

Tele 022-22752504

Office of the Director General
Naval Trials and Acceptance Authority
Room No. 318
D-II Wing, Sena Bhavan
Delhi 110011

NATAA/100/POLICY

|& Jan 22

The Flag Officer Commanding-in-Chief
(for Chief of Staff)
Headquarters, Western Naval Command
c/o Fleet Mail Office
Mumbai 400001

The Commander-in-Chief
(for Chief of Staff)
Headquarters, Andaman and Nicobar Command
Port Blair 744102

The Flag Officer Commanding-in-Chief
(for Chief of Staff)
Headquarters, Eastern Naval Command
Visakhapatnam 530014

The Flag Officer Commanding-in-Chief
(for Chief of Staff)
Headquarters, Southern Naval Command
Kochi 682004

AMPLIFYING ORDERS
NAVAL TRIALS AND ACCEPTANCE AUTHORITY (NATAA)

1. Refer to IHQ MoD(N) Letter PL/1608/POLICY/2020 dated 24 Sep 21 and 001 IG of 01 Jan 22 both regarding revitalisation of NATAA organisation.
2. Amplifying Orders in respect of the aforementioned policy letter are forwarded herewith.
3. It is requested that the orders be disseminated to all concerned for implementation.


(K Srinivas)
Rear Admiral
Director General

Enclosure: - As above

Internal: -

NA/ VCNS

SO/ DCNS

SO/ COP

TA/ COM

Copy to: -

The Flag Officer Submarines
Naval Base
Visakhapatnam 530014

The Flag Officer Sea Training
c/o Fleet Mail Office
Naval Base
Kochi 680004

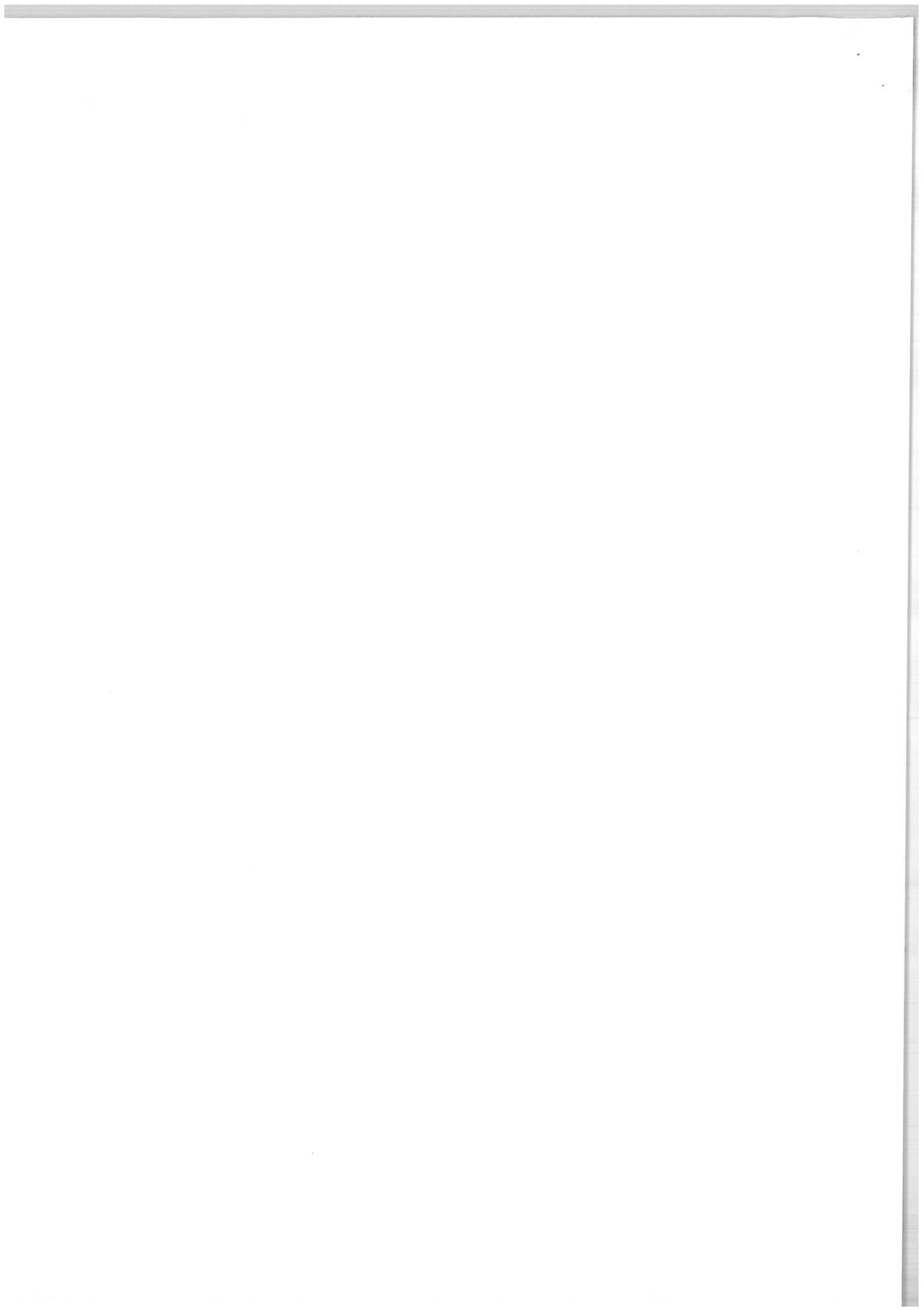
Enclosure to DG NATAA letter
NATAA/100/POLICY dated 18 Jan 22

