

Tele:- 079-23243374

Reply should be addressed
to the Commander

SPEED POST/E-Mail

Headquarters
Coast Guard Region (NW)
Udyog Bhavan
Post Box No. 09
Sector-11,
Gandhinagar – 382 010

Quoting : 3491

01 Jan 18

**PRE QUALIFICATION FOR SHORT REFIT (SR-18) OF ICGS ARUSH
INVITATION OF EXPRESSION OF INTEREST AND COMMENTS/QUERIES**

Sir,

1. It is intimated that e-mail containing following defect list serials (Hull, Engineering and Electrical) in respect of **Short Refit (SR-18)** of **ICGS Arush** based at Porbandar for **90 days** duration of alongwith serial wise CGRHQ (NW) remarks has been forwarded todate **01 Jan 18** :-

- (a) Hull : HA 1001 to HA 1100
- (b) Engg : EA 3001 to ED 3121
- (c) Elect : LA 5001 to LD 5210

2. Item wise Technical comments/queries are invited for the defects remarked "DO" by CGRHQ (NW) on the defect list enclosed. **Please note that only technical comments/queries need to be forwarded and no "Budgetary Quote" is to be forwarded. Forwarding of budgetary offer will disqualify the concerned refitting yard from the tendering process.**

Contd . . .2/-

3. **The refit is to be undertaken in Gujarat/ Maharashtra/ Goa coast of India only.** The refit is tentatively scheduled to commence in the month of **Jun 2018** for period of **90 days**. The refit of the ship is to start within 30 days of signing the Refit Contract. However, in case the ship is not available during this period of 30 days, the refit of the ship would be deemed to have commenced with effect from the date the ship is subsequently made available for refit by Indian Coast Guard.
4. The conduct of refit including other general conditions, payment terms, etc. will be governed in accordance with provisions of Defence Procurement Manual in vogue.
5. For details of defects on machinery, systems and ship's Hull, you are requested to contact " **The District Technical Officer, CGD HQ-1, Porbandar (Tele No.0286-2248610)**" to ascertain availability of ship in harbour and clearance to visit the ship.
6. It is intimated that a Request for Information Conference (RFIC) will be held at **CGRHQ (NW), Gandhinagar/ CGD HQ-1, Porbandar onboard ship** to discuss/clarify the scope of work and to bring all the participating yards at par. It may be noted that the date and venue for RFIC will be intimated by **CGRHQ (NW)** at a later date.
7. You are advised to depute your reps to the ship for meeting the technical Officer/Executive Officer in order to assess the defect wise work package physically prior submitting technical comments/queries.
8. It is also desired that suitable reps may be deputed for attending the RFIC on receiving intimation from **CGRHQ (NW)**. Alternatively, a communication may be sent to **CGRHQ (NW)** that you would accept the work package as finalized during the RFIC.
9. **In the event that firm /refitting firms does not have its own infrastructure including workshop facility at the place of refit, it should have a Memorandum of Understanding (MoU) with a local firm which owns atleast a workshop facility befitting the refit of a ship. The refitting firm / refitting firms should be a licensee or have a MoU with a local firm who is a licensee of Port/ PSU/private refitting firm in whose dry dock the ship is going to be docked. The proof for both the facilities (workshop and drydock) is to be attached with the technical bid so as to ascertain the technical qualification of the yard.**
10. **It may be noted that RFP will be issued to all those yards who have not conveyed their unwillingness to undertake the refit in accordance with provisions of DPM, irrespective of whether they attend RFIC or not.** As such, if you do not wish to undertake the refit you should communicate it in writing before the RFIC takes place.

11. It may be noted that CGHQ is contemplating AIAMC contract for certain equipment/ systems fitted onboard ship. Although, defects on these equipment have been added in defect list but in case the AIAMC contract is concluded prior commencement of contract, Indian Coast Guard will have right to delete the same from the refit package.

12. It is requested that your **technical comments/queries** for the defect list serials remarked "DO" by CGRHQ (NW) as per the enclosure be forwarded to reach **Coast Guard Region (NW), Gandhi Nagar with one copy each to CGDHQ-1, Porbandar and ICGS Arush** at the addresses given below by 23 Jan 2018 :-

- (a) The Commander
{for CSO (Tech)}
Coast Guard Region (NW)
Post Box No. 09, Gandhi Nagar.
Gujarat – 382010
Email- tech-nw@indiancoastguard.nic.in
- (b) The Commander
{for (DTO)}
Coast Guard District Headquarters No. 1
(Gujarat) Post Box No 25
Porbandar – 360575
Email- dhq1@indiancoastguard.nic.in
- (c) The Commanding Officer
ICGS Arush
C/o Coast Guard District Headquarters No. 1
(Gujarat) Post Box No 25
Porbandar – 360575
Email- arush@indiancoastguard.nic.in

13. It is requested that receipt of this letter be acknowledged.


(KG Dda)
Commandant
Regional Technical Officer (R&R)
for Commander
Coast Guard Region (NW)

Enclosure: Main Defect list of ICGS Arush SR-18 (Hull, Engg and Electrical) by e-mail.

Contd . . .4/-

Copy to :

The Commander
{for (DTO)}
Coast Guard District Headquarters No. 1 (Gujarat)
Porbandar

The Commanding Officer
ICGS Arush
C/o Coast Guard District Headquarters No. 1 (Gujarat)
Porbandar

ICGS ARUSH - SHORT REFIT (SR- 18)
MAIN DEFECT LIST (HULL)

<u>DEFECT SL.</u>	<u>DEFECT DESCRIPTION</u>	<u>DHQ REMARKS</u>	<u>RHQ REMARKS</u>
	<u>YARD SERVICES GENERAL SERVICES</u>		
HA-1001	Any damages occurred during docking / undocking process & refit to be borne by ship yard.	As per RFIC remarks	Do as per RFIC minutes.
HA-1002	Pre and post refit trials to be carried out to assess the performance and status of all equipment and fittings. All PAC, yard reps from Hull, Engg, Electrical departments to embark on-board.	As per RFIC remarks	Do as per RFIC minutes.
HA-1003	Preparation of keel blocks to be made for docking in version I and II Necessary drawings as arranged to be provided in quadruplicate for records	As per RFIC remarks	Do as per RFIC minutes. SS to provide docking plan.
HA-1004	Tug hire charges for docking / undocking and berthing / unberthing are to be provided.	As per RFIC remarks	Do as per RFIC minutes.
HA-1005	Pilot to be provided for all movements during docking and undocking.	As per RFIC remarks	Do as per RFIC minutes.
HA-1006	Berthing / un-berthing at wet basin to be provided including basin charges.	As per RFIC remarks	Do as per RFIC minutes.
HA-1007	Fire main supply of 4-bar pressure to be supplied to ship for entire duration of refit.	As per RFIC remarks	Do as per RFIC minutes.
HA-1008	A/C sea water cooling line to be provided during dry docking whenever ship's A/C system is in use.	As per RFIC remarks	Do as per RFIC minutes.
HA-1009	Supply of fresh water to be catered for 06 tons including 250 liters drinking water (RO purified) per day. However, payment to be made for actual consumption on pro rata basis.	As per RFIC remarks. Log book/Register to be maintained	Do as per RFIC minutes.

HA-1010	Supply of compressed air to be made available as and when required.	As per RFIC remarks	Do as per RFIC minutes.
HA-1011	Shore supply (415v,3ph,50Hz) up to 150 KW to be provided including shore supply cable connection and cable to be disconnected as and when required. However, the payment to be made for actual consumption on pro rata basis. If any trader uses ship's supply for welding or other works, the same to be billed to the trader as per consumption and accounted for separately with details submitted for records.	As per RFIC remarks. Log book/Register to be maintained for monitoring of usage	Do as per RFIC minutes.
HA-1012	02 in nos. Carry away pipes for hull discharge openings to be provided during dry-docking.	As per RFIC remarks	Do as per RFIC minutes.
HA-1013	02 in nos. Garbage boxes (200 Ltrs each) to be provided and clearance to be done twice a day.	As per RFIC remarks	Do as per RFIC minutes.
HA-1014	Crane facility to be provided as and when required. Yard to cater for a total duration of 70 hrs.	As per RFIC remarks	Do as per RFIC minutes.
HA-1015	Yard to provide 01 telephone connection with STD, FAX & Internet facility and 03 more telephone connection for local use for entire duration of refit.	As per RFIC remarks	Do as per RFIC minutes.
HA-1016	Fire sentries to be provided during hot work.	As per RFIC remarks	Do as per RFIC minutes.
HA-1017	Cool air circulator with ventilation blowers (06 in nos.) to be provided for adequate ventilation.	As per RFIC remarks	Do as per RFIC minutes.
HA-1018	Gas free certification for all tanks and confined spaces to be obtained from department of explosives.	As per RFIC remarks	Do as per RFIC minutes.
TRANSPORT			
HA-1019	Yard to provide following transport facility during the period of refit including holidays and payment will be on pro rata basis:- (a) 01 Jeep (12hrs/100 km per day or 80 hrs per week) (b) 01 Car(12hrs/100 km per day or 80 hrs per week) (c) 01 Mini Bus (12hrs /100 km per day or 80 hrs per week) (d) 01 One tonner (100 km or 12hrs per day or 80 hrs per week)	As per RFIC remarks. Log book/Register to be maintained for actual usage of transport vehicle	Do as per RFIC minutes.
OFFICE SPACE AND ACCOMMODATION			
HA-1020	Provision of office space (03 in nos. with approx. floor area 1000 sq feet each) to be provided with AC facilities and 01 container (20ft x 15 ft) for lay-apart storage during entire duration of refit.	As per RFIC remarks.	Do as per RFIC minutes.

HA-1021	04 in no. rooms (02 beds each) with AC, TV, Washing machine, kitchen facilities, attached washrooms and a dining table with 06 chairs for officers to be provided during entire duration of refit.	As per RFIC remarks.	Do as per minutes.	RFIC
HA-1022	05 in nos. rooms (02 beds each) with AC, TV, washing machine and attached washrooms facilities for SOs to be provided during entire duration of refit	As per RFIC remarks.	Do as per minutes.	RFIC
HA-1023	04 in nos. AC dormitory type accommodation for 28 EPs (07 beds each) with TV & washing machine including attached washroom facilities to be provided during entire duration of refit.	As per RFIC remarks.	Do as per minutes.	RFIC
HA-1024	Mattress with bed sheet and pillow with pillow cover for each officer, SO & EP including provision for changing them every day.	As per RFIC remarks.	Do as per minutes.	RFIC
HA-1025	01 in no. kitchen with 01 deep freezer, 02 in nos. Fridge and 02 in nos. cooking range with gas cylinders to be provided for ship's galley.	As per RFIC remarks.	Do as per minutes.	RFIC
HA-1026	03 dining tables with chairs catering for 06 persons per dining table, for SOs and EP, to be provided with dormitory.	As per RFIC remarks.	Do as per minutes.	RFIC

UNDER WATER HULL AND APPENDAGES

HA-1027	Ship is to be dry docked in version I and II and necessary information/ details to be entered in docking form. Three copies of duly approved docking report complete with all data to be provided.	DO	DO for both versions. SS to provide latest docking plan. Six copies of docking report to be provided by ship.	RFIC
HA-1028	Wash and clean under water hull with hydro dynamic jet (3000 PSI) and brushes, than clean with F/W thoroughly. (Under water area 160 sqm, boot top -60 sqm)	DO	DO. Material yard supply. Underwater and boot top including jet tunnel area 470 Sq mtrs.	RFIC

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HA-1029	After cleaning examine the whole under water area paying particular to hull plating in the vicinity of shaft zinc protectors, sea tube and all fastenings and wind water areas for signs of corrosion, defects and damage. Defects observed to be rectified. Class surveyor be associated for all inspection (Under water area 160 sqm)	DO	DO underwater survey by class surveyor including appendages. Underwater and boot top area 470 Sq mtrs.																					
HA-1030	<p>Examine sacrificial anodes fitted on sea chest and jet tube area. Renew those consumed 50 % and more. (11 sacrificial anodes: Magazine flooding valve – 01 each, Main Engine suction – 03, DA Suction – 03, A/C Suction – 01, RO &STP – 01, Fire & GS Pump – 01, Bilge &GS pump – 01) Anodes – Yard supply as per sample</p> <table border="1" data-bbox="1002 250 1149 1355"> <thead> <tr> <th>Sl no</th> <th>Anode weight</th> <th>Length</th> <th>Breadth</th> <th>Height</th> <th>MS Insert</th> <th>Qty</th> </tr> </thead> <tbody> <tr> <td>(a)</td> <td>0.55 Kg</td> <td>100 mm</td> <td>30 mm</td> <td>25 mm</td> <td>12X3 mm</td> <td>07 nos</td> </tr> <tr> <td>(b)</td> <td>0.70 kg</td> <td>125 mm</td> <td>30 mm</td> <td>25 mm</td> <td>12X3 mm</td> <td>04 Nos</td> </tr> </tbody> </table>	Sl no	Anode weight	Length	Breadth	Height	MS Insert	Qty	(a)	0.55 Kg	100 mm	30 mm	25 mm	12X3 mm	07 nos	(b)	0.70 kg	125 mm	30 mm	25 mm	12X3 mm	04 Nos	DO. Material Yard Supply	DO. Drawings to be provided by ship. No. of anodes-11. Anodes yard supply.
Sl no	Anode weight	Length	Breadth	Height	MS Insert	Qty																		
(a)	0.55 Kg	100 mm	30 mm	25 mm	12X3 mm	07 nos																		
(b)	0.70 kg	125 mm	30 mm	25 mm	12X3 mm	04 Nos																		
HA-1031	Carry out Robotic scanning and UTG survey of underwater area as per CGHQ Policy FM/1224 dated 15 Jun 11 paying particular attention to E/R, tanks, shaft areas and sea tube. Those plates thinned down more than 10% to be cropped and renewed. Critical plates to be marked in drawings for renewal in forth coming refit, report of UTG survey be given in shell expansion drawing and tabular form. (Under water area 460 sqm).UTG points 500 nos to be catered by yard.	DO. 750 points to be catered as per CGBR 381 Article 0104 Sl (B)	Do UTG hull survey only. Plate thinned down more than 20% to be renewed as per surveyor recommendation. Yard to cater for 01 Ton steel renewal and 750 UTG points and payment on pro rata basis. In way jobs included. SS to provide shell expansion drawing.																					
HA-1032	Di-electric shield to be examined for wear and damaged layer of resin/araaldite. To be redone as per specification if damaged	Do Under AIAMC	Delete covered under AIAMC																					
HA-1033	Photographs of U/W hull fittings/damages during docking be taken and prints be given to ship.	SS	Delete.SS																					

Handwritten mark

HA-1034	<p>(a) U/W hull to be vacuum blasted to SA 2.5 on completion of U/W inspection. Area required to be blasted be decided according to sea growth, fouling, blisters, paint damage</p> <table border="1" data-bbox="263 853 523 1973"> <thead> <tr> <th>SL</th> <th>DFT</th> <th>BRAND NAME</th> <th>COLOUR</th> <th>NO OF COATS</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>150</td> <td>Sigma Prime 200</td> <td>Yellow Green</td> <td>01</td> </tr> <tr> <td>02</td> <td>150</td> <td>Sigma shield 620</td> <td>RB</td> <td>01</td> </tr> <tr> <td>03</td> <td>150</td> <td>Sigma Glide 790</td> <td>Grey</td> <td>01</td> </tr> <tr> <td>04</td> <td>150</td> <td>Sigma Glide 990</td> <td>Dark Red</td> <td>01</td> </tr> <tr> <td>05</td> <td>90</td> <td>Sigma Eco Fleet 290</td> <td>Red Brown</td> <td>01</td> </tr> </tbody> </table> <p>and peel off area. Full paint scheme to be applied on blasted area. Paint Yard Supply</p>	SL	DFT	BRAND NAME	COLOUR	NO OF COATS	01	150	Sigma Prime 200	Yellow Green	01	02	150	Sigma shield 620	RB	01	03	150	Sigma Glide 790	Grey	01	04	150	Sigma Glide 990	Dark Red	01	05	90	Sigma Eco Fleet 290	Red Brown	01	DO. Paint Yard Supply. Touch - up paint scheme as per CGBR 381	DO. Yard to cater for touch up paint scheme. Paint yard supply. Total area including boot top and jet tunnel is 470 sq. mtrs.					
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01	150	Sigma Prime 200	Yellow Green	01																																		
02	150	Sigma shield 620	RB	01																																		
03	150	Sigma Glide 790	Grey	01																																		
04	150	Sigma Glide 990	Dark Red	01																																		
05	90	Sigma Eco Fleet 290	Red Brown	01																																		
	<p>(b) U/W for tunnel area: Joint inspection (including class surveyor and paints rep) of U/W tunnel area (15 Sq. mtr.) to be carried out for blasting, paint composition and peel off. Full paint scheme as mentioned above to be applied on blasted area. Yard to cater for touch up scheme for tunnel area followed by full paint in touch up area in addition to complete under water hull painting. Two final coating of anti-foul on complete tunnel area also to be applied (SL 5 & 6 in table below). Paint Yard Supply. Paint scheme as follows:</p> <table border="1" data-bbox="869 931 1161 1872"> <thead> <tr> <th>SL</th> <th>DFT</th> <th>BRAND NAME</th> <th>COLOUR</th> <th>NO OF COATS</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>50</td> <td>Sigma Cover 280</td> <td>Yellow Green</td> <td>01</td> </tr> <tr> <td>2</td> <td>400</td> <td>Sigma Shield 460</td> <td>Black</td> <td>01</td> </tr> <tr> <td>3</td> <td>400</td> <td>Sigma Shield 460</td> <td>Grey</td> <td>01</td> </tr> <tr> <td>4</td> <td>100</td> <td>Sigma Cover 525</td> <td>Black</td> <td>01</td> </tr> <tr> <td>5</td> <td>125</td> <td>Sigma Alphagen 650</td> <td>Brown</td> <td>01</td> </tr> <tr> <td>6</td> <td>125</td> <td>Sigma Alphagen 650</td> <td>Red Brown</td> <td>01</td> </tr> </tbody> </table>	SL	DFT	BRAND NAME	COLOUR	NO OF COATS	1	50	Sigma Cover 280	Yellow Green	01	2	400	Sigma Shield 460	Black	01	3	400	Sigma Shield 460	Grey	01	4	100	Sigma Cover 525	Black	01	5	125	Sigma Alphagen 650	Brown	01	6	125	Sigma Alphagen 650	Red Brown	01		
SL	DFT	BRAND NAME	COLOUR	NO OF COATS																																		
1	50	Sigma Cover 280	Yellow Green	01																																		
2	400	Sigma Shield 460	Black	01																																		
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4	100	Sigma Cover 525	Black	01																																		
5	125	Sigma Alphagen 650	Brown	01																																		
6	125	Sigma Alphagen 650	Red Brown	01																																		
HA-1035	Two final coats of Anti fouling black on entire boot top area (approx. - 60 sqm) during dry docking. Paint scheme (two coat of Sigma ECO fleet 290, Black, DFT 90) Paint Yard Supply	DO. Paint Yard supply and paint scheme as per CGBR381 (Sigma Alphagen 650, Black DFT -125)	Do in conjunction with HA 1031.																																			

