Preface

This Report of the C&AG, for the year ended March 2010, contains the results of the Performance Audit and has been prepared for submission to the President of India under Article 151 of the Constitution of India.

The Performance Audit was conducted between March 2009 and September 2009 and then from December 2010 to February 2011 through test check of the records of the Ministry of Defence, Indian Coast Guard Headquarters, field formations like Regional Headquarters, District Headquarters, stations, air stations and air enclaves. The period covered under the audit was 2004-2005 to 2009-2010.

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Executive Summary

Background

India is a major maritime nation with vital economic and security interests linked to the seas. Establishment of the Indian Coast Guard as a new service in August 1978 was the result of an awareness in the Government of India for the requirement to enforce National Laws in the waters under national jurisdiction and ensure safety of life and property at sea. It was also considered desirable that these law enforcement responsibilities be undertaken by a service suitably equipped and modelled on the Coast Guards of advanced nations like the United States of America, United Kingdom, etc leaving the Indian Navy to exercise the fleet for its wartime role.

The Coast Guard Act assigns Indian Coast Guard the principal task to protect the maritime and other national interests of India in the maritime zones of India. Other tasks include ensuring safety of life and property at sea, maritime law enforcement issues like smuggling, piracy etc. In the aftermath of the 26/11 terrorist attack on the Western coast, Audit sought to assess whether the Indian Coast Guard is equipped to handle its role in an effective and efficient manner in terms of enabling legislation, force levels, manpower and infrastructure, with a special emphasis on the operations of ICG with respect to coastal security. Audit also examined whether coastal security concerns in the wake of the 26/11 terrorist attacks have been appropriately addressed in terms of co-ordination between the multiple agencies operating in this arena.

Audit Approach

The performance audit covers the period 2004-05 to 2009-10. The performance audit was initiated by discussing the audit scope, objectives of audit and criteria with management level at the Ministry of Defence and Coast Guard Headquarters. Audit arrived at its conclusions and framed its recommendations based upon the audit conducted at Coast Guard Headquarters (CGHQ), three Regional Headquarters, seven District Headquarters, six stations and seven aviation units. This Report has seven chapters. Chapter 1 and 2 are of introductory nature. Chapter 3 to 6 contain audit findings. In Chapter 7, the conclusions have been summarised.

Ministry / Indian Coast Guard response

The review was issued to the Ministry of Defence in September 2010. The reply from the Ministry was awaited as of May 2011. The audit findings were updated upto December 2010 and modified on the basis of interim replies received from the Indian Coast Guard Headquarters.

Key Findings

1. Planning

The Indian Coast Guard is still operating with the 15 year Perspective Plan for 1985-2000 prepared in 1987 as subsequent Perspective Plans, i.e. 2002-17 and 2007-22, have not been approved by the Government and a Perspective Plan for the period 2012-2027 is under formulation (as of December 2010). Finalisation of the Five Year Coast Guard Development Plans (ICGDP) took an inordinate amount of time with the Plans being approved much after their expected commencement with the IXth and Xth Plans being approved 19 and 33 months after they were supposed to begin. In general, the Five Year Plans proposed by the ICG have been unrealistic and unachievable. Despite the fact that the Ministry of Finance / Ministry of Defence have curtailed the financial outlays of these plans, the Indian Coast Guard has been unable to spend the amounts approved. On the operational side, the failure to utililise capital allocations has resulted in the non-achievement of procurement plans in terms of ships and aircrafts. ICG was able to achieve only about 50 *per cent* of the targeted acquisitions in the IXth plan (1997 – 2002) and only 43 *per cent* of the planned acquisitions could be finalised in the Xth Plan (2002-07). More importantly not a single acquisition fructified in the Xth plan period, against the planned targets.

(Paragraph 3.1, 3.2 and 3.2.2)

2. Infrastructure and Assets

The Indian Coast Guard has been establishing shore stations and aviation units as per its Perspective Plan and Development Plans. Additionally, Ministry of Home Affairs has also sanctioned, in January 2005, three Coast Guard Stations for strengthening coastal security. However, only 30 out of 42 stations sanctioned have been activated till date. Post 26/11 incident, the Government has sanctioned 14 new stations, of which five have been activated till December 2010. However, even now, sanctioned/ activated stations continue to function with infrastructural/fleet deficiencies. A test check with reference to availability of Interceptor Boats (IB) / Interceptor Crafts (IC) at six stations revealed that in three stations as of December 2010, the stations did not have the vessels in adequate strength. At least 16 Coast Guard stations did not have basic facilities like jetties for berthing ships, fueling facilities etc. In other cases, ICG stations do not have their own assets and are using hired vessels. Also, some ICG stations were forced to operate out of temporary structures as the land was not owned by them.

Further, the ICG is functioning with ships which have outlived their prescribed life and were meant to be decommissioned but which have not been phased-out as replacements have not materialised. Almost half of the Advanced Offshore Patrol Vessels (AOPVs) and 72 *per cent* of the Fast Patrol Vessels (FPVs) are on extended

life or are already due for decommissioning. Besides, newly inducted ships like the AOPVs are operating with constraints or without required role equipment like Super Rapid Gun Mount, CRN 91 guns, Helo Traversing Gear, Identification of Friend/Foe, Gyro Stabilised Horizontal Role Bar etc.

Flawed planning and deficient execution of plans has resulted in the Indian Coast Guard operating at virtually half its required strength. Compared to the force levels envisaged in the Perspective Plan for the period 1985-2000, the Indian Coast Guard, as on date (December 2010), possesses only 65 *per cent* of the required force level in terms of ships and vessels. With respect to the aviation arm, the corresponding figure is 48 *per cent*.

Indian Coast Guard acquisitions have been dogged by time and cost over-runs. While the shortages have translated into corresponding gaps in the operational capabilities of individual Indian Coast Guard stations, the abnormal delays in the commissioning of new vessels have severely impacted the decommissioning schedule of the ICG.

(Paragraph 3.2.2, 4.1, 4.1.1, 4.1.2.2, 4.1.2.3 and 4.1.2.4)

3. Patrolling of Coastal / Exclusive Economic Zone (EEZ)

Since the inception of the ICG in 1978, various new threats have emerged on the Indian coasts making coastal security a critical responsibility in addition to the mandated role of the ICG like SAR, pollution control etc. The Indian Coast Guard is limited in its capabilities to effectively discharge its duties in the entire EEZ waters (upto 200 NM) on account of the deficiencies in ICG assets and infrastructure and shortages in manpower. Its operational effectiveness is also restricted on account of gaps in role equipment, for instance, even after ten years a chain of static sensors in the form of shore radar stations in areas of high sensitivity and high traffic density to provide continuous, gap free, automatic detection and tracking of targets has not been set up. Besides, the multiple agencies with their varied responsibilities with respect to coastal issues reduce the efficiency of the ICG's security-related operations.

The ICG fulfills its responsibilities towards coastal and EEZ security primarily by patrolling, on-board investigations and aerial surveillance. Operation SWAN[1], a joint operation of the Indian Navy and ICG and International Maritime Boundary Line (IMBL) / EEZ patrolling by ships are two vital activities for ensuring the safety of the coasts. Audit found that Operation Swan operations by the ICG suffered from insufficient / inadequate assets and absence of vital communication equipment. Besides, night patrolling capabilities were limited in view of non-availability of

[1] Aimed to prevent smuggling of Arms/Ammunition and other contraband and carry out intensive surveillance on high seas, maintain surveillance in the territorial waters and patrol the shallow waters near the shore along the Maharashtra and Gujarat coasts.

dedicated and navigational equipments. Patrolling of the IMBL / EEZ increased drastically (73 *per cent)* only after 26/11 terrorist attacks. Indian Coast Guard vessels on patrol duty did not undertake the prescribed boarding operations per quarter for identification and investigation of fishing boats/ships. During the period January 2004 to December 2010, the shortfall in respect of some vessels ranged from nine to 100 *per cent.* With respect to Maharashtra and Gujarat for the period leading upto 26/11, not a single boarding operation was conducted in 96 cases, i.e 64 *per cent* of LOPs checked. Poor internal controls also lead audit to conclude that the actual number of boarding operations carried out by these ships was less than the figures furnished by ICGHQ. Finally, it was observed that the night flying task was never achieved by any[2] of the aircraft squadrons during the last six years. The average shortfall was 32 *per cent* despite the fact that the night flying task was reduced.

Co-ordination on the ground level between Indian Coast Guard and other agencies leaves much to be desired, for instance, ICG has not shared data online with the Indian Navy for the Maritime Domain Awareness (MDA) software which is meant to collate information from all available sources to present a comprehensive picture of the maritime situation. Also, ICG did not share its annual planning for deployment of ships with the IN to enable optimal utilisation of available resources.

(Paragraph 5.1, 5.2.1, 5.2.2, 5.3, 5.4, 5.6 and 5.7)

4. Post-26/11 Security mechanism

Although coastal maritime security is a major concern, Government failed to issue clear-cut directions or enunciate a policy for coastal security till recently. Post 26/11, Indian Coast Guard was initially designated as the agency for guarding the coastline with support of Navy and then Navy was designated as the overall authority responsible for maritime security including coastal security with the support of Indian Coast Guard.

(Paragraph 5.8)

5. Empowerment of Coast Guard

The Maritime Zones of India are governed under the Umbrella Act of Exclusive Economic Zone (EEZ), Other Maritime Zones Act 1976 (80 of 1976) and the Maritime Zones of India (Regulation of Fishing by Foreign Fishing Vessels) Act 1981. However, there are legal and operational constraints in ICG activities. For instance, prosecution of offenders can be launched only after obtaining MEA approval under the MZI Act, 1976. Also, there is much work to be done in terms of providing the Indian Coast Guard with enabling provisions to effectively perform its role of

[2] AFTs in respect of ALH have not yet been promulgated except for 2005-06.

monitoring deep sea fishing vessels, environmental protection, pollution control, crossing International Maritime Boundary Line by fishing vessels and impounding vessels with invalid security clearances.

(Paragraph 5.9.1, 5.9.2, 5.11 and 5.12)

6. Operations

Audit noted that the Indian Coast Guard does not maintain a complete and comprehensive database of its operations. In all the Search and Rescue (SAR), pollution control, anti-poaching etc operations etc., ICG could not furnish information about the number of cases where the missions were not successful or could not be carried out due to inadequacy of resources or other constraints. Further, ICGHQ has not fixed any parameters or performance indicators for assessing the performance of the ICG in respect of its charter of duties.

(Paragraph 6.1)

7. Repair and Maintenance

There was shortfall to the tune of 62 *per cent* in carrying out Short Refit, Normal Refit and Medium Refit of various classes of ships against the number of refit due. There has been undue delay in completion of refits also. Of a total number of 31 refits undertaken for AOPV/OPVs between 2003 and 2010, the time taken was 27 *per cent* more than the contract. In case of FPV/IPV/SDB, a total number of 74 refits, the actual time taken was 51 *per cent* more.

(Paragraph 4.2.2 and 4.2.3)

8. Manpower

There was shortage of manpower to the extent of 57 and 43 *per cent* in the cadre of Officers and Enrolled Personnel respectively against the manpower envisaged in CGPP 1985-2000. In the aviation wing, there was shortage of 50 and 58 *per cent* in the cadre of pilots and observers against the sanctioned strength. For imparting training to Officers/EPs, the Indian Coast Guard is still dependent on Navy.

(Paragraph 4.2.5 and 4.2.6)

9. Conclusions

Though, ICG has been in existence for over three decades, it continues to suffer from shortages in the force levels. In an era of heighted coastal security concerns, ICG will have to overcome the shortages to be effective in its functioning. Though, several measures have been taken by Government in strengthening the maritime security, there is a need to sustain the initiatives, ensure greater co-ordination among ICG, Indian Navy and other stakeholders. There is a need to address the constraints faced by ICG in effective discharge of duties.

Recommendations

- *The 15 year Perspective Plans need to be formulated by ICG and approved by the Government in time so as to give clear direction towards achieving the desired force levels.*
- *Indian Coast Guard should submit realistic and achievable projections in Annual and Five year plans. Periodical review of the progress in achievement of Plans must be undertaken jointly by the Ministry of Defence and ICG to ensure time bound acquisitions.*
- *Planning, sanction and establishment of ICG stations and aviation units should be viewed in a professional manner based on project mode. It should be ensured that stations are activated with a full complement of envisaged manpower, land and other infrastructure, simultaneously, to ensure that activated stations do not suffer from limitations.*
- *Replacement procurements for ageing vessels should be timely to ensure that a reliable fleet is available to ICG.*
- *Planned coastal security measures such as coastal security operations, as approved by the Government, should not be allowed to be diluted. An institutionalised system needs to be put in place within the Ministry of Defence to monitor periodically, the efficacy and continuity of, coastal security measures.*
- *There is an immediate need for ICG to evolve norms for patrolling in maritime/ coastal zones, based on available resources. The norms so evolved should be adhered to strictly. Annual/ periodic achievements against the norms should be reported to the Ministry of Defence. Such norms should be periodically reviewed.*
- *Government should address the concerns impacting coastal security viz. need to remove legal constraints faced by ICG, the required empowerment of ICG, penal provisions for non-compliance to Pre Arrival Notification of Security (PANS) and Automatic Identification System (AIS), crossing of IMBL by Indian fishermen, in a time bound manner.*