PREAMBLE

1. The sea worthiness, functional capability and combat effectiveness of **IN** ships and submarines are all dependent on the materiel state and performance of hull structure, equipment and systems. These are achieved through periodic maintenance, repairs, replacement/ renewal, followed by trials/ inspections undertaken by various **IN** agencies. Timely maintenance is also dependent on the accurate diagnosis of defects undertaken by various Trial and Acceptance units.
2. The acceptance process of a ship/ submarine prior delivery and after major refit while in commission is a key milestone in it's life cycle, which facilitates seamless transition from the construction/ repairs phase to an operational, sea worthy and combat ready platform. An effective 'Trials Framework' is, therefore, essential for the **IN** to ensure induction of new platforms with high level of performance of hull structures, machinery and associated systems along with low underwater Radiated Noise Levels (RNL). The framework should ensure retention of benchmarked performance of platforms achieved during commissioning, throughout the service life, with acceptable levels of degradation with age. NATAA organization with revised charter, iaw IHQ MoD(N) Policy Letter PL/1608/POLICY//2020 dated 24 Sep 21, has accordingly been brought into force wef 01 Jan 22.
3. These amplifying orders on 'Revitalization of Naval Trials and Acceptance Authority' (NATAA) are being promulgated for information, guidance and compliance by all officers and sailors borne in NATAA and all the subordinate Trials and Acceptance units viz MTUs (Mbi, Vzg, Kol, Goa, & Koc), GTTTs (Mbi & Vzg), DTTTs (Mbi & Vzg), ETMA (Mbi), ETMUs (Vzg & Kol) ETT (Koc), HITUs (Mbi, Vzg, Pbr & Koc), METT (L), CBIU and CTT (Pbr). These orders are aimed at achieving high standards of professionalism and synergy amongst various trial units in the **IN**.
4. These orders do not supersede any relevant Navy Orders, Navy Instructions, Regs Navy and Navy Act 1957.
5. These orders are to be read by all the officers and sailors of NATAA and all subordinate Trial and Acceptance units. They are to sign the master copy kept in each unit for having read and understood the same.

N
Srinivas
(K Srinivas)
Rear Admiral
Director General NATAA

Place: New Delhi
Date: 18 Jan 22



AMPLIFYING ORDERS

NAVAL TRIALS AND ACCEPTANCE AUTHORITY (NATAA)

1. The role of Indian Navy, nature of deployments, areas of operation and interest have been progressively expanding in the last several years. *IN* platforms are accordingly required to sustain longer mission based deployments away from base ports, without encountering crippling defects.
2. Gap analysis of the existing trials framework with regard to its effectiveness on the reliability of platforms at sea indicates that materiel readiness commensurate with mission requirements can only be achieved by adopting a comprehensive 'Systems Approach' to 'Acceptance/ Certification of Materiel Readiness' under an overarching trials framework. This will entail involvement of integrated trial teams for comprehensive checks/ inspections and acceptance of all machinery and associated systems prior delivery of platforms as well as post major refits. Further, a need to strengthen the Trial and Acceptance units, commensurate with the growth of the *IN* in the last decade, has also been felt.
3. In order to ensure effective implementation of these reforms, structure of the existing NATAA organization has been revitalized with a revised charter and implemented wef 01 Jan 22. NATAA organisation will function under the Director General (DG) NATAA, of the rank of Rear Admiral (E/L), who shall be assisted by one Director and four Additional Directors of the rank of Captain along with other officers, sailors and civilian staff. Technical control over NATAA will be exercised by the Chief of Materiel through DG NATAA. Till accord of government sanction for the post of DG NATAA with attendant staff on accretion basis, ACOM (Mod) will dual hat as DG NATAA and oversee functioning of NATAA from IHQ MoD (N).

ROLE, ORGANISATION AND RESPONSIBILITIES OF NATAA

4. **Role.** NATAA organisation will perform the 'Staff Functions' as enumerated in IHQ MoD(N) Letter PL/1608/POLICY/2020 dated 24 Sep 21 while the 'Line Functions' will be carried out by subordinate Trial and Acceptance units. The Charter of duties of NATAA is placed at **Appendix 'A'**. NATAA would function from Mumbai, under the administrative control of HQWNC, and personnel appointed to NATAA would be borne as INS Angre/ additional. Decisions on technical matters related to trials, other professional and policy matters may be referred by NATAA to the respective Professional Directorates at IHQ MoD (N), as required.