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UNDERWATER FITTINGS			
HA-1036	Remove, examine and overhaul 50% U/W storm valves. Carry out pressure testing after overhauling (1.5 times of WP). (Total no storm valve -04)	DO. 100 % UW valves to be catered	DO 100% underwater valves including renewal of leather seating and rubber lips. No. of valves-04,
HA-1037	Remove, clean paint and refit all sea tube grating. (Total no. of gratings - 11) apply full paint scheme as mentioned in HA-1034, Paint Yard Supply	DO. Paint Yard Supply	DO in conjunction with HA-1034.
STEEL DECKS (EXPOSED DECKS)			
HA-1038	Examine all structure paying particular attention to plating. Inspect areas below portable fittings for corrosion and paint failure. Remove obscured structure and inspect the areas behind. Specific defect to be rectified. Note: -Aluminium Structures are not to be blasted / hard tools not to be used for scraping or chipping.	DO. Aluminium structure to be scrapped only	Do survey by class surveyor. Repair/ renewal, if any under AWRf. Combined UTG points 200 catered in HA-1039. Paint remover/power tooling to be used for surface preparation of Aluminium structures/ deck.
HA-1039	Hull survey/UTG reading to be carried out for 200 points and class surveyor be associated to assess extent of corrosion/damage)	DO. In presence of class surveyor.	DO. Under supervision of class surveyor. All in way jobs to be included. Yard to cater for 200 combined UTG points and 01 Ton of steel renewal and payment on pro rata basis.

<p>HA-1040</p>	<p>Scrap/ blasting and apply paint as per paint scheme. Plates found thinned below 20 % be renewed on surveyor recommendation after UTG evaluation. paint scheme as below mentioned, Paint Yard Supply</p> <table border="1" data-bbox="256 952 512 1973"> <thead> <tr> <th><u>SL NO</u></th> <th><u>DFT</u></th> <th><u>BRAND NAME</u></th> <th><u>COLOUR</u></th> <th><u>NO OF COATS</u></th> </tr> </thead> <tbody> <tr> <td>01</td> <td>50</td> <td>Sigma Cover 280</td> <td>Yellow Green</td> <td>01</td> </tr> <tr> <td>02</td> <td>125</td> <td>Sigma Cover 380</td> <td>Grey</td> <td>01</td> </tr> <tr> <td>03</td> <td>125</td> <td>Sigma Cover 360</td> <td>Grey</td> <td>01</td> </tr> <tr> <td>04</td> <td>50</td> <td>Sigmadur 550</td> <td>White</td> <td>01</td> </tr> <tr> <td>05</td> <td>-</td> <td>Non Skid Aggregate</td> <td>-</td> <td>01</td> </tr> </tbody> </table>	<u>SL NO</u>	<u>DFT</u>	<u>BRAND NAME</u>	<u>COLOUR</u>	<u>NO OF COATS</u>	01	50	Sigma Cover 280	Yellow Green	01	02	125	Sigma Cover 380	Grey	01	03	125	Sigma Cover 360	Grey	01	04	50	Sigmadur 550	White	01	05	-	Non Skid Aggregate	-	01	<p>DO. Paint Yard Supply. Paint scheme as per CGBR 381</p>	<p>Do. Yard to cater for touch up paint scheme including grit blasting /power tooling for 30 % area. Renewal of plates catered in HA-1039. Paint CG supply.</p>
<u>SL NO</u>	<u>DFT</u>	<u>BRAND NAME</u>	<u>COLOUR</u>	<u>NO OF COATS</u>																													
01	50	Sigma Cover 280	Yellow Green	01																													
02	125	Sigma Cover 380	Grey	01																													
03	125	Sigma Cover 360	Grey	01																													
04	50	Sigmadur 550	White	01																													
05	-	Non Skid Aggregate	-	01																													
<p>HA-1041</p>	<p>Examine bi-metallic joint on weather deck to super structure(AI) paying particular attention to joint where failure of structure may occur. Defects observed to be rectified accordingly with surveyor recommendation.</p>	<p>DO</p>	<p>Do visual survey and defect if any to be undertaken under AWRP.</p>																														
<p>HA-1042</p>	<p>Examine all structure paying particular attention to all areas where aberration is possible. Check bulkhead and ship side above main deck (bimetallic joint) for paint failure, structural damage etc. Check ATU Compts, bridge areas and boundaries for corrosion and deterioration. Doubtful areas where obscured structure, portable fittings may be removed for inspection. specific defects observed on decks and bulkhead and boundaries be recorded and projected by SS. Note:-Aluminium Structures are not to be blasted/ hard tools not to be used for scraping or chipping.</p>	<p>DO</p>	<p>Do in conjunction with HA-1038 and HA-1039.</p>																														
<p>SHIP SIDE</p>																																	
<p>HA-1043</p>	<p>Entire shipside to be washed. (Ship Side area: 330 sqm)</p>																																
<p>HA-1044</p>	<p>Inspect along with class surveyor for structural integrity / UTG to be carried out. Touch up as per approved paint scheme. Paint scheme –Sigma cover280, sigma cover-380 grey, Sigmadur-550 white.</p>	<p>DO. Paint CG Supply. Paint scheme as per CGBR 381</p>	<p>Delete. SS Do touch up paint scheme cater for 200 UTG points. Paint CG supply.</p>																														
<p>HA-1045</p>	<p>Final coat of ship side to be applied on entire surface (Approx. area: 330 sqm) Blue strip markings by airless spray painting. Painting to be carried out under the supervision of Paint rep and SS.</p>	<p>DO. In Conjunction with HA-1044.</p>	<p>Do only blue marking by airless spray. Final coat covered under HA-1044. Paint CG supply.</p>																														

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HA-1046	"नररररर" lettering in Hindi on port side and "COAST GUARD" in English on starboard side to be scrapped and removed and "शरररररररररर" lettering in Hindi on port side and "INDIAN COAST GUARD" in English on starboard side to be inscribed.	DO. Hindi letter to be on Sbd side and English letter on port side as per CGBR 382 Article 1.44. Specification of English letter (11450X750)mm and Hindi letter (9955X1018)mm. Paint CG supply	Do. Paint CG supply. SS to provide drawings/ dimensions. Yard to cater for painting only no weld beads.
HA-1047	Inspect the structure by removing lagging/panelling or deck covering as sample at areas where corrosion is likely to occur. Check the thickness and specific defects be projected by SS. Structure revealed by removal of fitting be re-painted before fixing the portable fittings.	DO. Paint CG Supply	Do. Internal survey by class surveyor. Yard to cater for removal and re-fitting of sample area for lagging / panelling as per surveyor recommendations. Paint CG supply
GALLEY AND ASSOCIATE FITTINGS			
HA-1048	Renew the grease filters. (Galley Grease filters-02 Material – Stainless Steel, Size – 30cm x 38cm)	DO. Material Yard Supply	Do. Yard to renew as per sample.
HA-1049	Clean the flue collector trunks and exhaust trunking with wire brushes and paint with black heat resistance paints.	DO. Paint Yard Supply	Do. Paint yard supply. approx.
FLATS, LOBBIES AND PASSAGES			
HA-1050	Remove structures by removing lagging / panelling / deck covering at places where corrosion suspected. Clean to bare metal, dry the surface and touch up as per paint scheme	DO. Paint CG Supply	Do as per surveyor recommendation. Paint yard supply.

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MACHINERY COMPARTMENTS (FER AND AER)

HA-1051 Clean all bilges, limber holes, inspect the frames, girders and stiffeners etc. Damage areas to be surface prepared and repaint as per touch up scheme. paint scheme Sigma

(A) For Bilges

SI No.	DFT	Brand Name	Colour
01	50	Sigma cover 280	Yellow green
02	160	Sigma cover 380	Green
03	160	Sigma cover 380	Grey

(B) For Machinery Compartment

SI No.	DFT	Brand Name	Colour
01	80	Sigma cover 280	Yellow green
02	80	Sigmarine 48	White
03	80	Sigmarine 48	White

DO. Paint CG Supply
Do cleaning and touch up paint scheme. SS to indicate area during RFIC. Paint CG supply.

WATERJET COMPARTMENT

HA-1052 Clean all bilges, limber holes, inspect the frames, girders and stiffeners etc. Damage areas to be surface prepared and repaint as per touch up scheme. Paint scheme- Sigma

DO. Paint CG Supply
Do cleaning and touch up paint scheme in conjunction with HA-1051. Paint CG supply.

AUXILIARY EQUIPMENT ROOM

HA-1053 suspected areas covered by lagging, deck covering may be removed to assess condition of steel /AI structure. Semi portable fittings be removed and inspected. Carry out UTG of deck and lower portion of bulkhead. Renew as per recommendation of class surveyor. Apply paint as per scheme. Paint scheme- Sigma, **Paint Yard Supply**

DO. Paint CG Supply
Do in conjunction with HA-1047.

th.

MECHANICAL / ELECTRICAL / OBS STORE / NAVAL STORE

HA-1054	Suspected areas covered by lagging, deck covering may be removed to assess condition of steel/ AI structure. Semi portable fittings be removed and inspected. Carry out UTG of deck and lower portion of bulkhead. Renew as per recommendation of class surveyor. Scrap, clean and removed all flaked paint film to bare metal at area where paint failure occurred. Apply paint as per scheme.	DO. Paint CG Supply	Do in conjunction with HA-1047.
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STP COMPARTMENT AND EMERGENCY GENERATOR ROOM

HA-1055	Suspected areas covered by lagging, deck covering may be removed to assess condition of steel /AI structure. Semi portable fittings be removed and inspected. Carry out UTG of deck and lower portion of bulkhead. Renew as per recommendation of class surveyor. Scrap, clean and removed all flaked paint film to bare metal at area where paint failure occurred. Apply paint as per scheme	DO. Paint CG Supply	Do in conjunction with HA-1047.
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BATTERY ROOM/ PAINT STORE/ DIVING STORE/FM 200 COMPT

HA-1056	Examine all bulkheads and boundaries clean, scrap and paint the rusted area. paint scheme- Sigma	SS	Do in conjunction with HA-1047.																				
	<table border="1"> <thead> <tr> <th>SI No.</th> <th>DFT</th> <th>Brand Name</th> <th>Colour</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>50</td> <td>Sigma cover 280</td> <td>Yellow green</td> </tr> <tr> <td>02</td> <td>125</td> <td>Sigma marine 380</td> <td>White</td> </tr> <tr> <td>03</td> <td>125</td> <td>Sigma marine 380</td> <td>Grey</td> </tr> <tr> <td>04</td> <td>50</td> <td>Sigmadur 550</td> <td>White</td> </tr> </tbody> </table>	SI No.	DFT	Brand Name	Colour	01	50	Sigma cover 280	Yellow green	02	125	Sigma marine 380	White	03	125	Sigma marine 380	Grey	04	50	Sigmadur 550	White		
SI No.	DFT	Brand Name	Colour																				
01	50	Sigma cover 280	Yellow green																				
02	125	Sigma marine 380	White																				
03	125	Sigma marine 380	Grey																				
04	50	Sigmadur 550	White																				

BAGGAGE COMPT.

HA-1057	Sample areas where covered by lagging/paneling deck covering may be removed to assess condition of steel /AI structure. Semi portable fittings be removed and inspected. Carry out UTG of deck. Renew as per recommendation of class surveyor. Apply paint as per scheme. Paint scheme- Sigma	DO. Paint CG Supply	Do in conjunction with HA-1047.
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VICTUALLING STORE

HA-1058	Examine all areas where covered by lagging/paneling deck covering may be removed to assess condition of steel /AI structure. Semi portable fittings be removed and inspected. Carry out UTG of deck. Renew as per recommendation of class surveyor. Apply paint as per scheme. Paint scheme- Sigma	DO. Paint CG Supply	Do in conjunction with HA-1047.
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BATHROOMS & TOILET'S																	
HA-1059	Remove all scuppers, drain pipes of bath rooms and toilets. Clean chemically and refit after pressure testing. 50% renewal of pipes. Total: Total Drain pipes: 15. Size: 50 mm. Material: Galvanized Iron Length of pipes-50 mtrs, size-50mm.																
HA-1060	Examine structure not covered by lagging or deck covering, paying particular attention to deck boundaries lower area of bulkhead and ship side's areas around side scuttles. Portable or semi portable fittings and soil pipe trunk access plates are to be removed for examination of structure. Different section of pipelines area to removed at successive examination.																
VOID SPACE																	
HA-1061	Examine the structure paying particular attention to the junction of framing with vertical plating, outer bottom plating and especially area not readily visible such as the back of framing and stiffeners, any defects to be rectified/ repaired as per surveyor recommendation and applied paint as per scheme. Paint yard supply																
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SI No	DFT	Brand Name	Colour														
01	50	Sigma cover 280	Yellow green														
02	160	Sigma cover 380	Green														
03	160	Sigma cover 380	Grey														
DIRTY WATER TANK																	
HA-1062	Dry out and inspect compartment structure for failure of paint coating. Remove any loose or flaking paint and all signs of corrosion by scraping and wire brushing. Ensure all strainers, limber holes and valves are clear and thoroughly dry. Apply paint as per paint scheme. Area of dirty water tank area 06 sq. mtr .																
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SL. NO.	DFT	BRAND NAME	COLOUR														
01	125	Sigmaguard 720	Green														
02	125	Sigmaguard 720	Aluminium														
FRESH WATER TANK																	
HA-1063	Dry out and inspect compartment structure for failure of paint coating. Remove any loose or flaking paint and all signs of corrosion by scraping and wire brushing. Ensure all strainers, limber holes and valves are clear and thoroughly dry. Apply paint as per paint scheme. Area of fresh water tank- 60 Sq. mtrs approx.																
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160	Sigma Guard 720	GREY															

HA.

TANKS –DIESEL OIL, LUB OIL,DIRTY OIL TANKS			
HA-1064	Lube oil tank. Clean tank and examine interior surface for corrosion. Recoat paint as per specification. Volumetric capacity- 1.1 Meter cube Diesel oil tank. Clean the tanks, survey and repainted if necessary. Volumetric capacity- 37.9 Meter cube Dirty oil tank. Survey compartments and structure after draining oil. Pressure tests the tanks. If any leakage found to be rectified. Note: - Man hole cover gaskets and securing bolts to be inspected any defects to be renewed. Volumetric capacity- 0.8 Meter cube	DO. Prior entry tank to be ventilated and Gas freed certificate to be provided from department of explosives. Pressure test to be undertaken if Steel renewal / repair take place.	Do cater for touch up paint scheme. Paint CG supply. Prior man entry, tank to be ventilated and Gas free certificate to be provided from department of explosives. Pressure test to be undertaken if Steel renewal / repair take place.
HA-1065	Manhole cover gaskets and securing bolts to be inspected at every refit and the defective ones to be renewed. Note: Carry out pressure test of tank as per class rules, if steel renewal/ repair take place. Apply paint as per approved paint scheme.	DO as per RFIC minutes. Provide bolt size along with Qty during RFIC. Pressure test to be undertaken if Steel renewal / repair take place.	Do material yard supply as per RFIC minutes. SS to indicate no. of manhole covers.
GREY WATER TANK			
HA-1066	Dry out and inspect compartment structure for failure of paint coating. Remove any loose or flaking paint and all signs of corrosion by scraping and wire brushing. Ensure all strainers, limber holes and valves are clear and thoroughly dry before touch as per paint scheme (Area approx. - 50 Sqm) Volumetric capacity- 8.1 Meter cube	DO. Touch up paint scheme. Paint CG supply	Do touch up paint scheme. Paint CG supply
AHU AND FAN ROOM			
HA-1067	Inspect structures not covered by lagging, paying particular attention to decks boundaries, lower portion of bulkheads and structures obscured by fittings. Where paint is peeled, cracked, blistered lost adherence or structure is excessively corroded, clean to bare metal, dry the surface and re coat as per paint scheme.	SS	Deleted. Covered under internal survey vide DI no. HA-1047.
MAGAZINE ROOM			
HA-1068	All pipe lines to be dismantled. cleaned and defects if any to be rectified and pressure tested 1.5 times of working pressure.(Mat- Cu-nickel, Length- 10 Mtr, Dia- 1.5")	DO	Do 25 % only. Paint yard supply. Renewal if any against AWRP.
HA-1069	Operating valves (02 Nos, size-65mm) to be overhauled and pressure tested and proved. Examine all steel structure &chequered plate paying particular attention to the area under vertical supports & boundaries.	DO	Do as per RFIC minutes.

