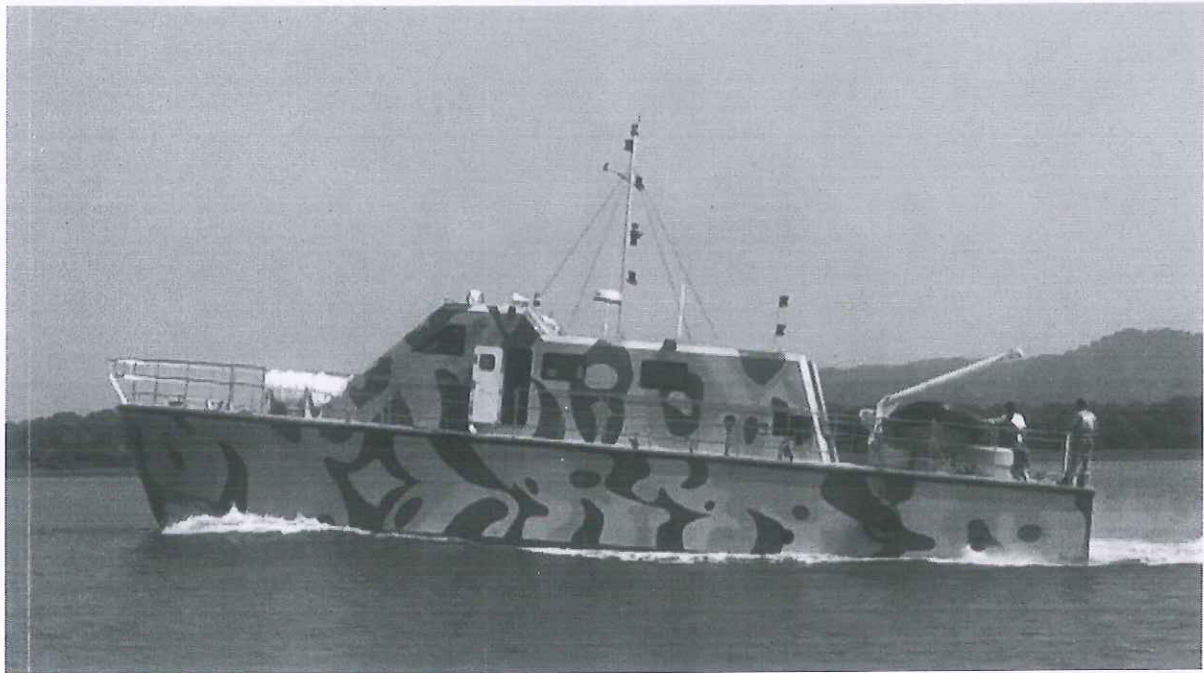


TRIALS PROTOCOL
20 MTR. MEDIUM CRAFT
YARD NO. - 261
Name of Ship: - GANGA



CLIENT- BORDER SECURITY FORCE (BSF)

SHM SHIPCARE

16-A, Press building, Ground floor,
1st Magazine Cross Street Darukhana,
Mazagaon, Mumbai 400010

SHM SHIPCARE**INDEX OF TRIALS : YARD NUMBER 261 (GANGA)****CLASSIFICATION SOCIETY : IRS****TPI : RINA****CLIENT : Border Security Force (New Delhi)**