5. **Organisation and Channel of Reporting.** The revitalized NATAA organisation is placed at **Appendix 'B'**. The list of subordinate Trial and Acceptance units under NATAA is placed at **Appendix 'C'**. The Channel of Reporting (CoR) for all officers of NATAA and subordinate Trial and Acceptance units is placed at **Appendix 'D'**.

Responsibilities

6. Amplifying details of the charter of duties of NATAA given at Appendix 'A', are enumerated in the succeeding paragraphs.

7. **New Construction Ships/ Submarines.** NATAA is to co-ordinate with WOTs/ STTs/ SOTs, Command HQs and Trial units for conduct of Integrated Installation Inspection checks and comprehensive acceptance trials of machinery and systems. DG/ Director NATAA will chair 'Wash-up Meetings' prior accord of clearance for conduct of Basin Trials, Contractor's Sea Trials (CST) and Final Machinery Trials (FMT) of all new construction ships iaw DME Specs 303D. NATAA will prepare a comprehensive 'Acceptance Trials Report' post completion of all trials, with inputs from all Trial and Acceptance units and forward the same to IHQ MoD(N). NATAA will also undertake evaluation of GRAQs based on assessment and recommendations of Trial and Acceptance units for approval by Professional Directorates.

8. **Refit Ships/ Submarines.** NATAA, in co-ordination with Command HQs, Refitting Authorities, COMCOS, Trial and Acceptance units and respective ships/ submarines, will be involved in the conduct of comprehensive Pre Refit Trials (PRT) of all machinery/ systems during the Draw-down phase in respect of ships and submarines undergoing major refits (**Normal Refits and above**). A comprehensive report will be forwarded by NATAA to all stakeholders thereafter for refinement of refit work package, if any, during the Defect List Conference. As regards the aspects related to post refit trials of ships and submarines undergoing major refits, NATAA will be responsible for the following: -

- (a) Conduct of integrated and comprehensive trials by subordinate Trial and Acceptance units at various stages of the refit till REFCOMP to establish the materiel readiness of platforms for the ensuing operational cycle.
- (b) Assessment of materiel state on the basis of stage inspection reports and final trial reports from subordinate Trial and Acceptance units. While assessing the materiel readiness of platforms, comparison with benchmarked/ pre-refit/ design performance parameters would be undertaken and gaps

analyzed for mitigation. NATAA is to play a key role in resolving technical issues faced during conduct of integrated trials.

(c) Conduct of Staff Sea Checks (SSC). Staff Sea Checks of ships/ submarines undergoing major refits are presently being conducted by various authorities within the Commands iaw General/ Technical Orders promulgated by the respective Command Headquarters. In order to ensure common acceptance standards for 'float' and 'move' functions of all platforms undergoing major refits, DG NATAA will hereafter conduct **SSC 1** in all Commands, co-ordinated by respective CROs. This will not only benchmark the readiness level of platforms across all Commands, prior being cleared for first sea sortie, but will also ensure that all the Trial and Acceptance units follow similar procedures/ standard protocols for acceptance of equipment and systems post overhauls/ major routines. Conduct of SSC 2, SSC 3 and SSC 4 will continue as hitherto, within the domain of respective Commands. The guidelines and standard formats for conduct of Staff Sea Checks for all ships and submarines undergoing major refits will be promulgated separately through a policy letter by NATAA.

(d) Materiel Assessment Post Refit Completion. On completion of major refits of ships/ submarines, NATAA will undertake a thorough materiel audit of each platform, with inputs from all Trial and Acceptance units, and bring out the final **materiel readiness status** achieved, along with **critical** pending issues (wrt main propulsion, power generation, hull & deck machinery, Electrical/ Engineering equipment/ systems, ship systems, machinery spaces fire-fighting systems, navigational aids, communication equipment and other miscellaneous aspects), in the form of a **signal** addressed to all concerned, within a week of REFCOMP. Further, the signal will be followed up with a detailed report on the materiel readiness assessment of the platform post refit, including all pending major and minor observations/ legacy issues.

9. Operational Ships and Submarines. Trial and Acceptance units under respective Commands are to undertake periodic trials and inspections of equipment and systems along with causative analysis of critical defects as directed by the AA and Professional Directorates from time to time. Trial reports rendered by these units are to be forwarded to all concerned and NATAA for wider circulation, analysis and knowledge management, pan-Navy. NATAA will be responsible for the following: -

(a) Streamline procedures for periodic conduct of integrated trials for comprehensive assessment of materiel state of equipment and running hour/ life extension purposes by the subordinate Trial and Acceptance units during operational phase.

(b) Co-ordinate specific trials for any defect investigation/ performance monitoring/ enhancement of performance, as directed by IHQ MoD(N).

10. **Policy & Administration.** NATAA is to ensure co-ordination amongst multiple Trial and Acceptance units and promulgate trial protocols/ schedules for joint inspections, comprehensive and integrated trials of equipment & systems of all new construction/ in-service ships and submarines. NATAA will also be responsible for the following: -

(a) Analysis of all aspects within the domain of trials/ inspection, performance assessment and acceptance of equipment, systems and hull structures for issue of necessary policy letters/ advisories. This should also include legacy and recurring materiel defects related to machinery & systems and hull structures/ deck machinery.