CHAPTER 1

Indian Coast Guard – An Overview

1.1 Introduction

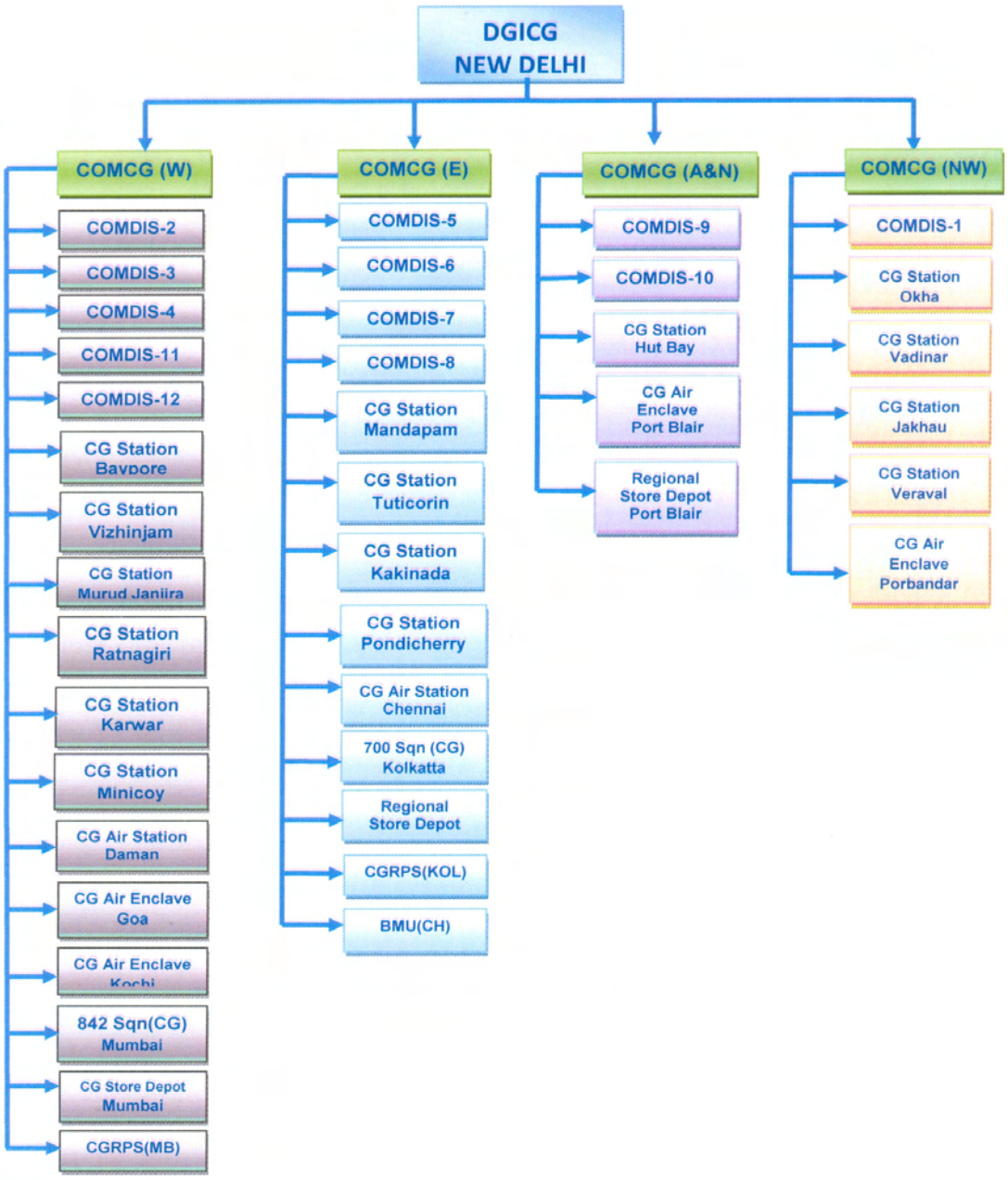
The Indian Coast Guard (ICG) is a maritime armed force operating under the Ministry of Defence. Formally constituted in August 1978 under the Coast Guard Act 1978, the ICG is mandated to protect the Maritime and other national interests of India in the Maritime Zones of India by way of providing protection to offshore and other structures, protection to fishermen and assisting in anti smuggling operations. The ICG, working in co-ordination with other Union agencies, institutions and authorities, safeguards the maritime interests and security of India, assists vessels and fisherman in distress and protects the maritime environment.

1.2 Organisational set up

The ICG is headed by a Director General, an officer of the rank of Vice Admiral of the Indian Navy. The Director General is assisted by other officers who are responsible for different duties and responsibilities.

The Director General Coast Guard (DGCG) exercises his command from Coast Guard Headquarters at New Delhi through Commander Coast Guard Regions (COMCG) West, East, North West and Andaman & Nicobar. The Regional Commanders exercise their command through District Commander (COMDIS), CG Stations and CG Air Stations. Most of the ships are under operational control of the COMCG's while some are also under the control of Air Enclave/District Commanders and ICG Stations. The organisational set up of ICG is given below:

1 Organisational set up of Indian Coast Guard



Geographically, the ICG functions through four Regional Headquarters (RHQs) located at Mumbai, Gandhi Nagar[1], Chennai and Port Blair. Under these RHQs, there are 12 District Headquarters[2]. Other major operating units include independent CG Stations, Aviation units and 26 miscellaneous units

[1] The fourth North Western RHQ was set up at Gandhi Nagar in August 2009.
[2] Porbandar, Mumbai, New Mangalore, Kochi, Chennai, Visakhapatnam, Paradip, Haldia, Diglipur, Campbell Bay, Kavaratti and Goa.

like store depots, refit and production teams etc. These are shown in the map given below:

2 Coast Guard Units

Source: Indian Coast Guard

1.3 Evolution of the Indian Coast Guard

The establishment of the ICG as a new service was the result of an awareness that had been growing for some time in the Government of India for the requirement to enforce National Laws in the waters under national jurisdiction and ensure safety of life and property at sea. It was also considered desirable that these law enforcement responsibilities be undertaken by a service suitably equipped and modelled on the Coast Guards of advanced nations like the United States of America, United Kingdom, etc leaving the Indian Navy to exercise the fleet for its wartime role.

A committee was, therefore, constituted in September 1974 with Mr K F Rustamji as its chairman to study the problem of seaborne smuggling and the question of setting up a Coast Guard type of organization. At that time, the United Nations Convention on Law of the Seas (UNCLOS) had also gained momentum extending jurisdiction of coastal states upto 200 nautical miles (NM), i.e. the Exclusive Economic Zone (EEZ), for economic exploitation of maritime resources. The Maritime Zones of India (MZI) Act was passed on 25th August 1976. Under this Act, India claimed 2.01 million sq km of sea area in which she would have exclusive rights for exploration and exploitation of resources, both living and non-living, at sea.

ICG Interceptor Boat

The ICG in its present shape was formally inaugurated on 18th August 1978 as an independent armed force of the Union with the enactment of the Coast Guard Act 1978.

At the time of its formation, the ICG had a force level of two Naval Frigates and five patrol boats. The strength has increased over the years and the Service today (as of December 2010) has a force level of 82 ships and 46 aircraft.

The ICG has (as of December 2010), 1037 officers and 6387 enrolled personnel (EP).

1.4 Duties and functions

The ICG is mandated by its founding Act to protect the maritime and other national interests of India in the maritime zones of India. This includes:

(a) ensuring the safety and protection of artificial islands, offshore terminals, installations and other structures and devices in any maritime zone;

(b) providing protection to fishermen including assistance to them at sea while in distress;

(c) taking such measures as are necessary to preserve and protect the maritime environment and to prevent and control marine pollution;

(d) assisting the customs and other authorities in anti-smuggling operations;

(e) enforcing the provisions of such enactments as are for the time being in force in the maritime zones; and

(f) such other matters, including measures for the safety of life and property at sea and collection of scientific data, as may be prescribed.

INDIAN COAST GUARD RANK STRUCTURE

- **Director General**
- **Inspector General**
- **Deputy Inspector General (Senior)**
- **Deputy Inspector General (Junior)**
- **Commandant**
- **Commandant (Junior Grade)**
- **Deputy Commandant**
- **Assistant Commandant**
- **Assistant Commandant (Trainee)**

Officers are commissioned in the Indian Coast Guard in one of the three branches viz. General Duty Officer, Pilot Officer or Technical Officer. Women are also commissioned as officers in all the three branches, but they serve only on shore installations. They are not deployed on board Indian Coast Guard ships.

General Duty Officers

General Duty Officers of the Indian Coast Guard are assigned with operational tasks including command of weapons systems, navigation systems, crews and vessels. Command of ships at sea is exercised by General Duty Officers. Command of Coast Guard operations at sea, and the safety of crew and ships is the primary responsibility of the officers.

Pilot Officers

Pilot Officers are commissioned into the Air Wing of the Indian Coast Guard. They serve either on shore at a Indian Coast Guard Air Station or Air Enclave, or operate rotary wing aircraft from Indian Cost Guard ships.

Technical Officers

Technical Officers are responsible for operation of advanced technology and sensor systems on board Indian Coast Guard vessels and aircraft, as well as on shore installations. They also command the maintenance wings of the force. Technical officers are usually required to have an Engineering background.

Enrolled Personnel

Enrolled Personnel in the Indian Coast Guard serve as either a **Yantrik** (Technician) or **Navik** (Sailor). Yantriks are responsible for operating and maintaining mechanical, electrical or aeronautical equipment and systems on board the Indian Coast Guard vessels and aircraft. Naviks serve in the General Duty or Domestic branches. The General Duty Naviks serve as sailors, weapons systems operators, communication specialists, divers, etc. or in specific maritime or aviation support roles. Domestic branch Naviks serve in roles such as stewards, cooks, etc on board Indian Coast vessels.

Source: Indian Coast Guard

Insignia of Indian Coast Guard

RANK INSIGNIA – COAST GUARD OFFICERS

DIRECTOR GENERAL

SHOULDER

SLEEVE

INSPECTOR GENERAL

SHOULDER

SLEEVE

DEPUTY INSPECTOR GENERAL (SENIOR)

SHOULDER

SLEEVE

DEPUTY INSPECTOR GENERAL (JUNIOR)

SHOULDER

SLEEVE

COMMANDANT

SHOULDER

SLEEVE

COMMANDANT (JG)

SHOULDER

SLEEVE

DEPUTY COMMANDANT

SHOULDER

SLEEVE

ASSISTANT COMMANDANT

SHOULDER

SLEEVE

ASSISTANT COMMANDANT (TRAINEE)

SHOULDER

SLEEVE

Source: Indian Coast Guard

RANK INSIGNIA – ENROLLED PERSONNEL

ADHIKARI
PRADHAN YANTRIK/SAHAYAK ENGINEER

SHOULDER STRAP

UTTAM ADHIKARI
UTTAM SAHAYAK/ENGINEER

SHOULDER STRAP

PRADHAN ADHIKARI
PRADHAN SAHAYAK/ENGINEER

SHOULDER STRAP

PRADHAN NAVIK/
YANTRIK/UTTAM NAVIK

SHOULDER STRAP

UTTAM NAVIK

SHOULDER STRAP

SPECIAL QUALIFICATION ARM BADGE

RP (RADAR PLOTTER)

EMP/EMR (POWER/RADIO)

SA/WTR STORE ASSTT/WRITER

QA (QUARTER ARMOUR)

ME (ENGINEERING) MECHANICAL

COOK/STEWARD

RO (RADIO OPERATOR)

AVIATION

U/NVK HOLDING ONE GCB (GOOD CONDUCT BATCH)

Source: Indian Coast Guard

CHAPTER 2

Audit Approach and Organisation of Audit Findings

2.1 Audit Approach

2.1.1 Audit Objectives

The audit of ICG was taken up to assess the efficiency and effectiveness in performance of its assigned tasks, maintenance of force level, acquisitions, refit and repairs and sufficiency of man power. In particular, the objectives sought to seek an assurance as to:

- ✓ Whether the Indian Coast Guard Organisation has been able to perform its role effectively and efficiently;
- ✓ Whether the organisation maintains required force level of ships and aircraft to carry out its assigned role in an effective, efficient and economic manner;
- ✓ Whether the refit/repair and maintenance of ships and aircraft was carried out efficiently, economically and in an effective manner;
- ✓ Whether ICG has adequate infrastructure for meeting its assigned roles;
- ✓ Whether ICG has sufficient and trained manpower to meet its operational requirements; and
- ✓ Whether ICG vessels were efficient in the patrolling undertaken by them.

2.1.2 Scope of Audit

The performance audit covered the period 2004-05 to 2009-10 and examined whether the prevailing arrangements and existing force levels enabled the ICG to perform its mandated role. Audit has arrived at its conclusions and framed its recommendations based upon the audit conducted at Coast Guard Headquarters (CGHQ), three Regional Headquarters, seven District Headquarters, six stations and seven aviation units[1]. The records of the training centre at Kochi and five overseeing teams were also seen.

2.1.3 Audit Criteria

The audit criteria for the performance evaluation were derived from:

a) The Coast Guard Act, 1978.

b) Perspective Plan of Coast Guard for force level, infrastructure and manpower.

c) Policy papers of Government.

d) Existing guidelines/Defence Procurement Procedure.

e) ICG orders for Days at Sea and flying task prescribed for ships/aircraft.

f) Orders/instructions issued by Government/CGHQ prescribing refit /repair schedules for all types of ships and aircraft.

g) Government orders/sanctions and CGHQ policies regarding manpower in ICG.

ICG Interceptor Craft at Sea

[1] RHQ (West) Mumbai, RHQ (East) Chennai, RHQ (A&N) Port Blair, DHQ No 1, Porbandar, No 2 Mumbai, No 4 Kochi, No. 5 Chennai, No 6 Visakhapatnam, No 8 Haldia & No 9 Diglipur, ICGS Mandapam, Tuticorin, Vizhinjam & Port Blair, CG Air Stations Daman & Chennai, CG Air Enclaves at Porbandar, Kolkata, Kochi, Port Blair and Visakhapatnam. CGTC Kochi, CGRPT Surat, Kolkata, Visakhapatnam, Mumbai and Kochi

2.1.4 Audit Methodology

The performance audit was initiated on the basis of a pilot study undertaken in January 2009. Subsequently, an entry conference was held on May 5, 2009 with officials of the Ministry of Defence and Indian Coast Guard wherein the scope and objectives of audit and the broad compass of fieldwork planned were discussed. Thereafter, field audit was conducted through examination of records, issue of questionnaires and interaction with the concerned officers at various levels of the ICG from March to September 2009 and from December 2010 to February 2011. The performance audit findings were issued to the Ministry of Defence in September 2010. The audit findings were updated upto December 2010 and modified on the basis of interim replies received from the Indian Coast Guard Headquarters. A revised draft Performance Audit Report was again issued to the Ministry in February 2011. An Exit Conference to discuss the audit findings and recommendations contained in Performance Audit Report was held with the officers of Ministry of Defence and ICG on 24 March 2011. During exit conference a detailed presentation of audit findings and recommendations was made. No suggestion regarding classified information being revealed in the report was made by the Ministry of Defence/ICG during the exit conference or otherwise. The reply of the Ministry has not been received as of May 2011.

An Air Cushion Vehicle in action

The maps, charts and pictures depicted in this Performance Audit Report were either taken from ICG's official website or obtained from ICG Headquarters.

2.2 Organisation of Audit Findings

The findings of the Performance Audit have been arranged under four chapters.

- **Chapter 3: Planning and Financial Management -** This chapter includes audit findings about the 15 year Perspective Plans, five year Coast Guard Development Plans, the deficiencies in these plans and the efficacy of plans implementation.

- **Chapter 4: Infrastructure, Assets and Logistics -** It includes audit findings on the inadequacies of infrastructure and assets impacting the efficiency of the Armed Force to perform its mandated role.

- **Chapter 5: Patrolling and Security Issues -** This chapter discusses the issues relating to securing the maritime interests and the issues relevant to security, wherein, the ICG is involved.

- **Chapter 6: Other Operational Roles -** This chapter includes audit findings relating to Search and Rescue, Environment protection and pollution control.

CHAPTER 3

Planning and Financial Management

3.1 Perspective Plans

At the time of its establishment, in 1978, the ICG Development Plan 1978-1990 was prepared by the Coast Guard Advisory Board indicating the long-term requirements of the ICG based on its charters of duties. In 1987, the long-term Coast Guard Plan 1978-90 was reviewed and a 15-year Perspective Plan (1985-2000) was prepared for the balanced growth of the ICG till the turn of century.

Audit noted that though the 15-year Perspective Plan for 1985-2000 was prepared in 1987, subsequent Perspective Plans, i.e. 2002-17 and 2007-22, were not formally approved by Defence Acquisition Council (DAC). Mention was made in paragraph 2.2.1.1 of the Functioning of the Aviation Arm of the Indian Navy of C&AG's Report No.7 of 2010-11 about the Long Term Perspective Plans of Indian Navy though formulated were not formally approved by the Government. The Parliamentary Committee on Defence (2006-07 and 2009-10) expressed concerns over delay in preparation and finalisation of long term plans of forces as it had a corresponding impact on their operational preparedness.

The Perspective Plan for the period 2012-2027 is under formulation by ICG (as of December 2010).