Sr. No.	Description	Docket number	No. of Pages	Date of Survey
	DOCK TRIALS			
1.	Inspection of piping system	Y261/20M-BSF/DT/01	1	24/11/2020
2.	Trials of Main Switch board and Distribution Board	Y261/20M-BSF/DT/02	1	24/11/2020
3.	Trials of Bilge & Main Fire Pump	Y261/20M-BSF/DT/03	1	24/11/2020
4.	Emergency Lighting System	Y261/20M-BSF/DT/04	1	24/11/2020
5.	Trials of Navigation, Radio equipment & LSS appliances	Y261/20M-BSF/DT/05	1	26/11/2020
6.	Quick closing of Valves	Y261/20M-BSF/DT/06	1	24/11/2020
7.	Trials of Ventilation System	Y261/20M-BSF/DT/07	1	26/11/2020
8.	Anchor Trails	Y261/20M-BSF/DT/08	1	24/11/2020
9.	Main Engine safety alarm & Trips (P & S)	Y261/20M-BSF/DT/09	2	23/11/2020 / 24/11/2020
10.	Gearbox safety alarm & Trips (P & S)	Y261/20M-BSF/DT/10	1	23/11/2020
11.	Performance trials for DG	Y261/20M-BSF/DT/11	2	23/11/2020 / 24/11/2020
12.	Trials of complete AC system	Y261/20M-BSF/DT/12	1	26/11/2020
13.	Inspection & Trials of Galley equipment	Y261/20M-BSF/DT/13	1	26/11/2020
14.	Inspection of all Compartments	Y261/20M-BSF/DT/14	1	26/11/2020
15.	Trials of Davit	Y261/20M-BSF/DT/15	1	26/11/2020
16.	Fixed Fire Fighting and Detection System	Y261/20M-BSF/DT/16	1	24/11/2020
	SEA TRIALS			
1.	Trials of Engine control & Astern Trials	Y261/20M-BSF/ST/01	1	26/11/2020
2.	Endurance Trials	Y261/20M-BSF/ST/02	2	26/11/2020
3..	Emergency Steering Operation	Y261/20M-BSF/ST/03	1	26/11/2020
4.	Maneuvering trial	Y261/20M-BSF/ST/04	1	26/11/2020
5.	Speed Trial by GPS	Y261/20M-BSF/ST/05	1	26/11/2020
6.	Fuel consumption trials	Y261/20M-BSF/ST/06	1	26/11/2020
7.	Test & Trials of 4.2 M Rescue boat	Y261/20M-BSF/ST/06	1	24/11/2020

INSPECTION OF PIPING SYSTEMS**Purpose**

To ensure that pipelines are installed as per drawing and system is working satisfactory.
And to ensure that the piping systems are without leakage.

Description

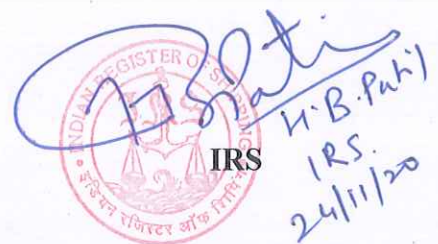
Schematic bilge & fire piping system
Schematic Fresh Water Domestic System
Schematic Black water/Grey water system
Air, Filling & Sounding pipe system
Sch. SW Cooling System
Schematic fuel oil system

Ref.:- Drawing No. SHM/259-264/201
Ref.:- Drawing No. SHM/256-264/202
Ref.:- Drawing No. SHM/260-264/203
Ref.:- Drawing No. SHM/256-264/204
Ref.:- Drawing No. SHM/259-264/205
Ref.:- Drawing No. SHM/256-264/206

Above mentioned piping systems operation test carried out and found satisfactory.

Result: Satisfactory

Date: 24/11/2020



TRIALS OF MAIN SWITCH BOARD AND DISTRIBUTION BOARD**Description**

There is one unit MSB located in the E/R. The generators supply power to MSB which provides power to various consumers via switch boxes and starting panels. Supply 415V AC, 230V AC, and 24V DC.

Ref: Drawing No. MEL-2292-01

Purpose of Test

This test is conducted to demonstrate the functional efficiency of electric power to the consumers.

To verify visually that each circuit breaker is rated to satisfy the connected load requirements.

Test Criteria

The SB's and starter panel must be installed in accordance with the installation drawings. Switch gear must not malfunction. Rating of circuit breakers must be to design specifications. Electric supply to SB's panel and consumers must be available when switch "ON" and not available when switch "OFF".

Procedure

Check electric power supply to switch boxes, panels and consumers by either switching "ON" the consumers.

Result: Satisfactory

Date: 24/11/2020



SHM Shipcare



TRIALS OF BILGE AND FIRE MAIN PUMP**Description**

The Bilge and fireman system consists of

1. Fire & GS Pump (Capacity- 750 LPM)
2. Electrical driven bilge pump (Capacity- 750 LPM)
3. Manual bilge pump (Capacity- 100 LPM)
4. Emergency Fire Pump -Diesel driven (Capacity- 25 m3)
5. Bilge Alarm

Schematic bilge piping system

Ref.:- Drawing No. SHM/259-264/201

Purpose

This test is carried out to check the operation of Bilge/fire system and to check the pump capacity provided is as per approved drawings and bilge alarm operation during emergency.