PROVISION STORE				
HA-1070	Examine structure not covered with permanent lagging paying particular attention to decks, decks boundaries, lower area storages, racks and bins. Clean, scrap and paint the rusted area.		SS	DO Survey only.
HA-1071	Examine all steel structure/rack paying particular attention to the area under vertical supports & boundaries. Clean, scrap and paint the rusted area		SS	DO Survey only.
CABLE LOCKER				
HA-1072	Range out cable from cable locker. Remove portable perforated plates. Clear the sump and suction strainer and box. Examine structure in vicinity of cable clench, shipside, plates and bars, stiffeners etc. Specific defects if any projected. Recoat after repair as per scheme. Fix the cable to cable clench after applying grease XG 274 to D-shackle. Note: -SS to physically witness the fastening process, condition of locking pin and record in ships data/ ND data book.		DO. Additional defect to be projected in AWRFF, if any	DO survey by class surveyor. Cater for touch up paint scheme. Paint and grease CG supply.
FRESH WATER SYSTEM				
HA-1073	Remove 50% of system pipelines and valves. Clean and pressure test the lines and valves and fitted back. Total no. of valves-10. Size of valves - 25 & 20 mm.		DO__chemical cleaning and pressure testing for 25 % only. SS to provide type of valve (i.e., SD valve, SDNR valve, Bibcock, Stop cock valve) during RFIC.	DO. Cater for 25% system pipes and valves. Paint yard supply.
HA-1074	Renew 50% of taps and isolating stop cocks in bathrooms, toilets and galley. Pressure test 8 bar.		DFF	Delete Undertake under DFPR.
SEWAGE SYSTEM				
HA-1075	Strip, clean and replace 30% of soil pipes, re-galvanizing where necessary. Diameter- 63mm, Length - 40mtr		DO	DO. Cater for 25% system pipes. Paint yard supply.
HA-1076	Overhaul and refit all WC valves, control mechanism, discharge and stop cocks with associated fittings. defective tube replaced.		DO. Provide size, length of pipe and size & type of valve during RFIC	DO. SS to provide size, length of pipe and size & type of valve during RFIC
SCUPPER AND DRAINS				
HA-1077	Deck drain pipes to be removed repaired and pressure tested. (50% of total numbers is 20) Diameter: 65mm. Material: Aluminium pipe length - 20 mtr. pressure tested upto 3 bar		DO. Including renewal of leather seating and rubber lips. Material Yard supply.	DO as per RFIC minutes. Yard to cater for 25% system pipes. Paint yard supply.

70.

VENTILATION SYSTEM											
HA-1078	Blow through with LP air, ventilation trunks of all compartments other than all magazines and then examine for any crack/hole.	DO Including AC trunks	DO.								
HA-1079	Vent flaps on weather decks with rubber coaming and hinges of flap doors to be inspected, any defects to be rectified. (Total no. ventilation flaps: 35, Material: Neoprene Rubber, Length: 60 m approx, Width: 40 mm, Depth: 25 mm)	DO	DO. Renew all rubber beadings. Undertake Chalk test. Yard to provide test certificate. Rubber Material EPDM for external and Neoprene for internal vent flaps. Material yard supply.								
HA-1080	All rubber coaming of ventilation flaps to be renewed and chalk test to be proved	DO	DO. Renew all rubber beadings. Undertake Chalk test. Yard to provide test certificate. Rubber Material EPDM for external and Neoprene for internal vent flaps. Material yard supply.								
HA-1081	Overhauling of quick shut down valve of AC system for magazine compartment.	DO	DO.								
ANCHOR AND CHAIN CABLE											
HA-1082	Lay out cable, survey the Anchor and entire chain cable with associated fitting by class surveyor. All joining shackles to be opened, clean, greased tallow and refit. Gauge the cable in consecutive all links and record. Any links dia found below permitted limits to be renewed. Change the cable end to end to ensure equality of wear. Move and lubricate anchor flukes. Examine blake slip, and associate fittings. On completion of all jobs to be painted and take the cable onboard.	DO. Paint CG Supply. Cable to be renewed if calbe dia reduced more than 10%.	DO. Grit blasting and painting to be undertaken. Paint yard Supply. Renewal if any, against AW/RF. Spares CG Supply.								
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Sl.	DFT	Brand Name	Colour								
01	150	Sigma vikote 63	Black								
HA-1083	Anchor Hammer testing to be carried out. <u>Note.</u> Class surveyor to be involved for survey of anchors and chain cable.	DO	DO.								

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<p>DECK CRANE (Make- M/s Pelligrini, Italy, Model- N GSI / 4.9) PAC firm - M/s Arksun Services, Mumbai</p>	<p>Survey and load test davits together with all associated fittings, ropes, blocks pulleys etc. Any defect to be projected. 1. Proof test shall include. a. Hoist and lower the main hook. b. Auxiliary hook load and boom. c. Slewing and luffing. d. Test of safety. e. Fail safe and limit switches. f. Load movement. g. Boom angle indicators.</p> <p>II. After testing the following should be examined. a. Foundation. b. Sheaves and rope guides. c. Wire ropes and end connectors. d. Hoist, brakes and clutches. e. Hooks. f. Bolting arrangements.</p>	<p>DO. Through PAC firm only</p>	<p>DO through PAC firm. Spares CG supply. Yard to submit load test report.</p>
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Sh.

HA-1085	Overhaul the electric motor, clutches and hydraulic system. Prove the hydraulic system for operating pressure. Change hydraulic hoses which are leaking and damaged. Check the current rating (power pack). Open gearbox and inspect the gears for any physical damage. Dismantle the fixed arm and telescopic arm. Inspect the arms and bearings. Inspect the gliding plate units inside telescopic arms. Check all hydraulic valves and cylinders. On completion refit the system and prove for operation at specified SWL.(Any defects observed to be raised)	DO. Through PAC firm only	DO through PAC firm. Spares CG supply.
RIGID INFLATABLE BOAT (Make- M/s Praga Marine, Model – 4.7 Mtr)			
HA-1086	Inspect the lifting mechanism and chocks for proper seating. Any defect be projected for rectification.	SS	Delete.SS
HA-1087	Overhaul the complete RIB including each chamber valve test, boat leak test.	DO. Material Yard Supply	DO. Material and spares yard supply.
TOWING HOOK			
HA-1088	Conduct load test of towing slip and fitment (5 Ton)	DO. Certificate to be provided by Yard	DO. Yard to provide load test certificate.
LADDER-RUNG, STAIRS			
HA-1089	Inspect and renew necessary portable aluminium ladders.	QSD	Delete. Undertake under DFPR.
HA-1090	ladders were broken, defective to be re-welded Note: ship to project specific defect.	QSD	Delete. Undertake under DFPR.
ANCHOR CAPSTAN(Make- M/S GRSE, Kolkata)			
HA-1091	Dismantle the capstan, cable holder and lower the gear box. Strip down for examination of all bearing, bushes, shafts, gears, clutch and brake lining. Holding bolts to be removed and examined. On deck check oil and change every one year. Renew brake lining every one year. Grease all pins and adjust / replace. Test the capstan on no load and then on load and prove.	DO. Through PAC firm only	DO. Load test certificate to be provided by yard.

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MOORING CAPSTAN (Make- M/S GRSE, Kolkata)			
HA-1092	Dismantle the capstan, cable holder and lower the gear box. Strip down for examination of all bearing, bushes, shafts, gears, clutch and brake lining. Holding bolts to be removed and examined. On deck check oil and change every one year. Renew brake lining every one year. Grease all pins and adjust / replace. Test the capstan on no load and then on load and prove.	DO. Through PAC firm only	DO. Load test certificate to be provided by yard.
STRUCTURAL FITTING- DOORS, HATCHES AND MANHOLES			
HA-1093	Inspect all rubber beading, repair for any defects in all doors, hatches and manholes and their hinges/ coaming chalk test all rubber joints and hose test to be carried out. Doors : 13, Hatches : 09, Manholes : 07 size: 40mm X 25mm length 100 mtrs, Mat-Neoprene	DO. Rubber to be renewed as per CGHQ policy letter DN/0305/CGWO/GEN dated 20 Nov 12 and 29 Jan 14	Do. Renew all rubber beadings. Undertake Chalk test. Yard to provide test certificate. Rubber Material EPDM for external and Neoprene for internal doors and hatches. Material yard supply.
STRUCTURAL FITTING -- SIDE SCUTTLES, DEADLIGHTS AND SQUARE PORTS			
HA-1094	Inspect rubber seating of all scuttles and dead light. Renew the rubber seating of toughened glasses and hose test be conducted. Qty- 07 Nos. Size- 300mm dia.	DO. Only renewal of rubber seating. Renewal of toughened glass to be projected in AWRP	DO inspection only. Repair if any to be projected under AWRP.
BRIDGE OBSERVATION WINDOW			
HA-1095	Check the windows seal and examine framing. If any defect, to be projected.	DO. Hose test to be conducted	Do. SS to indicate number of windows during RFC.
BOLLARD AND CLEAT/ STAG HORN			
HA-1096	Die Penetration Test (DPT) be conducted as per standard. Defects observed to be rectified. No of bollards: 08, Stag horn: 10	DO. NDT to be carried out vide CGHQ Policy letter FM/1100/Policy dated 02 Jun 11.	Do DPT. Renewal if any against AWRP. A.H.

MAST		DO	DO touch up paint scheme. Paint CG supply.																				
HA-1097	<p>Carry out visual inspection of entire mast. Scrap, clean the mast to bare metal at defective areas. Touch up scheme be applied at those areas. Final coat of mast be applied. Paint yard supply. Paint –Yard supply . paints scheme as follows:</p> <table border="1"> <thead> <tr> <th>Sl.</th> <th>DFT</th> <th>Brand Name</th> <th>Colour</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>50</td> <td>Sigma cover 280</td> <td>Yellow Green</td> </tr> <tr> <td>02</td> <td>125</td> <td>Sigma cover 680</td> <td>Aluminium</td> </tr> <tr> <td>03</td> <td>125</td> <td>Sigma cover 380</td> <td>Grey</td> </tr> <tr> <td>04</td> <td>50</td> <td>Sigmatdur 550</td> <td>White</td> </tr> </tbody> </table> <p>Note: - Aluminium structure are not to be blasted/ hard tools not to be used for scraping or chipping.</p>	Sl.	DFT	Brand Name	Colour	01	50	Sigma cover 280	Yellow Green	02	125	Sigma cover 680	Aluminium	03	125	Sigma cover 380	Grey	04	50	Sigmatdur 550	White		
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ROLLER FAIRLEAD		DO. In presence of Class Surveyor	DO DPT. Renewal if any against AWRf.
HA-1098	<p>Die Penetration Test (DPT) to be carried out at base welding joints as per standards. Defects observed to be rectified. No of Roller Fairleads : 04 Nos.</p>		
SEWAGE TREATMENT PLANT (Make- Chanwon Environment Industries, Model- Sea clean II N40CE)			
HA-1099	<p>Open and clean the body of the electrolysis cell and remove the scale & particles. Check and repair the effluent tank water level gauge. Check the body of electrolysis cell for leaks. Check the lamp of operation panel and DC power convert device. (c) Spares CG supply.</p>	DO. Through PAC firm only	Delete covered under AMC
HA-1100	<p>Clean and Overhaul STP and all associated pumps and prove the system. STP make EVAC Finland. Work package to be undertaken by OEM/PAC firm.</p>	DO. Through PAC firm only	Delete covered under AMC

M

ICGS ARUSH
MAIN DEFECT LIST (ENGINEERING) SHORT REFIT- 18

EQUIPMENT: SHAFTING , MAKE: M/S JAURE SHAFT LINES JAURE SA, SPAIN , MODEL: LAMIDISC, LOCATION OF INSTALLATION: ER/WJ, PAC FIRM:M/S ROLLS ROYCE MARINE (I)LTD, MUMBAI-QTY-03 NOS.			
DL NO.	DESCRIPTION OF THE DEFECT	DHQ REMARKS	RHQ REMARKS
Inspection should be carried out for the lami disc coupling as follows:			
EA-3001	Check for any disc pack failure. If found failed, replace it and investigate the cause of the failure.	Do through PAC firm. Spare CG supply & Material yard supply	Do through PAC firm. Spare CG supply.
EA-3002	Inspect the lami disc coupling disc packs for any misalignment using stroboscopic method.	Do through PAC firm.	DO. Yard to cater checking of alignment for lamidisc coupling by stroboscopic light method during dry dock. Dismantling of lamidisc coupling not required. Spares CG supply. Repair if any, against AWRP.
Inspection of the Plummer block to be carried out as follows:			
EA-3003	Check the Cooper roller bearings for wear and renew the lubrication grease.	Do through PAC firm. Grease CG Supply	DO through M/s RRMIL, Mumbai, PAC firm. Spares and Grease CG supply.
The following jobs to be carried out on shafting:			
EA-3004	Calibration/renewal of pressure gauges to be carried out.	Do only calibration. Yard to provide calibration certificate. SS to give range & Qty of pressure gauges	Do calibration through authorised firm. Yard to provide calibration certificate. Spares CG supply. SS to indicate range and quantity of gauges during RFIC.

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EA-3005	Apply anti corrosive protector abundantly (i.e. Rust Keeper 999) or equivalent.	Do.	DO. Material yard supply.
EA-3006	Remove major oxide by a pad (i.e. scotch brite). Pad must be continuously wet with anticorrosive protector	Do.	DO. Yard to cater for insitu polishing. Material yard supply.
EA-3007	Apply Tectyl or anticorrosive paint.	Do. Anticorrosive paint yard supply	DO. Paint yard supply.
EQUIPMENT: WATER JETS & SYSTEM, MAKE: ROLLS ROYCE KAMEWA, SWEDEN , MODEL:71S III NP, SL NO: STBD(53065) PORT :(53066) CENTER:(53067), PAC FIRM: M/S RRMI,Mumbai, LOCATION OF INSTALLATION: TRANSONM JET COMPT.			
Following two yearly routine to be carried out on water jets (03 NOS) & system(including yearly routines) :			
(Note : Routines to be under taken through PAC firm only) PAC firm :M/S Rolls Royce Marine (I), Mumbai			
EA-3008	Carry out in-situ visual inspection of shaft, shaft seal and shaft coupling.	Do (EA-3008 to EA-3013 through PAC firm. Spare CG Supply & Material Yard Supply.	DO through, M/s RRMI, Mumbai (PAC firm). Spares CG supply.
EA-3009	Carry out in-situ inspection of bulkhead seal.		DO through, M/s RRMI, Mumbai (PAC firm). Spares CG supply.
EA-3010	Carry out functional test of counter balance valve of steering and reversing system.		DO through, M/s RRMI, Mumbai (PAC firm). Spares CG supply.
EA-3011	Carry out functional test of PTO pump. Re-adjust, if required. Capacity: 220 bar.		DO through, M/s RRMI, Mumbai (PAC firm). Spares CG supply.
EA-3012	Carry out functional test on electrical motor driven lube oil pump. Re-adjust pressure if required.		DO through, M/s RRMI, Mumbai (PAC firm). Spares CG supply.
EA-3013	Carry out functional test hydraulic oil tank with valve manifold. Re-adjust pressure if required.		DO through, M/s RRMI, Mumbai (PAC firm). Spares CG supply.
EA-3014	Carry out pressure test and crack test of hydraulic hoses.	Delete covered under	Delete covered under

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		defect SI EA-3021	defect SI EA-3021
EA-3015	Carry out in-situ pressure test of cylinder seal.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.
EA-3016	Carry out in-situ inspection of impeller, guide vane chamber and transom flange assembly.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.
EA-3017	Carry out inspection of shaft and flange bolts.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.
EA-3018	Replaced the cylinder seals.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.
EA-3019	Carry out in-situ inspection of split cone ring.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.
EA-3020	Carry out re-adjustment of shaft seal.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.
EA-3021	Replace the hydraulic hoses.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.
EA-3022	Replace the protection hoses (Feedback encodes).	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.
EA-3023	Replace the anode below shaft protection tubes, on ship transom and shaft seal anode.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.	DO through, M/s RRFI, Mumbai (PAC firm). Spares CG supply.