3.2 Coast Guard Development Plans

The 15-year Perspective Plan is implemented through separate Five Year Coast Guard Development Plans. Audit observed that finalisation of the Five Year Coast Guard Development Plans (ICGDP) took an inordinate amount of time with the Plans being approved much after the commencement of the relevant Plan period. The Xth Plan (2002-07), in particular, was approved only in 2005 when half the Plan period was already over. The delay in the approval of the plans by DAC is depicted in the table below:

3 Delay in approval of plans

Plan	Plan Period	Dates of submission to the Ministry	Dates of approval	Delay in approval of plans from their commencement (in months)
IXth	1997-02	September 1996	November 1998	19
Xth	**2002-07**	**April 2001**	**January 2005**	**33**
XIth	2007-12 (Original) 2007-12 (Revised)	August 2006 September 2009	June 2007[1] May 2010	02

The XIth Plan, which was approved in June 2007 for the period 2007-12, for ₹ 7,000 crore was revised to ₹ 7,930.22 crore in May 2010 in the aftermath of 26 November 2008 (26/11) terrorist attack.

Analysis of financial and physical targets for the 5 year plan periods reveals the following:

3.2.1 Curtailment of plans

The position with regard to the individual five year plans in terms of the proposed outlay, approved provisions and actual expenditure is as under:

[1] Revised plan submitted to MOD after 26/11 in September 2009

4 Financial Details

(₹ in crore)

Plan	Proposed Outlay	Approved Provisions	Actual Expenditure	Savings	Saving as a percentage of approved amount
IXth Plan (1997-2002)	3,277	1,850	1,733	117	6.32
Xth Plan (2002-2007)	7,745	4,317	2,952	1,365	31.61
XIth Plan (2007-2012)	12,124	7,000/ 7,930 (revised in May 2010)	3229 (till March 2010)	-	-

The approved plan size for the five year plans were 44, 44 and 43 *per cent* lower than what was proposed by the ICG for the IXth, Xth and XIth plan respectively. More specifically the IXth, Xth and XIth ICGDP capital outlays as envisaged by the ICG have all been curtailed by the Ministry of Defence on the grounds that the Plans were unrealistic and unachievable. In order to make the plans achievable, the items of expenditure needed to be prioritised to accommodate within the available finances. However, this was not done.

Each plan had a large number of carry-over schemes, thus, clearly indicating a low capacity to expend allotted budgets. It was also observed that many of the proposals related to manpower and infrastructure were formulated without detailed justification. These lacunae also contributed to delay in approval of the plans by Ministry of Finance, as well as reduction in the approved plan size.

In particular, for the period under review, i.e. the Xth and XIth Plans, audit noted that:

- Though the Xth Plan proposal was submitted to Ministry in April 2001 with an outlay of ₹7,744.91 crore, Ministry asked CGHQ to redraw the plan in a realistic manner and project only those requirements which warranted high priority. ICG was also asked, *inter alia*, to intimate the progress of ongoing projects, submit the stages of processing of the proposals under the new scheme and indicate proposed force levels under patrolling and surveillance by the end of CGDP 2002-07. There was a spillover of at least ₹ 1,290 crore from CGDP 1997-2002 due to pending acquisition of ships/aircraft like PCVs, MRSA, ALH and other equipment. Thus, CGHQ, reduced the new schemes of acquisition costing ₹ 922 crore and replacement schemes costing ₹1,045 crore.

Further, revenue expenditure portion was increased to cater to increased maintenance and replacement scheme for the ageing fleet. Besides this, proposed induction of personnel was also reduced by estimated cost of ₹ 73 crore. Resultantly, the plan was finally approved two years and nine months after the commencement of plan with a revised outlay of ₹ 4,317.01 crore. In audit, it was noticed that only 29 *per cent* of the allocation was available for new schemes for increasing the force levels, whereas, 71 *per cent* of the total planned expenditure was to cover on ongoing and replacement schemes.

ICG Advanced Offshore Patrol Vessel

- With regard to the XIth Plan, both the Ministry of Defence and the Ministry of Finance curtailed the Plan due to ICG's inability to realise its targeted inductions due to over-ambitious projections. However, subsequent to 26/11 terrorist attacks, the Government felt the need for fast-track procurement of extra ships, boats, and aircraft for the ICG. A revised plan was submitted in September 2009 by CGHQ in which additional funding to the tune of ₹ 7,614.80 crore was projected for new Projects/Schemes which were to be initiated in the XIth plan period. This additional funding, included an increased allocation under capital head of ₹ 623.97 crore. However, the Ministry of Finance approved the revised plan in May 2010 without any additional capital outlay and additional outlay was approved only under revenue head to the extent of ₹ 930.22 crore. The finally approved provisions for the XIth Plan is now ₹ 7,930.22 crore

3.2.2 Inability to achieve targeted acquisitions

On the operational side, the failure to utilise capital allocations has resulted in the non-achievement of plans in terms of the physical acquisitions of ships and aircrafts during the three plan periods (1997-02, 2002-07 and 2007-12) as seen in the table below:

5 Efficacy of plans implementation

PLAN	PROCUREMENT PROCESS TO BE FINALISED	PROCUREMENT PROCESS ACTUALLY FINALISED	DELIVERIES TO BE MADE	DELIVERIES ACTUALLY MADE
	SHIPS + AIRCRAFT	SHIPS + AIRCRAFT	SHIPS + AIRCRAFT	SHIPS + AIRCRAFT
1997-02 (IXth Plan)	21 + 13	10+7	10+4	10+6[2]
2002-07(Xth Plan)	61+1	26+Nil	Nil+Nil	Nil+Nil
2007-12* (*XIth* Plan)	175+52	136+19	29+15	2+1

*** Reflects position as of December 2010.**
The table reflects position of assets which were not carried forward to subsequent plans.

IXth plan (1997 - 2002) - ICG was able to achieve only about 50 *per cent* of the targeted acquisitions in the IXth Plan.

Xth plan (2002-07) - Of the 61 ships/vessels planned for acquisition, the procurement action for only 26 ships/ vessels could be finalised during the plan period, i.e a mere 43 *per cent*. More importantly not a single acquisition fructified in the plan period against the planned targets. ICG acquired 12 vessels, against the contracted 26, well after the plan period, only by December 2010. The procurement action for the remaining 35 vessels was carried over to the XIth plan period (2007-12). Of these 35 vessels, only 27 vessels have been contracted for by December 2010 with eight vessels yet to be contracted.

[2] HAL delivered two Chetak helicopters ahead of scheduled delivery date

Fast Patrol Vessel at Sea

Audit noted that, in spite of Ministry curtailing the projected requirement, actual capital expenditure as a percentage of capital outlay ranged between 82 *per cent* in the IXth Plan and 53 *per cent* in the Xth Plan. This was due to:

- delays in finalisation of procurement process and delayed signing of contracts;
- abnormally slow progress on the part of shipyards to construct the ships; and
- neutralisation[3] of requirement of spares through revenue budget, cancellation of project, expiry of validity of approvals of the procurement process, delayed supply of spares and inconclusive trials, etc.

Audit also noted that procedural delays at all levels, i.e. CGHQ, MOD and MOF, have been responsible for non-utilisation of the budget. For example,

- delayed conclusion of contact for Interceptor Boats worth ₹ 213 crore in March 2006 wherein the proposal was mooted as early as December 2001 for procurement (Complete details are given as a case study in the Annexe 1 to the Report).

[3] The initial requirement of spares was met from revenue instead of capital head

- non-sanction of new schemes by the MOD. Thus, four Dornier Aircraft, five Forward Looking Infra Radar (FLIR) for Dornier and integration of ELTA Radars could not take place in the year 2007-08 and ₹ 70.47 crore had to be surrendered on this account;
- slow progress of construction of ships by shipyards. Hence, ₹ 120 crore was surrendered in 2008-09.

3.3 Annual Budget and Expenditure

The Coast Guard has been operating for over 32 years now. While the budget of the Coast Guard forms part of the grant of the Ministry of Defence, the amount provided for revenue and capital have been under the Major Head 2037 – 'Customs (Preventative and other functions – Coast Guard Organisation)' and 4047 – 'Capital Outlay of Fiscal Services, Customs (Coast Guard Organisation)' respectively.

The budgetary allocation and expenditure there-against by the ICG during the last five years is tabulated below:

6 Annual Expenditure

(₹ in crore)

Financial Year	Major Heads 2037 : Revenue 4047 : Capital Outlay	Budget Provisions	Expenditure	Percentage of (-) savings/ (+) excess against budget provisions
2005-06	2037	325.03	351.95	(+) 8.28
	4047	500.01	422.59	(-) 15.48
2006-07	2037	430.00	366.32	(-) 14.81
	4047	645.00	338.35	(-)47.54
2007-08	2037	418.02	413.21	(-)1.15
	4047	735.61	255.38	(-)65.28
2008-09	2037	520.17	520.71	(+) 0.10
	4047	949.63	506.43	(-)46.67
2009-10	2037	604.37	621.10	(+) 2.76
	4047	1300.42	908.05	(-)30.17

The above table brings out considerable savings ranging from 15.48 to 65.28 *per cent* over the last five years under the capital head, thereby, indicating inability to spend the available provisions.

Recommendations

- *The 15 year Perspective Plans need to be formulated by ICG and approved by the Government in time so as to give clear direction towards achieving the desired force levels.*
- *Indian Coast Guard should submit realistic and achievable projections in Annual and Five year plans. Periodical review of the progress in achievement of Plans must be undertaken jointly by the Ministry of Defence and ICG to ensure time bound acquisitions.*
- *The Ministry of Defence may take up the matter with the Ministry of Finance, Department of Expenditure for opening of Major Heads for ICG expenditure under the Ministry of Defence.*

CHAPTER 4

Infrastructure, Assets and Logistics

4.1 Infrastructure and Assets

ICG infrastructure comprises of shore stations, air stations and air enclaves, whereas, the assets of ICG comprise of a wide range of ships, aircraft and associated equipment. Adequacy of infrastructure and assets is pivotal for ICG to effectively discharge its mandated role. The audit findings relating to ICG infrastructure and assets are discussed below:

4.1.1 Infrastructure

Indian Coast Guard Stations: The ICG has been establishing shore stations, air stations and air enclaves as per its Perspective Plan 1985-2000. Even in the absence of any approved Perspective Plan thereafter, additional stations and enclaves have been planned and sanctioned in the Xth and XIth Five Year Plans to augment ICG capability in effectively discharging its coastal security responsibilities.

The status of activation of these units is shown in the table:

7 Activation status of ICG stations

Plan	ICG Stations			
	PLANNED/ PROPOSED	SANCTIONED	ACTIVATED	
			Within Plan Period	After Plan Period
PERSPECTIVE PLAN (1985-2000)	19#	19#	17#	1
Xth PLAN (2002-07)	6 3*	6 3*	5 Nil	Nil 2*
XIth PLAN (2007-12)$	14@	14@	5	Nil
TOTAL	42	42	27	3

 # Includes 6 ICG stations sanctioned/activated prior to Perspective Plan (1985 – 2000) also.
*** MHA funded stations.**
$ Indicates position as of December 2010.
@ Includes 7 ICG stations sanctioned by Cabinet Committee on Security under Coastal Security Plan.

By the end of the Xth plan period (2002-07), even though ICG had activated 23 coast guard stations, a large number of these stations continued to function with infrastructural/fleet deficiencies. These deficiencies are yet to be made good as of December 2010 at most of the stations. Post 26/11[1] incident, the Government sanctioned 14 new stations in a span of 18 months (between June 2009 and November 2010). However, only five[2] have been activated till December 2010.

These activated stations also suffer from various problems. The deficiencies in respect of stations activated prior to 26/11 and thereafter are discussed below:

- The ICG District Headquarters at Diglipur, Andaman and Nicobar Islands, activated in 1987, is a forward operational base and the only defence establishment in North Andaman since inception. Despite its strategic importance, the unit had been functioning without any boat and crew till July 2006. For 19 years, the unit was

[1] On 26th November 2008, there were more than ten coordinated shooting and bombing attacks by terrorists across Mumbai. It was alleged that the terrorists had used the sea route to enter Indian Territory

[2] ICG Station Karwar, Gandhi Nagar, Hutbay, Minicoy and Ratnagiri

carrying out its task using hired dinghies. Its first operational asset, i.e. one Rigid Inflatable Boat (RIB) was positioned in July 2006 and a motorised boat in October 2007 respectively.

- The District Headquarters at Campbell Bay in Andaman and Nicobar Islands, operational since May 1985, were provided with one RIB and one motorised boat in July 2006 and October 2007 respectively, after a gap of 20 years.

- Some of the Coast Guard stations like New Mangalore, Campbell Bay, Diglipur, Kochi, Mumbai, Ratnagiri, Murud Janjira, Karwar, Vizhinjam, Kavaratti, Goa, MInicoy, Okha, Puducherry, Hut Bay and Beypore do not have basic facilities like Jetties for berthing ships, fuelling facilities etc. ICG is dependent upon other agencies for use of their services.

- ICG has a fleet of six Air Cushion Vehicles[3] (ACVs) based at Haldia, Mandapam and Okha. However, required infrastructure such as berthing facility, hangar, repair / maintenance facility are not available.

- ICGS Kamorta in the Andaman and Nicobar Islands, though planned in the 1985-2000 Perspective Plan, was sanctioned only in November 2010. The land allotted by local administration in 1985 is still not identified. Government also transferred naval land in 1993, which is under dispute with tribals since 2004. ICG plans to activate the station using Porta cabins on ALHW[4] land as a temporary measure. The manpower, however, was sanctioned for ICG station 14 year's earlier in 1996.

- The manpower for ICGS Pipavav, Gujarat was sanctioned in January 2006, while the station was sanctioned only in November 2010. The station was yet to be activated as of December 2010 as ICG is in the process of land acquisition for the station.

[3] These are fast reacting high-speed (45 Knots) craft capable of all weather operation. These craft can operate at sea, through creeks, estuaries and marshy patches, which are often covered with navigational hazards.

[4] Andaman & Lakshadweep Harbour Works

Aviation Units: The performance of Indian Coast Guard in so far as activation of Aviation Units is indicated below:

8 Activation status of Aviation Units

PLAN	ICG AIR STATIONS/ ENCLAVES			
	PLANNED	SANCTIONED	ACTIVATED	
			Within Plan Period	After Plan Period
PERSPECTIVE PLAN (1985-2000)	11#	9	5	3
Xth PLAN (2002-07)	1	1	Nil	Nil
XIth PLAN (2007-12)@	5	4	Nil	Nil
TOTAL	15	14	5	3

 # Two Aviation units dropped subsequently.
@ Position as of December 2010.

Audit observed that:

- Only eight aviation units out of the 15 planned were activated.
- Five ICG Aviation units[5] are running without any Government approved Unit Establishment (UE). They have been created by Director General Coast Guard under his delegated powers. In the absence of a government approved UE, these Aviation units are performing their roles by utilising the assets re-appropriated from other Aviation units, thereby, impacting the operational needs of Aviation units whose assets were re-appropriated. As such, these five Aviation units are performing their roles with skeletal assets.
- ICG air enclave at Port Blair does not have any hangar with the result that aircrafts are parked in the open resulting in their exposure to the vagaries of weather and resultant technical snags.

Thus, infrastructure has not been established either in a timely manner or functions without associated manpower / equipment. Besides, supporting systems had failed to deliver required functionality, thus, affecting the operational capabilities of the Indian Coast Guard.