Bilge Pump Trials

Compartment	Result
Engine Room	Satisfactory
Steering compartment	Satisfactory
Crew compartment (1, 2 & 3)	Satisfactory

Bilge & Fire pump trials carried out by operating the pumps and check the flow of discharge is satisfactory.

Result: Satisfactory

Date: 23/11/2020



EMERGENCY LIGHTING TRIALS**Description:**

Emergency lighting/ Emergency lighting fittings etc. supplied from 24V DC distribution board shall be fitted to provide illumination to access ways, passage ways, in compartments as per approved class drawings.

Ref.:- Drawing No. SHM/256-264/010

Purpose of Test:

This test is conducted to check function test of each emergency lights, when ship supply of 230V AC & 415 V is cut off.

Criteria of Test

Emergency lighting 24V DC systems should switch on automatically when main supply fails

Procedure

1. Switch on power supply to emergency lighting system
2. Proceed to check each emergency light
3. Illumination should be sufficient

Compartment	Remarks
Engine Room	Satisfactory
Jet compartment	Satisfactory
Officer's & Crew cabin	Satisfactory
Wheel House	Satisfactory
AFT Deck	Satisfactory
Galley	Satisfactory

Battery charging facility and capacity of battery checked for emergency equipment.

Result: Satisfactory

Date: 24/11/2020


SHM Shipcare


IRS H.B. Pathi
24/11/20

TRIALS OF NAVIGATION, RADIO EQUIPMENT & LSS APPLIANCE**Description**

The Navigation Lights will be supplied with 24V DC Power Supply. The control of all navigation Lights is from the navigation panel installed in the Wheel House. All communication, Radio and LSS appliances are installed as per technical specification/ Class approved drawings.

Ref. Drawing: SHM/259-264/301

Purpose of Tests:

This is to check and verify that all Navigational, Communication, Radio, and LSS equipments are installed as per approved drawings and relevant operational/functional tests to be carried out for each equipment & appliances provided on board vessel.

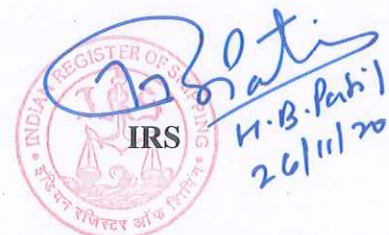
Criteria of Test

Each equipment & appliances provided on board should be operational.

Sr. No	Type	Quantity	Location	Performance
1.	Port Light	1	W/H TOP-Port	Satisfactory
2.	Stbd. Light	1	W/H Top-Stbd.	Satisfactory
3.	Mast Head Light	1	Mast	Satisfactory
4.	Stern Light	1	Aft Mast	Satisfactory
5.	NUC Light	2	Mast	Satisfactory
6.	Anchor Light	1	Mast	Satisfactory
7.	Towing Light	1	Aft Mast	Satisfactory
8.	CBD light	1	Mast	Satisfactory
9.	RAM Light	1	Mast	Satisfactory
10.	Search Light	2	W/H Top	Satisfactory
11.	Electric Horn	1	W/H Top	Satisfactory
12.	Echo Sounder	1	W/H Console	Satisfactory
13.	DGPS	1	W/H Console	Satisfactory
14.	Navigation Radar AIS	1	W/H Console	Satisfactory
15.	VHF	1	W/H Console	Satisfactory
16.	Engine Display	1	W/H Console	Satisfactory
17.	Magnetic compass	1	W/H Console	Satisfactory
18.	Anemometer	1	W/H Console	Satisfactory
19.	Wet/drybulb thermometer	1	Loose item	Satisfactory
20.	Barometer	1	Loose item	Satisfactory
21.	Loud Hailer (50 W)	1	Loose item	Satisfactory
22.	Police light/ siren	1	W/H Top	Satisfactory
23.	EPIRB	1	Main deck	Satisfactory
24.	SART	1	Main deck	Satisfactory
25.	Binocular	1	Loose item	Satisfactory

Result: Satisfactory

Date: 26/11/2020



QUICK CLOSING OF VALVES

Method of Test and Observations

Manual remote operation of Quick closing valve (2 Nos.) in fuel oil supply line to main engines and generator are checked for proper operation.

