

**PRE REFIT TRIALS**

**OCCASION OF TRIALS – NR/ MR**

**TRIALS DATE - \_\_\_\_\_**

### **PRE REQUISITE FOR CONDUCTING PRE/ POST REFIT TRIALS**

1. List of non-weapon electrical equipment i.a.w. with SFD may be submitted to ETMA/ ETMUs in hard copy and soft copy (editable format) along with a covering letter, 2 weeks prior to commencement of trials. Equipment which comes under purview of ETMA/ ETMUs is listed in NO 14/15.
2. List of compartment for undertaking electrical hygiene checks may be submitted to ETMA/ ETMUs 2 weeks prior to commencement of electrical hygiene checks.
3. Approved ATP of newly fitted equipment during refit along with approved BPs and WLDs may be submitted to ETMA/ ETMUs 2 weeks prior to commencement of trials.
4. In-house trials report along with trial requisition may be forwarded to ETMA/ ETMUs 1 week prior to commencement of trials for all the equipment.

**OCCASION OF TRIAL - NR/ MR MLU**  
**SHIP – INS**  
**TRIALS DATE -**

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29.	Sound Power Telephone (SPT)		

**POWER GENERATION AND DISTRIBUTION EQUIPMENT**

1. **DAs, GTGs, TAs & PTOs.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Equipment Details.**

(i)	Make	
(ii)	Known major defects	

(d) **Data from SS.**

<b><u>Ser</u></b>	<b><u>DA/ TA/ GTG No. &amp; Rating</u></b>	<b><u>Date of Last Load Trials undertaken</u></b>	<b><u>Cleared Upto Capacity</u></b>	<b><u>Observations Pending</u></b>	<b><u>SPM (ND/ DE)</u></b>	<b><u>Due for Maint. (As Per MAINTOPS)</u></b>	<b><u>Recurring Defects</u></b>

(e) **By ETMA.**

<b><u>Ser</u></b>	<b><u>Status (Ops/ Non Ops)</u></b>	<b><u>Voltage Response (Sat/ Unsat)</u></b>	<b><u>Frequency Response (Sat/ Unsat)</u></b>	<b><u>Paralleling (Attended/ Unattended)</u></b>	<b><u>Insulation of Stator and Rotor (MΩ)</u></b>	<b><u>Status of Coolers (Sat/ Unsat)</u></b>	<b><u>SPM (DE/ NDE)</u></b>	<b><u>Ohmic Value</u></b>		<b><u>Remarks</u></b>
								<b><u>Main &amp; Exciter Stator</u></b>	<b><u>Main &amp; Exciter Rotor</u></b>	

Note: Fingerprint test on ship's load may be undertaken by SS and reports may be submitted to ETMA.

(f) **Running Hours Since Last Bearing Replacement** (Only applicable for Teg/ Talwar Class ships, bearings to be replaced after 20000 running hours i.a.w. OEM's recommendations).

(g) **Observations.**

(h) **Recommendations.**

2. **Static/Rotary Converters (Ship's Converter, C & C Converter, Helo Starting Converter).**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Equipment Details.**

(i)	Make	
(ii)	Known major defects	

(d) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Equipment</u></b>	<b><u>Last Trials/ PQ Checks Undertaken (Date)</u></b>	<b><u>Status (Sat/ Unsat)</u></b>	<b><u>Calibration of Instrumentat ion (Sat/ Unsat)</u></b>	<b><u>Insulation (MOhm)</u></b>	<b><u>SPM</u></b>		<b><u>Current (Amps)</u></b>		<b><u>Due for Maint Routin es (Yes/ No)</u></b>	<b><u>Remarks</u></b>
						<b><u>DE</u></b>	<b><u>NDE</u></b>	<b><u>Starting</u></b>	<b><u>Running</u></b>		

**Note:** Converter description (make, rating) and location may be submitted by SS, 2 weeks prior to commencement of trials.

