Rema	rks		

1.2. Public Address System and General Alarm Refer to the finished plan.

Testing, Inspection Item			ords of	Testir	ng, Ir	nspect	ions and	Mainte	nance							
	Jan.			Feb.				Mar.					Apr.			
Functioning Properly																
	May	1	l	June	I	1	l	July		I	I		Aug.		I	
	Sep.	1	1	Oct.			l l	Nov.		l	l		Dec.		I	
Details of non-conformit	ies	1	l	ı	I	1	l	Target	t Date	Comp I	etion	Rema	rks		I	

2. Weekly Testing and Inspection for Breathing Apparatus Cylinder for Fireman's Outfitt. Refer to TRAINING MANUAL FOR FIRE FIGHTING

Testing, Inspection Item					ng. Ir	nspecti	ons and I	Mainte	nance						
, and the second	Jan.			Feb.	-0,			Mar.					Apr.		
No Leakage															
	May			June				July					Aug.		
	Sep.	<u> </u>	<u> </u>	Oct.			<u> </u>	Nov.					Dec.		1
Details of non-conformiti	es	1	1		1	'	1	Target	Date	Comp I	etion	Rema	rks		

3. Testing and Inspection for Fire Detecting and Alarm System

3.1. Fire Detector

Refer to the finished plan.

Item	Testing,	Inspection	Interval	Sched	lule ar	nd Rec	ords o	f Test	ting,	Inspec	tions	and Ma	inten	ance	
	Items			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Fire Detector	Operating Te	st	Weekly								or Fir		ector	1.1	
Fire Alarm Panel	Fire Alarm T	est	1 year												
	Function Test 1		1 year												
	Emergency Power		-												
	Trouble Func	tion Test	1 year												
Details of non-conform	nities							Target	Date	Compl	etion	Remar	ks		

3.2. Public Address System and General Alarm Refer to the finished plan.

Item	Testing, Inspection Items	Interval	Schedule and Records of Jan. Feb. Mar. Apr.			and Maintenance Sep. Oct. Nov. Dec.
Public Address System General Alarm	Function Test for Emergency & Alarm Broadcasting Function Test	Weekly				olic Address System and
Details of non-conform				Target Date	Completion	Remarks
Security of Hell conform					- Compression	Tromar no

4. Testing and Inspection for Fire Hydrant etc.

4.1.Fire Hydrant

Refer to Fire Control Plan

Item	Testing, Inspection	Interval	Sched	lu le a	nd Rec	ords d	of Tes	ting,	Inspec	tions	and M	ainten	ance	
	Items		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-confor	mities						Target	Date	Comple	tion	Rema	rks		

4.2. Fire Hose, Nozzle and International Shore Connection Refer to Fire Control Plan

Item	Testing, Inspection Items	Interval	Sched	dule ar	nd Rec	ords o	of Test	ting,	Inspec	tions	and Ma	ainten	ance	
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
50mm x 20m Hose	Proper Condition	Monthly												
(Deck)	Proper Arrangement	Monthly												
	Proper Inventory	3 months												
	Hydrostatic Test	1 year												
50mm x 15m Hose	Proper Condition	Monthly												
(E/R)	Proper Arrangement	Monthly												
	Proper Inventory	3 months												
	Hydrostatic Test	1 year												
40mm x 20m Hose	Proper Condition	Monthly												
(Accommodation)	Proper Arrangement	Monthly												
	Proper Inventory	3 months												
	Hydrostatic Test	1 year												
19mm Nozzle	Proper Condition	Monthly												
:Fog/Jet/Shut	Proper Arrangement	Monthly												
(Deck & E/R)	Proper Inventory	3 months												
	Hydrostatic Test	1 year												
12mm Nozzle	Proper Condition	Monthly												
:Fog/Jet/Shut	Proper Arrangement	Monthly												
(Accommodation)	Proper Inventory	3 months												
	Hydrostatic Test	1 year												
International	Proper	3 months												
Shore Connection	Condition(according to the SPEC.OF FSS Code)													
	Proper Arrangement	3 months												

Details of non-conformities	Target Date	Completion	Remarks

Testing and Inspection for Fixed Fire Extinguishing System
 1.CO2 Fire Extinguishing System
 Refer to the finished plan.