Result: Satisfactory

Date: 24/11/2020



TRIALS OF VENTILATION SYSTEM**Description**

Ventilation system is provided in the engine room in order to maintain the flow of air and to make the environment workable.

Ventilators are also provided in Galley and toilets.

Ref.:- Drawing No. SHM/256-264/015

Procedure

Switch on the supply fan and check for proper working of ventilation fans of engine room.

Engine Room Supply Fans

	(P) Supply Fan	(S) Supply Fan
Voltage	415V	415V
Insulation Resistance	Above 100 Ohms	Above 100 Ohms
KW	3	3
Running current	8 Amp	8 AMP

Result: Satisfactory

Date: 26/11/2020



SHM Shipcare

IRS
H.B. Paki
26/11/20

ANCHOR TRIALS

Purpose of Test

To check operation of anchor and chain cable arrangement on board the vessel.

Procedure

Release cable deck clench

Release windlass brake

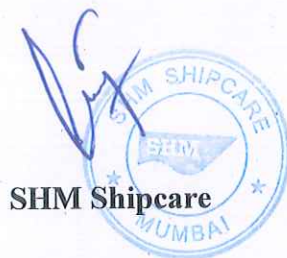
Lower anchor

Hoist anchor

Anchor windlass operational trial carried out.

Result: Satisfactory

Date: 24/11/2020



MAIN ENGINES ALARM AND TRIPS

MAKE: CAT32 ACERT

Purpose of safety Tests: Test is conducted to demonstrate safety of the main engine various alarms/trips as per OEM recommendation is checked.

Port Side SERIAL NO. RNY02808 (P)

SR	SAFETY ALARMS	Warning 1 st	Warning 2 nd	Shutdown
1	Low Lube Oil Pressure set value: Map Dependent Value by CATERPILLAR	102KPa-1200RPM		59KPa – 1200 RPM
		138KPa – 1500RPM		85KPa – 1500 RPM
		153KPa – 1800 RPM		100KPa-1800 RPM
2	High Coolant Temp	96° C		105° C
3	Engine Over speed : by adjusting the set value from Panel (Rated Speed is 2300 RPM)	NA	NA	1980 RPM
4	Low Fuel Pressure Map Dependent Value by CAT	<u>399KPa@1500RPM</u>	Default OFF	Default OFF
5	High Fuel Temp Set at 64° C (30 Sec – delay)	65° C	Default OFF	Default OFF
6	High Exhaust Temp.	R-712 ° C Alarm L-713 ° C Alarm		Default OFF
7	Lube Oil high temperature	106 ° C Alarm		Default OFF

Stbd Side SERIAL NO. RNY02806 (S)

SR	SAFETY ALARMS	Warning 1 st	Warning 2 nd	Shutdown
1	Low Lube Oil Pressure set value: Map Dependent Value by CATERPILLAR	105KPa-1200RPM		61KPa – 1200 RPM
		139KPa – 1500RPM		90KPa – 1500 RPM
		153KPa – 1800 RPM		102KPa-1800 RPM
2	High Coolant Temp	95° C		106° C
3	Engine Over speed : by adjusting the set value from Panel (Rated Speed is 2300 RPM)	NA	NA	1980 RPM
4	Low Fuel Pressure Map Dependent Value by CAT	<u>399KPa@1500RPM</u>	Default OFF	Default OFF
5	High Fuel Temp Set at 64° C (30 Sec – delay)	63° C	Default OFF	Default OFF
6	High Exhaust Temp.	R-713 ° C Alarm L-711 ° C Alarm		Default OFF
7	Lube Oil temperature	106 ° C Alarm		Default OFF

SHM Shipcare

SHM SHIPCARE



IRS

Page 11

Document no. Y261/20M-BSF/DT/09 (Page 2 of 2)

- Wheel house start/stop for main engines verified
- Emergency stops for both main engines verified from Wheelhouse
- Engine starting battery capacity test was witnessed as follows:
 - Main engines (P) & (S) – ten consecutive starts witnessed.
 - Main Generator - three consecutive starts witnessed.