(e) **Observations.**

(f) **Recommendations.**

### 3. **Rectifiers (Helo Starting Rectifier, Battery Charging Rectifier and Ship's Rectifier).**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Equipment Details.**

(i)	Make	
(ii)	Known major defects	

(d) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Equipment</u></b>	<b><u>Last Load Trials Undertaken (Date)</u></b>	<b><u>Voltage Response/ Output Voltage</u></b>	<b><u>Status (Sat/ Unsat)</u></b>	<b><u>Remarks (Limitations/ Defects if Any)</u></b>

Note: Rectifier description (make, rating) and location may be submitted by SS, 2 weeks prior to commencement of trials.

(e) **Observations.**

(f) **Recommendations.**

4. **Battery Banks & System UPS Checks (DG/TG Starting & Control Batteries, Boat Batteries, Diesel Driven (DD) Fire Pump Batteries, DD Air Compressor Batteries, NLCP Back Up Batteries Etc.)**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Sealed Maintenance Free Batteries Operational Checks.**

<b><u>Ser</u></b>	<b><u>Battery/ UPS Description</u></b>	<b><u>Qty</u></b>	<b><u>Rating (V, Ah)</u></b>	<b><u>Internal Resistance</u></b>		<b><u>Location</u></b>	<b><u>Status Ops/ Non Ops</u></b>	<b><u>Remarks/ Defects</u></b>
				<b><u>Rated</u></b>	<b><u>Measured</u></b>			

Note: Battery/ UPS description, quantity, rating, rated internal resistance and location may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendations.**

(f) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(g) **Test Equipment Used.**



(h) **Lead Acid Batteries Operational Checks.**

<b><u>Ser</u></b>	<b><u>Battery/ UPS Description</u></b>	<b><u>Qty</u></b>	<b><u>Rating</u></b>	<b><u>Location</u></b>	<b><u>Terminal Voltage</u></b>	<b><u>Density</u></b>	<b><u>Status Ops/ Non Ops Partially Ops</u></b>	<b><u>Due for Maintenance Routines (Yes/No)</u></b>	<b><u>Remarks/ Defects</u></b>

Note: Battery/ UPS description, quantity, rating and location may be submitted by SS, 2 weeks prior to commencement of trials.

(j) **Observations.**

(k) **Recommendations.**

5. **Main/ Auxiliary Switchboards and Associated Switchgear.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Equipment Details.**

(i)	Make	
(ii)	Known major defects	

(d) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Switchboard</u></b>	<b><u>Status (Sat/ Unsat)</u></b>	<b><u>Insulati on (MΩ)</u></b>	<b><u>Manual Synchronisati on Checks</u></b>	<b><u>Breaker Calibration (Date)</u></b>	<b><u>Instrument Calibration (Date)</u></b>	<b><u>Protections Calibrations (Date)</u></b>	<b><u>Due for Maint. Routines (Yes/ No)</u></b>	<b><u>Remarks (Specific Defects of Breakers/ Protection Devices in Past 12 Months, if Any)</u></b>

(e) **Observations.**

(f) **Recommendations.**

6. **Automatic Power Management System (APMS).**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Equipment Details.**

(i)	Make	
(ii)	Known major defects	

(d) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Incoming Breaker Status &amp; Operation</u></b>	<b><u>Data Logging (Ops/ Non ops/ NA)</u></b>	<b><u>Breaker Status &amp; Parameters</u></b>	<b><u>Unattended Paralleling/ Attended Paralleling</u></b>	<b><u>Buzzer &amp; Power ON Indication</u></b>	<b><u>Insulation Monitoring Device (Ops/ Non ops)</u></b>	<b><u>Residual Issue</u></b>

Note: List of Features in APMS may be submitted by SS, 2 weeks prior to commencement of trials.