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EA-3024	Carry out calibration of levers and feedback units and readjust indicators.		DO through, M/s RRML, Mumbai (PAC firm). Spares CG supply.
EQUIPMENT: FUEL OIL PURIFIER (01 No.), MAKE: ALFA LAVAL INDIA, PUNE, MODEL: NMOPX306+DCU41X, SL NO: 4242187/2015, PAC FIRM: ALFA LAVAL INDIA, PUNE, RUNNING HOURS: 206 HRS, LOCATION OF INSTALLATION: FER.			
Following yearly routine to be carried out on fuel oil purifier			
EA-3025	Major Service consists of an overhaul of the complete separator including an Intermediate Service and renewal of Seals and bearings in the bottom.	Do through PAC firm. Spares CG supply.	Do through PAC firm. Spares CG supply.
EQUIPMENT: FUEL OIL TRANSFER PUMP (02 Nos), MAKE: M/S ROYSONS ENGG, KOLKATA, MODEL: RGP 4MF, SL NO: E41172-15H (NO-1), E41173-15H(NO-2). LOCATION OF INSTALLATION: FER.			
Following refit routines to be carried out on fuel transfer pump:			
EA-3026	Overhaul the pump.	Do. Spares CG supply & Material yard supply.	Do. Spares CG supply & Material yard supply.
EA-3027	Check the alignment of the pump with motor.	Do.	Do.
EA-3028	Renew pump mechanical seal/stuffing box, if worn out/leaking.	Do in conjunction with EA-3026	Do. Spares CG supply & Material yard supply.
EQUIPMENT: HP AIR COMPRESSOR (02 NOS), MAKE: ELGI, MODEL: HP 10 300,SL NO: ENLM 300007(FWD),ENLM 300008(AFT) PAC FIRM: M/S MAXIM ENTERPRISES, MUMBAI,RUNNING HOURS:136:30(FWD),131:25(AFT), LOCATION OF INSTALLATION: AER, FER.			
Following yearly/2500 Hrly routines to be carried out on HP Compressors(including 1000 hrly routines):			
EA-3029	Remove the cylinder head and inspect the valve plates. Replace the worn out valve plates with spares if necessary.	Do (EA-3029 to EA-3035). Spares CG supply & Material yard supply.	Do for EA-3029 to EA-3035 through authorised firm. Spares CG supply. Material yard supply.
EA-3030	All the pipe lines should be checked for leaks at joints and replace the packing if necessary.		
EA-3031	Dismantle the non- return valve. Examine the spring for stiffness. Check the valve seat. Replace the spring and valve seat, if required.		
EA-3032	De-carbonize the after cooler and the inter cooler.		
EA-3033	Clean the air flow passage internally.		
EA-3034	Overhaul the compressor replace worn-out components.		
EA-3035	Change inlet air filter element		

EQUIPMENT: REVERSE OSMOSIS PLANT, MAKE: M/S SLCE, FRANCE, MODEL: SD5-203, 4.5 TPD, SL NO: SD5-203-4908-01/15, PAC FIRM: M/S VANSON ENGG, THANE, RUNNING HOURS: 1371:20HRS, LOCATION OF INSTALLATION: AMR,		
EA-3036	Replacement of cartridges filters seal.	Do for EA-3036 to EA-3038 through authorised firm. Spares CG supply.
EA-3037	Checking of pulsation damper inflation pressure with loading bed.	Do through PAC firm (EA-3036 to EA-3038). Spares CG supply & Material yard supply.
EA-3038	Replacement of the active carbon cartridge.	
EQUIPMENT: A/C COMPRESSOR (02 Nos), MAKE: BOCK SEMI HERMETIC, MODEL: HGX5/830-4S, SL NO: AU69384B019(NO 1), AW99434B019(NO-2), PAC FIRM: M/S H&H, KOLKATA, RUNNING HOURS: 4200:00(NO-1), 9010:45(NO-2) LOCATION OF INSTALLATION: FER,		
EA-3039	Withdraw and inspect compressor suction and delivery valves for wear down, scoring marks.	Do through PAC firm (EA-3039 to EA-3057). Spares CG supply & Material yard supply. Gas CG supply and nitrogen yard supply.
EA-3040	Withdraw piston and inspect for wear down and scoring marks. Measure wear & tear of piston, piston rings and oil scraper rings. Replace, if not within tolerance limit.	
EA-3041	Inspect small end bushes and gudgeon pins and replace if not within tolerance.	
EA-3042	Inspect all bearings for wear down and record. Renew the bearings, if necessary.	
EA-3043	Measure ovalation of cylinder and record. Renew, if necessary.	
EA-3044	Inspect unloading device for correct working.	
EA-3045	Inspect crank shaft, under take measurement, polish and refit if not within tolerance limit.	
EA-3046	Strip and examine Lube oil pump of compressor.	
EA-3047	Inspect crank shaft, undertake measurement polish and renew if not within tolerance limit.	
EA-3048	Clean all motor bearings inspect motor bearing for wear and tear and replace, if necessary.	
EA-3049	Overhaul Sea Water Cooling Pumps. (Make: M/S SPX Flow Technology, 16.1 m ³ /hr, Qty: 02 nos)	
EA-3050	Check and replace all valve stems glands in refrigerant line. (No's-06)	
EA-3051	Clean condenser, inspect for corrosion and fouling. Carry out the pressure test to 1.5 times of working pressure for 24 hours. Replace condenser gasket/O-ring. (Test pressure-2.5 Bar)	
EA-3052	Overhaul all isolating valves (Size: 65 mm butterfly, Qty: 04 Nos) on	

	cooling water (sea water) system and pressure test up to 1.5 times of working pressure. (Test pressure-2.5 Bar)		
EA-3053	Carry out pressure test, vacuum test, and leak test of complete plant. Inspect cooling coil and return bends and check for weak spots, gland of valves, etc. by hydrostatic testing. (Test pressure- 25 bar-High, 15 Bar-Low with nitrogen). Nitrogen yard supply.		
EA-3054	Check all cooling coils in AHUs for cleanliness and corrossions. Clean with water spray, soap solution and nylon brush and then carry out pressure test. (Test pressure -15 bar).		
EA-3055	Remove and refit following isolating valves on liquid and gas lines. Renew all Nylon/Teflon washers and seating. (i) Globe Valve (2 ^{1/8"})-02 nos. (ii) Globe Valve (1 ^{3/8"})-02 nos (iii) Globe Valve (1 ^{5/8"})-07 nos (iv) Angle Valve Globe Valve (3/8")-20 nos		
EA-3056	Check ducts and outlets for dust. Clean, paint and refit.		
EA-3057	Recharge the system with refrigerant (R-404a) on satisfactory completion of checks up and undertake trials of plant including functional checks of all safeties and cut-outs .Yard to cater for supply of 45 kg refrigerant (R-404a).		

EQUIPMENT: AIR HANDLING UNIT, MAKE: EDGE TECH AIR SYSTEM (P) LTD, MODEL: ETU-040H, SL NO: 1400406-1, PAC FIRM: M/S H&H, KOLKATA , LOCATION OF INSTALLATION: AHU COMPT,

EA-3058	Clean and check contacts, clean housing, check for proper operation and overload protection of motor starter.	Do through PAC firm (EA-3058 to EA-3063). Spares CG supply & Material yard supply.	Do for EA-3058 to EA-3063. Material yard supply.
EA-3059	Check fan shaft.		
EA-3060	Check for dust, moisture, defective linkages, defective insulation and leaks of diffuser and ducts.		
EA-3061	Check and repair all damaged pipe insulation, fitting insulation, valve insulation, duct insulation, casing a housing insulation.		
EA-3062	Check louvers, dampers, filter frames, coils, casings, plenums and fans for corrosion. Clean and treat as recommended by the manufacturer.		
EA-3063	Overhaul of AHU blower assembly and renew bearings/ Shafting. Carry out dynamic balancing.		

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EQUIPMENT: BILGE & GS AND FIRE & GS PUMP, MAKE: M/S SPX FLOW(JOHNSON) (FER and AER), AHMADABAD, MODEL: CV 50 200 (B3M2TL)40TPH, SL NO: FIRE AND GS PUMP(Y901011017),BILGE AND GS PUMP(Y901011037), PAC FIRM: M/S SPX FLOW(JOHNSON),AHMADABAD, LOCATION OF INSTALLATION: BILGE &GS(FER) AND FIRE &GS PUMP(AFT).		
Following refit routine on Bilge &GS pump and Fire and GS pump to be carried out		
EA-3064	Dismantle and overhaul the pump completely, clean and inspect each item thoroughly and renew as necessary.	Do (EA-3064 to EA-3066). Spares CG supply & Material yard supply.
EA-3065	Check and flush all tube work and suction and delivery piping.	Do for EA-3064 to EA-3066. Material yard supply. Spares CG supply.
EA-3066	Renew all mountings, if any sign of deterioration of rubber, lacquer of bond.	
EQUIPMENT: DOMESTIC FRESH WATER PUMP (02 NOS), MAKE: M/S BEST & CROMPTON, CHENNAI, MODEL: 1 TPS 3M, SL NO: W0024615(NO-1),W1024715(NO-2), PAC FIRM: M/S BEST & CROMPTON, CHENNAI, LOCATION OF INSTALLATION: STP COMPT.		
EA-3067	Dismantle and overhaul the pump completely, clean and inspect each item thoroughly and renew, if necessary.(CAPACITY-2TPH)	Do. Spare CG supply & Material yard supply.
EA-3068	Check and flush all tube work and suction and delivery piping.	Do. Material yard supply. Spares CG supply.
EQUIPMENT: HYDROPHORE TANK , MAKE: M/S BEST & CROMPTON, CHENNAI, MODEL:200 LTR: PAC FIRM: M/S BEST & CROMPTON, CHENNAI, LOCATION OF INSTALLATION: STP COMPT.		
EA-3069	Chemically clean hydrophore tank. Capacity-200LTRS.	Do for EA-3069 to EA-3071. Material yard supply. Spares CG supply.
EA-3070	Repaint hydrophore tank with approved paint scheme.	
EA-3071	Carry out pressure test of hydrophore tank.	
EQUIPMENT: AIR RECEIVER (02 Nos),MAKE: M/S SUMMITS HYGRONICSPVT LTD,MODEL: SR065EXN 30 BAR, 650 LTR, SL NO:1308SR0035(FER),1308SR0036(AFT),PAC FIRM: M/S SUMMITS HYGRONICS PVT LTD, LOCATION OF INSTALLATION: AER, FER.		
EA-3072	Overhaul all valves fitted in air system. Valve (Size:25 mm, 04 Nos & 20 mm 02 Nos.	Do. Material yard supply.

EQUIPMENT: OILY BILGE WATER SEPARATOR, MAKE: RWO, GERMANY, MODEL: SKIT S DEB, SL NO:12989, PAC FIRM: M/S NAVICOM TECH INTERNATIONAL, NAVIMUMBAI, RUNNING HOURS:36:55HRS, LOCATION OF INSTALLATION:FER.CAPACITY:0.5 M³/HR.

EA-3073	Open the inspection port of the oil separator housing, the oil separator housing and the absorber housing.	Do (EA-3073 to EA-3077) through PAC firm. Spares CG supply & material yard supply.	Do for EA-3073 to EA-3077 through PAC firm. Spares CG supply.
EA-3074	Check for sludge deposits. If necessary, remove the sludge and clean the container.		
EA-3075	Check the inner coating. If necessary, mend damaged spots.		
EA-3076	Checks seals and piston valves, If necessary, replace damaged seals and components.		
EA-3077	Overhaul discharge pump.		

EQUIPMENT: FM-200 GASEOUS FIRE EXTINGUISHING SYSTEM, MAKE: M/S TYCO MARINE SERVICES, THANE (W), SL NO:303.205.017 (MCR),12342(FER),12746(AFT),PAC FIRM: M/S TYCO MARINE SERVICES, THANE (W).LOCATION OF INSTALLATION:FM200 COMPT.

EA-3078	Check FM-200 cylinder weight and pressures recharge if Loss in weight by 10%.	Do through PAC firm.	Do through authorized firm. Recharge of gas if any, against AWR/F.
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AIR SYSTEM

FOLLOWING REFIT ROUTINE ON AIR SYSTEM TO BE CARRIED OUT :

EA-3079	30/7 Bar air reducer to be overhauled and diaphragm to be renewed.	DO (EA-3079 to EA-3082). Material yard supply. (EA-3082 DO valves 25% only)							
EA-3080	7/5 Bar air reducer to be overhauled and diaphragm to be renewed								
EA-3081	02 in nos. moisture cum air filter to be overhauled.								
EA-3082	Remove overhaul and refit Air valves as mentioned below								
	<table border="1"> <thead> <tr> <th>SIZE</th> <th>TYPE</th> <th>QTY</th> </tr> </thead> <tbody> <tr> <td>15 mm</td> <td>SDSL</td> <td>12 nos</td> </tr> </tbody> </table>	SIZE	TYPE	QTY	15 mm	SDSL	12 nos	DO for EA-3079 to EA-3081 . Material yard supply. DO 25% only. Material yard supply.	
SIZE	TYPE	QTY							
15 mm	SDSL	12 nos							

Underwater Valves

Note: All material/spare required for overhauling of underwater valves to be supplied by Yard.

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EA-3083	<p>Following sea chest valves to be removed, overhauled, pressure tested up to 05 kg/cm2 and fitted back.</p> <table border="1" data-bbox="223 952 542 1881"> <thead> <tr> <th>Size</th> <th>Type</th> <th>Qty</th> <th>Equipment</th> </tr> </thead> <tbody> <tr> <td>150 MM</td> <td>SDNR</td> <td>03 nos</td> <td>Main Engine</td> </tr> <tr> <td>50 MM</td> <td>SDSL</td> <td>01 nos</td> <td>Magazine flooding</td> </tr> <tr> <td>65 MM</td> <td>SDSL</td> <td>02 nos</td> <td>GS pump</td> </tr> <tr> <td>12500 MM</td> <td>SDSL</td> <td>01 no</td> <td>A/C Sea water pump</td> </tr> <tr> <td>65 MM</td> <td>SDNR</td> <td>03 nos</td> <td>D/A's</td> </tr> <tr> <td>100 MM</td> <td>SDNR</td> <td>01 no</td> <td>RO plant</td> </tr> </tbody> </table>	Size	Type	Qty	Equipment	150 MM	SDNR	03 nos	Main Engine	50 MM	SDSL	01 nos	Magazine flooding	65 MM	SDSL	02 nos	GS pump	12500 MM	SDSL	01 no	A/C Sea water pump	65 MM	SDNR	03 nos	D/A's	100 MM	SDNR	01 no	RO plant	Do. Material yard supply	Do. Material yard supply.
Size	Type	Qty	Equipment																												
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12500 MM	SDSL	01 no	A/C Sea water pump																												
65 MM	SDNR	03 nos	D/A's																												
100 MM	SDNR	01 no	RO plant																												
EA-3084	Remove, overhaul & pressure test (up to 10 bar) sea chest weed cleaning SDNR valves. (Qty-10 Nos). (Size-15 mm,)	Do. Material yard supply	Do. Material yard supply.																												
EA-3085	Following over board valves in engine room to be removed, overhauled, pressure tested up to 05 kg/cm2 and fitted back.	Do. Material yard supply	Do. Material yard supply.																												
FIRE MAIN SYSTEM																															
EA-3086	Ships fire main system pipe line (size 65 mm, length 80 mtr) and size: 50mm, length: 60 mtr pipe lines to be chemically cleaned and pressure tested up to 05 Bar and fitted back.	Do 25% only. Material yard supply	Do 25% only. Material yard supply																												
EA-3087	Remove overhaul Fire Main system valves as mentioned below. (Test pressure: 7.5 Kg/sq. cm)	Do 25% only. Material yard supply	Do 25% only. Material yard supply																												
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SIZE	TYPE	QTY																													
65 MM	SDSL	12																													
EA-3088	Ships fire main system hydrant valves (Size: 50 mm, Qty: 08 nos) to be overhauled, pressure tested and fitted back. Job includes overhauling of hydrant locking pins assembly and renewal of rubber sleeves.	Do 25% only. Material yard supply	Do 25% only. Material yard supply																												