[5] No. 747 Squadron, Vajra, Kochi and Porbander Dornier Flight and Porbander Chetak Flight

4.1.2 Assets

4.1.2.1 Introduction

The Indian Coast Guard's operational capabilities are reflected in a wide range of ships, aircraft and associated equipment which are required for the Coast Guard to perform its tasks and respond successfully to unforeseen and emergent situations. Force levels are important, both in terms of numbers as well as technology, since the Coast Guard is responsible for 2.01 million sq km of sea area over which India claims exclusive rights for exploration and exploitation of resources, both living and non-living.

Inshore Patrol Vessel at Sea

The ICG requires patrol vessels of different types, interceptor boats and crafts, pollution control vessels and hovercrafts for its sea-based activities. Its aviation wing requires fixed wing aircraft as well as rotary wing helicopters for its reconnaissance, surveillance, logistics, search and rescue missions etc. Equipment includes gunnery equipment, radars, other communication equipment and pollution control equipment which are essential for performing the operational roles of ships and aircrafts.

An Offshore Patrol Vessel at sea

4.1.2.2 Shortfall in Assets

Review by Audit revealed non-achievement of planned acquisitions has resulted in the Coast Guard operating at considerably lower strength of ships and aircraft *vis a vis* its required strength. Compared to the force levels of 122 vessels envisaged in the Perspective Plan for the period 1985-2000, the Indian Coast Guard, as on date (December 2010), possesses only 65 *per cent* of the required force level in terms of ships and vessels. With respect to the aviation arm, the corresponding figure is 48 *per cent*. As of December 2010, the ICG has not processed the cases for acquisition of Deep Sea Patrol Vessels (DSPVs), Medium Patrol Vessel (MPVs) and Aerostats, even though they were envisaged in the Perspective Plan (1985 – 2000).

Although new projects have been sanctioned during the XIth Plan and projects pertaining to previous Plans will be completed during this period, taking into account the planned decommissioning of ships, it would be difficult for the ICG to achieve the Perspective Plan (1985-2000) force levels even by 2012 i.e by the end of XIth Plan. The deficiency would be to the extent of 17 *per cent* and 45 *per cent* in respect of vessels and aircrafts respectively as depicted in the table.

9 Actual and expected force levels and shortages

Type of vessel / aircraft	Force Level as per ICGPP 1985-2000	Present Force Level (December 2010)	Present (December 2010) %age Shortage *vis a vis* 1985-2000 plan	Force Level as on March 2012 after expected receipts and planned decommissioning of ships	%age Shortage in March 2012 *vis a vis* 1985-2000 plan
SHIPS					
DSPV/MPV	12	-	100%	-	100%
AOPV/OPV	24	15*	38%	15	38%
FPV/IPV	36	28	22%	34	6%
ACV	6	6	--	6	-
PCV	6	1	83%	3	50%
IB	30	19**	37%	25+7#	17%
IC	8	10	--	18	-
Total	122	79	35%	101	17%
AIRCRAFT					
Chetak	36	18	50%	20	44%
Dornier	36	24	33%	28	22%
ALH	12	4	67%	4	67%
MRSA	9	-	100%	-	100%
Aerostats	2	-	100%	-	100%
Total	95	46	52%	52	45%

* Excludes 2 OPVs on lease with Sri Lankan Navy.
** *Excludes 1 IB on lease with Mauritius Navy.*
\# *7 MHA funded.*

The shortages have translated into corresponding gaps in the operational capabilities of individual Coast Guard stations. A test check with reference to availability of Interceptor Boats (IB) / Crafts (IC) at six stations revealed that in three stations as of December 2010, the stations did not have the vessels in adequate strength.

10 Shortfalls in Requirement of Assets

Station	Requirement of Interceptor Boat / Craft	Availability
Mandapam	5 IC	1 IC
Kakinada	1 or 2 IB	1 IB and 1 IPV
	2 IC	NIL
Vizhinjam	2 IB	1 IB

In case of Mandapam the availability of crafts was only 20 *per cent* of the requirement. The situation was aggravated at times when the available vessels were undergoing refit or repairs.

Audit scrutiny revealed that significant shortfalls with regard to projected requirements for ships and aircraft existed even as Coast Guard acquisitions have been dogged by time over-runs.

4.1.2.3 Replacement of vessels

Timely replacement of old and ageing vessels is essential to any Armed Force so that the vessels and platforms are available for exploitation optimally for fulfilling designated roles. The replacement of vessels depends upon the assessed life of the platform after examining its various aspects including the material, equipment and sensor state. The ICG is functioning with ships which have outlived their prescribed life and should have been decommissioned but which have not been phased-out as replacements have not materialised. Details of the age of the fleet are given below:

11 Age of fleet

(Position as of December 2010)
(All figures in numbers and percentages are given in the brackets)

Class of Ship	No. Of Vessels	ON EXTENDED LIFE	EXTENDED LIFE EXPIRED
AOPV/ OPV	15	6 (40)	1 (7)
FPV / IPV	28	10 (36)	10 (36)
IB	19	6 (32)	1 (5)

As brought out above, 72 *per cent* of FPV / IPV's, 47 *per cent* of AOPV/ OPV's and 37 *per cent* of IB's are either on extended life or their extended life has also expired.

The present status of ships due for decommissioning and their contracted replacement is given as under.

12 Delays in Replacement of Vessels due for Decommissioning

SHIP	No. Of Vessels due for decomm-issioning	Original decomm-issioning period	Revised decomm-issioning period	Contract For Replacement	Expected / Actual Date of Delivery
AOPV/OPV	3	2003 to 2006	2010 to 2012	February 2006	February 20 10 to November 20 11
FPV / IPV	13[#] 4	1999 to 2005 2006 to 2008	2008 to 2013 2012	Only for 08 in March 2009 [@] October 2010	September 2011 to June 2013 June 2012 to March 2013
IB	1 7	1997 2008 to 2011	2008^ 2012 to 2015	March 2006 March 2010	March 2012 September 2011 to March 2013

Four though due during 2006 to 2008, have been extended up to 2012. However, the contract is yet to be planned.
@ Contract for remaining five proposed in January 2011.
^ Yet to be decommissioned.

The table above indicates that:

- Three OPVs[6] meant to be decommissioned in 2003, 2005 and 2006 remain in force as the contract for their replacement was signed only in February 2006 and the replacements are expected between February 2010 and November 2011 only, i.e 5-6 years after these vessels were due for decommissioning.

- 13 IPVs were to be decommissioned between 1998 and 2006. However, approval of Defence Acquisition Council for Acceptance of Necessity was obtained only in August 2006. The contract has been concluded in March 2009 and the first vessel is expected to be

[6] ICGS Vikram, Vijaya and Veera

delivered by August 2011 only, i.e 12 years after the first vessel was due for decommissioning. Thus, ICG will be dependent upon the aging fleet.

- Replacement contracts for FPV and IBs were also concluded much after the due decommissioning period.

4.1.2.4 Availability and deployment of vessels

The operational-cum-refit cycle, promulgated in 1993 for the AOPV/OPV and FPV/IPV/SDB class of vessels, implies that ships have to be operationally available for a certain number of days, out of which the ships have to be deployed at sea for roughly 50 *per cent* of the time. In the remaining period, ship should be operationally available in harbour for deployment as required. As per norms of 1993, the AOPV's have to be operationally available for 160-170 days per year with the required sea days being 80-85 per year. In 2004, the ICG issued directives raising the number of days required at sea to 120-144 per year for all classes of ships.

ICGS Advanced Offshore Patrol Vessel

Audit analysed the operational availability and sea deployment levels in terms of norms of 1993 and 2004 for the period 2003 to 2010 and observed the following:

Based on the 1993 norm, it was observed that the Coast Guard is maintaining the operational availability and sea deployment levels as prescribed on an average for almost all class of ships except in the case of the FPV / IPV / SDB where required days at sea fell short by about 42 *per cent* between 2003 and 2010. Accepting the facts, ICG attributed it to ageing of the ships which have outlived their operational life.

Based on the revised norms of 2004 the deployment and shortfalls for the period 2003 to 2010 are as under:

13 Shortfall in availability of vessels

Sl. No.	CLASS	AVERAGE NUMBER HELD	NUMBER OF DAYS REQUIRED ATSEA	NUMBER OF DAYS ACHIEVED AT SEA	PERCENTAGE SHORTFALL IN NUMBER OF DAYS REQUIRED AT SEA (range for period 2003-2010)*
1	AOPV / OPV	13	13,662	10,579	11 – 29
2	FPV / IPV /SDB	28	28,952	16,879	24 – 38
3	IB	14	14,916	7,494	26 – 64
4	ACV	6	23,250	13,303	18 – 64*

* Reflects position as of September/October 2010

ICG replied in November 2009 that the requirement of 80-85 days at sea per year for AOPV/OPV and 100-105 days at sea for IPV/FPV/SDB has been worked out to ensure that the ships are not over exploited and are operationally available as per plan. No reasons were furnished for the shortfall. In January 2010, CGHQ initially held that the policy of January 2004 regarding number of days at sea is in force. However, ICG in November 2010 did a volte face and stated that there is no change in policy of deployment of ships promulgated in 1993. The replies of CGHQ are contradictory as the directives of 2004 are in force and no proof was made available to audit that these have been rescinded.

Audit noted that there were abnormal delays in commissioning of new vessels which severely impacted the decommissioning schedule of the Indian Coast Guard. ICG would not be able to achieve the force levels envisaged in Perspective Plan (1985 -2000) even by the end of the XIth Plan in March 2012. This coupled with the fact that majority of the main vessels of ICG, viz. OPVs, FPV/IPVs and IB, are either functioning on extended life span or are already life expired and are due for decommissioning, ICG is not in a position to achieve the desired levels of operational deployment of vessels.

4.1.2.5 Serviceability of Aviation Arm

ICG has government sanction to operate four squadrons of Dornier, four squadrons of Chetak and one squadron of ALH. As high as 82 *per cent* of the Chetaks and 54 *per cent* of the Dorniers of Indian Coast Guard are more than 15 years old. This age profile compares unfavourably with the prescribed life of Chetak helicopters of 15 years and that of Dornier Aircraft at 20 - 25 years. Two squadrons of Dornier and all four squadrons of Chetak are operating fewer number of aircraft than the sanctioned Unit Establishment (Annexe 2), as ICG is operating five aviation units with re-appropriation of assets. Operational availability of Chetaks and Dorniers on an average was 84 and 78 *per cent* respectively during the audit period.

ICG Dornier Aircraft

In order to meet its requirements primarily for search and rescue role and afloat operation, Coast Guard Development Plan 1992-97 provided for acquisition of two twin engine helicopters for which the ICG identified the Advanced Light Helicopter (ALH). However, first ALH was delivered in March 2002 and second ALH was received in March 2003.

ICG Advanced Light Helicopter

Audit noted that the Indian Coast Guard concluded the contract only in March 2003 with Hindustan Aeronautics Limited (HAL) for the two ALH. Subsequently, a third and fourth ALH were received in March 2004 and March 2005 respectively without Government sanction and contract. The acceptance of the aircrafts before the signing of a formal contract was a deviation from the laid down norms and the Cabinet Committee on Security had also expressed displeasure on the shortcomings in the procurement process including release of on account payments by the Ministry of Defence without its approval.

The availability of the ALH was poor as they remained under evaluation since induction (2002-2005) till May 2009. Even during evaluation, their serviceability ranged from 21 to 40 *per cent* and the entire ALH fleet was grounded in November 2005 and flying re-started only in January 2007.

4.1.2.6 Onboard Equipment and Weaponry

The effectiveness of ICG operations is determined by the quality of the onboard equipment and weaponry. Audit test check of status of such equipment on-board some ships revealed significant areas of concern. Deficiencies in aviation equipment, weapons, arms, ammunitions and communication and electronic equipments is discussed below:

14 Deficiencies in Aviation Equipment

EQUIPMENT	ROLE	REMARKS (With limitations / not operational / under trial /not installed)
Advanced Light Helicopter	Air surveillance, SAR, pollution response, CASEVAC, troop transport, armed variant and afloat operations	(i) Even after seven years of induction of the first helicopter and expenditure of ₹ 162.03 crore, the ALH does not meet operational requirements. The ALH is being exploited only for basic flying as the present state of ALH precludes accomplishment of any mission oriented flying.

		(ii) The ICG ALH are not fitted with weather radars, which is a major limitation. Fitment of operational role equipments has been kept in abeyance. (iii) ICG ALH can neither be exploited for SAR mission nor for afloat operations pending resolution of many issues including rescue hoist trials and certification, structural provisions for SAR operations, radar flickering and Doppler failure, AFCS software update for auto hover. (iv) Serviceability has been poor. On an average the ICG aircraft have spent more time at HAL than with the squadron since their induction. In September 2007, for one ALH, out of 100 hours of flying undertaken by the Helo, only 30 hours and 40 minutes contributed towards service flying and remaining was towards maintenance test flight. The aircraft has been plagued by premature component failures and frequent groundings for compliance of servicing instructions and modifications. (v) Deployment of ALH on ships has not been achieved due to problems in blade folding even though two newly inducted AOPVs have been specifically designed to accommodate ALH on board. (vi) ICG has a requirement of 12 Twin Engine helicopters against which its holds four ALH. Due to failure of ALH, ICG is contemplating procurement of eight twin engine helicopters by import to meet the deficiency.

Helo Traversing Gear	Helicopter Securing and Traversing system is to secure and safely traverse helicopter from the landing area to the hangar along a system of rails secured flush to the deck and vice-versa. The system is installed on the quarter deck of the ship.	Two newly inducted AOPVs are designed to embark ALH helicopters on them. However, the decks of these ships could not be cleared for helicopter operations due to obstructions with the Helo traversing gear. Operations are thus restricted to emergent, critical and life-saving operations only using Chetak.

The deficiencies in ALH and its ineffective utilisation is a severe constraint in ICG operations.

15 Deficiencies in Weapons, Arms and Ammunition

EQUIPMENT	ROLE	REMARKS (With limitations / not operational / under trial /not installed)
Super Rapid Gun Mounts (SRGM)	Anti Aircraft/Missile point weapon system	(i) A major armament of the AOPV, this gun is not available on two ships Samar and Sangram since 2006 due to problems in commissioning of gun assemblies viz., EOFCS/BIFU/VRU. (ii) Major routines like initial test firing, factory acceptance trials, harbour acceptance trials and sea acceptance trials are pending on other two AOPVs i.e Sagar and Sarang. Coast Guard stated (September 2009) that SRGM is considered as deterrence and is required to be used in war like situation only. The AOPVs have been equipped with other armaments like LMG, HMG and Gustav Rocket Launcher to suit ICG role at sea. ICG argument is illogical, as having non-functional guns at any point of time cannot be considered optimal operational preparedness.