(b) Drawing-up acceptance norms in the form of Trial Protocols for refit ships and GRAQs for new construction ships. NATAA shall ensure effective implementation of the Integrated Machinery Acceptance Trials (IMAT) philosophy, promulgated vide NATAA/318/IMAT dated 07 Jan 22. The reports on machinery performance and related issues would be projected to IHQ MoD(N), Command HQs, Repair Yards, Overseeing Teams and Fleet/ flotilla staff, as required. NATAA will promulgate the Lead/ Assisting trial agency for composite teams involved in the integrated machinery trials of machinery, hull structures and systems.

(c) Monitor induction, standardization and modernization of testing tools/ equipment held with the subordinate Trial and Acceptance units. Ensure availability of machinery performance data from all these units to INSMA for meaningful analysis.

(d) Introduction of latest technologies in the field of performance assessment/ condition monitoring/ predictive techniques, analytical software tools etc.

11. **Functioning of Trial and Acceptance Units.** The functioning and role/ responsibilities and financial autonomy of all the subordinate Trial and Acceptance units would continue, as hitherto and iaw respective Navy Orders, as amended from time to time. The trial units at various Commands would be tasked by respective AAs and Professional Directorates for trial requirements of ships and submarines under intimation to NATAA. The tasking wrt major refits, preparation of comprehensive trial protocols will be steered by NATAA ensuring implementation of IMAT and comprehensive system trials concepts. The co-ordination at IHQ MoD(N) for

professional and manpower issues pertaining to subordinate Trial and Acceptance units will continue, as hitherto, by respective Professional Directorates.

12. **Leave / Temporary Duty.** Leave and temporary duty of Directors/ OsiC of NATAA and all subordinate Trial and Acceptance units will be approved by CSO (Tech) of respective Commands, as hitherto, under intimation to DG NATAA. Leave and temporary duty of other officers will be approved within Commands, as hitherto.

13. **Annual Inspection.** Technical inspection of all Trial and Acceptance units under the functional control of NATAA will be undertaken by DG NATAA. Administrative Inspection will be undertaken by the respective Administrative Authority.