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A/C SEA WATER SYSTEM																		
EA-3089	A/C sea water system pipe line (size 65 mm, length 30 mtrs) to be chemically cleaned pressure tested up to 05 Bar and fitted back.	Do 25% only. Material yard supply	Do 25% only. Material yard supply															
BILGE PUMPING OUT SYSTEM																		
EA-3090	Carry out chemical cleaning of bilge eductors (05 nos.) and check their performance.	Do. Material yard supply	Do. Material yard supply															
EA-3091	Bilge & GS Pump and fire & GS pump sea water system pipe lines (size 65 mm, length 20 mtrs) to be chemically cleaned, pressure tested up to 05 Bar and fitted back.	Do 25% only. Material yard supply	Do 25% only. Material yard supply															
EA-3092	Ships Eductors system and bilge pumping out system pipe line (size 65 mm, length: 110 mtrs) to be chemically cleaned and pressure tested up to 05 Bar and fitted back pumping out system to be proved for satisfactory operation from all compartments.	Do 25% only. Material yard supply	Do 25% only. Material yard supply															
RO PLANT S/W SYSTEM PIPE LINE																		
EA-3093	Ships RO plant sea water system pipe line (size: 50 mm, length: 10 mtrs) to be chemically cleaned and pressure tested up to 05 Bar and fitted back.	Do 25% only. Material yard supply	Do 25% only. Material yard supply															
DA SEA WATER COOLING SYSTEM																		
EA-3094	DA sea water cooling system pipe lines (size: 65 mm, length: 18 mtrs) to be chemically cleaned and pressure tested up to 05 Bar and fitted back.	Do 25% only. Material yard supply	Do 25% only. Material yard supply															
FUEL SYSTEM																		
EA-3095	Following fuel oil system valves to be overhauled painted, pressure tested up to 5 bar, painted and fitted back.	Do 25% only. Material yard supply	Do 25% only. Material yard supply															
	<table border="1"> <thead> <tr> <th>SI</th> <th>Size</th> <th>Qty</th> </tr> </thead> <tbody> <tr> <td>(a)</td> <td>50 mm</td> <td>02 Nos</td> </tr> <tr> <td>(b)</td> <td>40 mm</td> <td>04 Nos</td> </tr> <tr> <td>(c)</td> <td>20 mm</td> <td>03 Nos</td> </tr> <tr> <td>(d)</td> <td>40 mm</td> <td>04 Nos</td> </tr> </tbody> </table>	SI	Size	Qty	(a)	50 mm	02 Nos	(b)	40 mm	04 Nos	(c)	20 mm	03 Nos	(d)	40 mm	04 Nos		
SI	Size	Qty																
(a)	50 mm	02 Nos																
(b)	40 mm	04 Nos																
(c)	20 mm	03 Nos																
(d)	40 mm	04 Nos																
EA-3096	Following Fuel oil system pipe line to be chemically cleaned, painted and pressure tested up to 05 bar and fitted back.	Do 25% only. Material yard supply	Do 25% only. Material yard supply															
	LengthSize																	

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50 mtr 04 mtr	40 mm 20 mm				
<u>SPRINKLING SYSTEM</u>					
EA-3097	Chemically clean and refit 04 nos sprinklers at magazine compartment, 04 nos sprinklers nozzles in paint store. Renew defective sprinklers.		Do. Material supply	yard	Material yard supply
<u>ALL SYSTEM PRESSURE GAUGES</u>					
EA-3098	Carry out calibration /renewal of all pressure gauges.		Do only calibration. SS to indicate qty with range of pressure gauges	SS to indicate qty with range of pressure gauges	Do only calibration. SS to indicate qty with range of pressure gauges
EQUIPMENT: PORTABLE SUBMERSIBLE PUMP (02 NOS), MAKE:KIRLOSKAR, PUNE, MODEL: DPS65/12, SL NO:1860215002(NO:1),1860215004(NO:2),PAC FIRM: KIRLOSKAR, PUNE, LOCATION OF INSTALLATION:PORTABLE.					
EA-3099	Overhaul the pump and replace defective spares. Paint pump internally and externally.		Do. Spares & Material yard supply		
EQUIPMENT: 40 HP OBM, MAKE: MERCURY MARINE, TYPE: 40 HP, SL NO:2B105503, PAC FIRM: M/S ESMARIO, SECUNDERABAD, LOCATION OF INSTALLATION:Q/DECK.					
EA-3100	Overhaul the engine.		Do (EA-3100 to EA-3103) through PAC firm. Spares CG supply & Material yard supply.		
EA-3101	Inspect remote steering assembly and renew defective components.				
EA-3102	Clean the feed tank and replace the flexible hoses.				
EA-3103	Replace water pump impeller.				
EQUIPMENT:25 HP OBM, MAKE: MERCURY MARINE, TYPE: 25 HP, SL NO:ON239898, PAC FIRM: M/S ESMARIO, SECUNDERABAD, LOCATION OF INSTALLATION: Q/DECK.					
EA-3104	Overhaul the engine		Do (EA-3104 to EA-3106) through PAC firm. Spares CG supply & material yard supply.		
EA-3105	Clean the feed tank and replace the flexible hoses, if required				
EA-3106	Replace water pump impeller.				
EQUIPMENT: PORTABLE LUBE OIL PUMP, MAKE:ROYSONS ENGINEERING PVT LTD, MODEL: RGP-1,SL NO:B1488-15,PAC FIRM:M/S ROYSONS ENGG, LOCATION OF INSTALLATION: PORTABLE.CAPACITY:1M³/HR.					
EA-3107	Overhaul the pump.		Do. Spares & Material yard supply.		
EA-3108	Check the alignment of the pump with motor.				
EQUIPMENT: AIR HORN, MAKE:KOCKU M SONICS, TYPE:MKT75/440,SL NO:150601, LOCATION OF INSTALLATION:BRIDGE.					
EA-3109	Overhaul the unit. Change the defective components and prove the system for satisfactory operation.		Do. Spares and material yard supply.	Do. Spares and material yard supply.	Do. Spares and material yard supply.

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EQUIPMENT: SHOWER & BILGE PUMP, MAKE: M/S ROYSONS ENGG, MODEL: N32 ,SL NO:18.07.13, PAC FIRM: M/S ROYSONS ENGG, LOCATION OF INSTALLATION: STP COMPT.			
EA-3110	Dismantle the pump completely, clean and inspect each item thoroughly and renew worn out components.	Do (EA-3110 to EA-3113). Spares CG supply & Material yard supply.	DO. Spares and material yard supply.
EA-3111	Check and flush all tube work and suction and delivery piping.	Delete.SS	Delete.SS
EA-3112	Renew all mountings showing any sign of deterioration of rubber, lacquer of bond.	DO. Material yard supply.	DO. Material yard supply.
EA-3113	Carryout calibration/ renewal of all pressure gauges 02 No's.	Delete. S&D	Delete. S&D
EQUIPMENT: ROTARY PUMPS (hand pumps-06 nos), MAKE: M/S KIJEKA ENGRS, TYPE: KE 200.			
EA-3114	Dismantle the pump completely, clean and inspect each item thoroughly and renew worn out components.	Do (EA-3114 to EA-3116). Material & mountings yard supply	DO. Spares and material yard supply.
EA-3115	Check and flush all tube work and suction and delivery piping.	Delete.SS	Delete.SS
EA-3116	Renew all mountings showing any sign of deterioration of rubber, lacquer of bond.	Delete. SS	Delete. SS
EQUIPMENT: PORTABLE ELECTRICAL PUMP, MAKE: M/S DELTA PD, CHENNAI, TYPE: DIG 70.			
EA-3117	Dismantle the pump completely, clean and inspect each item thoroughly and renew worn out components.	Do (EA-3117 to EA-3119). Material & mountings yard supply	Delete.SS
EA-3118	Check and flush all tube work and suction and delivery piping.	Delete.SS	Delete.SS
EA-3119	Renew all mountings showing any sign of deterioration of rubber, lacquer of bond.	Delete.SS	Delete.SS
EQUIPMENT: MAIN ENGINE, MAKE: M/S MTU, GERMANY, MODEL: MTU 16V 4000 M 90, SL NO:527111241(STBD),527111236(CENTRE),527111242, PAC FIRM: M/S YEOMAN MARINE SERVICES PVT LTD, MUMBAI, RUNNING HOURS:3007(STBD),2836(CENTRE),3014(PORT) LOCATION OF INSTALLATION: FER, AER.			
EB-3120	High coolant temperature alarm observed on three main engines while exploiting at 2060 RPM. Suspect coolant cooler choked. To be serviced and engine operation to be proved at 2100 RPM. [E-006/17]	Deleted. Do under CGDFP.	Delete. Under take under DFPR
ED-3121	Minor lub Oil traces observed near fly wheel below 'B' bank during exploitation of stbd main engine. [GDE-020]	Do.	TO be discussed during RFTC.

/s

ICGS ARUSH - SHORT REFIT (SR-18)
MAIN DEFECT LIST (ELECTRICAL)

UNDER WATER WORK PACKAGE(5001-5013)

<u>EQUIPMENT: ICCP SYSTEM, MAKE :M/S CATHODIC CONTROL CO. PVT LTD, MODEL : Pt-Ti Anode type, SL NO. :25-02-02-10017, PAC FIRM : M/S CATHODIC CONTROL CO. PVT LTD,(UNDER AIAMC WITH CATHODIC CONTROL CO. PVT LTD, BANGALORE)</u>			
<u>DL NO.</u>	<u>DESCRIPTION</u>	<u>DHQ REMARKS</u>	<u>RHQ REMARKS</u>
LA- 5001	Inspect the anode and the reference electrode for any mechanical damage. Replace if consumed more than 50%	Deleted Under AIAMC.	Delete covered under AIAMC
LA- 5002	Inspect the shield paint and paste around the anode and reference electrodes. If any peeling off is found, that area must be recoated. In this case the surface preparation is required as same as new procedures. Measure the resistance between hull and anode after dry up.		Delete covered under AIAMC
LA- 5003	Inspect the water seepage in the junction boxes.		Delete covered under AIAMC
LA- 5004	Check the condition of underwater hull.		Delete covered under AIAMC
LA- 5005	Check all the circuit and thoroughly inspect the wiring/unit/sub-unit, renew them wherever necessary.		Delete covered under AIAMC
LA- 5006	All control panel meters are to be calibrated and calibration reports to be collected from yard.		Delete covered under AIAMC
LA- 5007	Clean and preserve all anodes and reference electrodes after docking and ensure cleaning of same before undocking.		Delete covered under AIAMC
<u>EQUIPMENT: EM LOG,MAKE:M/S AMESYS BEN MARINE, FRANCE, SL NO. :42118, PAC FIRM: M/S A.S. MOLOOBHOY& SONS PVT LTD, MUMBAI</u>			
LA- 5008	Check condition of transducer mounting brackets for corrosion and repair if needed	Deleted Under AIAMC.	Delete covered under AMC
LA- 5009	Check external transducer condition of sensor pins for build up or wear.		Delete covered under AMC
LA- 5010	Open junction box and check terminal block connections.		Delete covered under AMC

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LA- 5011	Overhaul the equipment and carryout calibration of EM log if required.	Delete covered under AMC																										
LA- 5012	On dry docking of vessel, clean and preserve transducers and before undocking ensure preservation material is removed and transducers are thoroughly cleaned.	Delete covered under AMC																										
EQUIPMENT: ECHO SOUNDER, MAKE: M/S FURUNO ELECTRIC LTD, JAPAN, MODEL: FE-800, SL NO. : 100014-101188, PAC FIRM:M/S A.S. MOLOOBHOY& SONS PVT LTD, MUMBAI																												
LA- 5013	Overhaul the equipment including sub units.	Delete covered under AMC																										
EQUIPMENT: MAIN SWITCH BOARD (415 & 230VAC), (MAKE:M/S MARINE ELECTRICALS, MUMBAI), MODEL : VERNA , SL NO. : 194315/10/49440,PAC FIRM: M/S MARINE ELECTRICALS, MUMBAI																												
LA- 5014	<p>Calibrate all Voltmeters, Watt meters, Synchronizing meters, Powerfactor meters, Ammeters, and Frequency meters and check earth fault circuit, Synchroscope and synchronizing lamp for proper functioning. Also check all MCBs with safety trips/relays & replace defective components.</p> <table border="1" data-bbox="207 302 734 1097"> <thead> <tr> <th>Description</th> <th>Qty</th> </tr> </thead> <tbody> <tr> <td>KW meters(0-150KW)</td> <td>03 Nos</td> </tr> <tr> <td>Ammeter(0-300 Amps)</td> <td>03 Nos</td> </tr> <tr> <td>Ammeter(0-200 Amps)</td> <td>01 No</td> </tr> <tr> <td>Ammeter(0-100 Amps)</td> <td>01 No</td> </tr> <tr> <td>Earth fault indication meter (0-∞ MΩ)</td> <td>02 nos.</td> </tr> <tr> <td>Volt meter(0-300V)</td> <td>01 Nos</td> </tr> <tr> <td>Volt meter(0-600V)</td> <td>04 Nos</td> </tr> <tr> <td>Frequency meter(45-55HZ)</td> <td>04 Nos</td> </tr> <tr> <td>Power factor meter(cap 0.5 to ind 0.5)</td> <td>03 Nos</td> </tr> <tr> <td>Synchroscope</td> <td>01 Nos</td> </tr> <tr> <td>Double frequency meter(45-55HZ)</td> <td>01 Nos</td> </tr> <tr> <td>Double volt meter(0-600V)</td> <td>01 Nos</td> </tr> </tbody> </table>	Description	Qty	KW meters(0-150KW)	03 Nos	Ammeter(0-300 Amps)	03 Nos	Ammeter(0-200 Amps)	01 No	Ammeter(0-100 Amps)	01 No	Earth fault indication meter (0-∞ MΩ)	02 nos.	Volt meter(0-300V)	01 Nos	Volt meter(0-600V)	04 Nos	Frequency meter(45-55HZ)	04 Nos	Power factor meter(cap 0.5 to ind 0.5)	03 Nos	Synchroscope	01 Nos	Double frequency meter(45-55HZ)	01 Nos	Double volt meter(0-600V)	01 Nos	<p>Do. Checking of all MCBs covered in LA -5015. Yard to provide calibration certificates.Material Yard supply and Spares CG supply</p> <p>DO only calibration. Yard to provide calibration certificate. Checking of all MCBs covered in LA -5015. Spares CG supply.</p>
Description	Qty																											
KW meters(0-150KW)	03 Nos																											
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Double frequency meter(45-55HZ)	01 Nos																											
Double volt meter(0-600V)	01 Nos																											

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LA- 5015	<p>Calibration of circuit breakers for overload reverse power and under voltage protection. Carryout insulation resistance test of breakers and associated controls (minimum acceptable value 1 mega ohm) and to be proved for satisfactory operation.</p> <table border="1" data-bbox="287 694 813 2105"> <thead> <tr> <th>Description</th> <th>Qty</th> </tr> </thead> <tbody> <tr> <td>Circuit Breaker NSX250B, 250A</td> <td>03 Nos</td> </tr> <tr> <td>Bus coupler INS630, 630A</td> <td>01 No.</td> </tr> <tr> <td>15 AMPS Breakers</td> <td>27 Nos</td> </tr> <tr> <td>20 AMPS Breakers</td> <td>07 Nos</td> </tr> <tr> <td>25 AMPS Breakers</td> <td>06 Nos</td> </tr> <tr> <td>30 AMPS Breakers</td> <td>02 Nos</td> </tr> <tr> <td>32 AMPS Breakers</td> <td>05 Nos</td> </tr> <tr> <td>50 AMPS Breakers</td> <td>03 Nos</td> </tr> <tr> <td>60 AMPS Breakers</td> <td>03 Nos</td> </tr> <tr> <td>63 AMPS Breakers</td> <td>02 Nos</td> </tr> <tr> <td>80 AMPS Breakers</td> <td>03 Nos</td> </tr> <tr> <td>160 AMPS Breakers</td> <td>01 No.</td> </tr> </tbody> </table>	Description	Qty	Circuit Breaker NSX250B, 250A	03 Nos	Bus coupler INS630, 630A	01 No.	15 AMPS Breakers	27 Nos	20 AMPS Breakers	07 Nos	25 AMPS Breakers	06 Nos	30 AMPS Breakers	02 Nos	32 AMPS Breakers	05 Nos	50 AMPS Breakers	03 Nos	60 AMPS Breakers	03 Nos	63 AMPS Breakers	02 Nos	80 AMPS Breakers	03 Nos	160 AMPS Breakers	01 No.	<p>Do except 160 Amps Breaker. Mat. Yard supply and spares CG provide. Yard to provide calibration certificates.</p>	<p>DO. Yard to provide calibration certificate. Spares and defective breakers CG supply.</p>
Description	Qty																												
Circuit Breaker NSX250B, 250A	03 Nos																												
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63 AMPS Breakers	02 Nos																												
80 AMPS Breakers	03 Nos																												
160 AMPS Breakers	01 No.																												
<p>EQUIPMENT : POWER DISTRIBUTION BOX AND LIGHT DISTRIBUTION BOX, MAKE: M/S WAVES ELECTRONICS, TYPE:415 V/230VAC AND 24 V DC, FITTED:20 NOS</p>																													
LA- 5016	<p>Overhaul the distribution boards including painting and replace defective components, if any.</p>	<p>Do. Spares & Mat Yard Supply.</p>	<p>DO. Material yard supply as per RFIC minutes. Spares CG supply.</p>																										
<p>EQUIPMENT: EPIRB, MAKE: M/S ACR , TYPE Y1-03-0250 ,REV.D, 01 NO. , MODEL: RLB-37, SL NO. : 13960,PAC FIRM: M/S A.S. MOLOOBHOY& SONS PVT LTD, MUMBAI</p>																													
<p>Following annual routine of EPIRB to be carried out</p>																													
LA- 5017	<p>Annual testing of EPIRB to be carried out. Inspect the beacon case for any visible cracks</p>	<p>SS</p>	<p>Delete covered under AMC</p>																										
<p>EQUIPMENT : GMDSS -VHF RADIOCONSOLE,MAKE: M/SFURUNO ELECTRIC CO. LTD, JAPAN, TYPE: FM-8900S , PAC FIRM: M/S A.S. MOLOOBHOY& SONS PVT LTD, MUMBAI</p>																													
LA-5018	<p>Overhaul the complete unit,check the performance in all functional modes and prove it for satisfactory operation</p>	<p>Deleted Under AIAMC.</p>	<p>Delete covered under AMC</p>																										

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EQUIPMENT : NAVTEX RECEIVER, MAKEM/S FURUNO, NX700A/B, 02/01 NO, MODEL : NX-700A, SL NO. : 18028, PAC FIRM: M/S A.S. MOLOOBHOY& SONS PVT LTD, MUMBAI

LA- 5019 Overhaul the equipment and replace defective components, if any. Do through PAC Firm. Delete covered under AMC

EQUIPMENT : SHORE SUPPLY CONNECTION BOX 415V, 3PH, 160 AMP, MAKE: M/S WAVES ELECTRONICS TYPE: E-2175, SL NO. : E 2486.