		Besides, the availability of other armaments on board AOPVs does not make good the void created by the absence of an operational SRGM as these armaments are not likely to provide protection against the enemy aircraft.
CRN 91 guns	The gun is fitted on AOPVs, OPVs and FPVs. The gun is a maritime version of 2A42 Medak gun and is the main armament of these ships. Besides, it serves as anti aircraft defence weapon, provides fire cover to boarding parties and neutralizes dangerous enemy surface targets.	(i) Is operating with reduced accuracy in tracking a target due to lack of the Stabilised Optronic Pedestal (SOP). (ii) Restricted operations at night due to lack of night vision facility. (iii) Harbour Acceptance Trials (HATs) schedule waived off due to non-fitment of SOP for 5th and 6th AOPV. (iv) Guns have been installed on new FPVs delinking SOPs. Even though all the 20 SOPs have been delivered, only 8 have been fitted onboard CG ships, 5 are under fitment onboard FPVs and remaining 7 are stowed at various construction yards for fitment onboard new ships.

Deficient Weapons, Arms and Ammunition onboard the vessels is a serious impediment to the exploitation of the vessel for its designated role as it renders the vessel less than effective in engaging hostile targets. Besides, the security of the vessels is also compromised.

16 Deficiencies in communication and electronic equipment

EQUIPMENT	ROLE	REMARKS (With limitations / not operational / under trial /not installed)
Radar	'X' and 'S' Band Racal Decca radars used in Search and Rescue role on AOPVs and OPVs	(i) Have completed service life of 10 years (ii) Persistent defects since 2001, however, replacements commissioned only between November 2009 and February 2010

		(iii) Till the replacement, the 'X' band radar could be made operational in basic modes with limitation of range till 30 Nautical Miles. The 'S' band radar had a similar fate with range limited to 15 NM. Coast Guard stated in reply that the ships met operational commitments despite range limitations. However, the fact remains that range limitation will not allow the user to notice the presence of any ship or land mass beyond a reduced limit. The achieved range would also vary depending upon the weather and the sea conditions.
IFF/ Glide Path Indicator/XBT	IFF- Used for identification of friend/foe of the ships fitted with interrogator. Glide Path Indicator is used as aid for correct approach path of helo while landing on deck. XBT- Expandable Bath Thermograph used for measuring temperature of sea water.	The Glide Path Indicator and XBT were fitted on board AOPV ICGS Sankalp, commissioned in May 2008 but are not proven pending HATs/SATs even after a lapse of more than two years. SATs of IFF pending since 2006 on ICGS Aruna Asif Ali and S K Chauhan
VHF Communication Equipment	This equipment is used by crews of IB's, IC's etc to communicate with each other /shore establishment while on patrol.	The equipment has a range of 15 NM. However, it is fitted on-board Interceptor Crafts having an endurance of 75 NM. Coast Guard stated (June 2009) that ICs are not deployed beyond 15 Nautical miles as crafts can not sustain rough seas. The reply is contradictory as Coast Guard had stated in April 2008 that ICs are deployed in areas more than 35 NM from the base for surveillance and patrol.

Deficiencies in the communication equipment and electronics equipment, fitted onboard vessels, has a direct fall out in the accomplishment of the mission for which the vessel is deputed.

Recommendations

- *Planning, sanction and establishment of ICG stations and aviation units should be viewed in a professional manner based on project mode. It should be ensured that stations are activated with a full complement of envisaged manpower, land and other infrastructure, simultaneously, to ensure that activated stations do not suffer from limitations.*
- *Replacement procurements for ageing vessels should be timely to ensure that a reliable fleet is available to ICG.*
- *There are serious shortages in number of vessels and aircrafts, as compared to planned levels. Pro-active procurement has to be resorted to in order to liquidate the shortages.*
- *Deficiencies in performance of on-board equipment hamper ICG effectiveness. Concerted efforts should be undertaken to provide quality on-board equipment / platforms either by procurements or refurbishing of existing ones.*

4.2 Logistics and Manpower

4.2.1 Logistics – An Introduction

ICG vessels are installed with a vast variety and range of mechanical, electrical, electronic equipments and weapon systems. To ensure that these ships are exploitable in a high state of operational sea worthiness for their entire life, the hull and structure of these ships and all the equipment/systems fitted on them need to be maintained and overhauled in a phased manner.

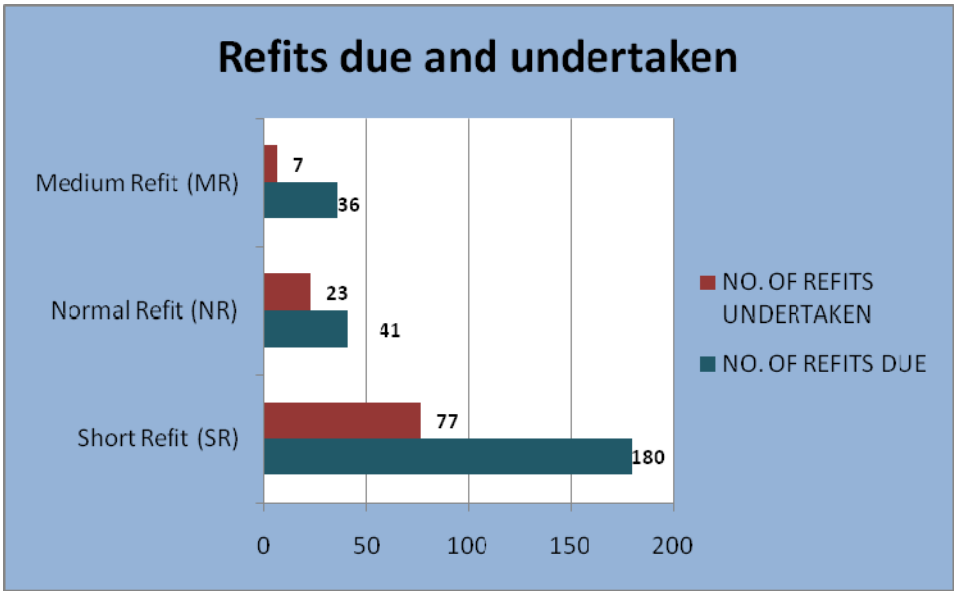
Each ship has an operational phase, which varies from 9 to 15 months depending on the class of ship. During this period the ship is available for meeting all tasks/commitments. At the end of an operational phase, each ship is scheduled to undergo a refit at the dockyard. Basically ships undergo three types of refits, Short Refit (SR), Normal Refit (NR) and a Medium Refit (MR). The scope of each type of refit is given in Annexe 3.

The duration of these refits and their periodicity is determined based on the number of years the ship has been in commission and periodicity at which various types of maintenance routine are required to be undertaken.

The ships are taken for maintenance based on a refit programme finalised by the Coast Guard (ICGO 5/93). The maintenance period consists of one week self-maintenance period, a two-week assisted maintenance period, short, normal and major refits, and modernisation and replacement of vintage equipments. ICG does not have a repair yard of its own unlike the Indian Navy and has to depend upon Defence Public Sector shipyards like Mazgon Dock Limited, Mumbai, Goa Shipyard, Goa, Hindustan Shipyard, Visakhapatnam, Cochin Shipyard, Kochi, Garden Reach Ship Builders and Engineers, Kolkata, etc. and some private shipyards like Krasney Mumbai, Homa Engineering Works, Mumbai, Wartsila Mumbai etc.

4.2.2 Timely refits not undertaken

Audit scrutiny of refits executed by the Coast Guard during 2003-10 revealed that prescribed norms for carrying out different types of refits as per schedule (ICGO 5/93) were not followed. Despite the schedule for completion of refits being determined after taking into account force level and requirement of fleet, the schedule was not adhered to. Audit observed that the ICG has not undertaken a number of refits which have fallen due as shown in the table.



- Out of total 257 refits due for AOPV/OPVs and FPV/IPVs between March 2003 and December 2010, only 107 could be undertaken indicating a short-fall of 58 *per cent*.

Ship class wise, it was seen that the percentage shortfalls in undertaking refits ranged from 48 to 88 *per cent* as detailed below.

17 **Shortfall in refits of vessels *vis à vis* refits due**

Type of Ship	Percentage shortfall in refits undertaken		
	Short Refit	Normal Refit	Medium Refit
OPV / AOPV	63	50	60
FPV / IPV	54	48	88
Total	57	49	81

- It was further observed that in a few cases, the refits, undertaken, were after an inordinate delay from their scheduled date of refit. The delay in commencement of two scheduled normal refits in respect of AOPV / OPVs was eight years and three medium refits was four to seven years.

ICG while accepting the audit finding (October 2009), attributed the delay to non-availability of sufficiently capable yards in the private sector, non-participation/selective participation by limited number of DPSU/PSU shipyards, re-tendering due to high L-1 quote, and delay in procurement/materialization of major routine kits, procedural delays as a result of queries/clarifications and also due to operational reasons.

4.2.3 Refit Management

Efficient repair and maintenance activities, provisioning of spares along with proper positioning of manpower are a pre-requisite for ensuring proper refit management. The ICGO 5/93 specifies the duration of each refit, i.e. in how much time each refit ought to be completed after performing all scheduled maintenance activities.

Audit noted that refit management was not very efficient as evidenced in the fact that the refits have taken much longer than the number of days prescribed. In fact, ICG has allowed longer periods for the refits to the vendors undertaking the refits, ranging from 25 *per cent* to 329 *per cent* more than the prescribed duration. Despite this, there was further delay in completion of refits as detailed below.

18 Timelines for refits of ships

Type of ship	Duration of Refit in days		
	Short refit	Normal refit	Medium refit
AOPV/OPV			
Days to be taken as per ICGO 5/93	84	120	210
Days allowed as per contract	120-270	120-270	300-365
Days actually taken on an average	156	255	476
IPV/FPV			
Days to be taken as per ICGO 5/93	35	60	120
Days allowed as per contract	90-150	120	150
Days actually taken on an average	145	165	183

Audit noticed that the time actually taken for SR, NR and MR of AOPV/OPVs during 2003 - 2010 was 86 *per cent*, 113 *per cent* and 127 *per cent* respectively more than the bench marked time lines prescribed by ICG in May 1993. Similarly, the time actually taken for SR, NR and MR of IPV/FPVs during 2003-2010 was 314 *per cent*, 175 *per cent* and 53 *per cent* respectively more than the bench marked time lines for this class of ships. The actual time taken in MR of AOPV/OPV and MR of IPV/FPV has exceeded even the liberal time schedule prescribed in the contracts. Audit noted that in the case of 31 refits undertaken for AOPV/OPV between 2003 and 2010, the time taken was 27 *per cent* more than the contract while the corresponding figure in the case of 74 refits taken up for FPV/IPV/SDB, was 51 *per cent* more.

ICG Interceptor Boat

ICG attributed delay to inadequate manpower resources and slow pace of progress of work, delay in procurement/non availability of spares, lack of planning, coordination, monitoring and inadequate efforts by yards. ICG also held that unforeseen defects during the refits were also the reasons for delay in completion of refits. The delays raise questions on the efficacy of the refits undertaken on the ships previously, as well as inadequate planning in the refit management.

The prolonged duration of refits adversely impacts the operational availability of the ships. The ICG stated, in October 2009, that amended orders for refit cycles would be issued very soon. Audit noted that the amendment process was initiated in 2001 and even after eight years, ICG has not been able to promulgate a revised refit order. This is indicative of lackadaisical approach on the part of the ICG to address the issues relating to refit management of their vessels.

4.2.4 Inspection of Aircrafts

The repair/maintenance of ICG aircrafts is carried out on a fixed schedule, i.e. after completion of certain period/flying hours. The duration of inspections are also prescribed.

ICG Chetak in flight

- The status of inspections carried out on Dornier aircraft indicated that about 66 *per cent* of inspections are delayed by a period ranging from 5 to 620 days.

- In respect of Chetak, it was seen that about 54 *per cent* of the inspections were delayed by a period ranging from 2 to 289 days.

- In respect of ALH, Coast Guard stated that since the helicopter is still under evaluation stage, duration for carrying out servicing on ALH has not been specified by the OEM[7], Hindustan Aeronautics Limited (HAL) till date.

Audit noted that much of the delay is attributable to the exclusive dependence on HAL as it is the only service provider for ICG aircrafts (Chetak, Dornier and ALH).

4.2.5 Manpower

Manpower is fundamental to the development and sustenance of the service. Staffing requirements are required to keep pace with the acquisition of ships and aircrafts.

Coast Guard personnel marching

[7] Original Equipment Manufacturer

The manpower position in ICG is shown in the table below:

19 Men in position

	OFFICERS	ENROLLED PERSONNEL
ICG Perspective Plan (1985 – 2000)	1925	10,959
Men in Position 31/3/2008	**731**	**5244**
Men in position 31/12/2010	1037	6387

The shortage as on 31 March 2008, of 62 and 52 *per cent* of officers and enrolled personnel respectively, of the envisaged force level of 1,925 officers and 10,959 enrolled personnel in the Perspective Plan 1985 – 2000, improved as on 31 December 2010. But, there was still a shortage of 46 and 42 *per cent* respectively of officers and enrolled personnel *vis a vis* the force levels envisaged for in the Perspective Plan.

In reply, ICG HQ stated, in May 2009, that manpower to all units are positioned on the concept of manning plan of units which is derived based on total borne strength *vis a vis* Government sanction to adjust the shortages. It was also stated that Director General, ICG is empowered to utilise/deploy manpower within the sanctioned strength as per their role/charter and requirement felt/projected by the units on the basis of Government orders of August 2001.

The reply of the ICG does not address the issue of large shortfalls in the existing levels of manpower available *vis a vis* the levels envisaged in the Perspective Plan.

4.2.6 Training

Initial training of officers and EPs is held at Naval Academy, Ezhimala[8] and at INS Chilka respectively, which are Indian Navy training establishments. Indian Coast Guard has been projecting the training requirement to Navy every year on required basis. Navy allocates slots to Coast Guard for various training programmes which are conducted for naval personnel at various Naval Training Institutes. The ICG has initiated a proposal to set up its own Training Center in February 2002 with strength of three officers and 15 personnel to provide specific training for Coast Guard personnel in order to carry out its charter of duties and functions effectively. Though the interim Indian Coast Guard Training Centre (ICGTC) was activated in 2002 at Kochi, the sanction

[8] The Academy was earlier based at INS, Mandovi

for creation of interim training center with two officers and four personnel was given by Ministry of Defence in April 2008 only. Government accorded *in principle* approval for setting up of ICG Academy in October 2010.