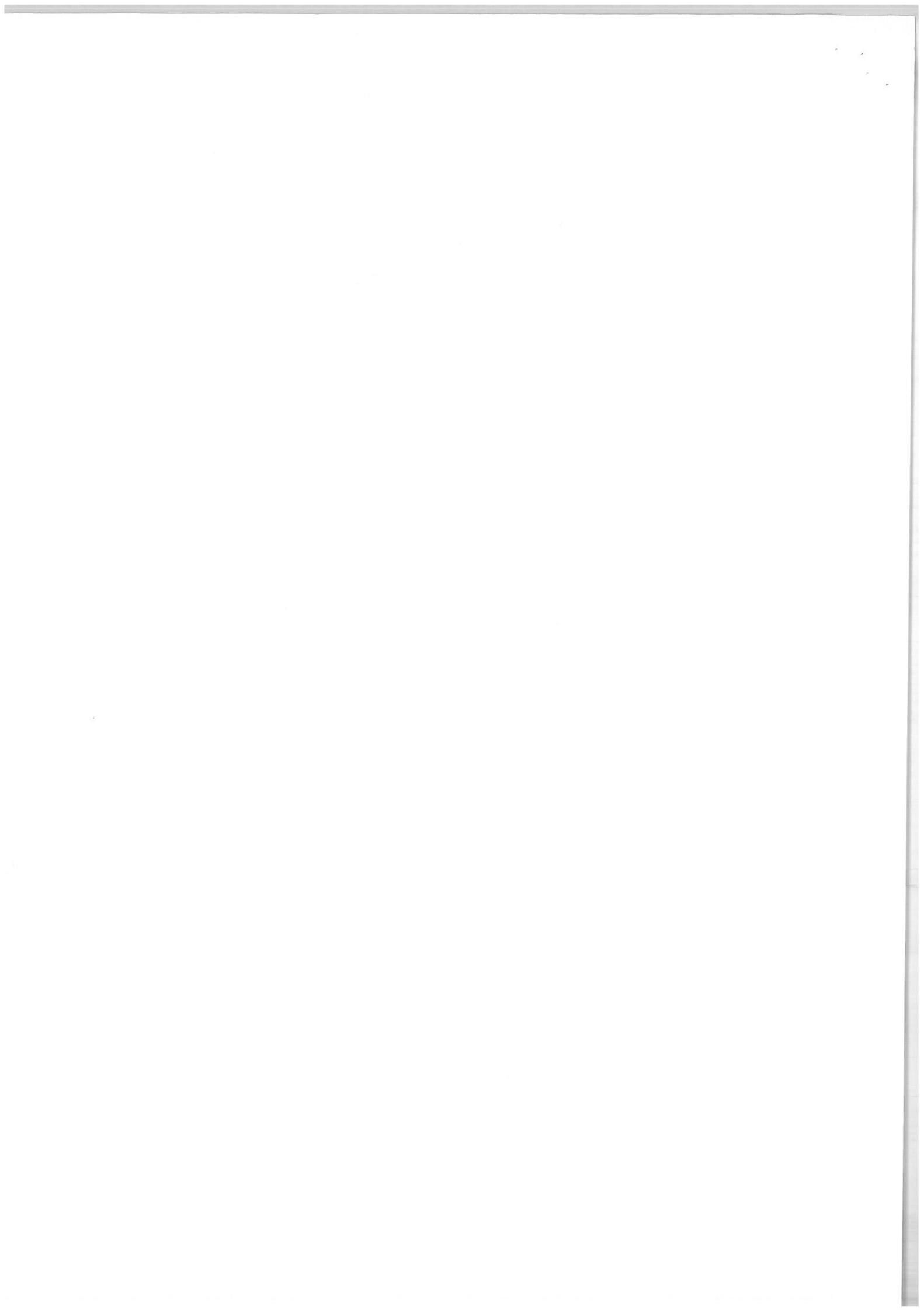
Staff Functions of NATAA

14. NATAA organisation at Mumbai will be headed by a Director of the rank of Cmde (E/L), responsible to DG NATAA at IHQ MoD(N). Director NATAA will be assisted by four Additional Directors responsible for the following Sections: -

- (a) **Propulsion & Auxiliaries** {headed by Capt E (GS)}.
- (b) **PGD, Communication & NAVAIDS** {headed by Capt L (GS)}.
- (c) **Hull and Deck Machinery** {headed by Capt E (NC)}.
- (d) **Policy & Certification** {headed by Capt E/ L (GS)/ SM)}.

15. **Director NATAA.** Director NATAA will be responsible for all Staff Functions of NATAA organisation and co-ordination amongst the subordinate Trial and Acceptance units pan-Navy to achieve the tasking assigned to them as part of Line Functions. Director NATAA will implement the IMAT framework of integrated and comprehensive trials of all engineering, electrical and hull equipment and systems as approved by DG NATAA.

16. These Orders are to be read in conjunction with IHQ MoD(N) Letter PL/1608/POLICY/2020 dated 24 Sep 21.



Appendix A
(Refers to Para 3)

CHARTER OF DUTIES OF NATAA

1. New Construction Ships/ Submarines.

- (a) Nodal authority for Integrated Installation Inspection & Checks of machinery/systems.
- (b) Coordinate with WOTs, Command HQs and Trial units for conduct of comprehensive Acceptance Trials.
- (c) Render comprehensive 'Acceptance Trials Report' to IHQ MoD (N), post completion of acceptance trials, with inputs from all trial units.
- (d) Evaluation of GRAQs based on assessment and recommendations of trial agencies for approval by Professional Directorates.

2. In-Service Ships/ Submarines.

- (a) Undertake/ coordinate specific trials for defect investigation/ performance monitoring/ enhancement of performance as directed by IHQ MoD(N) and Administrative Authorities.
- (b) Ensure availability of machinery performance data from all Trial Units to INSMA. Undertake additional trials/ inspection as required, for analysis of data.
- (c) Conduct of comprehensive and integrated Pre Refit Trials of machinery/ systems during the refit drawdown phase, in coordination with Command HQs, Formation HQs, Refitting Authority, trial units and ship/ submarines.
- (d) Benchmark equipment performance and accurate refinement of refit work package through Pre-Refit Trials.
- (e) Conduct of periodic integrated trials during refit, for assessment of materiel readiness in coordination with Command HQs, Formation HQs, Refitting Authority and Trial units.
- (f) Nodal authority for integrated installation checks of system and comprehensive acceptance trials post refit, and certification of final 'Materiel Readiness' post refits.
- (g) Render comprehensive 'Pre/ Post Refit Trial Report'.

3. Policy Issues.

- (a) Ensure co-ordination amongst multiple trial units for joint inspection and integrated trials.
- (b) Promulgation of trial protocols/ schedules for comprehensive integrated trials of equipment and systems on new construction and in-service ships and formation of integrated trial teams for each activity.

- (c) Induction, standardisation and modernisation of testing tools/ equipment.
- (d) Nodal agency for all Shock & Vibration issues observed in equipment and systems pan Navy, induction of equipment/ latest technologies/ advancements in the field of SV mounts.
- (e) Introduction of latest technologies in field of performance assessment/ condition monitoring/ predictive techniques, analytical software etc.
- (f) Steer procedural aspects with pan-Navy implications in consultation with INSMA, Command HQs and Professional Directorates at IHQ MoD (N) for ensuring 'reliability' and optimum performance of equipment/systems.
- (g) Promulgate policy directives related to matters on inspection and trials/ materiel readiness of equipment/ systems.
- (h) Coordinate with Professional Directorates and Training Establishments to ensure optimum training and refresher courses for personnel of all trial units.
- (i) Undertake studies on legacy and unique problems related to performance of equipment/ systems as per IHQ MoD(N) directives.