Attempts	Time in sec ME (P)	Time in sec ME (S)	Time in sec DG Set
1	6 sec	6 sec	6 sec
2	6 sec	6 sec	8 sec
3	6 sec	6 sec	8 sec
4	7 sec	7 sec	
5	7 sec	7 sec	
6	7 sec	7 sec	
7	8 sec	8 sec	
8	8 sec	8 sec	
9	8 sec	9 sec	
10	9 sec	9 sec	

Result: Satisfactory**Date: 24/11/2020**

SHM Shipcare



GEAR BOX ALARM AND TRIPS

MAKE: REINTJES WVS 430/1

Stbd Side SERIAL NO. K84220

Port Side SERIAL NO. K84219

Purpose of safety Tests: Test is conducted to demonstrate safety of the Gear box various alarms/trips as per OEM recommendation is checked.

GEAR BOX PORT		
SR	SAFETY ALARMS	ALARM
1	Low Oil Pressure Alarm	5 BAR
2	High Oil Temp Alarm	70° C

GEAR BOX STBD		
SR	SAFETY ALARMS	ALARM
1	Low Oil Pressure Alarm	5 BAR
2	High Oil Temp Alarm	70° C

Result: Satisfactory**Date: 23/11/2020**

SHM Shipcare



IRS

H.B. Pahl
23/11/20

PERFORMANCE TRIALS OF DG SET

MAKE: Nanni Diesel QLS47T

Serial No PORT: 361655/001 – 2KE0367/6K620040078 - 37086500002

Serial No STBD: 361655/004 – 2KE0297/6K620040076 - 37086500001

Purpose of safety Tests:

To check the generator is capable of sustaining the full load for 60 minutes.
The diesel engine must operate without leakage of fuel, lub oil, water and exhaust gas

Procedure

1. Start and warm up the generators.
 2. Close the circuit breaker and gradually load the generator till 100%.
- Run the generator continuously for 1 hour and take the reading at interval of 30 mins.

Following safety trips/ alarms verified:

D A Port		
SR	SAFETY ALARMS	ALARM & TRIP
1	Low Oil Pressure Alarm	0.5 BAR
2	High Coolant Temp Alarm	95° C

D A Stbd		
SR	SAFETY ALARMS	ALARM & TRIP
1	Low Oil Pressure Alarm	0.5 BAR
2	High Coolant Temp Alarm	95° C

Note: DG set performance trial to be conducted with onboard load running for one hour continuously.

Result: Satisfactory**Date: 23/11/2020**

SHM Shipcare



IRS

H.B. Patil
23/11/20

Document no. Y261/20M-BSF/DT/11

PERFORMANCE TRIALS OF DG SET

MAKE: Nanni Diesel QLS47T

Serial No PORT: 37086500002

Serial No STBD : 33086500001

Purpose of safety Tests:

To check the generator is capable of sustaining the full load for 60 minutes.

The diesel engine must operate without leakage of fuel, lub oil, water and exhaust gas

Procedure

1. Start and warm up the generators.

2. Close the circuit breaker and gradually load the generator till 100%.

Run the generator continuously for 1 hour and take the reading at interval of 30 mins.

PORT DG						
TEMP	V	A	HZ	KW	OIL.P	COOL.T
10:00	417	53.5	50	38	2.5	83
10:15	417	53.5	50	38	2.5	83
10:30	417	53.5	50	38	2.5	83
11:00	417	53.4	50	38	2.5	83

STBD DG						
TEMP	V	A	HZ	KW	OIL.P	COOL.T
11:10	414	53.2	50	38	2.7	70
11:25	414	53.6	50	38	2.9	83
11:40	414	53.5	50	38	2.9	83
12:10	414	53	50	38	2.9	83

Note: DG set performance trial to be conducted with onboard load running for one hour continuously.

Result: Satisfactory**Date: 24/11/2020****SHM Shipcare**

Document no. Y261/20M-BSF/DT/12

TRIALS OF COMPLETE A/C SYSTEM**Purpose**

This test is to be carried out to demonstrate the efficient functioning of the air conditioning system and record the temperature after running the AC at interval of one hour.