(e) **Observations.**

(f) **Recommendations.**

7. **Motors and Starter Panels of Steering Gear/ Auto Pilot, Stabilisers.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Motor Description With Rating (kW/HP)</u></b>	<b><u>Status (Sat/Unsat)</u></b>	<b><u>Calibration of Starters (Sat/Unsat)</u></b>	<b><u>Insulation (MΩ) (&gt;1MΩ)</u></b>	<b><u>Starting Current (Amps)</u></b>		<b><u>Running Current (Amps)</u></b>		<b><u>SPM</u></b>		<b><u>Due for Maint. Routines (Yes/No)</u></b>	<b><u>Remarks/ Defects if Any (Including Starter)</u></b>
					<b><u>Specified</u></b>	<b><u>Measured</u></b>	<b><u>Specified</u></b>	<b><u>Measured</u></b>	<b><u>DE</u></b>	<b><u>NDE</u></b>		

**Note:** Description of all the motors fitted onboard (rating, rated starting current, rated running current, NDE & DE bearing number and location), type of starter may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendations.**

8. **Motor and Starter Panels of Air-Conditioning Equipment and Ref Plant.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Motor Description With Rating (kW/HP)</u></b>	<b><u>Status (Sat/ Unsat)</u></b>	<b><u>Calibration of Starters (Sat/ Unsat)</u></b>	<b><u>Insulation (MΩ) (&gt;1MΩ)</u></b>	<b><u>Starting Current (Amps)</u></b>		<b><u>Running Current (Amps)</u></b>		<b><u>SPM</u></b>		<b><u>Due for Maint. Routines (Yes/No)</u></b>	<b><u>Remarks/ Defects if Any ( Including Starter)</u></b>
					<b><u>Specified</u></b>	<b><u>Measured</u></b>	<b><u>Specified</u></b>	<b><u>Measured</u></b>	<b><u>DE</u></b>	<b><u>NDE</u></b>		

**Note:** Description of all the motors fitted onboard (rating, rated starting current, rated running current, NDE & DE bearing number and location), type of starter may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendations.**

9. **Electrical Motors & Pumps (Fire/ Bilge PP, HP Compressors, Capstan, Fresh Water, Lub Oil, Priming, Oil Transfer Pumps, Ventilation Motors, Winches, etc).**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Motor Description With Rating (kW/HP)</u></b>	<b><u>Status (Sat/ Unsat)</u></b>	<b><u>Calibration of Starters (Sat/ Unsat)</u></b>	<b><u>Insulation (MΩ) (&gt;1MΩ)</u></b>	<b><u>Starting Current (Amps)</u></b>		<b><u>Running Current (Amps)</u></b>		<b><u>SPM</u></b>		<b><u>Due for Maint. Routines (Yes/No)</u></b>	<b><u>Remarks/ Defects if Any ( Including Starter)</u></b>
					<b><u>Specified</u></b>	<b><u>Measured</u></b>	<b><u>Specified</u></b>	<b><u>Measured</u></b>	<b><u>DE</u></b>	<b><u>NDE</u></b>		

Note: Description of all the motors fitted onboard (rating, rated starting current, rated running current, NDE & DE bearing number and location), type of starter may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendations.**

10. **Luminosity Checks (Machinery Spaces, Aft Steering Position (ASP), Operations Room, Lobbies/ Passageways, Cold Room/ Cool Room, Magazines and Hangars).**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Location</u></b>	<b><u>Permissible Lux Value (Def Stan 02-587 Part 1)</u></b>	<b><u>Measured Lux Value</u></b>	<b><u>Remarks/ Defects</u></b>

Note: Compartment names and their location may be provided by SS, 2 weeks prior commencement of trials. Lux value for Machinery Spaces is 100, Aft Steering Position (ASP) is 150, Operations Room is 150, Lobbies/ Passageways is 75, Cold Room/ Cool Room is 100, Magazines is 150, Hangar is 300).