LA- 5020 Complete overhaul the shore connection box including painting and replace defective components. Overhauling includes 160A MCCB Do. Material Yard supply and spares CG supply. Yard to provide calibration certificates. DO . Paint and Material yard supply as per RFIC minutes. Spares CG supply

LA- 5021 Calibrate all meters and replace defective if any. Obtain calibration certificates from yard.	Description	Qty	DO calibration only. Yard to provide calibration certificate. Spares CG supply
	Voltmeter (0-500 V)	01 No	
	Ammeter (0-150 A)	01 No	
	Phase sequence Indicator	01 No	
	Energy meter (3600 imp/KWh)	01 No	
	Breaker (160 AMPS)	01 No	

EQUIPMENT : WEATHER DISPLAYAND WEATHER STATION , MAKE: M/S LILLEY & GILLEY, TYPE: EWSMS 1.1, WXT-520, PAC FIRM: M/S ELCOME INTEGRATED SERVICE PVT LTD, MUMBAI

LA- 5022 Calibration for wind speed and direction w.r.t hand held anemometer / fixed anemometer Do through PAC firm. Do through OEM. Yard to provide calibration certificate. Spares CG supply

EQUIPMENT : ANEMOMETER , MAKE M/S ELCOME MARINE SERVICE LTD, WALKERS 2050 MK2T, 01 NO,MODEL : P-1259, PAC FIRM: M/S ELCOME INTEGRATED SERVICE PVT LTD, MUMBAI

LA-5023 Check condition of wind vane mounts/brackets for corrosion and repair if needed. Do through PAC firm. Do.

LA-5024 Overhaul the equipment including sensors and calibrate anemometer for speed and direction with reference to hand held anemometer and standard readings. To be proved for satisfactory operation. DO through OEM. Spares CG supply

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EQUIPMENT: EOS, MAKE: M/S IAITAMAM, MINI POP, 01 NO , SL NO. : 027 part no. 1354-1821-501 , PAC FIRM: M/S A.S. MOLOOBHOY& SONS PVT LTD, MUMBAI

LA- 5025	Nitrogen Purging during routine service for both sections: Slice and Turret. Nitrogen Purging Immediately when trapped humidity is observed.	Do through PAC firm.	Discuss during RFIC
LA- 5026	Paint touch up as necessary.	SS	

EQUIPMENT: EMERGENCY SWITCH BOARD, MAKE: M/S WAVES ELECTRONICS, COCHIN, TYPE: 230V/50HZ, NOS.FITTED:01

LA- 5027	Calibration of voltmeter & amps meters including breakers and obtain calibration certificates from refit yard.	Do. Material Yard supply and spares CG supply. Yard to provide calibration certificates.	DO calibration only. Yard to provide calibration certificate. Spares CG supply										
	<table border="1"> <thead> <tr> <th>Description</th> <th>Qty</th> </tr> </thead> <tbody> <tr> <td>Voltmeter (0-300V)</td> <td>01 No</td> </tr> <tr> <td>Ammeter (0-50 A)</td> <td>01 No</td> </tr> <tr> <td>Frequency meter (45-55 HZ)</td> <td>01 No</td> </tr> <tr> <td>Breaker (40 AMPS)</td> <td>01 No</td> </tr> </tbody> </table>	Description	Qty	Voltmeter (0-300V)	01 No	Ammeter (0-50 A)	01 No	Frequency meter (45-55 HZ)	01 No	Breaker (40 AMPS)	01 No		
Description	Qty												
Voltmeter (0-300V)	01 No												
Ammeter (0-50 A)	01 No												
Frequency meter (45-55 HZ)	01 No												
Breaker (40 AMPS)	01 No												

EQUIPMENT: IBS- RADAR, MAKE: M/S GEM ELECTRONICA ITALY, SL NO. : Y111015003, TYPE: SEA EAGLE, PAC FIRM: M/S MARINE ELECTRICAL(I) PVT LTD, MUMBAI

LA- 5028	Inspect visually the grounding for interruption or corrosion. Make sure that screws and nuts are tightened. If there is corrosion, take out the supply line, replace the screws/nuts fixing the system ground strip and clean the contacts by wire brush or by emery cloth to obtain a metallic surface as good conductor. At least, protect the earth screw by a silicone grease film.	Deleted Under AIAMC.	Delete covered under AMC
LA- 5029	Take out the supply line. Using an ohmmeter, connect a test cable terminal to a not painted ship part, the other cable terminal to a not painted console part (ground knurl). Verify that the instrument indicates a resistance value less than 0.05ohm. if the test fails, control the ground connection and repeat the test. Connect the power supply to the console only after a positive test.	Deleted Under AIAMC for LA - 5029 to LD- 5035	Delete covered under AMC
LA- 5030	Gear pairs and bearings are oil-batch or splash lubricated. Gear reducer is supplied filled with synthetic oil providing lubrication for life(assuming pollution free surroundings). Make a visual inspection, no oil leaks allowed.		Delete covered under AMC
LA- 5031	During normal operation unit make a certain noise but abnormal level of noise may be caused by malfunctioning. Standard production sound power level and mean sound pressure level for gear motor assuming nominal load (tolerance +3dBA) may be considered 66dBA and 57 dBarespectively(mean value of measurement a 1m from external profile of gear reducer standing in free field on a reflecting surface). A noise		Delete covered under AMC

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	level higher than 3dB(A) should warn about alleged internal damage.		
LA- 5032	Check the motor's belt for no defects by visual inspection, skipped teeth, lacerations or abnormal consumption all along the belt turning the antenna by hand.	Delete covered under AMC	
LA- 5033	If no defects detected check the belt tension. The recommended instrument is an electronic gauge, used for the correct tensioning of all types of belt drives (TEN-SIT). Its operating principle is based on the relationship between belt tension and the vibration frequency of the belt itself. Follow the instructions below and make sure that the frequency of the belt is greater than 115 Hz (mean value of 4 different belt zone, keep probe position and rotate the antenna with hands each time by 90°) If the condition is not met, proceed with the belt tensioning to achieve a frequency inside the range 130Hz-140Hz throughout the entire belt.	Delete covered under AMC	
LA- 5034	If the belt shows significant sign of wear proceed with replacement.	Delete covered under AMC	
LD-5035	Radar intermittently switching off to standby mode during transmission, No video data available in MFD-1. Defect to be rectified and proved for satisfactory operation.	Delete covered under AMC	

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EQUIPMENT: IBS-GYRO COMPASS, MAKE: M/S SPERRY MARINE, TYPE: NAVIGAT-3000 4891-CA, SL NO. : 0098-14, PAC FIRM: M/S MARINE ELECTRICAL, MUMBAI		Deleted Under AIAMC.	Delete covered under AMC												
LA- 5036	Check internal wiring and tighten terminals if loose.		Delete covered under AMC												
LA- 5037	Overhaul the gyro compass. Check all components and ensure contacts screws for proper functioning and replace defective components. Alignments of all Gyro repeaters to be carried out w.r.t master Gyro. Defective cables to be replaced.		Delete covered under AMC												
EQUIPMENT: IBS-AUTOMATIC IDENTIFICATION SYSTEM, MAKE: M/S JAPAN RADIO CO LTD, TYPE: JHS-183, SL NO. : BB02113, PAC FIRM: M/S MARINE ELECTRICAL, MUMBAI															
LA- 5038	Check condition of antenna mounts/brackets for corrosion and repair if needed.	Deleted Under AIAMC.	Delete covered under AMC												
LA- 5039	Check internal wiring and tighten terminals if loose		Delete covered under AMC												
EQUIPMENT: IBS-MAGNETIC COMPASS, MAKE: M/S SPERRY MARINE, TYPE: NAVIPOL 1, SL NO. : 5807, PAC FIRM: M/S MARINE ELECTRICAL, MUMBAI															
LA- 5040	Overhaul the magnetic compass and carryout compass swing test during sea trials.	Deleted Under AIAMC.	Delete covered under AMC												
EQUIPMENT: FLEET BROAD BAND 500, MAKE: M/S JRC, TYPE: JUE-500, SL NO. : GV21665, PAC FIRM: M/S A.S. MOLOOBHOY & SONS PVT LTD															
LA- 5041	Check the performance in all functional modes and prove it for satisfactory operation.	Do through PAC firm.	Delete. Undertake under DFPR.												
EQUIPMENT : NAVIGATION LIGHTS CONTROL PANEL , MAKE: M/S TRANSBERG, TYPE: DHR70 N															
LA- 5042	Overhaul the Navigational Lights control panel and replace all defective components of PCBs if any.	Do through PAC firm. Spares CG supply	Do. Spares CG supply.												
EQUIPMENT : TEST PANEL , MAKE: M/S LARSEN & TOUBRO, TYPE: SYPZ860, PAC FIRM: L&T LTD															
LA- 5043	Calibrating of all voltmeter & ammeters and obtain calibration certificates from the refit yard.	Do. Yard to provide Calibration certificates.	DO. Yard to provide calibration certificate. Spares CG supply. Renewal if any against NA spares.												
	<table border="1"> <tr> <td>Volt meter (0-415V)</td> <td>01 No.</td> </tr> <tr> <td>Volt meter (0-230V)</td> <td>01 No.</td> </tr> <tr> <td>Volt meter (0-24V)</td> <td>01 No.</td> </tr> <tr> <td>Ammeter (415V, 10A)</td> <td>01 No.</td> </tr> <tr> <td>Ammeter (230V, 10A)</td> <td>01 No.</td> </tr> <tr> <td>Ammeter (24V, 10A)</td> <td>01 No.</td> </tr> </table>	Volt meter (0-415V)	01 No.	Volt meter (0-230V)	01 No.	Volt meter (0-24V)	01 No.	Ammeter (415V, 10A)	01 No.	Ammeter (230V, 10A)	01 No.	Ammeter (24V, 10A)	01 No.		
Volt meter (0-415V)	01 No.														
Volt meter (0-230V)	01 No.														
Volt meter (0-24V)	01 No.														
Ammeter (415V, 10A)	01 No.														
Ammeter (230V, 10A)	01 No.														
Ammeter (24V, 10A)	01 No.														

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EQUIPMENT : HAND HELD MSS, MSS RX MSS TX , MAKE: M/S AVANTEL , ASL-MSSRT-HH03, ASL-MSSRX-2510, ASL-MSSRT-MT-8M2, 01 NO EACH, PAC FIRM: M/S AVANTEL, HYDERABAD

LA- 5044 Performance check of the system to be carried out.

AMC	Deleted.
	Undertake under DFPR

EQUIPMENT : SIGNALING PROJECTOR , MAKE M/S NORSE LIGHT , XS 1000 D, 02 NOS, PAC FIRM: M/S GLAMOXINTERNATIONAL

LA- 5045 Overhauling of both signaling projectors and replace defective components.

Do.	DO. Material yard supply as per RFIC minutes. Spares CG supply. Renewal if any against NA spares.
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EQUIPMENT : CCTV SYSTEM & CAMERA DVR ,MAKE M/S AVIK& I-CATCH, AVI-MK027X & 611Z-N, 06 NOS & 01 NO , SL NO. : 811130554313 , PAC FIRM: M/S MARINE ELECTRICAL, MUMBAI

LA- 5046 Carryout servicing of all camera units, check the gear and adjust if any error in movements is observed.

Deleted Under AIAMC.	Deleted. Covered under AMC.
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EQUIPMENT : IBS-ECDIS , MAKE: M/S NORTHROP GRUMMAN, PAC FIRM: M/S MARINE ELECTRICAL, MUMBAI

Following maintenance routines including annual routine of **ECDIS** to be carried out

LA-5047	Check chart permit licenses / permit expiry and arrange updates	Deleted Under AIAMC.	Deleted. Covered under AMC.
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LA-5048	Open panels and check all terminal block connections and tighten if becoming loose.		Deleted. Covered under AMC.
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EQUIPMENT :IBS- AUTOPILOT , MAKE: M/S SPERRY MARINE, TYPE: NAVIPILOT 4000, SL NO. : 3565, PAC FIRM: M/S MARINE ELECTRICAL, MUMBAI

LA-5049 Complete overhaul the auto pilot system including 02 nos. steering control unit and follow up wheel assembly and replace defective components if any.

		Deleted Under AIAMC.	Deleted. Covered under AMC.
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EQUIPMENT : MAIN DG ALTERNATORS , ALTERNATOR MAKE:CROMPTON GREAVES, TYPE/MODEL: 6SL9088TA / G1R250LD, 03 NOS. PAC FIRM: M/S KOEL

LA- 5050	Check steady state of generators.	Delete. SS	
LA- 5051	Overhaul complete generator including starter motor, dynamo, thoroughly inspection of winding state, cleaning, varnishing and baking for improvement of insulation and replace bearings, if required	Do through PAC firm.	DO through authorised firm. Material and OEM certified bearings yard supply. Load trials to be undertaken for all DAs in all paralleling combinations upto maximum sustainable load. Repair / renewal if any against NA spares.
LA- 5052	After overhauling carry out test and full load trial & parallel operation of DA's.		
LA- 5053	Following safety trips and alarm along with sensors for all the main generators to be calibrated and proved:- a) Low lub oil pressure b) High water temperature c) Over speed trip d) Lub oil temperature e) Expansion tank level indicator f) Fuel level off sensor g) Winding high temperature alarm h)	Do through PAC Firm. Spares CG supply. Yard to provide Calibration certificates. SS to indicate Type, Make and Range of sensors.	DO through PAC firm. Yard to provide calibration certificate and carry out in-situ trials for all the safeties. Spares CG supply.

Description	Qty
Low Lub oil pressure	06 Nos
High Water temperature	03 Nos
Over speed trip	03 Nos
Lub oil temperature	06 Nos
Expansion tank level indicator	03 Nos
Fuel level off sensor	03 Nos

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LA-5054	Winding high temperature	03 Nos	Following control panel gauges to be calibrated and calibration certificates to be obtained from refit yard:- a) Lub oil pressure gauge b) Fresh water temperature gauge c) Sea water pressure gauge d) Exhaust gas temperature e) Lub oil temperature	Do through PAC Firm. Spares CG supply. Yard to provide Calibration certificates	DO through authorised firm. Yard to provide calibration certificate. Spares CG supply.
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Description & Range	Qty
Lub oil pressure gauge (0-10 bar)	03 Nos
Fresh water temperature (0-150 ° c)	03 Nos
Sea water pressure gauge (0-2.5 Bar)	03 Nos
Exhaust gas temperature Digital	03 Nos
Lub oil temperature 0-150 ° c	03 Nos
Lub oil pressure gauge (0-10 bar) (directly connected)	03 Nos
Lub oil temperature 40-110 ° c (directly connected)	03 Nos

EQUIPMENT : TRANSFORMER , MAKE M/S MARINE ELECTRICALS & WAVES ELECTRONICS, 415/230V, 04 NOS & 02 NOS.

LA-5055	Coat of air drying varnish on frame parts.	DO	LA-5055 to LA-5057 deleted as covered in LA-5058.
LA-5056	Remove dust from bolts and nuts.		
LA-5057	In case of any doubt of dampness, dry the transformer by using hot air blower.		
LA-5058	Overhaul the transformer including cleaning, varnishing and baking of windings.	DO	
LA-5059	Check and clean earthing straps.	SS	
LA-5060	Check and records insulation resistance of windings before and after varnishing.	DO.	
LA-5061	Replace defective components, if any.		Delete. Covered on LA-5058

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EQUIPMENT : FIRE DETECTION SYSTEM , MAKE: M/S AUTRONICA, PAC FIRM M/S M/s ELCOMTE INTEGRATED SYSTEMS PVT LTD)	
LA- 5062	Overhaul complete system along with all sensors & calibration of system.
LA- 5063	Replace defective components, if any.
LB- 5064	Optical smoke detector is not working in Gymnasium compartment. Defect to be rectified and proved. [L-015]
EQUIPMENT : MCS/RCS 5 CONTROL PANEL , MAKE M/S MTU, MCS/RCS 5, 02 NOS , PAC FIRM: M/S MTU INDIA PVT.LTE., PUNE / M/S YEOMAN MARINE SERVICES PVT LTD, MUMBAI	
LA- 5065	<p>Following safety trips and alarms along with sensors of three engines to be calibrated and proved.</p> <ul style="list-style-type: none"> a) Low lub oil pressure alarm and trip b) Over speed trip c) Low fresh water pressure alarm d) Low gearbox lub oil pressure alarm and trip e) Low fresh water level alarm in expansion tank f) Operation of exhaust flap mechanism/limit switch g) High fresh water temperature alarm and trip h) High lub oil temperature alarm and trip j) High gear box temperature alarm k) Low fuel oil pressure alarm l) High fuel leak alarm m) Exhaust gas temperature failure alarm
	<p>Do through PAC Firm. Spares CG supply. Yard to provide Calibration certificates. SS to indicate Type, Make and No. of sensors.</p> <p>Do through PAC firm. Spares CG supply.</p> <p>Do through PAC Firm. Spares CG supply. Yard to provide Calibration certificates. SS to indicate Type, Make and Range of sensors.</p>
	<p>DO through PAC firm. MCS/RCS 5 interface with Fire Detection System also included. Spares CG supply. Renewal if any against NA spares. Delete. Covered in LA-5062</p> <p>Do through PAC firm. Spares CG supply.</p> <p>DO through PAC firm. Yard to provide calibration certificate. Spares CG Supply.</p>

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All the measuring instrument local /MCR /Bridge including following sensors (Defect List Sl. LA-5066 to, LA-5068) to be calibrated and proved. Obtain calibration certificates from the refit yard.