Recommendations

- *ICGHQ should review its refit order in view of consistently long time taken in the refit of its vessels. ICGHQ should take steps to minimise delay in commencement and completion of refits and inspections of aircrafts.*
- *Efforts should be made to identify and develop vendors in public / private sector for a long-term, institutional arrangement to facilitate undertaking refits of Indian Coast Guard ships timely.*
- *Availability of manpower for operations may be improved for smooth functioning of ICG.*

DIFFERENT TYPES OF VESSELS USED BY ICG FOR UNDERTAKING PATROLLING

AOPV

OPV

FPV

IPV

IB

IC

ACV

CHAPTER 5

Patrolling and Security Issues

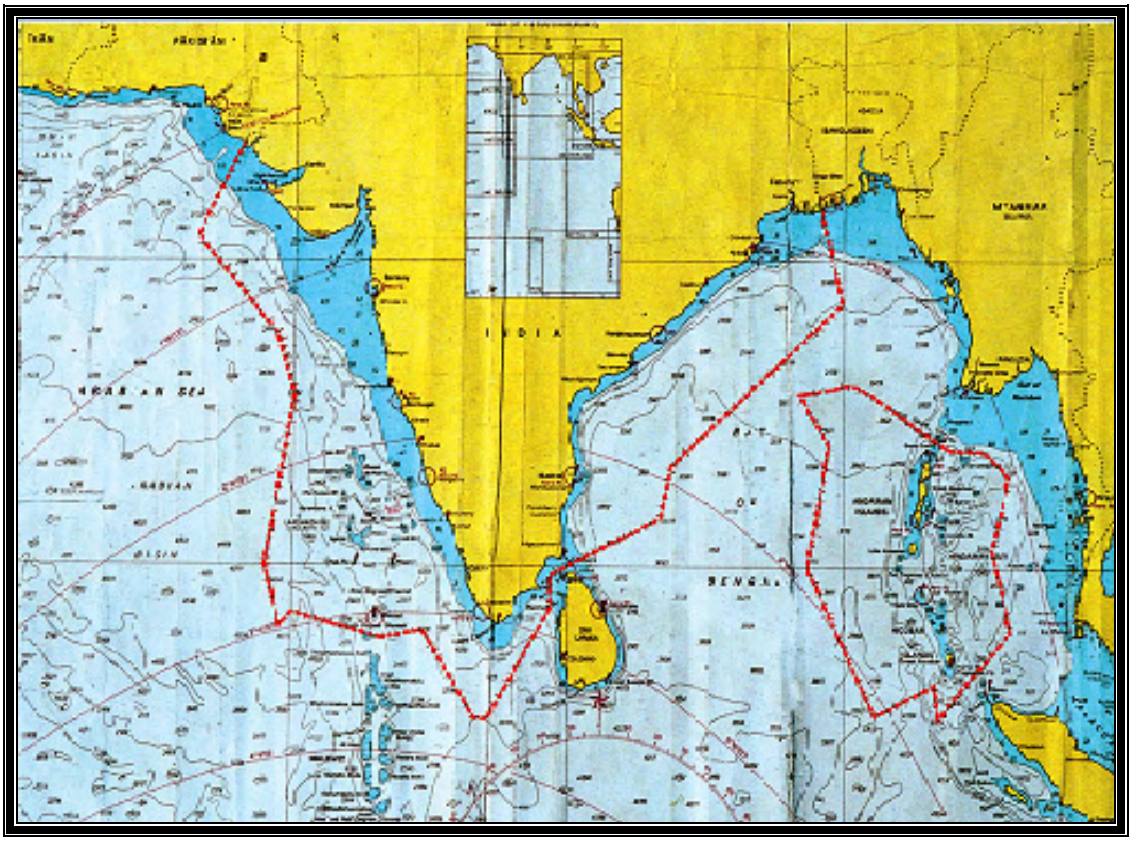
5.1 Introduction

The responsibilities of the Indian Coast Guard (ICG), when formed in 1978, were in line with the issues perceived to be relevant then. Its principal tasks were to protect the national interests of India in the maritime zones of India (MZI), i.e, up to 200 Nautical Miles (NM)[1]. Since then, in the last four decades, various concerns have mushroomed including maritime terrorism, illegal arms trafficking etc. Indian coasts are also vulnerable to illegal inflow of both migrants and refugees from Bangladesh and Sri Lanka. There are also numerous fishing boats which venture into the sea each day, particularly along Gujarat coast, posing a security threat as many such fishing boats could be apprehended by interests inimical to that of India and be used for smuggling in arms and infiltrators. Such fishing boats could easily mingle with local fishing boats.

The Coast Guard is limited in its capabilities to effectively discharge its duties in the entire EEZ waters (upto 200 NM). This Report has already discussed at length the deficiencies in ICG assets and infrastructure, shortages in manpower and restricted operational effectiveness on account of gaps in role equipment. Force levels which ought to have been in place by the year 2000 have not been achieved even by 2010, by which time the security threats have increased manifold.

[1] 1 NM = 1,852 metres

THE EXCLUSIVE ECONOMIC ZONE OF INDIA



Source: Indian Coast Guard

Total territorial waters : 1,55,889 Sq Km.	**Total EEZ km : 20,13,410 Sq Km.**
Total Coastline : 7,516.60 Km	**EEZ – Mainland and Lakshadweep Islands : 14,18,193 Sq Km**
Coastline – Mainland : 5,422.60 Km	**EEZ – Andaman & Nicobar Islands : 5,95,217 Sq Km**
Coastline – Lakshadweep Islands : 132 KM	
Coastline – Andaman & Nicobar Islands: 1,962 Km	

India's long coastline of about 7,600 kms and an exclusive economic zone (EEZ) of over 2 million sq kms involves overlapping activities and jurisdiction by a number of ministries and departments. At present, different agencies handle sea-based activities such as the Ministry of Shipping, Road Transport and Highways, the Department of Fisheries under the Ministry of Agriculture, Port authorities while defence and security are handled by the Navy and Coast Guard under Ministry of Defence. The ICG has been part of joint efforts for a co-ordinated response to various maritime law enforcement, policy formulation and implementation issues in which as many as 12 ministries and eight departments of the central government, 9 coastal states and 4 Union Territories (UTs) are involved.

Coastal Surveillance

In the succeeding paragraphs effectiveness of maritime patrolling is discussed. This includes review of patrolling off the coast of Gujarat and Maharashtra, boarding operations, night flying, issues in coordination between Indian Navy and ICG, installation of static sensors, legal constraints, identification and tracking of ships etc.

5.2 Patrolling off the coast of Maharashtra and Gujarat: Period leading up to 26/11

5.2.1 Operation Swan

Following the March 1993 bomb blasts in Mumbai, the sea route and the susceptible coastal security environment were identified as likely loopholes in the country's security umbrella since the explosives used were smuggled in through the Raigad coast of Maharashtra. In response to this government launched Operation Swan in April 1993, a joint operation of the IN and ICG aimed to prevent smuggling of arms/ammunition and other contraband and carry out intensive surveillance on high seas, maintain surveillance in the territorial waters and patrol the shallow waters near the shore along the Maharashtra and Gujarat coasts. The operation was to be conducted in three layers; an outer layer (50 NM and beyond) of surveillance using Dorniers and surface units of IN and ICG, intermediate layer using ships of IN and ICG and hired trawlers (between 25 – 50 NM) and the inner layer (up to 12 NM) through joint coastal patrolling by IN using hired trawlers with customs and police personnel. In the case of Gujarat, the ICG was also assigned the inner layer operation from February 2006.

The position obtaining with regard to two states viz. Gujarat and Maharashtra with reference to patrolling and security issues in the period preceding 26/11 is discussed in the succeeding paragraphs. Audit observed that:

- The Coast Guard has not been involved in the inner layer operations in Maharashtra till December 2010 due to manpower and resource constraints. Joint Coastal Patrolling (JCP) undertaken by Indian Navy in Maharashtra was discontinued by September 2005 based on the decision of the Ministry of Home Affairs to establish coastal police stations to provide the coastal security and check smuggling of arms and ammunition. The coastal patrolling was, thereafter, left to the State Police and Customs, who had meager operational assets to handle the operation. Further, all naval detachments were replaced by three quick reaction teams, which were kept standby in case of any contingency. This created a void in undertaking the close coastal patrolling.
- Audit noticed that by March 2008 only 47 (10 in Gujarat and 12 in Maharashtra) out of 73 coastal police stations had been set up in nine coastal states and four union territories. By March 2009, this figure had increased to only 55 coastal police stations. The induction of the dedicated fleet of 204 boats for these coastal police stations was to commence from April 2009. However, by October 2010, only 71 out of planned 73 coastal police stations had been made operational.
- Although 15 IBs were to be inducted by 2010 so that ICG could perform its enlarged role of coastal security, i.e. surveillance of shallow waters under Operation Swan, the Government sanction for the same was obtained in April 2005 and the contract was signed only in March 2009. Resultantly, these IBs are now expected to be inducted by March 2014 only.
- Additionally, three Coast Guard Stations were required to take over the extra responsibilities of Operation Swan. Ministry of Defence / ICG sought Ministry of Home Affairs (MHA) funds for the same in October 2002. Though the proposal was approved in January 2005 audit observed that none of the stations could be activated prior to 26/11. Of these, one station was activated in September 2010, the second station was commissioned in October 2010 and the third is yet to be activated (as of December 2010) as land identification and negotiation is still in progress.

Audit reviewed the wherewithal available with the Coast Guard for operations in Gujarat. Though ICG had taken over Operation Swan in Gujarat in February 2006, these operations were lacking in effectiveness as the

manpower, operational assets and basic infrastructure were grossly inadequate for effective conduct of operations.

These limitations were also highlighted by HQ Coast Guard (W) as early as March 2008 to Coast Guard Headquarters. The details are as follows:

(a) Insufficient / inadequate assets: Number of assets and ICG stations were not sufficient for covering the entire coastline of the Gujarat State. In fact, dedicated assets at ICG stations viz. office building, computers, telephone lines, ambulance, lay apart store etc. for Joint Coastal Patrolling staff were not available. Other examples are given below:

20 Problems in assets / infrastructure used in Operation Swan

Place	Asset / Infrastructure	Remarks
All places	In normal weather, the endurance of Interceptor Crafts is four to six hours and the boats were restricted to coastal operations up to 3 Nautical Miles only.	The boats were unsuitable for operating in rough weather and could not be utilised beyond sea state one[2]. This resulted in virtual suspension of JCP in monsoons/rough weather conditions.

[2] Sea sate one – When sea is calm (rippled) and the height of waves is between 0.0 to 0.1 metre

All places	Hired trawlers	Usage of hired trawlers also reduced considerably the element of surprise in conducting operations.
Dholai Port	The depth available during low water was less than one metre and only a pile jetty with inadequate fendering was available at the port.	The operations if planned from the site would be limited to high water timings and would defy the element of surprise and continuity of operations.
Umagram	A wooden dilapidated T shaped jetty 1.5 – 2.0 meters depth was available which is exposed to heavy sea wash	--
South Gujarat coast between Diu and Valsad	Non-availability of infrastructure between Diu and Valsad	Thus, area not being patrolled by any dedicated vessels
Gulf of Khambat	No infrastructure available for logistics support	--

(b) **Night patrol:** The night patrolling capabilities of the Interceptor Crafts (ICs) were limited in view of non-availability of dedicated and navigational equipments with them. Non-availability of night vision binoculars/goggles on-board also affected their efficacy for dark hour patrol.

(c) **Navigational and communication equipment:** ICG lacked vital equipments such as hand held Global Positioning System (GPS[3]), Night Vision binoculars, Search and Rescue Transponder (SART[4]), Emergency Position Indicating Radio Beacons (EPIRB[5]) etc.

(d) **Absence of Intelligence inputs:** Around 35,000 boats plied from Gujarat coast daily. In absence of credible intelligence it was difficult to trace the culprits. Besides, more than 5,000 Dhows[6] generally operate from Gujarat and new crafts are built / added every year. The crafts carry out traditional trade with Gulf and African countries. Although, the Port authorities had started to give the information on the movement of

[3] GPS – It is a satellite based navigation system which provides reliable location and time information in all weather conditions

[4] SART – It is self contained water proof radar transponder intended for emergency use at sea

[5] EPIRB - It is used for saving lives by transmitting a distress signal to international search and rescue satellites

[6] A lateen – rigged ship with one or two masts

dhows but it was needed on a regular basis so that these dhows could be monitored.

Securing the Coast

Also, lack of secrecy and element of surprise in conducting operations due to frequent changes in deployment of police and customs personnel coupled with unsuitable arms for police and customs personnel also imposed limitation on the operations.

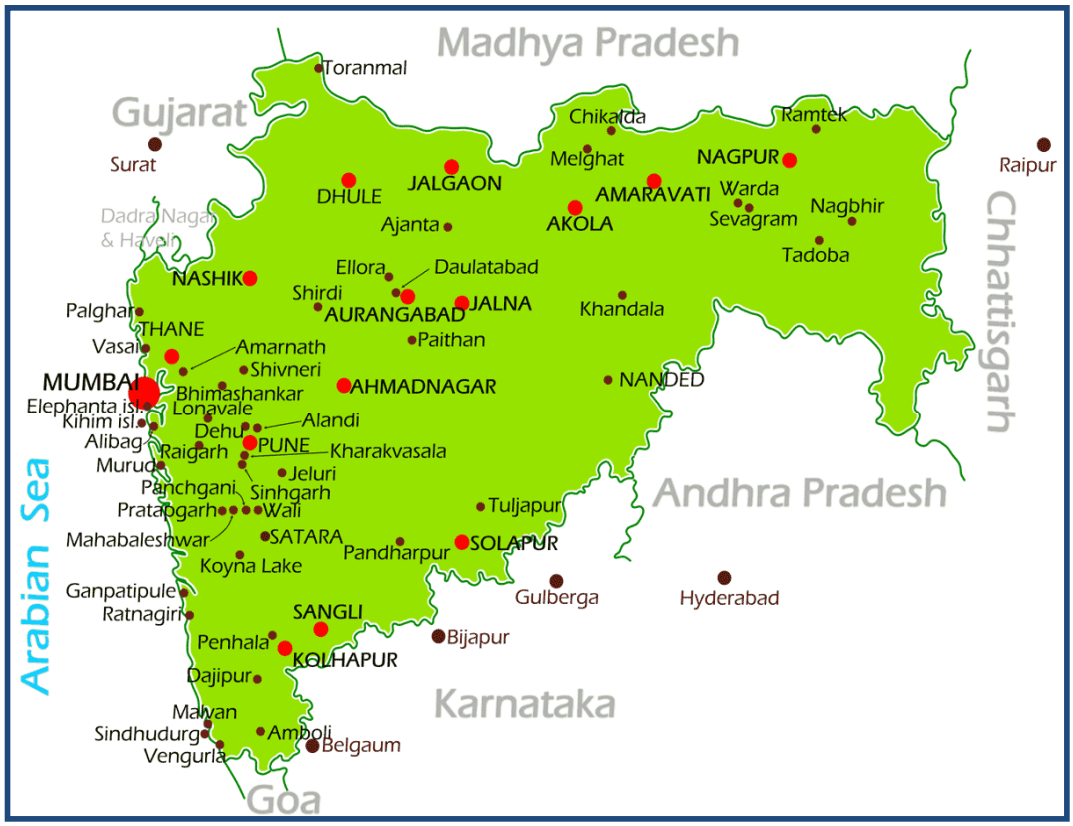
Insufficient/ inadequate assets coupled with limitations of interceptor crafts and lack of vital navigational and communication equipment with ICG adversely impacted the operations of Coast Guard in Gujarat.

5.2.2 IMBL/EEZ patrolling - Maharashtra and Gujarat

As per ICG analysis (2002 - 07 Plan), it requires 175 ships and 221 aircraft for effective patrolling of the EEZ, coastal and shallow waters. Against this, the ICG had only 68 ships/vessels and 45 aircraft as of January 2008. Out of 28 ships/vessels available with ICG for patrolling of the entire West Coast, 16[7] ships/vessels, of all types, were based in the Maharashtra and Gujarat area. Ten ships in 2007 and 14 ships/vessels in 2008 and 2009 deployed in the Maharashtra and Gujarat area were responsible for Exclusive Economic Zone (EEZ) / International Maritime Boundary Line (IMBL) patrolling.

[7] Includes 2 ACVs deployed in Okha for shallow water coastal patrolling. Their patrolling details have not been taken into account for IMBL/ EEZ patrolling.