(d) **Observations.**

(e) **Recommendations.**

11. **General Lighting (E/R Lighting, Upper Deck Lighting, Navigational Lighting, AELs, etc.).**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Equipment (With Nos. Held)</u></b>	<b><u>Quantity</u></b>	<b><u>Status</u></b>		<b><u>Remarks/ Defects</u></b>
			<b><u>Ops</u></b>	<b><u>Non Ops</u></b>	
(i)	E/R lighting				
(ii)	Weather deck lighting				

(iii)	Helo deck lighting				
(iv)	AELs				
(v)	General lighting				
(vi)	Helo hangar lighting				

Note: Location and quantity of light fitted in respective compartment may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendations.**

12. **Domestic Machinery/ Equipment (Laundry, Galley equipment, Commercial Eqpt).**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Equipment Description</u></b>	<b><u>Qty</u></b>	<b><u>Location</u></b>	<b><u>Status (Ops/ Non Ops)</u></b>	<b><u>Due for Maintenance (Yes/ No)</u></b>	<b><u>Recurring Defects (In Past 12 Months)</u></b>



Note: List of Ship fit domestic machinery equipment indicating quantity and location may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendations**

13. **DBs, Fuse Panels.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Equipment Description</u></b>	<b><u>Visual Inspection</u> <u>(Insulation, Sealing, Cabling, Eqpt Hygiene, Earthing, Damages Etc.) (Sat/ Unsat)</u></b>	<b><u>Status</u> <u>(Sat/ Unsat)</u></b>	<b><u>Remarks</u></b>

Note: List of DBs/ Fuse panels indicating rating and location may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendations.**

14. **ACOS/ HCOS.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks of ACOS.**

<b><u>Ser</u></b>	<b><u>ACOS(No, Rating &amp; Location)</u></b>	<b><u>System</u></b>	<b><u>Dwell Time</u></b>	<b><u>ACOS Change Over (Sat/ Unsat/ NA)</u></b>	<b><u>Due for Maint Routines (Yes/No)</u></b>	<b><u>Remarks/ Defects</u></b>

Note: List of ACOS (No., Rating and Location) and system name may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendations.**

(f) **Operational Checks of HCOS.**

<b><u>Ser</u></b>	<b><u>HCOS (No, Rating &amp; Location)</u></b>	<b><u>System</u></b>	<b><u>HCOS Change Over (Sat/ Unsat/ NA)</u></b>	<b><u>Status (Functional/ Not Functional)</u></b>	<b><u>Due for Maint. Routines (Yes/No)</u></b>	<b><u>Remarks/ Defects</u></b>

Note: List of HCOS (no., rating and location) and system name may be submitted by SS, 2 weeks prior to commencement of trials.

(g) **Observations.**

(h) **Recommendations.**

15. **Siren.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Siren (Location)</u></b>	<b><u>Electrical Hygiene Checks of Siren Panel</u></b>	<b><u>Status (Functional/ Not Functional)</u></b>	<b><u>Due for Maint. Routines (Yes/ No)</u></b>	<b><u>Remarks/ Defects</u></b>

Note: Location of Siren may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendations.**

16. **Window Wipers.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Motor Description With Rating (kW/ HP)</u></b>	<b><u>Status (Sat/ Unsat)</u></b>	<b><u>Due for Maint. Routines (Yes/No)</u></b>	<b><u>Remarks/ Defects if Any ( Including Starter)</u></b>

Note: List of motors with rating may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendations.**

17. **NLCP and Nav Light.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	

(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>List of NLCP</u></b>	<b><u>Status (Sat/ Unsat)</u></b>	<b><u>Due for Maint. Routines (Yes/ No)</u></b>	<b><u>Remarks/ Defects If Any</u></b>

Note: List of NLCP may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendations.**

<b><u>Ser</u></b>	<b><u>List of Nav Light</u></b>	<b><u>Status (Ops/ Non Ops)</u></b>	<b><u>Remarks/ Defects</u></b>

Note: List of navigation lights may be submitted by SS, 2 weeks prior to commencement of trials.