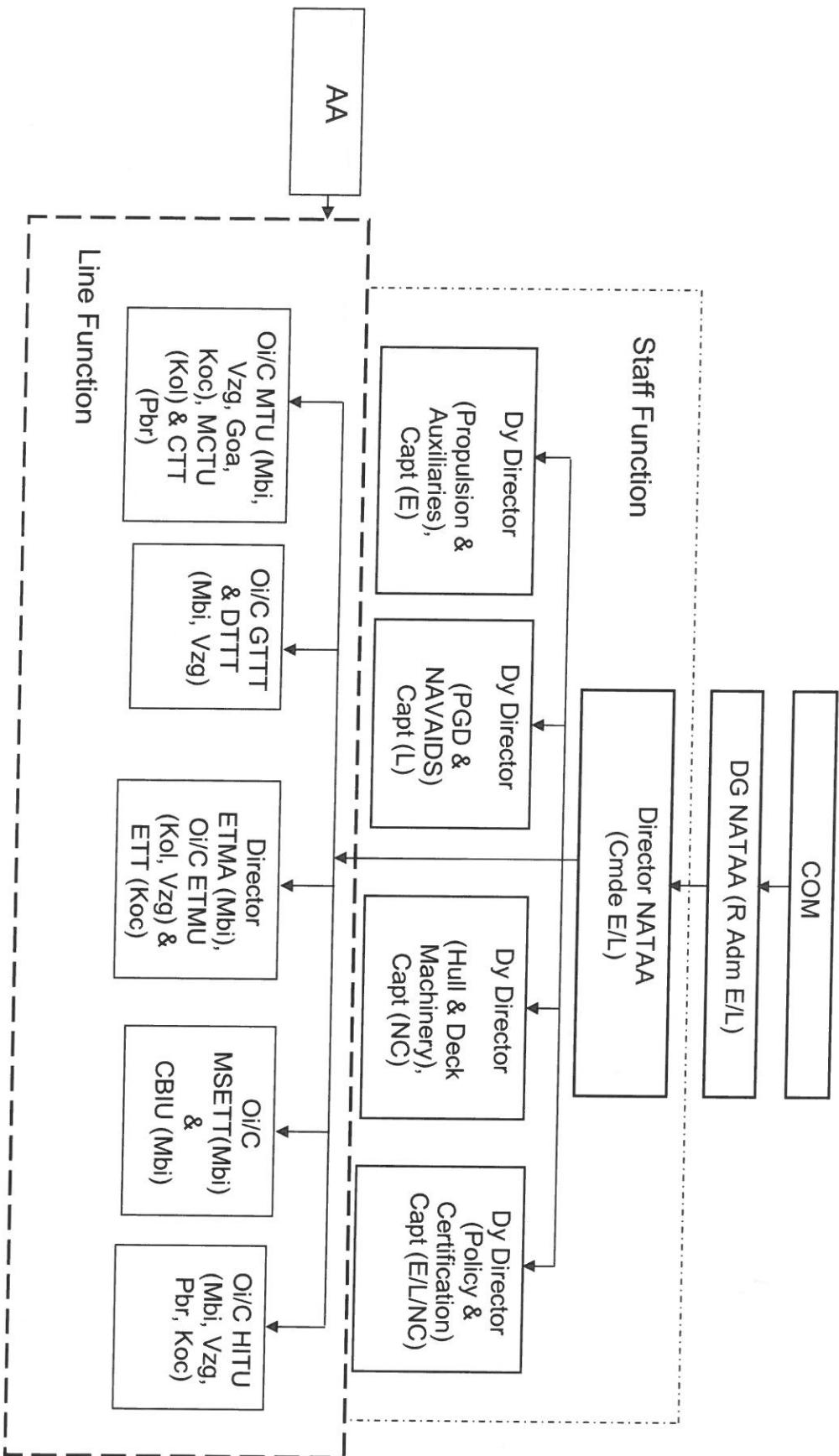
4. **Stealth Management.**

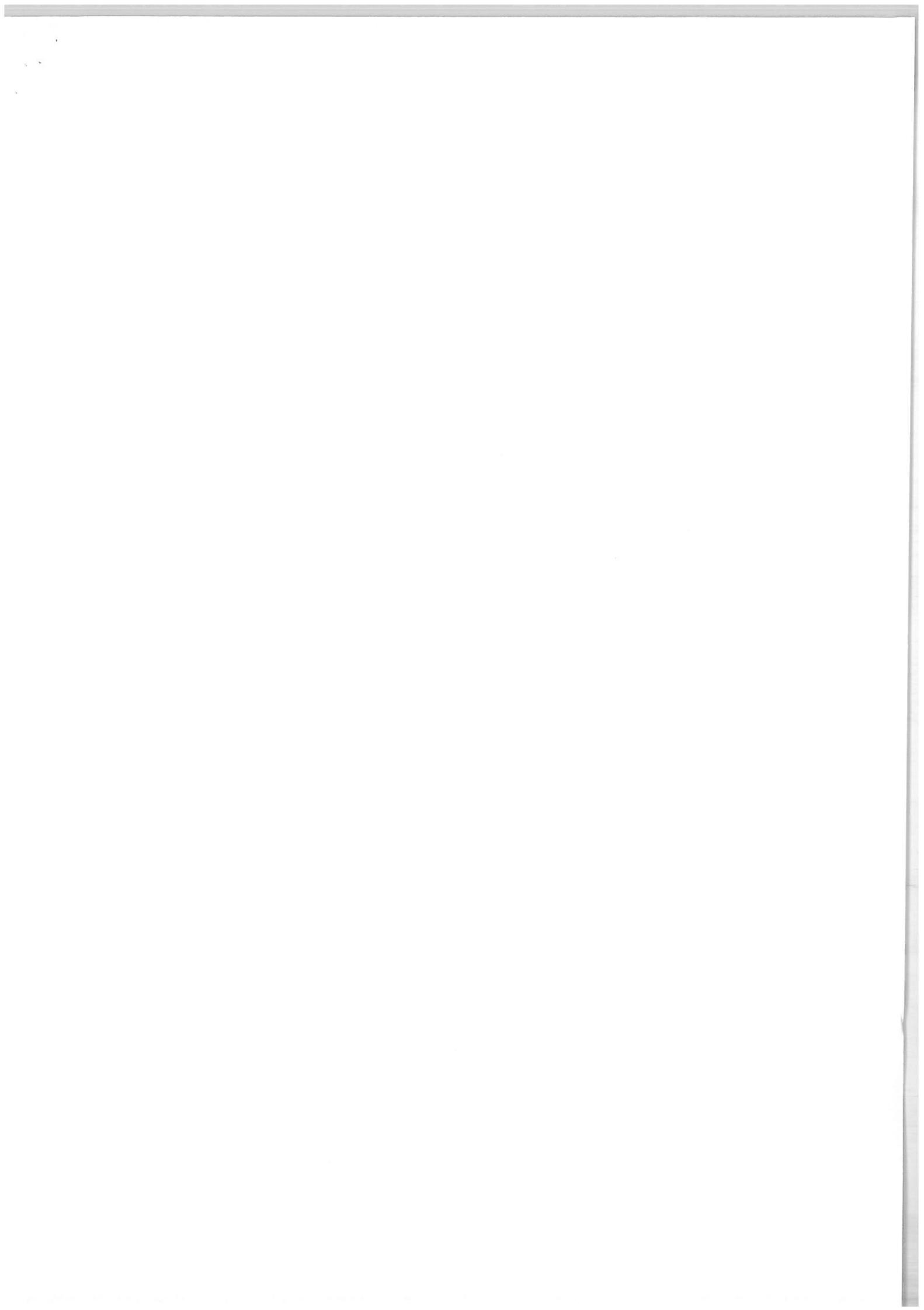
- (a) Co-ordinate all stealth management aspects in consultation with respective Professional Directorates at IHQ MoD(N)/ specialist agencies.
- (b) Co-ordinate mitigation actions for abnormal tonals between UWR and MTUs/ Acoustic Groups.
- (c) IR signature measurement and management.
- (d) Co-ordinate aspects of various stealth features, such as RCS, with respective agencies.

Note: The equipment and systems, and materiel readiness/ state mentioned in the duties refer to only those equipment and systems falling under purview of units under NATAA.

Appendix B
(Refers to Para 4)