Item	Testing, Inspection Items	Interval	Sched	lule a	nd Rec	ords	of Tes	ting,	Insped	ctions	and I	Mainte	nance	
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
All piping and	Inspection for mechanical breakage.	Monthly												
Stop valve	Closed Position Properly	Monthly												
Born Valve	Inspection for mechanical damage	Monthly												
All CO2 bottle connections	All CO2 bottle connections for cable operating system clips shall be checked for tightness on fixed fire-extinguishing installations.	Quaterly												
Control Valve	Inspection	1 year												
CO2 fixed system	CO2 fixed system shall be verified	2 years												
Piping Line	The air blow test shall be carried out by "a servece agent or facility."	2 years												
Mediam in CO2 bottle	The quantity of the medium in the CO2 bottles shall be checked once every 4 years. This may be carried out in batches of 25 % of the CO2 bottles annually, or 50 % of the bottles biennially or in accordance with the ship's maintenance so long as every CO2 bottle is checked once every													

Item	Testing, Inspection Items	Interval	Sched	lule a	nd Rec	cords	of Tes	ting,	Insped	ctions	and N	lainte	nance	
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
All CO2 cylinders	All CO2 cylinders shall be hydrostatically tested bofore 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 r	non-conformities						Target	Date	Comp I	etion	Remar	ks		

5.2. Sprinkler for Paint Store and Local Fire Extinguishing System Refer to Fire Control Plan

Item	Testing, Inspection	Interval	Sched	dule a	nd Rec	ords c	of Tes	ting,	Inspec	tions	and Ma	ainten	ance	
	Items		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Discharge Valve	Closed Position	Monthly												
For Paint Store	Properly													
Piping Line	Air Blow Test	1 year												
For Paint Store														
Discharge Valve	Closed Position	Monthly												
for Purifier Space	Properly													
Piping Line	Air Blow Test	1 year												
for Purifier Space														
Discharge Valve	Closed Position	Monthly												
for Boiler Space	Properly													
Piping Line	Air Blow Test	1 year												
for Boiler Space														
Discharge Valve	Closed Position	Monthly												
for Incinerator Space	Properly													
Piping Line	Air Blow Test	1 year												
for Incinerator Space														
Discharge Valve	Closed Position	Monthly												
for M/E Space	Properly													
Piping Line	Air Blow Test	1 year												
for M/E Space														
Discharge Valve	Closed Position	Monthly												
for G/E Space	Properly													
Piping Line	Air Blow Test	1 year												
for G/E Space														

Details of non-conformities	Target Date	Completion	Remarks

6. Testing and Inspection for Ventilator

6.1. Ventilator for Accommodation and Engine Room Refer to Fire Control Plan

Item	Testing,	Inspection	Interval	Sched	dule a	nd Rec	ords c	of Test	ting,	Inspec	tions	and Ma	ainten	ance	
	Items			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Bearing for Fan	Check Noise	, Temp.	Monthly												
	Grease Up		6 months												
	Change Bear	ing	5 years												
Details of non-conform	mities							Target	Date	Comp I	etion	Remar	'ks		

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

Item	Testing, I	nspection	Interval	Sched	dule a	nd Rec	ords c	of Test	ting,	Inspec	tions	and Ma	ainten	ance	
	Items			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Fire Damper	Check Local Op	peration	3 months												
	Check Remote Ope	eration	1 year												
Fire Door	Check Local 0	peration	3 months	•		•			•		•		•		
Details of non-cont	formities							Target	Date	Comp I	etion	Remai	ks		,
															,

7. Testing and Inspection for Emergency Generator Refer to Fire Control Plan

Item	Testing, Inspection	Interval	Sche	dule a	nd Rec	ords	of Tes	ting,	Inspec	tions	and Ma	ainten	ance	
	Items		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. 0.	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-conform	nities						Target	Date	Comple	tion	Remar	rks		

8. Testing and Inspection for Fire Pump

8.1. Emergency Fire Pump

Refer to Fire Control Plan

Item	Testing,	Inspection	Interval	Sched	lule a	nd Rec	ords (of Tes	ting,	Inspec	tions	and Ma	ainten	ance	
	Items			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Pump	Check Ope	ration	Monthly												
	Test for p	roper Press.	1 year												
	and Water	Flow													
Grand packing	Check Con	dition	3 months												
Details of non-conform	nities							Target	Date	Comp I	etion	Remar	ks		

8.2. Fire & G. S. Pump Refer to Fire Control Plan

Item	Testing, Inspection	Interval	Sched	dule a	nd Rec	ords o	of Tes	ting,	Inspec	tions	and Ma	ainten	ance	
	Items		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Pump	Check Operation	Monthly												
	Test for proper Press.	1 year												
	and Water Flow													
Grand packing	Check Condition	3 months												
Details of non-conform	mities						Target	Date	Comp I	etion	Remai	rks		