Procedure

Start system and keep running for 2 hours and check the temperature of compartments at an interval of 1 hour.

Make - Dometic

Sr.No.	Compartments	Temp. deg C
1.	Wheel House (27000 BTU) – 1 NO.	24
2.	All Crew Cabin (27000 BTU) – 2 NOS.	25
3.	Sub officer & officers cabin (16000 BTU) – 2 NOS.	24

Result: Satisfactory**Date: 26/11/2020**


SHM Shipcare




IRS
H.B. Patil
26/11/20

Document no. Y261/20M-BSF/DT/13

INSPECTION & TRIALS OF GALLEY EQUIPMENT**Purpose**

To check the all equipment's are as per technical specification and arrangement as per drawing and its functionality.

Check galley for adequacy of space as per GA drawing

Check securing arrangement for galley equipment's.

Galley equipment's are as follows

1. Hot Plate (Make- Philips, 2000 W)
2. Microwave Oven (Make- Samsung)
3. Tea/Coffee Maker (Make- Tata coffice)
4. Electric Cooker (Make- Prestiage)
5. Water cooler cum purifier (Make- Blue Star)
6. Food processor (Make – Sumeet)
7. Deep Freezer (Make – Blue Star)
8. Refrigerator (Make- Samsung, 192 Ltrs)
9. Storage racks and sink
10. Water Geyser- (Make – Havells)

Result: Satisfactory**Date: 26/11/2020**


SHM Shipcare




IRS
26/11/20
H.B. Patil

Document no. Y261/20M-BSF/DT/14

INSPECTION OF ALL COMPARTMENTS**Purpose**

To check the fitment of all items as per drawings, there suitability and quality of workmanship.

Visual inspection of following compartments carried out and found satisfactory:

- a) Jet Compartment
- b) Crew Cabin -1,2 & 3
- c) Officer's and Sub officer's Cabin
- d) Wheel House cum seating area
- e) Engine room
- f) Fore peak
- g) Galley

Result: Satisfactory**Date: 26/11/2020**


SHM Shipcare




IRS
H.B. Rahi
26/11/20

Document no. Y261/20M-BSF/DT/15

TRIALS OF DAVIT**1 Description**

This ship is equipped with one manual Boat davit.

Ref.: -Drawing no. SHM/256-264/115

2 Purpose of Test

To demonstrate that the davit is capable of and suitable for lowering and hoisting the 4.2 M Rescue boat (Rigid Foam Collar Boat)

3 Test Criteria

Carry out actual demonstration of lowering and hoisting of 4.2 M Rigid Foam Collar Boat

Hoisting & lowering operation checked and found satisfactory

MAKE	Bhawani Engineering
SAFE WORKING LOAD	500 Kgs
SERIAL NO	DVT-1158

Result: Satisfactory

Date: 26/11/2020

SHM Shipcare


26/11/20
IRS
H.B. Patil

Document no. Y261/20M-BSF/DT/16

FIXED FIRE FIGHTING AND DETECTION SYSTEM**Method of Test & Observations**

To verify operation of the alarms of the fixed smoke and heat detection system fitted at various zones

Purpose of safety Tests: Test is to be conducted to demonstrate safety of the boat by testing following alarms/trips -

Sr. No.	Equipment	Operation
1	Fire alarm Panel	Satisfactory
2	Heat detector & smoke detector	Satisfactory

Result: Satisfactory

Date: 24/11/2020



Document no.-Y261/20M-BSF/ST/01

TRIALS OF ENGINE CONTROLS & ASTERN TRIALS**Description**

There are two main Caterpillar diesel engines in the main engine room compartment

Purpose of Test

To function test the main engine control system at Wheel House

Test Criteria

The engine must respond faithfully to the control command

Procedure:

1. Follow the command as tabulated in the check list
2. Control the engines from W/H
3. Emergency stop of engines demonstrated and found satisfactory.