Audit focused on patrolling operations for the years 2007, 2008 and 2009 and found that ICG undertook 11,108 hours, 19,185 hours and 23,005 hours of patrolling off the coast of Gujarat/ Maharashtra in 2007, 2008 and 2009 respectively.



The patrolling carried out in 2008 was about 73 *per cent* more than that carried out in 2007, whereas, the patrolling done in 2009 was about 107 *per cent* more than the patrolling done in 2007. On an average, the ships deployed for coastal patrolling off Gujarat and Maharashtra coast, carried out 309 hours, 358 hours and 411 hours patrolling per quarter per ship in 2007, 2008 and 2009 respectively.

Significant increase in patrolling, done in 2008 and 2009 as compared to in 2007, can lead to only either of the two conclusions:

(i) Though ICG was capable of undertaking more hours of patrolling, yet it planned and carried out fewer hours of patrolling; or

(ii) The significant increase in patrolling in later years was unsustainable leading to over stretching of personnel and vessels.

Audit also undertook a quarter-wise analysis of the patrolling done off the coast of Gujarat and Maharashtra for the years 2007, 2008 and 2009 for the quarter October-December. It was seen that in 2007 ten ships carried out 3,729 hours of patrolling. In the quarter ending December 2008, 14 ships carried out 6,437 hours of patrolling off the coast line of Gujarat and Maharashtra. However, it was seen that almost 40 *per cent* of the patrolling in October-December 2008 was done after 26/11. In 2009, though the total number of hours patrolled fell to 6,387 hours, the patrolling was more evenly spread out.

In terms of the operational doctrine for Operation Swan, one ICG ship is always to be on continuous patrol near IMBL. Assuming that the IMBL patrolling was done as per the doctrine, the remaining available patrolling hours would be insufficient to patrol the coast line of Maharashtra and Gujarat. The average patrolling done by each ship would then range between 43 minutes to 3 hours each day between 2007 and 2009. The table given below depicts the position.

21 Patrolling of the EEZ/IMBL

(In Hours)

Year	No. of ships	Total patrolling hours (Actually undertaken)	Hours required for 24 hours IMBL patrolling by at least one ship [8]	Patrolling hours available excluding IMBL patrolling	Average patrolling by other ships	
					Total Hours [9]	Daily Hours [10]
(1)	(2)	(3)	(4)	(5) = (3) – (4)	(6)	(7)
2007	10	11,108	8,760	2,348	261	43 minutes
2008	14	19,185	8,784	10,401	800	2 hours and 19 minutes
2009	14	23,005	8,760	14,245	1,096	3 hours

[8] Computed by multiplying the number of days in a particular year (365 for 2007, 366 for 2008 and 365 for 2009) by the number of hours in a day (24 hours) and by the number of ships (one number of ship)

[9] Computed by dividing the patrolling hours indicated in column 5 by the number of ships (Number of ships mentioned in column 2 minus one ship engaged for IMBL patrolling 24 x 7)

[10] Derived at by dividing the total hours worked out in column 6 by the number of days in a year (365 for 2007, 366 for 2008 and 365 for 2009) to get the daily average patrolling by one ship per day in minutes. Further, the minutes so arrived at for 2008 and 2009 are divided by 60 to arrive at the patrolling done in hours.

Audit also noticed that the patrolling was done in the absence of any clear-cut norms for working out the period of patrolling required to be carried out by each type of ship. Important instances are given below:

- ICGS Samar, being an AOPV ought to have been exploited for IMBL patrolling. Audit, however, noticed that it was not deployed for IMBL patrolling between February 2006 and December 2008 and was deployed for IMBL patrolling only after December 2008, i.e after the 26/11 Mumbai attacks. The Coast Guard stated in October 2009 that ICGS Samar was deployed for IMBL patrol regularly but this was not apparent from its records (LOPs)[11] as the area codes[12] were changed. The reply is not tenable as all other ships have clearly indicated IMBL/EEZ patrolling. In fact, even ICGS Samar started recording such patrolling clearly since January 2009.

- As seen from the LOP's made available to audit, not even a single ICG ship was present along IMBL for 25 days during the quarter ending December 2008, which was in deviation from the operation doctrine of Operation Swan, that at least one ICG ship will always be near the IMBL.

The above clearly points to the fact that patrolling undertaken prior to 26/11 off the coast of Gujarat and Maharashtra had limitations of coverage, particularly in the case of IMBL patrolling.

Audit, however, noticed that the deployment of ICG ships and aircrafts has been increased post 26/11 for coastal security in addition to normal EEZ patrolling. On an average, 15-16 ICG ships are out at sea patrolling the coast. Post 26/11, surveillance has been enhanced by the ICG, Marine police of states etc and a total number of 28 coastal security exercises and 26 coastal security operations have been conducted by the ICG till November 2010.

5.3 Boarding operations

Identification of vessels at sea to identify friend or foe is an important task. An ideal system of identification of vessels/ crew at sea would involve all vessels being fitted with standard communication system, able to communicate with Indian Coast Guard ships, a database of fishing boats and a uniform paint scheme for vessels. However, such a system has not yet fully evolved in India. As a result, the only way for the ICG to conclusively identify anyone on-board a vessel at sea is to board and investigate it. As per the Coast

[11] Letters of Proceeding (LOPs) are formal communications issued by the Commanding Officer of a ship or a shore establishment to higher formations including ICGHQ describing the activities undertaken by it during a quarter.

[12] Maritime/ coastal areas in sea are divided into portions and are assigned a code name. The codes are changed periodically.

Guard Book of Regulations (Ship Operating Standards), each Coast Guard vessel on patrol duty ought to undertake four boarding operations per quarter. In addition, real time boarding operations are also to be conducted whenever considered necessary for investigation of fishing boats/ships and also on the basis of specific intelligence.

Boarding Action

ICG undertook 170, 443 and 787 boarding operations off the coast of Gujarat/Maharashtra in 2007, 2008 and 2009 respectively. The boarding operations carried out in 2008 were 161 *per cent* more than carried out in 2007, while operations carried out in 2009 were 363 *per cent* more *vis-à-vis* those carried out in 2007. As can be seen from the table below, the average number of boarding operations, per quarter per ship, is in excess of the ICG standard of four.

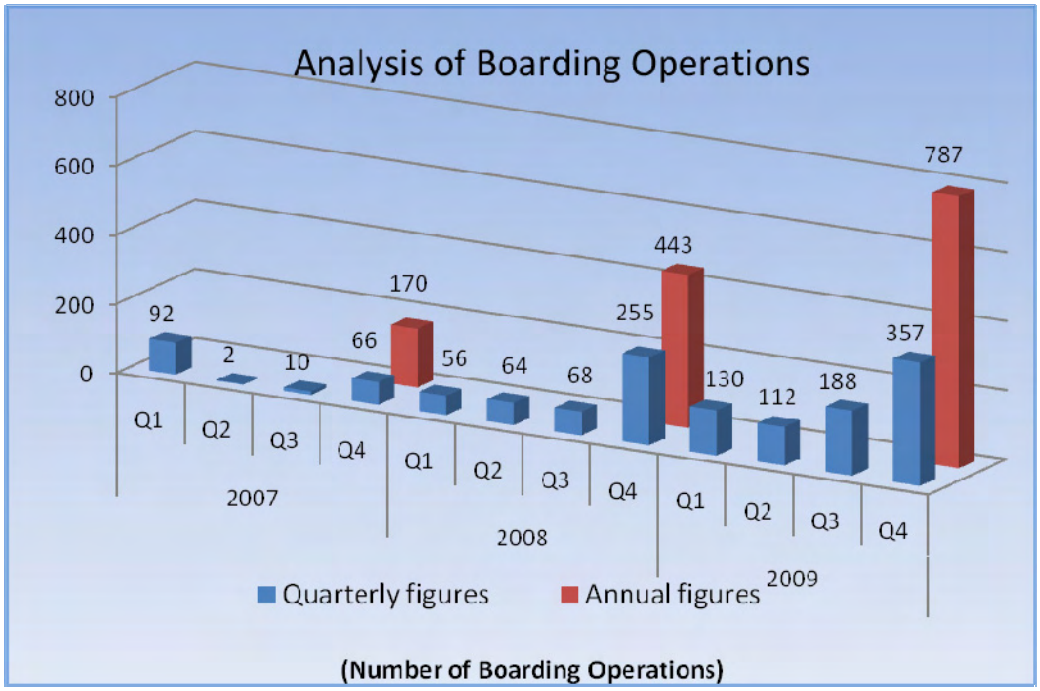
22 Boarding operations

YEAR	Average number of boarding operations per quarter per ship
2007	4.7
2008	8.3
2009	14.1

Audit undertook the scrutiny of 147 LOPs and it was noticed that not a single boarding operation was indicated in 96 cases, i.e 64 *per cent* LOPs. Nine

LOPs depicted only one boarding operation against the prescribed limit of four boarding operations per ship per quarter.

Audit also undertook an analysis of boarding operations carried out quarter wise during the years 2007, 2008 and 2009 in Maharashtra and Gujarat area. The results are depicted in the graph below:



Audit analysis showed that:

- For the year 2008 ICG conducted only 188 boarding operations in the first three quarters of 2008. This figure showed a quantum leap in the last quarter of 2008 when 255 boarding operations were carried out between October and December. Of these 255 boarding operations, 116 (45.49 *per cent*) boarding operations were carried out in the month of December 2008, i.e. after 26/11 terrorist attack.
- In the quarter ending December 2009, ICG undertook 357 boarding operations off Gujarat/Maharashtra coast representing an increase of 40 *per cent* over the boarding operations carried out in the quarter ending December 2008.
- The number of boarding operations carried out by ICG off Gujarat/ Maharashtra coast in 2009 suggests that ICG was capable of undertaking more boarding operations. Till such time the constraints in identification of vessels are resolved, intensity of boarding operations

was the only deterrence for coastal security. However, such intensity was witnessed only after the 26/11 incident.

Coast Guard Headquarters gave varied responses in this regard to audit. Initially in August 2009, ICGHQ stated that during the period January 2004 to June 2009 out of 58 ships/boats, 28 ships/boats did not undertake boarding operations as per norms. The shortfall ranged from nine to 100 *per cent*. However, test check of these figures with reference to LOPs for seven ships revealed that the actual number of boarding operations carried out by these ships was far less than the figures furnished by ICGHQ. Thus, the data provided by ICG on the boarding operations was neither reliable nor consistent. Also, ICG stated that LOPs examined by audit did not necessarily contain details of boarding operations carried out.

In November 2010, ICG stated that the norm of four boarding operations per ship per quarter was applicable only for practice / exercise which are in addition to undertaking boarding operations as required and that the boarding operations are to be carried out purely on basis of operational requirement.

The Coast Guard Book of Regulations (Ship Operating Standards), however, does not specify this distinction and CGHQ was unable to present documentary evidence for their claim. Besides, two of the seven ships confirmed the figures compiled by audit and one ship stated (September 2009) that efforts were being made to increase the number of boarding operations and that the same had increased after November 2008.

5.4 Night flying

Surveillance and patrolling at night[13] is a vital task in the prevailing security scenario. Accordingly, the Annual Flying Tasks (AFT[14]) for Dorniers and helicopters separately indicate the amount of time to be spent on night flying. On an average, for the period 2004 -10, the AFTs allotted 25 *per cent* of flying hours to night flying. Given the critical nature of this task, ICGHQ has emphasised that night flying hours were not to be diverted towards day flying although the day flying task could be undertaken at night.

[13] The duration corresponds to, roughly, between 5:00 p.m. and 5:00 a.m.

[14] AFTs are directives issued by ICGHQ to each squadron prescribing the number of hours of flying required to be undertaken each year.

A Chetak in operation

Audit, however, observed that though annual allotment norms were adhered to, the night flying task was never achieved by any[15] of the squadrons during the last six years (2005 -2010). The average shortfall was 32 *per cent* despite the fact that the night flying percentage was reduced to 20 *per cent* of the AFT in case of helicopters and 25 *per cent* in case of Dorniers in 2006-07.

ICG HQ in its reply, in May 2010, stated that shortage of aircrew and other operational requirements, unsuitable climatic condition at Port Blair, non-availability of night flying facility at Porbander, lack of equipment on Chetak for night flying, poor performance and non availability of sensors like ELTA etc were the main reasons for the non-achievement of night AFT. This is after the AFT had already been reduced in 2006-07 taking into account shortage of pilots. ICG failed to take proactive initiatives to remove the constraints in the achievements of AFTs.

5.5 Operation Tasha

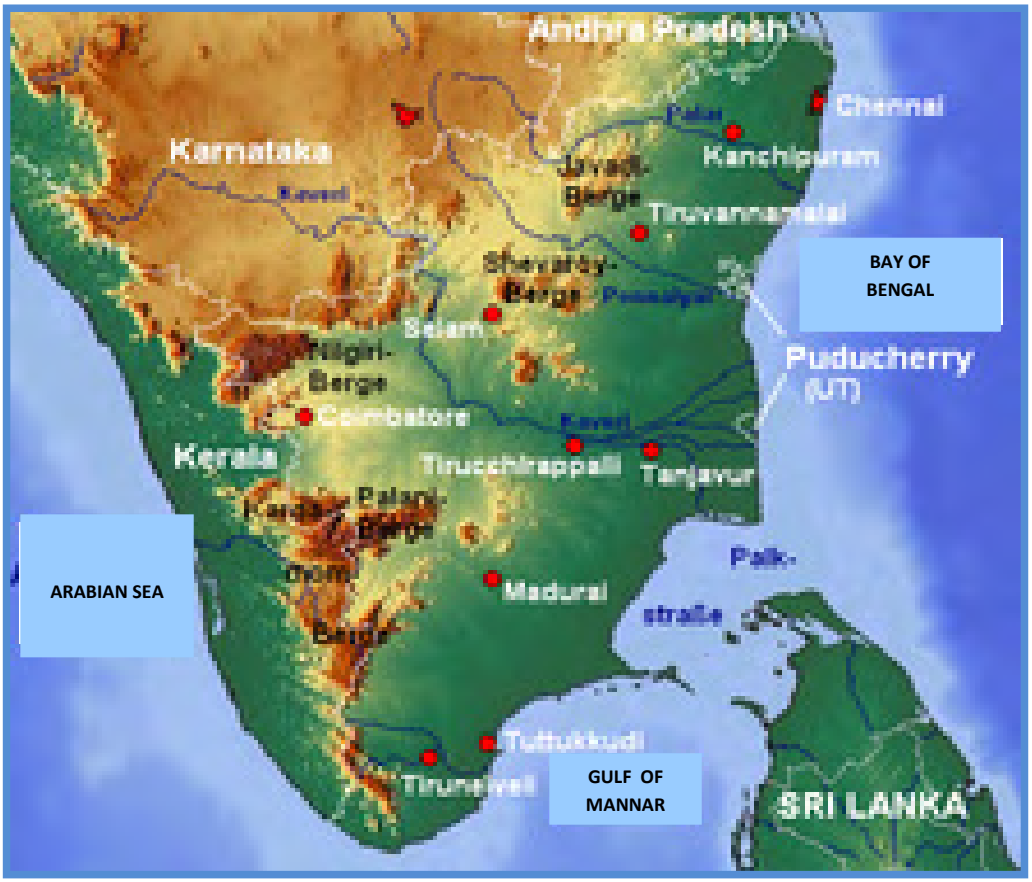
Besides the issues noted on the western coast, audit found that operations on the eastern coast also suffered from similar problems.