LA- 5066	Storage tanks level indicator.	Do through PAC Firm. Spares CG supply. Yard to provide Calibration certificates.	DO LA-5066 to LA-5069 through PAC firm. Yard to provide calibration certificate. Spares CG Supply.
LA- 5067	Hatch closing sensor/limit switch operation and their indication in MCS-5 panel to be checked and defective components to be replaced.		
LA- 5068	Functional checks of bilge level indication in MCS-5 panel and replacement of defective components.		
LA- 5069	Exhaust gas monitoring system to be checked for proper operation and replace defective components if any	Do through PAC Firm. Spares CG supply. Yard to provide	Do through PAC firm
LB- 5070	MCS-5 monitor unit in MCR showing "No signal". Suspect software of MCS-5 corrupted. Defect to be rectified and proved. [L-0161]		Discuss during RFIG.
LD-5071	Process automation & control warning and alarm system malfunctioning, found Device: A507, Type; AID 2-01, Part no. B00E51000017 is defective. Defect to be rectified and system to be proved.	Calibration certificates.	
EQUIPMENT: WATER JET, MAKE:ROLLS ROYCE, TYPE:71S3NP, SL NO. : 53065 (Stbd),53067 (Centre),53066 (Port),PAC FIRM: M/S ROLLS ROYCE			
Following maintenance routines including annual routine of Waterjet to be carried out			
LA- 5072	Check the condition of the hanging anodes, replace, if required.	Do through PAC Firm. Spares CG supply. Yard to provide	DO for LA-5072 to LA-5076 through PAC firm. Spares CG supply.
LA- 5073	Carry out the function test on control system. Readjust, if required.		
LA- 5074	Carry out functional test of alarms switches and pressure gauges		
LA- 5075	Carry out function test and replace components, if required.		
LA- 5076	Carry out operation checks and calibration of sensors in the hydraulic power pack	Calibration certificates.	
EQUIPMENT: DA BATTERY CHARGER AND CONTROL PANEL, MAKE: M/S KIRLOSKAR, 6K/SL90, 03 NOS, SL NO. : 4049			
LA- 5077	Check the corroded mounting bases	Do through PAC Firm. Spares & Material. Yard to supply. Yard to provide	DO. Material and spares yard supply.
LA- 5078	Check the proper function of rectifier unit and switches etc.		Delete covered in LA-5081.
LA- 5079	Check the insulation of the cable.		Delete covered in LA-5081.
LA- 5080	Check the condition of the paint. If required, repaint.	Calibration certificates.	Delete covered in LA-5081.

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LA- 5081	Carryout overhauling of charger and control panel and replace defective components, if any.		DO including painting. Material and paint yard supply. Spares CG supply				
LA- 5082	Calibrate all voltmeter and ammeter of charger and obtain calibration certificates from yard <table border="1" data-bbox="478 1377 566 1937"> <tr> <td>Volt meter (0-30V)</td> <td>03 Nos</td> </tr> <tr> <td>Ammeter (0-30A)</td> <td>03 Nos.</td> </tr> </table>	Volt meter (0-30V)	03 Nos	Ammeter (0-30A)	03 Nos.		DO. Yard to provide calibration certificate. Spares CG supply.
Volt meter (0-30V)	03 Nos						
Ammeter (0-30A)	03 Nos.						
LA- 5083	Check and calibrate all safety trips for proper functioning and if not, carry out replacement of defective components		DO. Yard to provide calibration certificate. Spares CG supply.				
EQUIPMENT: MAIN BROADCAST/SRE AND LOUD HAILER, MAKE: M/S ZENITEL MARINE ASIA PVT LTD, TYPE:SPA240-V2, SL NO. : 51520150323, PAC FIRM: M/S ARKAY ELECTRONICS & MARINE SYSTEMS LTD, MUMBAI							
LA- 5084	Overhaul the complete system and replace defective components if any	Do through PAC Firm. Spares CG supply.	Deleted. Undertake under DFPR.				
EQUIPMENT : AUTO TELEPHONE EXCHANGE (01 NO), TALKBACK (03 NOS), MAKE: M/S ZENITEL MARINE ASIA PVT LTD,TYPE: ACM ETB-05,PAC FIRM:M/S ARKAY ELECTRONICS & MARINE SYSTEMS LTD, MUMBAI							
LA- 5085	Overhaul complete system.	Do through PAC Firm. Spares CG supply.	Deleted. Undertake under DFPR.				
LA- 5086	Check all telephone lines/cables, junction boxes and replace defective components, if any.	Do through PAC Firm. Spares CG supply.	Deleted. Undertake under DFPR.				
EQUIPMENT : SOUND POWERED TELEPHONE , MAKE: M/S ZENITEL MARINE ASIA PVT LTD ,TYPE:VSP 12 WAY NOS.FITTED:06 , PAC FIRM:M/S ARKAY ELECTRONICS & MARINE SYSTEMS LTD, MUMBAI							
LA- 5087	Overhaul complete system and replace the defective component, if any.	Do through PAC Firm. Spares CG supply.	Deleted. Undertake under DFPR.				
EQUIPMENT :SACU 3100 , MAKE:M/S BHARAT ELECTRONICS LTD, TYPE:3100 DCT, SL NO. : N-280, PAC FIRM: M/SBHARAT ELECTRONICS LTD							
LA- 5088	Overhaul the complete equipment and check PCB and components showing ageing and sign of deterioration. Replace the deteriorated wiring, components/ PCB.	Do through PAC Firm. Spares CG	Deleted. Undertake under DFPR.				

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LA- 5089	Check the interfacing terminal points.	supply.	Deleted. Undertake under DFPR.
LA- 5090	Check the memory accessibility		Deleted. Undertake under DFPR.
LA- 5091	Check the condition of lithiummemory backup battery, if required,replace.		Deleted. Undertake under DFPR.
EQUIPMENT : PRC 6020PORTABLE HF RX/TX ,MAKE M/S BEL, PRC 6020, 02 NOS, PAC FIRM: M/S BHARAT ELECTRONICS LTD			
LA- 5092	Overhaul the complete unit, check the performance in all functional modes and prove it for satisfactory operation.	Do through PAC Firm. Spares CG supply.	Deleted. Undertake under DFPR
EQUIPMENT : V/UHF TX/RX ,MAKE M/S ECIL, M-7 RADIO, 02 NOS, SL NO. : TR-5226 , PAC FIRM: M/SELECTRONIC CORPORATION OF INDIA LTD, HYDERABAD			
LA- 5093	Overhaul the complete system along with painting of antenna with navy grey polyurethane paint. Carryout performance checks & tuning of system.	Do through PAC Firm. Spares CG supply.	Deleted. Undertake under DFPR
LA- 5094	Examine the condition of slide latches on the front panel if damaged replace the latch.		Deleted. Undertake under DFPR
LA- 5095	Examine the earthing connections.		Delete.SS
EQUIPMENT : ALDIS LANTERN , MAKE M/S NORSE LIGHT, DM-60, 01 NO			
LA- 5096	Check the appearance of battery. If dirty or contaminated, wash with fresh water.	Do	Deleted. Undertake under DFPR
LA- 5097	If cracked, replace with new battery.		
EQUIPMENT: GENERAL ALARM SYSTEM, MAKE: M/S AUTRONICA, TYPE: GM-2 , SL NO. : 161 , PAC FIRM: M/S MTU ASIA PVTLDT, SINGAPORE			
LA- 5098	Overhaul the complete system. Replace defective/ deteriorated components if any.	Do. Spare & Mat Yard Supply.	DO through authorised firm. Spares CG supply.
EQUIPMENT: ELECTRIC SIREN,MAKE M/S KOCKUMSONICS, ETD-100/350, 01 NO , SL NO. : 150601.			
LA- 5099	Diaphragm and pressure springs to be checked and renew if necessary. A new diaphragm shall be adjusted in a way that a clear sound is released.	Do overhauling only. Spare & Material Yard	DO overhauling. Material yard supply

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		Supply.
EQUIPMENT : AIR HORN , MAKE M/S KOCKUMSONICS, MKT-75/440, 01 NO		
LA- 5100	Overhaul the equipment. Replace defective/ deteriorated components.	Do. Spare & Material Yard Supply. Delete. covered in EA-3109
EQUIPMENT : SEARCH LIGHT , MAKE M/S TRANBERG, TEF2650, 01 NO		
LA- 5101	Overhaul the equipment completely and replace defective components if any.	Do. Spare & Material Yard Supply. DO. Spares CG supply.
LD-5102	Search light is not working, suspect igniter unit malfunctioning. Defect to be rectified and system to be proved.	Do. Spare & Material Yard Supply. Discuss during RFIC.
EQUIPMENT : GENERAL MOTORS & STARTERS AND CONTROL PANELS		
Following motors (defect list Sl. LA-5103 to LA-5132) are to be overhauled. Overhauling of motors includes following;-		
<ul style="list-style-type: none"> (a) Checking insulation and varnishing of motor winding. (b) Painting of motor body. (c) Examine for rotor impeller shaft & bearing housing for flaws, cracks or corrosion. Make good or replace as necessary. (d) Renewal of bearing and seals. (e) Balancing of rotor. (f) Replace defective components, if any. (g) Repair of terminal box as necessary. (h) Replacement of bolts & nuts where necessary. (i) Preparation of the foundation of motor and fitment. (j) Running test after assemblies & installation onboard ship and record starting/ running current (k) Overhauling of anchor capstan motor (Qty-02 nos, 4 KW each) to be carried out and proved for satisfactory operation. 		
LA- 5103	Overhauling of anchor capstan motor (Qty-02 nos, 4 KW each) to be carried out and proved for satisfactory operation.	Do for LA 5103 to LA 5123 except LA - 5116. Material Yard Supply as per RFIC DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5104	Overhauling of AHU motor (Qty-01 no, 7.5 KW) to be carried out and proved for satisfactory operation.	DO. OEM certified Bearings to be renewed as per sample. Material

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		phase during RFIC	yard supply as per RFIC minutes.
LA- 5105	Overhauling of FWD Engine room ventilation fan along with motor (Qty-02nos, 11 KW each) to be carried out and proved for satisfactory operation.		DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5106	Overhauling of Aft Engine room ventilation fan (Qty-01 no, 11 KW each) to be carried out and proved for satisfactory operation.		DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5107	Overhauling of W/J compartment supply fan along with motor (Qty-01 no, 0.37 KW) to be carried out and proved for satisfactory operation.		DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5108	Overhauling of Sea water cooling pump motors (Qty-02 nos, 3.7 KW each) to be carried out and proved for satisfactory operation.		DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5109	Overhauling of Aux Equipment Room/ Naval Store supply fan (Qty-01 no, 0.37 KW) to be carried out and proved for satisfactory operation.		DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5110	Overhauling of Galley supply fan (Qty-01 no, 0.37 KW) to be carried out and proved for satisfactory operation.		DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.

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LA- 5111	Overhauling of Galley exhaust fan (Qty-01 no, 0.37 KW) to be carried out and proved for satisfactory operation.	RFIC minutes.
LA- 5112	Overhauling of magazine room Exhaust fan (Qty-01 no, 0.37 KW) to be carried out and proved for satisfactory operation.	DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5113	Overhauling of Sanitary space exhaust fan (Qty-01 no, 0.37 KW) to be carried out and proved for satisfactory operation.	DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5114	Overhauling of STP room supply fan (Qty-01 no, 0.37 KW) to be carried out and proved for satisfactory operation.	DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5115	Overhauling of Paint store exhaust fan and battery compartment exhaust fan (Qty-02 nos., 0.188 KW each) to be carried out and proved for satisfactory operation.	DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5116	Overhauling of EVAC ejector pump motor (Qty-02 nos, 2.2 KW each) to be carried out and proved for satisfactory operation.	DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5117	Overhauling of Bilge and GS pump motor (Qty-01 no, 9.3 KW) to be carried out and proved for satisfactory operation.	Delete covered under AMC
		DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.

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			sample. Material yard supply as per RFIC minutes.
LA- 5118	Overhauling of Fire and GS pump motor (Qty-01 no, 9.3 KW) to be carried out and proved for satisfactory operation.		DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5119	Overhauling of Fresh water hydrophore pump motor (Qty-02 nos, 2.2 KW each) to be carried out and proved for satisfactory operation.		DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5120	Overhauling of Oily Bilge water separator motor (Qty-01 no, 0.35 KW) to be carried out and proved for satisfactory operation.		DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5121	Overhauling of RO plant booster pump motor (Qty-01 no,0.75KW) to be carried out and proved for satisfactory operation.		DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5122	Overhauling of RO plant Hp Pump motor (Qty-01 no, 2.2 KW) to be carried out and proved for satisfactory operation.		DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5123	Overhauling of RO plant cleaning pump motor (Qty-01 no, 0.33 KW) to be carried out and proved for satisfactory operation.		DO. OEM certified Bearings to be renewed as per sample. Material

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LA- 5124	Overhauling of fuel oil purifier separator motor (Qty-01 no, 4 KW) to be carried out and proved for satisfactory operation.	yard supply as per RFIC minutes.
LA- 5125	Overhauling of Air Compressor motors (Qty-02 nos, 7.5 KW each) to be carried out and proved for satisfactory operation.	DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5126	Overhauling of AC Compressor motor/stator (Qty-02 nos, 29 KW each) to be carried out and proved for satisfactory operation.	DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5127	Overhauling of fuel oil transfer pump motor (Qty-02 nos, 2.2 KW each) to be carried out and proved for satisfactory operation.	DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5128	Overhauling of Mooring Capstan motor (Qty-01 no, 4 KW) to be carried out and proved for satisfactory operation.	DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.
LA- 5129	Overhauling of EDG Room ventilation fan and pantry exhaust fan (Qty-02 nos., 0.1 KW each) to be carried out and proved for satisfactory operation.	DO. OEM certified Bearings to be renewed as per sample. Material yard supply as per RFIC minutes.

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			RFIC minutes.
LA- 5130	Overhauling of Articulated crane motor (Qty-01 no, 7.5 KW) to be carried out and proved for satisfactory operation.		Delete. covered in HA-1085
LA- 5131	Overhauling of STP sea water pump motor (Qty-01 no, 0.75 KW) to be carried out and proved for satisfactory operation.		Delete covered under AMC
LA- 5132	Overhauling of STP pump motor (Qty-02 nos, 0.37 KW) to be carried out and proved for satisfactory operation.		Delete covered under AMC
Following starters/control panels (defect list Sl. LA-5133 to LA-5167) are to be overhauled. Overhauling of starters/control panels includes following			
(a) Carry out routine test.			
(b) Calibrate over load relays by using current injection test set.			
(c) Replace defective components, if any.			
Renew all contactor spare kits irrespective of condition for all running motors.			
LA- 5133	Overhauling of Starter For Air Compressor(Qty-02 no, Make: M/SELGI Sauer CompressorLtd) to be carried out and proved for satisfactory operation.	Do. Material yard supply as per RFIC minutes. SS	DO as per RFIC minutes
LA- 5134	Overhauling of Starter Panel For Fire G/S & Bilge G/S Pump (Qty-02 no, Make: M/s Larsen Tubro Marine Switchboard & Control Systems) to be carried out and proved for satisfactory operation.	to indicate details of Components (contactor, OLR, TDR, switches and indicators etc..) fitted on stator panels.	DO as per RFIC minutes (M/s Navicom Tech I Pvt Ltd, Mumbai) and as per RFIC minutes
LA- 5135	Overhauling of Starter For Aft Engine Room Ventilation Fan (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5136	Overhauling of OWS Control Panel (Qty-01 no, Make: M/s RWO Marine Water Technology) to be carried out and proved for satisfactory operation.		DO through PAC (M/s Navicom Tech I Pvt Ltd, Mumbai) and as per RFIC minutes
LA- 5137	Overhauling of Control Panel For Fuel Oil Purifier (Qty-01 no, Make: M/s Alfa Laval(India) Ltd) to be carried out and proved for satisfactory operation.	Do through PAC firm. Spares CG supply.	DO as per RFIC minutes
LA- 5138	Overhauling of EVAC Control Panel (Qty-01 no, Make: M/s EvacVacuum Systems) to be carried out and proved for satisfactory operation.	UNDER AIAMC	Delete covered under AMC
LA- 5139	Overhauling of STP Control Panel (Qty-01 no, Make: M/s Changwan) to be carried out and proved for satisfactory operation.	UNDER AIAMC	Delete covered under AMC
LA- 5140	Overhauling of Starter For Fuel Oil Transfer Pump (Qty-02 no, Make: M/s Electronic Control Corporation) to be carried out and proved for satisfactory operation.	Do for LA 5140 to LA - 5165.	DO as per RFIC minutes
LA- 5141	Overhauling of Mooring Capstan Starter Panel (Qty-01 no, Make: M/s Electronic		DO as per RFIC