Sr.No.	Command	Wheel House	Remarks
1.	Slow ahead	Slow ahead (600 RPM)	Satisfactory
2.	Half Ahead	Half Ahead (1500 RPM)	Satisfactory
3.	Full Ahead	Full Ahead (2300 RPM)	Satisfactory
Astern direction witnessed –satisfactory.			

Result: Satisfactory**Date: 26/11/2020**

MAIN ENGINE ENDURANCE TRIALS**Purpose**

To check main engines, auxiliary and steering system performance during endurance trials of vessel.

Procedure

No. of persons on board	22 Person
Draught Fwd	1.0 m
Draught Aft	1.1 m
Trial Commenced	10:00 hrs
Trial Completed	15:00 hrs
Fresh Water Tank	100 % sounding

Engine parameters record sheet:

Sr No.	Time	RPM PORT	RPM STBD	L.O. PRESS PORT (Bar)	L.O. PRESS STBD (Bar)	TEMP COOLAN T PORT (DEG.C)	TEMP COOLAN T STBD (DEG.C)	ENGINE LOADING PORT (%)	ENGINE LOADING STBD (%)	SPEED IN KONTs
1	10:00	600	600	2.24	2.20	61	62	17	16	5.8
2	10:10	800	800	3.32	3.48	65	64	21	20	6.9
3	10:20	1000	1000	3.96	3.76	69	69	21	21	8.5
4	10:30	1200	1200	4.08	3.80	74	75	27	26	9.6
5	11:00	1400	1400	4.04	3.76	80	79	29	30	11.3
6	11:30	1600	1600	4.11	3.80	80	80	40	39	11.6
7	12:00	1800	1800	4.16	3.84	80	80	53	54	13.3
8	12:30	2000	2000	4.16	3.80	80	80	66	67	21.5
9	13:00	2100	2100	4.16	3.80	80	80	73	74	25.7
10	13:30	2200	2200	4.16	3.80	80	80	83	84	29.1
11	14:00	2300	2300	4.16	3.80	80	80	99	99	30.1
12	14:30	2300	2300	4.16	3.80	80	80	99	99	30.2
13	15:00	2300	2300	4.16	3.80	80	80	99	99	30.1

Note : - No excessive noise and vibration was observed during Sea trial of Yard No. 261.

Result: Satisfactory

Date: 26/11/2020

SHM Shipcare



Document no.-Y261/20M-BSF/ST/03

EMERGENCY STEERING OPERATION**Description**

In case of Power Hydraulic Steering failure of hydraulic system, the hand hydraulic pump fitted on steering wheel can be used for steering by hand.

In case of failure of hand hydraulic system also, then the steering is kept in central position, and the reversing buckets on the jets are utilized for steering the vessel.

1. Port jet astern and Stbd jet Ahead – vessel to port
2. Stbd jet astern and Port jet ahead vessel to stbd.
3. Both in neutral position – vessel moves straight ahead
4. In case all system fail, then tiller arm can be disconnected and steering done manually from jet compartment by tiller directly. (not recommended – only in emergency)

Result: Satisfactory**Date: 26/11/2020**

SHM Shipcare



Document no.-Y261/20M-BSF/ST/04

MANEUVERING TRIALS**Turning Circle Trials:**

As a continuation of full power sea trials the following trials to be carried out. The boat shall be put hard over in turn to determine the turning circles to Port and to Starboard. The time require to complete the circle and the diameter of the turns (in boat length) to be recorded.

	Circle Time	Circle Diameter (Boat Length)	Speed	Engine RPM
Hard Starboard	41 sec.	2.5 boat length	21.9 Knots	2000
Hard Port	41 sec.	2.5 boat length	21.8 Knots	2000

Crash Stop:

At normal cruising, the vessel is moved forward at a constant speed. During an emergency, the boat must be stopped at the shortest possible time and distance so as to avoid a collision.

Following parameter recorded:

	1 st reading (With tide)	Subsequent (Against tide)
Ship Speed	31 knots	29 knots
Wind Speed	6-8 knots	6-8 knots
Time from control movement until vessel start astern to stop	18 sec	20 sec
Distance Travelled	3 ship length	2.5 ship length

Astern Trials:

Astern trial carried out at 1400 RPM, 4.3 knots running for 15 minutes and found satisfactory.