8.3. Fire & Bilge Pump Refer to Fire Control Plan

Item	Testing,	Inspection	Interval	Sched	dule a	nd Rec	ords	of Test	ting,	Inspec	tions	and Ma	ainten	ance	
	Items			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Pump	Check Op	eration	Monthly												
	Test for and Wate	proper Press. r Flow	1 year												
Grand packing	Check Co	ndition	3 months												
Details of non-confor	mities			1			•	Target	Date	Comp I	etion	Remai	rks		

9. Testing and Inspection for Portable Fire Extinguisher Refer to Training Manual for Fire Fighting

Item	Testing, Inspection	Interval	Sched	dule a	nd Rec	ords	of Test	ting,	Inspec	tions	and Ma	ainten	ance	
	Items		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	Proper Arrange	Monthly												
(Semi-Portable)	Proper Condition	Monthly												
	Validity(Incl. Spare)	1 year												
50 kg Dry Powder	Proper Arrange	Monthly												
(Fixed Type)	Proper Condition	Monthly												
	Validity(Incl. Spare)	1 year												
Portable Foam Applicator	Proper Arrange	Monthly												
Unit with 20 L Spare	Proper Condition	Monthly												
	Validity(Incl. Spare)	1 year												
					-									
														·

Details of non-conformities	Target Date	Completion	Remarks

10. Testing and Inspection for Fireman's Outfit Refer to Training Manual for Fire Fighting

Item	Testing, Inspection Items	Interval	Sched	lu le a	nd Rec	ords	of Tes	ting,	Inspec	tions	and Ma	ainten	ance	
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Locker for	Proper inventory	3 months												
Fire- Fighting	Proper condition	3 months												
Equipment														
Breathing	No Leakage	Weekly												
Apparatus	from Air Cylinder													
	Proper Condition	Monthly												
	Proper Arrange	Monthly												
	Check Press. Reducing	1 year												
	Valve													
	Check Seal for Face Mask	1year												
	Check Low Press. Alarm	1 year												
	Hydrostatic Test	5 years												
Protective	Proper Condition	Monthly												
Clothing	Proper Arrange	Monthly												
Boots	Proper Condition	Monthly												
	Proper Arrange	Monthly												
Gloves	Proper Condition	Monthly												
	Proper Arrange	Monthly												
Helmet	Proper Condition	Monthly												
	Proper Arrange	Monthly												
Safety Lamp	Proper Condition	Monthly												
	Proper Arrange	Monthly												
	Replace Battery	1 year												

Life Line	Proper Condition	Monthly												
	Proper Arrange	Monthly												
Item	Testing, Inspection Items	Interval	Sched	l dule a	nd Rec	ords o	f Test	l ting,	l Inspec	tions	and M	 ainten	ance	
			Jan.	Feb.	Mar.	Apr.	May	June		Aug.	Sep.	Oct.	Nov.	Dec.
Fire Axe	Proper Condition	Monthly												
	Proper Arrange	Monthly												
Details of non	-conformities	1			1	•	Target	Date	Comple	tion	Rema	rks	•	•

11. Testing and Inspection for Emergency Escape Breathing Device Refer to Training Manual for Fire Fighting

Item	Testing, Inspection	Interval	Sched	dule a	nd Rec	ords o	of Tes	ting,	Inspec	tions	and Ma	ainten	ance	
	Items		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Emergency Escape	Proper Arrange	Monthly												
Breathing Device														
Air Bottle	Proper Condition	Monthly												
	Check Press. Reducing	1 year												
	Valve													
Hood and Tube	Proper Condition	1year												
	Check Strap	1 year												
Details of non-confo	ormities						Target	Date	Comp I	etion	Remai	rks		
							1							
							-							

12. Testing and Inspection for Emergency shut down of fuel supply Refer to Training Manual for Fire Fighting

Item	Testing, Inspection	Interval	Sche	dule a	nd Red	ords o	of Test	ting,	Inspec	tions	and Ma	ainten	ance	
	Items		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Remote shut off	Function Test	Weekly												
Details of non-cont	formition						Target	Date	Compil	etion	Domo	cko.		
Details of Hon-com	TOTHITLIES						Turgot		Collip i	etion	Nellia	NS.		
_														

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

Item	Testing, Inspection Items	Interval	Sche	dule a	nd Rec	ords	of Test	ting,	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	Comp I	Completion		Remarks			

14. Testing and Inspection for Hydro Carbon Detector

Item	Testing, Inspection Items	Interval	Sched	dule ar	nd Rec	ords d	of Test	ing,	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			etion	Remarks					