ORGANISATION OF NAVAL TRIALS & ACCEPTANCE AUTHORITY

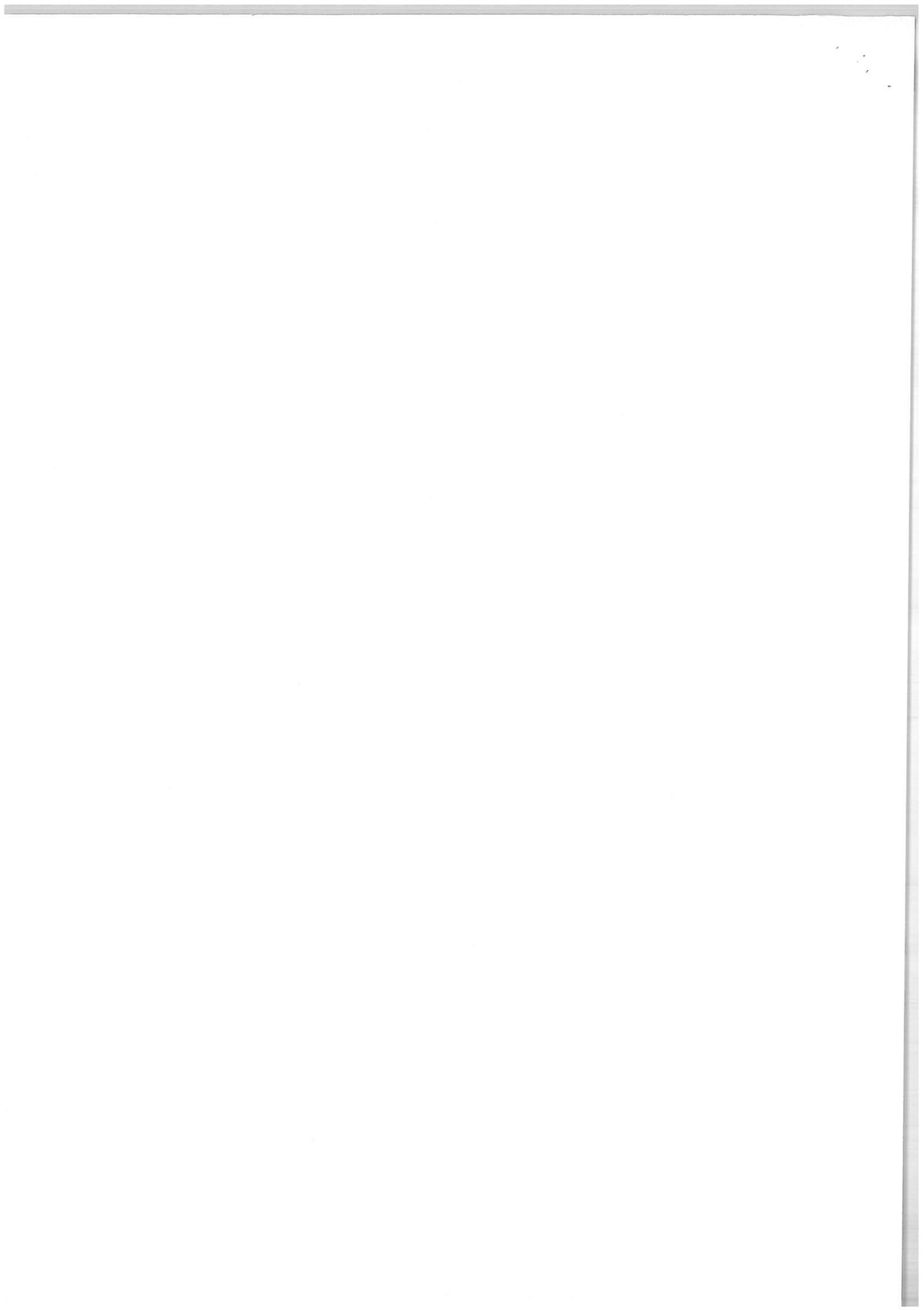




Appendix C
 (Refers to Para 4)

LIST OF TRIAL UNITS UNDER NATAA
(WITH RELEVANT NOs)

<u>Ser</u>	<u>Unit</u>	<u>Date of Formation</u>	<u>NOs for Individual Roles/ Responsibilities of Trial Units</u>
1.	ETMA (only at Mumbai)	23 Jul 1962	NO 14/15
2.	ETMU (Kol)	16 May 1990	
3.	ETMU (Vzg)	18 May 1995	
4.	ETT (Koc)	22 Aug 2009	
5.	MTU (Mbi)	10 Jun 1968	NO 19/99
6.	MTU/ MCTU (Kol)	14 Apr 1980	
7.	MTU (Goa)	29 Aug 1984	
8.	MTU (Vzg)	06 Jul 1987	
9.	MTU (Koc)	03 Feb 1992	
10.	GTTT (Vzg)	23 Sep 1968	NO 44/04
11.	GTTT (Mbi)	09 Feb 1988	
12.	DTTT (Mbi)	07 Oct 1968	
13.	DTTT (Vzg)	02 Feb 1998	NO 05/16
14.	MSETT (only at Mumbai)	01 Dec 1971	
15.	CBIU (only at Mumbai)	21 Dec 1978	NO 06/17
16.	HITU (Vzg)	07 Jul 1991	NO 07/18
17.	HITU (Mbi)	31 Jul 1991	
18.	HITU, Port Blair	07 Apr 1993	
19.	HITU (Koc)	07 Apr 1993	
20.	CTT, Port Blair	06 Sep 2006	All NOs of relevant trial units
21.	UWR (only for Coordination)		CNO 01/06



Appendix D
(Refers to Para 4)

CHANNEL OF REPORTING - NAVAL TRIALS & ACCEPTANCE AUTHORITY

<u>Appointment</u>	<u>IO</u>	<u>RO</u>	<u>SRO</u>	<u>NSRO</u>	<u>Remarks</u>
<u>NATAA</u>					
DG NATAA (R Adm E/L)*	COM	CNS	-	-	
Director NATAA (Cmde (E/L))	DG NATAA	COM	AA	CNS	
Dy Directors NATAA (Capt)	Director, NATAA	DG NATAA	COS	CNS	
Other Officers at NATAA {Capt(TS)/ Cdrs and below}	Director, NATAA	DG NATAA	COS	-	SRO – COS for Capt(TS)/ Cdrs > 15 yrs
<u>Trials Units</u>					
Osi/C / Directors (Cmde/ Capt)	DG NATAA	COM	AA	CNS	
Osi/C / Directors (Cdrs)	DG NATAA	AA	-	-	
Other Officers {Capt(TS)/ Cdrs and below}	Osi/C / Directors of respective Trial Unit	DG NATAA	COS/ AA	-	(a) SRO – COS for Capt(TS)/ Cdr >15 yrs (b) SRO – AA if COS is RAdm
* As the post of DG NATAA will be dual hatted by ACOM (Mod), no amendment to CoR of ACOM (Mod) is required at this stage. However, upon receipt of GoI Sanction for creation of the post of DG NATAA, fresh CoR for DG NATAA would be implemented.					