Result: Satisfactory

Date: 26/11/2020

SHM Shipcare



Document no.-Y261/20M-BSF/ST/05

SPEED TRIALS BY GPS**1. Speed Trials:**

1.1 Date and time of commencement of Trials: 26/11/2020

1.2 Persons attending the Trials. Yard: Mr. Badri

IRS: Mr. Harshad Patil

1.3 Boat Condition: Full Load

Fuel: Full

Fresh Water: Full

Person on board: 22

1.4 Location of Trial: Ghodbunder

1.5 Wind speed- 6-8 Knots,

1.6 Weather condition- Sea state 3 (Wave height -0.6 to 1.2 mtr)

1.7 Depth of water at trial location: 10-12 m

1.8 Draught: FWD: 1.0 m

AFT: 1.1 m

1.9 **Speed Trials at 85% MCR: -**

Run No.	Direction	Time of Run	Vessel Speed	Engine Speed		Engine Loading	
		In Minutes	Over ground (N.Miles)	Port	STBD	Port	STBD
			(by GPS)	(RPM)	(RPM)	(%)	(%)
1 st	W	30	30.1	2217	2206	85	85
2 nd	A	30	28.5	2218	2210	85	85
3 rd	W	30	30.2	2217	2206	85	85
4 th	A	30	28.4	2218	2210	85	85

AVERAGE SPEED RECORDED:

By GPS: 29.30 Knots,

Date : 26/11/2020

SHM Shipcare



Document no.-Y261/20M-BSF/ST/06

FUEL CONSUMPTION TRIAL**1. Fuel consumption trials at cruising speed @ 20 Knots:**

- 1.1 Date of Trials : 26/11/2020
 1.2 Location of Trial : Ghodbandar
 1.3 Persons attending the Trials. Yard: Mr. Badri
 IRS: Mr. Harshad Patil
 1.4 RPM of Engines: 1980 (port); 1980 (stbd)

Time interval	Vessel Speed (in knots)	Engine Speed (in RPM)		Fuel Reading (from bridge console)	
	By GPS	Port	Stbd	Port	Stbd
15:30 hrs	20.5	1980	1980	3138	3138
16:30 hrs	20.3	1980	1980	2944	2944
Fuel consumption				194	194

Readings of fuel rate gauge provided in the wheel house was used to determine the fuel consumption. The vessel was run at an average engine rpm of 1980 for about 01 hours to calculate approximately the endurance limit of the vessel as detailed below.

- Average speed of **20 knots** (that is 20 Nm per hour)
- Average of fuel rate of 194 LPH (Liters Per Hour) per main engine observed in the wheel house console at engine rpm of 1980.
- For 18 hours operation @ 20 knots,
 - ➔ the total engine FO consumption = $(194 \times 2 \times 18) = 6984$ litres .
 - ➔ Total DG set consumption noted at 8 Lit/ hour = $8 \times 18 = 144$ litres
 - ➔ Therefore, vessel's total Fuel oil consumption @ 20 knots = $6984 + 144 = 7128$ litres.
- Fuel oil capacity of F.O tanks provided is 3600 liters per tank, making Total provided FO capacity = $7200 + 1800$ (reserve) = 9000 liters
- Provided total tank capacity exceeds 18 hours endurance @ 20 knots requirement and 25% reserve tank of 1800 Liters provided.


 SHM Shipcare




 IRS
 26/11/20
 H.B. Patil

4.2 M RESCUE BOAT (Rigid Foam Collar Boat)
TEST AND TRIALS

Purpose of Test

To check the Engine performance and operation and carrying capacity of Boat

To check all fittings as per specifications

Speed Trials:

- 1.1 Date and time of commencement of Trials: 24/11/2020 at 14:00 hrs
1.2 Persons attending the Trials. Yard: Mr. Badri
IRS: Mr. Harshad Patil
1.4 Location of Trial: Ghodbunder

Run No.	Direction	Time in mins	Vessel Speed
			Over ground (N.Miles)
			(Average speed by GPS)
1 st	W	10 mins	27.0
2 nd	A	10 mins	23.2
3 rd	W	10 mins	27.1
4 th	A	10 mins	23.2

Average Speed in Knots – 25.12 Knots