(f) **Observations.**

(g) **Recommendations.**

18. **Emergency Supply System.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Checks</u></b>	<b><u>Remarks</u></b>
(i)	Carry out visual inspection checks as follows: (a) No physical damage on emergency flexible cables. (b) Check continuity and insulation of cables at random (15% of total cables to be checked). (c) All rubber lugs at cable ends are intact. (d) All identification markings provided on lugs are in order. (e) Identification marking of Emergency Switch Connection Box (ESCB) is provided for each phase near the terminal of each phase. (f) Availability of key in securing clip provided on the box. (g) Provisioning of emergency connection terminals on Switchboard section/ EDCs.	
(ii)	Carry out visual inspection of the permanent verticals.	
(iii)	Carry out visual inspection of the permanent horizontals.	
(iv)	Carry out visual inspection of through bulkhead connections and deck tubes if any.	

(v)	Check the functionality of emergency portable transformers along with emergency link box and supply distribution board.	
(vi)	Check for availability of layout diagrams and ship staff alacrity and awareness in laying emergency cables as per diagrams.	
(vii)	Check the insulation and continuity at both ends after laying out cable from service to source.	
(viii)	Post insulation checks, connect up the cables at both ends and switch on the emergency supply for the equipment. Check availability of power supply to consumer.	

Note:

(aa) System efficacy may be checked by energising one major equipment.

(ab) Details of emergency supply system indicating location and quantity of supply boxes and cables and layout diagram may be provided by SS, 2 weeks prior to commencement of trials.

## **COMMUNICATION EQUIPMENT**

### 19. **Fire Alarm System (Addressable/ Non-Addressable)**

#### (a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

#### (b) **Test Equipment Used.**

#### (c) **Operational Checks of Sensors.**

<b><u>Ser</u></b>	<b><u>Compartment</u></b>	<b><u>Type of Sensor</u></b>	<b><u>Qty</u></b>	<b><u>Status (Sat/ Unsat)</u></b>

Note: List of sensors indicating type of sensor, quantity, compartment name and layout diagram may be submitted by SS, 2 weeks prior to commencement of trials.

#### (d) **Operational Checks of Control Panel.**

<b><u>Ser</u></b>	<b><u>Description</u></b>	<b><u>Status (Sat/ Unsat)</u></b>

Note: List of features may be submitted by SS, 2 weeks prior to commencement of trials.



(e) **Operational Checks of UPS.**

<u>Ser</u>	<u>Description of UPS</u>	<u>Backup (Minutes)</u>	<u>Status (Sat/ Unsat)</u>

Note: Description of UPS indicating rating of UPS and backup time as per technical document may be submitted by SS, 2 weeks prior to commencement of trials.

(f) **Observations.**

(g) **Recommendations.**

20. **Main Broadcast/ SRE & Intercom System.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<u>Ser</u>	<u>Description</u>	<u>Status</u>
(i)	Priority function (high priority user can interrupt lower priority user.	
(ii)	Muting function (when mic position initiated local speaker should mute.	
(iii)	UPS back up (power the system automatically without causing	

	interruption in case main supply fails. UPS should provide backup of atleast 30mins).	
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(d) **Operational Checks of Microphone Station /Announcement Points of Main Broadcast.**

<u>Ser</u>	<u>Positions</u>	<u>Number of Mic</u>	<u>Status (Sat/ Unsat)</u>

Note: List of microphone station/ announcement points indicating quantity, location and loop diagram may be submitted by SS, 2 weeks prior to commencement of trials.

(e) **Operational Checks of Main Broadcast Speaker.**

<u>Ser</u>	<u>Location</u>	<u>Qty</u>	<u>Wattage (1/2/3/4)</u>	<u>Status (Sat/ Unsat)</u>

Note: List of speakers indicating quantity, rating and locations may be submitted by SS, 2 weeks prior to commencement of trials.