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	Control Corporation) to be carried out and proved for satisfactory operation.		minutes
LA- 5142	Overhauling of Control Pedestal For Mooring Capstan (Qty-01 no, Make: M/s Electronic Control Corporation) to be carried out and proved for satisfactory operation.	Material Yard supply as per RFIC minutes. SS to indicate details of Components (contactor, OLR, TDR, switches and indicators etc..) fitted on stator panels.	DO as per RFIC minutes
LA- 5143	Overhauling of Anchor Capstan Control Panel (Qty-02 no, Make: M/s Electronic Control Corporation) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5144	Overhauling of Control Pedestal For Anchor Capstan (Qty-01 no, Make: M/s Elgi Sauer Compressor Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5145	Overhauling of Starter Panel For Sea Water Cooling Pump (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5146	Overhauling of Starter Panel Fwd E/R Ventilation Fan 1 (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5147	Overhauling of Starter Panel Fwd E/R Ventilation Fan 2 (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5148	Overhauling of Starter For Aux Equipment Room/ Naval Store supply Fan (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory peration.		DO as per RFIC minutes
LA- 5149	Overhauling of Starter For Galley Exhaust Fan (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5150	Overhauling of Starter For Galley Supply Fan (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5151	Overhauling of Starter For Victualling Store Ventilation Fan (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5152	Overhauling of Starter For Magzine Room Exhaust Fan (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5153	Overhauling of Starter For Sanitary Space Fan Exhaust Fan (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory peration.		DO as per RFIC minutes
LA- 5154	Overhauling of Starter For STP Room Fan Supply Fan (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5155	Overhauling of Starter Fan For Shower & Bilge Pump (Qty-01 no, Make: M/s Electronic Control Corporation) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes

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LA- 5156	Overhauling of Starter For Paint Store Room Exhaust Fan (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5157	Overhauling of Starter For Hydrophore Pump (Qty-01 no, Make: M/s Electronic Control Corporation) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5158	Overhauling of General Service Battery Charger Control Panel (Qty-01 no, Make M/s Marine Electricals) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5159	Overhauling of Starter For Submersible Pumps (Qty-01 no, Make: M/s Achyut Controls & Systems) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5160	Overhauling of Starter For Portable Lub Oil Transfer Pump (Qty-01 no, Make: M/s C & S Electric) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5161	Overhauling of Starter For Portable Electric Pump (Qty-01 no, Make: M/s Electronic Control Corporation) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5162	Overhauling of Starter Panel For AHU(Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5163	Overhauling of Starter Panel For Battery Room Exhaust Fan (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5164	Overhauling of Starter Panel AC Unit (Qty-01 no, Make: M/s Switch & Control Gear Pvt Ltd) to be carried out and proved for satisfactory operation.		DO as per RFIC minutes
LA- 5165	Overhauling of Starter Panel of RO plant (Qty-01 no, Make: M/s SLCE) to be carried out and proved for satisfactory operation.	DO through PAC firm. Spares CG supply	DO through PAC firm. Spares CG supply.
LA- 5166	Overhauling of Starter Panel of STP sea water pump (Qty-01 no, Make: M/s RittalGmbh& Co.) to be carried out and proved for satisfactory operation.	UNDER AIAMC	Delete covered under AMC
EQUIPMENT: FM- 200 CONTROL PANEL, MAKE M/S TYCO, GAS FM 200, 01 NO, SL NO. : 303.205.017 (MCR),12342 (FER),12746 (AER)			
LA- 5167	Calibrate all pressure threshold devices.	Do through PAC firm. Yard to	Do through authorised firm.

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		provide calibration certificate.	Spares CG supply.
EQUIPMENT: EMERGENCY DG, MAKE M/S KIRLOSAR, KOELTA2 / STAMFORD PM044F, 01 NO, SL NO. : G14J417056, PAC FIRM : M/S KOEL			
LA- 5168	Check the insulation of the cable.		
LA- 5169	Check the condition of the paint. If required, repaint.		
LA- 5170	Check all safety trips for proper functioning and if not, carry out replacement of defective components.		
LA- 5171	Overhaul alternator, Calibrate all safeties and renew mounting pads and defective components if required. After overhauling carry out test and full load trials		
EQUIPMENT : GALLEY EQUIPMENTS COOKING RANGE , MAKE M/S SUSHMA LETHE, 415V/50HZ, 01 NO, PAC FIRM: M/S SUSHMA& CO ELECTRICALS, MUMBAI			
LA- 5172	Remove hot plate and dip tray and clean them properly.		
LA- 5173	Paint hot plate bearers and Mild steel surface Using heat resisting paint. Refix hot plates and dip tray on completion of the work and ensure they are fixed properly.		
LA- 5174	Remove both side screens and bottom cover of ovens. Clean inside thoroughly and ensure all elements are fixed properly in their places.		
LA- 5175	Clean and check properly thermostat bulb and Ensure that they are in order.		
LA- 5176	Check and record insulation resistance of complete Range and control panel.		
	Do through PAC firm. Spares CG supply.		SS DO. Paint yard supply. DO through authorised/ CG registered competent firm. Spares CG supply. DO through authorised/ CG registered competent firm. OEM certified bearings and Material yard supply as per RFIC minutes including mountings. Carry out load trials on ship's load. Spares CG supply.
	Do. Spares & Material Yard Supply.		DO. Material yard supply. DO. Material yard supply. DO. Material yard supply. Delete. SS Delete.SS

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LA- 5177	Change the heat resistance wire from control panel to cooking range. Renewal of porcelain beading and thermostats if required.		Do. Material yard supply.
LA- 5178	Overhaul control panel and renew all defective components and replace all contactor spare kits irrespective of condition.		Do. Material yard supply.
EQUIPMENT : GALLEY EQUIPMENTS : 15 LTRS WATER BOILER , MAKE M/S SUSHMA LETHE, 415V/50HZ, 01 NO, PAC FIRM: M/S SUSHMA& CO ELECTRICALS, MUMBAI			
LA- 5179	Dismantle the water boiler from its position after disconnecting water & electrical connection.	DO. Spare & Material Yard	Delete. Undertake under DFPR
LA- 5180	Dismantle the heating elements and clean or rescale them thoroughly. Check the switches, fuses, dry cut out and reassemble them correctly.	Supply.	Delete. Undertake under DFPR
EQUIPMENT: TR-2400 100WHFTX/RX, MAKE M/S ECIL, TR-2400, 01 NO. , SL NO. : 329, PAC FIRM: M/S ECIL			
LA- 5181	Overhaul the complete system along with painting. Carryout performance checks & tuning of system. Replace defective components if any.	Do through PAC Firm. Spares CG	Delete undertake under DFPR
LA- 5182	Examine the condition of slide latches on the front panel if damaged replace the latch.	supply. Material Yard supply.	Delete undertake under DFPR
LA- 5183	Examine the earthing connections.		SS
EQUIPMENT: 1KWHFTX/RX , MAKE M/S BEL, M3SR4100, 01 NO. , SL NO. : 19, PAC FIRM: M/S BHARAT ELECTRIC LIMITED, BANGALORE			
LA- 5184	Overhaul the complete system along with painting. Carryout performance checks & tuning of system. Replace defective components if any.	Do through PAC Firm. Spares CG	Delete undertake under DFPR
LA- 5185	Examine the condition of slide latches on the front panel if damaged replace the latch.	supply. Material Yard supply.	Delete undertake under DFPR
LA- 5186	Examine the earthing connections.		SS
EQUIPMENT : SHIP'S COMPUTERS & ACCESSORIES INCLUDING SERVER , MAKE M/S HP, SERVER-01 NO., MODEL- HP ELITE DESK 800 G1, DESKTOP PC- 05 NOS. MODEL- HP PRO DESK 400 G2 LAPTOP-06 NOS., MODEL- HP PRO BOOK 440 GI			
LA- 5187	Check the performance of the computer; if necessary upgrade the system, as required.	DFP	Delete undertake under DFPR
EQUIPMENT : WEATHER DECK LIGHTINGS (230VAC (1X60W)/500W)			
LA- 5188	All deck lights fitting weather deck switch socket to be change if required/deteriorated.	QSD	Delete undertake under DFPR
EQUIPMENT: REVERSE OSMOSIS PLANT, MAKE: M/S SLCE, FRANCE, MODEL: SDS-203/4.5 TPD, SL NO. : SDS-203-4908-01/15, PAC FIRM: M/S VANSOENGG, THANE			
LA- 5189	Tightening of the electric box connections	DO	Delete. SS

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EQUIPMENT : AC PLANT , MAKE M/S H & H ENGINEERING, SEMI HERMETIC HGX5/830-4S, 02 NOS , PAC FIRM: M/S HENIN&HOPMAN ENGINEERING				
LA- 5190	Check all controls and carryout functional tests. Reset/replace as required including safety cutouts (LP, HP, Differential oil pressure cut out sea water low pressure cutout)	Do only calibration. Yard to provide calibration certificate.	DO through authorised/ registered competent firm. Spares CG supply.	
LA-5191	Calibrate all pressure and temperature gauges in the systems	Material Yard Supply.SS to indicate no. of sensor, gauges etc. and range during RFIC	DO through authorised/ registered competent firm. Yard to provide calibration certificate	
EQUIPMENT :AIR HANDLING UNIT , MAKE M/S EDGE TECH AIR SYSTEM, ETU-040H, AIR QTY: 3824/6500 CFM, 01 NO. , PAC FIRM: M/S HEINEN&HOPMAN ENGINEERING				
LA- 5192	Check motor acceleration time, voltage, current and speed.	Do. Spares &	DO.	
LA- 5193	Check motor anchor bolts and vibration isolation	Material Yard	DO.	
LA- 5194	Check coil and fan for corrosion, wear and tear.	Supply.	DO.	
LA- 5195	Check fan shaft for straightness that the fan wheels are tightly fastened to the shaft and the drive sheaves are secured.		DO.	
LA- 5196	Clean motor frame and air passages.			
EQUIPMENT: BILGE AND G.S. PUMP, MAKE M/S SPX JHONSON PUMP, CV50-200 (B3M2TL), 01 NO. , SL NO. : Y901011037, PAC FIRM: SPX FLOW TECHNOLOGY (INDIA) PVT LTD., AHMEDABAD				
LA- 5197	Re calibrate all the instruments connected to the pump.	Do only calibration.	Delete. Undertake under DFPR	
LA- 5198	Carry out calibration/renewal of all pressure gauges.	Spares & Material Yard Supply.SS to indicate no. of instrument , gauges ect.. and range during	Delete. Undertake under DFPR	

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		RFIC	
EQUIPMENT : FIRE AND G.S. PUMP , MAKE M/S SPX JHONSONPUMP, CV50-200 (B3M2TL), 01 NO. , SL NO. : Y901011017, PAC FIRM: SPX FLOW TECHNOLOGY (INDIA) PVT LTD, AHMEDABAD			
LA- 5199	Re calibrate all the instruments connected to the pump.	Do only calibration.	Delete. Undertake under DFPR
LA- 5200	Carry out calibration / renewal of all pressure gauges.	Spares & Material Yard Supply.SS to indicate no. of instrument , gauges ect. and range during RFIC	Delete. Undertake under DFPR
EQUIPMENT : DOMESTIC FRESH WATER PUMP , MAKE M/S BEST & CROMPTON, 1 TPS, 02 NOS			
LA- 5201	Re calibrate all the instruments connected to the pump.	Do only calibration. Spares & Material Yard Supply.SS to indicate no. of instrument , gauges etc. and range during RFIC	Delete. Undertake under DFPR
EQUIPMENT: OILY BILGE WATER SEPARATOR ,MAKE M/S RWO, SKIT S DEB / 0.5 M³/HR, 01 NO. , SL NO. : 12989, PAC FIRM: M/S NAVICOM TECHNOLOGIES PVT. LTD, MUMBAI			
LA- 5202	Check and clean the sensor electrode, if necessary, replace it.	Do through PAC firm. Spares CG supply.	Do through PAC firm. Spares CG supply.
LA- 5203	Check the function of the heater. If necessary, replace it.		
LA- 5204	Overhauling of all electro pneumatic valves		
EQUIPMENT : PORTABLE ELECTRIC PUMP ,MAKE: DELTA PD CHENNAI , TYPE : DIG 70			
LA- 5205	Re calibrate all the instruments connected to the pump.	Do. Spares & Material Yard Supply. SS to	Delete. Undertake under DFPR
LA- 5206	Carry out calibration / renewal of all pressure gauges.		

		indicate no. of instrument , gauges ect.. and range during RFIC	
EQUIPMENT : DISH ANTENNA SYSTE , MAKE: M/S KNS KOREA, TYPE: KNS-S8, PAC FIRM: M/S ELCOME INTEGRATED SERVICE PVT LTD, MUMBAI			
LA- 5207	Overhauling complete unit and subunits if required. Replace defective if any.	Do through PAC firm.	Delete. Undertake under DFPR
EQUIPMENT: SVDR, MAKE: M/S HIGHLANDER, Model: HLD- S2, SL NO. : 1501003S2, PAC FIRM:M/S MARINE ELECTRICAL, MUMBAI			
LA- 5208	Check internal wiring and tighten terminals if loose.	Deleted Under AIAMC.	Delete covered under AMC
EQUIPMENT: LRAD , MAKE M/S HYPER SPIKE, HS-14 , SL NO. : ACDC000117, PAC FIRM: M/S TRIDENT INFOSOLPVT LTD, BANGALORE.			
LD-5209	LRAD is not working. Suspect amplifier assembly and main display processor PCB to be defective. Root cause to be ascertained and system to be proved for satisfactory performance.	Do through PAC firm. Spares CG Supply.	Discuss during RFIC
D-448 LIABILITIES			
LD-5210	IFF MK-II to be installed and proved.	Do through PAC firm.	Discuss during RFIC

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NOTE:

The scope and responsibility of work under overhauling of the motors are as follows.

- Blow through the motor internally with vacuum cleaner. Care should be taken to avoid damage to winding, wiring and components.
- Check and renewal of bearings.
- Cleaning with CTC and varnishing the winding with air drying varnish, baking in over for at least 10 hours.
- Examination of the rotor impeller, shaft bearing housing for flaws, cracks and corrosion. Make good and replace as necessary.
- Internal and external painting of motor casing by spray paint.
- Carry out trueness check of motor shaft repairs including build up and machining of shaft.
- Rebalance of rotor and impeller, replacement of terminal boxes, terminal blocks, cooling fan, fan guard, foundation and nut/bolts as necessary.
- Check earth straps of motor and replace if necessary.
- Measure the insulation resistance of motor using 500 V meager both before and after rewinding.
- Carryout inspection of vibration mounting. Renewal of gasket / seals and foundation nuts / bolts.

The scope and responsibility of work under overhauling of the control panels are as follows:

- Clean the control panels and renew deteriorated wiring / lugs and terminal blocks. Care should be taken that while cleaning no component is damaged or displaced. Tighten all wiring terminations and electrical connections.
 - Open, clean and replace all contactor spare kits irrespective of their condition of all running machinery.
 - Replace all indication lamps and alarm hooters if defective.
 - Carryout settings of pressure/temperature switches and threshold settings of cards.
 - Calibrate all relays for desirable parameter setting and confirm as per instructional manuals / tests or trials data (SS to record and compare).
 - Inspect and renew shock / vibration mounting.
- Switch on and carryout functional tests to prove the system and compare with test/ trial report.

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- Check and replace earth straps if required.

The scope and responsibility of work under in overhauling of navigation / communication equipment

- Clean and blow out cabinet and sub-assemblies free from dust and dirt using soft brush, vacuum cleaner and alcohol. Tighten all electrical connections. Care should be taken what while cleaning; no component is damaged or displaced.
- Check ventilation grills and filters are free from dust and dirt. Clean grills with a soft brush.
- Check input power source, alternative supply and memory backup Lithium battery (Whenever applicable)
- Carryout self test (Built in test) programs and confirms operational performance of sub-assemblies and functions in all modes, frequencies. Replace defective cards / parts / sub-assemblies as applicable
- Check and confirm availability of all interfacing data inputs / outputs as applicable
- Check cable insulation of input power source
- Check antenna, cable and plugs or sockets for mechanical defects or salt deposits, corrosion and any other foreign objects or materials and take remedial measures. Confirm water tightness of weather deck sub-assemblies.
- Check all plugs, sockets, PCBs are properly secured.
- Check insulation of aerial and feeder system. It should not be less than 01 M ohms.
- Tighten fuse carrier, cable connections and terminal blocks, PCB holders. Replace fused lamps and deteriorated fuse carriers, transmitter output, strength and reception audibility.
- Check power consumption of equipment.
- Inspect and clean all components, coils, PCBs, transformer and condition of hinges, locks, latches and sliding rails.
- Measure antenna impedance for specified value and per instruction manual.
- Carryout performance checks of peripherals such as sensors, remote units, key boards, printers, display unit, modems and transducers etc.
- Check satisfactory operation of safety relays.
- Check earthing of transmitter and receiver aerials are in good conditions.
- Check vibration mounting and earthing straps. Renew deteriorated parts.
- Check wire antenna for deterioration and tightness. Replace porcelain insulators whenever necessary.
- Inspect antenna, clean and paint with RF paint (only for communication aerials)
- Insulation resistance of aerials should be > 01 M Ohms. Refit modules and sub-assemblies / units and ensure secured properly. On completion of routines, switch on system, carryout functional tests and confirm operation.

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