(f) **Operational Checks of Microphone Station /Announcement Points of Intercom.**

<u>Ser</u>	<u>Location</u>	<u>Number of Mic</u>	<u>Status (Sat/ Unsat)</u>

Note: List of microphone station/ announcement points indicating quantity, location and loop diagram may be submitted by SS, 2 weeks prior to commencement of trials.

(g) **Operational Checks of Intercom Speaker.**

<u>Ser</u>	<u>Location</u>	<u>Qty</u>	<u>Wattage (1/2/3/4)</u>	<u>Status (Sat/ Unsat)</u>

Note: List of speakers indicating quantity, rating and locations may be submitted by SS, 2 weeks prior to commencement of trials.

(h) **Observations.**

(i) **Recommendations.**

21. **Auto Telephone Exchange.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks of Telephone Lines.**

<b><u>Ser</u></b>	<b><u>Location</u></b>	<b><u>Telephone No.</u></b>	<b><u>Status (Sat/ Unsat)</u></b>

Note: List of telephone numbers and location may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendation.**

22. **Interphone.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Group</u></b>	<b><u>Location</u></b>	<b><u>Communication With Master</u></b>	<b><u>Status (Sat/ Unsat)</u></b>

Note: List of interphones indicating group and location may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendations.**

23. **Flood Alarm System (Addressable/ Non-Addressable).**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks of Sensors.**

<u>Ser</u>	<u>Location</u>	<u>Qty</u>	<u>Type of Sensor</u>	<u>Operational Status of Sensor (Sat/ Unsat)</u>	<u>Control Unit Audio Alarm</u>	<u>Control Unit Visual Indication</u>	<u>Remarks</u>

Note: List of sensors indicating type of sensor, quantity, location and layout diagram may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Operational Checks of Control Panel.**

<u>Ser</u>	<u>Description</u>	<u>Status (Sat/ Unsat)</u>

Note: List of features may be submitted by SS, 2 weeks prior to commencement of trials.

(e) **Operational Checks of UPS.**

<u>Ser</u>	<u>Description of UPS</u>	<u>Backup (Minutes)</u>	<u>Status (Sat/ Unsat)</u>

Note: Description of UPS indicating rating of UPS and backup time as per technical document may be submitted by SS, 2 weeks prior to commencement of trials.

(f) **Observations.**

(g) **Recommendations.**

24. **Ships Installed Radiac System (SIRS).**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks of Control Panel.**

<u>Ser</u>	<u>Description</u>	<u>Status (Sat/ Unsat)</u>
(i)	Indications of indicating assembly	
(ii)	Indications of detectors	
(iii)	Self test	

(d) **Sensor Check.**

<u>Ser</u>	<u>Type of Sensor</u>	<u>Location</u>	<u>Status (Sat/ Unsat)</u>	<u>Remarks</u>

Note: List of sensors indicating type of sensor may be submitted by SS, 2 weeks prior to commencement of trials.

(e) **Power Supply Check at Central Indicating Assembly Test Point.**

<u>Ser</u>	<u>Test Point Pin</u>	<u>Specified Limit as Per INBR 1082 (vii) (In Volts)</u>	<u>Tolerance <math>\pm 10\%</math> (In Volts)</u>	<u>Obtained Value (In Volts)</u>

(f) **Miscellaneous Checks.**

<b><u>Ser</u></b>	<b><u>Description</u></b>	<b><u>Status (Sat/ Unsat)</u></b>
(i)	Check that all display shows “0” if sensor connected and “NC” if sensor not connected	
(ii)	Check all simulator mode as per HATs schedule of INBR 1082 (VII).	
(iii)	Check alarm indication in simulator mode when dose rate is higher in LLDR and HLDR.	

(g) **Observations.**

(h) **Recommendations.**

25. **Portable Monitoring System.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks.**

<b><u>Ser</u></b>	<b><u>Serial Number of PMS</u></b>	<b><u>Performance (Sat/ Unsat)</u></b>	<b><u>Remarks</u></b>
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Note: List of PMS may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Observations.**

(e) **Recommendation.**

26. **Recreational TV.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks of TV Sets.**

<b><u>Ser</u></b>	<b><u>Location of TV Sets</u></b>	<b><u>Performance (Sat/ Unsat)</u></b>	<b><u>Remarks</u></b>

Note: List of TV sets indicating locations may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Operational Checks of Amplifiers / Set Top Boxes (STB)/ TVRO.**

<b><u>Ser</u></b>	<b><u>Amplifiers/ STBs/ TVRO</u></b>	<b><u>Location</u></b>	<b><u>Performance (Sat/ Unsat)</u></b>	<b><u>Remarks</u></b>



Note: List of Amplifiers/ Set Top Boxes (STB)/ TVRO indicating locations may be submitted by SS, 2 weeks prior to commencement of trials.

(e) **Observations.**

(f) **Recommendation.**

27. **CCTV.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks of Camera.**

<b><u>Ser</u></b>	<b><u>Location of Camera</u></b>	<b><u>Qty</u></b>	<b><u>Performance (Sat/ Unsat)</u></b>	<b><u>Remarks</u></b>

Note: List of cameras indicating location and quantity may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Operational Checks of Monitors/ Recording Unit.**

<b><u>Ser</u></b>	<b><u>Monitor/ Recording Unit</u></b>	<b><u>Location</u></b>	<b><u>Performance (Sat/ Unsat)</u></b>	<b><u>Remarks</u></b>

Note: List of monitors/ recording unit indicating location may be submitted by SS, 2 weeks prior to commencement of trials.

(e) **Observations.**

(f) **Recommendation.**

28. **Ships Installed Chemical Agent Detection system (SICADS).**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Operational Checks of Chemical Agent Detectors.**

<b><u>Ser</u></b>	<b><u>Location</u></b>	<b><u>Status (Sat/ Unsat)</u></b>

Note: List of sensors indicating locations may be submitted by SS, 2 weeks prior to commencement of trials.

(d) **Operational Checks of Control Panel**

<b><u>Ser</u></b>	<b><u>Description</u></b>	<b><u>Status (Sat/ Unsat)</u></b>

Note: List of features may be submitted by SS, 2 weeks prior to commencement of trials.

(e) **Observations.**

(f) **Recommendation.**

29. **Sound Power Telephone.**

(a) **Trial Details.**

(i)	Presented by	
(ii)	Trial date	
(iii)	Date of last trial carried out on	
(iv)	Proposal reference	
(v)	Reference document for trial	

(b) **Test Equipment Used.**

(c) **Equipment Details.**

<b><u>Ser.</u></b>	<b><u>Description</u></b>	<b><u>Quantity</u></b>
(i)	No. of groups	
(ii)	No. of single say SPTs	
(iii)	No. of multiway SPTs	
(iv)	No. of single way SPT weatherproof socket box	
(v)	No. of multiway SPT weatherproof socket box	
(vi)	No. of multiway SPT with socket box for headset	
(vii)	No. of single way SPT with socket box for headset	
(viii)	Single way SPT console mounted	
(ix)	Multiway SPT – 24 console mounted	
(x)	SPT hooter	
(xi)	Headset with MIC > 10 mtr. cable	

<u>Ser.</u>	<u>Description</u>	<u>Quantity</u>
(xii)	Single way SPT (portable) complete with plug & lead	
(xiii)	Multiway SPT (portable) complete with plug & lead	

(d) **Operational Checks.**

<u>Ser</u>	<u>Locations</u>	<u>Type</u>	<u>Quantity</u>	<u>Performance (Sat/ Unsat)</u>	<u>Remarks</u>

Note: List of SPTs indicating type, quantity and location may be submitted by SS, 2 weeks prior to commencement of trials.

(e) **Observations.**

(f) **Recommendation.**