Operation TASHA, launched in May 1990 is a joint operation of the Indian Navy and Coast Guard to control smuggling of arms, ammunition and contraband items across International Boundary Line (IBL) between India and Sri Lanka and to check IBL crossings and illegal immigration. Although

[15] AFTs in respect of ALH have not yet been promulgated except for 2005-06.

Operation Tasha has had numerous successes, audit examination revealed the following:

- Deployment of helicopters by Coast Guard in Operation Tasha was absent during the period June 2008 to September 2009 due to non-positioning of helicopter borne ship along Palk Bay. CGHQ defended this position by stating that deployment of helicopters was under the purview of Indian Navy and CG shore-based helicopters could not carry out such surveillance as their air station was situated at Chennai. However, audit noticed that ship-borne helicopters had been utilised for this task prior to June 2008. In the absence of such deployment and the associated fact that there were days when Navy also did not deploy their helicopters, no helicopter sorties took place on such days despite orders which envisaged one/two sorties of armed Chetak helicopter daily in the designated area.



- Co-ordination issues were a matter of concern. Coast Guard units, many a time, were not aware of deployment of naval vessels to be used in the operation. Thus, there were occasions when ICG and Naval ships were deployed in close proximity at the same time resulting in duplication of efforts.

- Effective communication did not exist between Navy's hired trawlers and ICG ships assisting them due to absence of communication equipment having sufficient range.

It is evident from the above that there exist issues of deployment and coordination that need to be addressed both by the ICG and the Navy in relation to patrolling on India – Sri Lanka International Boundary Line.

5.6 Co-ordination between Indian Navy and ICG

In order to strengthen security in the coastal areas the need for co-ordination/ synergy and understanding between agencies is imperative. In this context the co-ordination between ICG and Indian Navy is essential. There were also instances of lack of consensus on certain issues between Navy and Coast Guard. These are discussed in the paragraphs below:

- The Indian Navy (IN) has developed the Maritime Domain Awareness (MDA) software to collate information from all available sources to present a comprehensive picture of the maritime situation. In order to make the MDA data more comprehensive, IN approached ICG in 2006 to share Indian (Maritime) Search and Rescue (INDSAR) data maintained by the ICG which captures information on the movement of foreign flagged merchant vessels in the Indian Search and Rescue Region (SRR). However, ICG refused online access to the INDSAR plot to Navy on the ground that the INDSAR data was a voluntary report by merchant ships and that online access to INDSAR might not be prudent considering the delicate security scenario.
- Navy in September 2006 felt that the operations of the two services could be co-ordinated so as to avoid duplication of effort and ensure greater efficiency and effectiveness in the functioning of the two maritime forces. Navy, therefore, proposed that the annual long cast[16] of the ICG and IN be coordinated at the ICGHQ and IHQ MOD (Navy) level to enable optimal utilisation of available resources. In turn, the monthly programs of the IN and ICG units could be coordinated at the command level. Indian Coast Guard, in September 2006, replied that ICG operations by their nature were patrol-based and mission specific. Hence, it was not feasible to draw an annual long cast for the ICG ships. ICG was also not amenable to sharing the monthly programs on the grounds that

[16] Annual planning for deployment of ships

these programs were frequently changed at short-notice due to various emerging contingencies of differing nature, i.e. security-related, humanitarian assistance or pollution control. Ironically, ICG stated that abundance of synergy exists between the two forces although it did not provide details in this regard to audit.

- Indian Coast Guard in September 2006 brought out that while all sailing orders issued to ICG ships and air tasks to ICG aircraft were always informed to the Navy, the movement of Naval ships and aircraft in the area where ICG units were deployed was not intimated to ICG. This resulted in duplication of efforts, as both Navy and Coast Guard patrolled the same area at the same time.

- There have been command and control issues in coastal patrolling in Andaman & Nicobar Islands, as Headquarters Andaman and Nicobar Command (HQ ANC), Unified Tri-Services Command, issued instructions to ICG not to undertake certain Search and Rescue (SAR) operations, a statutory function of ICG. Also, there was wastage of time in liaison with ANC for issuing sailing orders to ICG ships, non-provision of fuel to ICG aircrafts resulting in cancellation of air sorties, non-availability of ANC airfield for ICG operations, non-clearance of ICG aircraft sorties and convening of intelligence meetings by HQ ANC disregarding the lead role assigned to ICG by Government.

HQ ANC denied in April 2010 that there has been any occasion wherein ICG had been unable to perform ICG mandated tasks on account of infringement of command and control by HQANC. The denial of audit findings by HQANC is not agreed to, as there was enough evidence to show that the ICG and IN dispensation at Andaman & Nicobar regions had problems in coordination.

On being asked about MDA, Coast Guard stated (May 2010) that there was regular exchange of information regarding safety and security of territorial waters and Maritime Zones of India between IN and ICG at all levels. Regarding co-ordination of Annual long cast of the two services, ICG stated in April 2010 that the annual long cast of the Coast Guard and the Indian Navy was being coordinated at ICGHQ and IHQ MOD (Navy) level for synergized, optimal utilisation.

However, the increased synergy now experienced by the two services as claimed by ICG is the result of the measures put in place by the Government post 26/11 Mumbai attacks.

The need for greater co-ordination between ICG and Indian Navy has also been recommended by the Parliamentary Standing Committee on Defence (2008 -09), Fourteenth Lok Sabha, which in its 36th Report presented to the Parliament in February 2009 observed **"Events in the recent past have highlighted lack of coordination between Navy and Coast Guard resulting in national catastrophe. The Committee strongly believe that it is high time that the Government reviewed this issue in its entirety and initiated appropriate steps to put in place an effective mechanism for establishing better coordination and jointness between Navy and Coast Guard in the paramount interest of the national security".**

5.7 Non-installation of Static Sensors

The Group of Ministers (GoM) on the National Security System had recommended in February 2001 setting up a chain of static sensors in the form of shore radar stations in areas of high sensitivity and high traffic density to provide continuous, gap free, automatic detection and tracking of targets providing a reliable tactical situation display. The chain would be an effective

tool against illegal activities like smuggling of contrabands, arms and ammunitions, illegal fishing, etc.

It was noticed in Audit that although the Ministry of Defence constituted a Working Group in 2002 for the Scheme, yet Government of India took till 2004 to decide which agency would execute the project. In January 2005, the project was entrusted to Indian Coast Guard for implementation which immediately initiated a Statement of Case (SOC) for the Scheme. Nonetheless, there were further delays and it took four years (2004-2008) to sign a Memorandum of Understanding[17], in December 2008, with the Director General Light Houses and Light Ships (DGLL) Ministry of Shipping, Road Transport and Highways in view of the inter-ministerial issues and financial implications. Apart from this, audit scrutiny also revealed that numerous revisions (six till July 2007) in the SOC at the instance of Ministry of Defence contributed to the delay. Finally, in February 2009 the Cabinet Committee on Security approved the installation of static sensors and Automatic Identification System (AIS)[18] chain together with communication equipment along the coastline under Phase-I for 46 radars at an approximate cost of ₹ 350 crore. Audit noticed that the RFP for establishment of chain of static sensors at 46 sites was, in August 2009, issued to M/s BEL, Bangalore. The field evaluation trials of the equipment began in December 2009 but were suspended in February 2010 due to unsatisfactory performance of Thermal Imager, Low Light TV and Charge-Coupled Device (CCD) Camera.

Subsequently, the field trials of the Electro Optic (EO) sensors of four vendors were carried out in June and August 2010 at Chennai. The Thermal Imager of M/s Controp, Israel and the CCD Camera with Low Light TV of M/s Obzerv, Canada met the RFP criteria and qualified the trials. Post identification of EO sensors, the field evaluation was completed and the staff evaluation was undertaken by CGHQ. The staff evaluation report was approved by the Ministry of Defence in December 2010. The case is presently at Contract Negotiation Committee (CNC) stage.

Thus, even after a lapse of ten years, static sensors have yet to be installed, leading to gaps in detection and tracking of targets, with its consequential security implications.

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[17] According to the Draft Memorandum of Understanding (MoU), both the parties (MoD and DGLL) agreed to abide by the modalities for setting up static sensors/radars, its security, safe custody, stations, switching on/off, operations, command and control, training, financial implications including payment of compensatory overtime allowance for personnel, etc.

[18] Automatic Identification System Transponder (AIS) is a short range tracking system used on ships and by traffic services for identifying and locating vessels by electronically exchanging data with other nearby ships and Vessel Traffic Services (VTS) Stations.

5.8 Coastal security: Post November 2008 security mechanism

Given the large number of agencies which need to co-ordinate their efforts with respect to coastal security and the increasing maritime threat perception, coastal security concerns have been addressed by various committees. In 1999, a Group of Ministers (GoM-1999) was set up to suggest reforms in the National Security System, including coastal security. The GoM-1999 made various recommendations in February 2001 regarding structures, infrastructure, and co-ordination between agencies etc.

Command structure - The GoM-1999 had suggested creation of an Apex Body for management of maritime affairs for institutionalised linkages between the Navy, Coast Guard and the concerned ministries of the central and state governments. Despite many deliberations, no action was taken on this recommendation up till January 2007. The Committee of Secretaries, in January 2007, discussed the structure for the Apex Body and recommended the formation of a Maritime Security Advisor (MSA) and Maritime Security Advisory Board (MSAB). The equivocal situation continued till November 2008 when, in the wake of the terrorist attacks in Mumbai[19], it was decided in a meeting chaired by the Prime Minister (29th November 2008) that the task of guarding the coast-line would be entrusted with immediate effect to the Indian Coast Guard. The Indian Navy would provide the necessary back-up support to the Indian Coast Guard for this purpose. The Ministry of Shipping, Transport and Highways would provide all logistical assistance that may be required by the Indian Coast Guard and the Indian Navy. Meanwhile, in January 2009 Ministry of Home Affairs did not find favour with the proposal for setting up of either MSAB or for appointing MSA and decided not to pursue the proposal any further. Subsequently, Government issued a revised order, in February 2009, for establishment of a co-ordinated command structure and designated Indian Navy as the authority responsible for overall maritime security which includes coastal security and offshore security. The Indian Navy would be assisted by Coast Guard, State Marine Police and other Central and State agencies. Additionally, in February 2009, Indian Coast Guard was designated as the authority responsible for coastal security in territorial waters including areas to be patrolled by Coastal Police and the Director General, ICG was designated as Commander, Coastal Command and made responsible for overall coordination between Central and State agencies on all matters relating to security.

The new structure also envisaged setting up of Joint Operation Centres (JOC) at Mumbai, Visakhapatnam, Kochi and Port Blair under the charge of Naval Command. The JOCs would be managed and operated jointly by the IN and ICG with inputs from the concerned Central and State Government agencies.

[19] November 26 to 28, 2008

Besides, setting up of National Command, Control, Communication and Intelligent Network for real time maritime domain awareness linking operations rooms of the Navy and the Coast Guard, both at the field and the apex levels was envisaged to be established. The JOCs have since been established during 2009-2010.

Guidelines for coastal security - There were no clear directions and guidelines regarding coastal security operations *per se* for considerable part of time. The Border Management Group setup, in 2002 within in the Ministry of Home Affairs (MHA), on the recommendation of Group of Ministers (GOM) had requested Indian Coast Guard in August 2002 to prepare a comprehensive manual on coastal security for uniform and co-ordinated approach. Though the draft manual was submitted by Indian Coast Guard to MHA for approval in January 2003, there has been no further communication on the subject between ICG and MHA as of May 2010. Meanwhile, post 26 /11 directives, the Indian Coast Guard were directed to prepare a Standard Operating Procedure (SOP) in consultation with the Ministry of Home Affairs and State Governments and submit the same to the Ministry of Defence for approval. Final SOPs in respect of all the Coastal States have been promulgated between June 2010 and September 2010.

5.9 Legal constraints and lack of empowerment of ICG

5.9.1 Legal constraints

The Maritime Zones of India are governed under the Umbrella Act of Exclusive Economic Zone (EEZ), Other Maritime Zones Act 1976 (80 of 1976) and the Maritime Zones of India (Regulation of Fishing by Foreign Fishing Vessels) Act 1981. These Acts also stipulate the jurisdictional issues. While an amendment (issued in 1984) to MZI Act 1981 empowered ICG to enforce its provisions, the Ministry of External Affairs (MEA) remains the nodal ministry for the MZI Act, 1976. The Act contains provisions for taking action against vessels which are found engaged in unauthorised survey, data collection etc. Prosecution of offenders can be launched only after obtaining the approval of MEA. During XVII NAVGUARD[20] meeting in July 2005, it was decided that the ICG would take up the case with the government for enactment of suitable laws for empowering ICG and Indian Navy units to impound vessels involved in or capable of carrying out activities like unauthorised survey, data collection detrimental to national interest. ICG Headquarters forwarded a Statement of Case for amendment of Section 14 of MZI Act 1976 and promulgation of Gazette notification to the Ministry of Defence in September 2008. The ICG again forwarded the case to Ministry of

[20] NAVGUARD is the highest level of liaison between Indian Coast Guard and Indian Navy. NAVGUARD meetings are held once in a year jointly chaired by DG Coast Guard and Vice Chief of Naval Staff.

Defence (MOD) in January 2010 which was returned directing ICG to include an amendment to the Customs Act 1962 in the Statement of Case.

The above points to the legal limitations faced by the ICG in performing its mandate with regard to being able to take action to impound vessels, involved in carrying out activities like unauthorised survey, data collection detrimental to national interest

5.9.2 Lack of empowerment

Indian vessels fishing in territorial waters, i.e. up to 12 nautical miles (NM), are regulated by the coastal State Governments and the Union Territories. Foreign vessels operating within this limit come under the purview of the Maritime Zones of India Act 1981. However, deep sea fishing vessels operated by Indian individuals are taken beyond the 12 NM limit and are, thus, not regulated by either the State Government Acts[21] or the Maritime Zones of India Act 1981. The permissions are granted to deep sea fishing vessels in accordance with the Deep Sea Fisheries Policy Guidelines framed by the Government of India in 2004. Based on the Policy Guidelines, the Ministry of Agriculture (MOA) gives a Letter of Permission (LOP) for the lease of foreign vessels by Indian entrepreneurs with 75 *per cent* foreign crew and 25 *per cent* Indian crew for a period of five years. In the case of any default, MOA guidelines do not prescribe any penalty on these vessels.

A fishing trawler at sea

[21] State Marine Fisheries Regulatory Acts

ICG implements the salient provisions of the LOP guidelines and any violation of the guidelines are brought to the notice of the Department of Animal Husbandry, Dairying and Fisheries, MOA.

Law Enforcement

However, as of now there are no laws for regulating Indian deep sea fishing vessels in the Indian EEZ beyond territorial waters. In the absence of necessary Regulations, Indian Coast Guard is not in a position to monitor the activities of Deep Sea fishing vessels. A draft bill regulating fishing by all vessels under Maritime Fisheries (Regulation and Management) Act has also been proposed by the ICG in 2009.

The draft Marine Fisheries (Regulation & Management) Act 2009 was, in June 2009, forwarded by MOA to CGHQ. The draft Act, however, had certain deficiencies which CGHQ intimated, in July 2009, to the Ministry of Defence. The MOA, in February 2010, held a meeting with all concerned Chief Secretaries regarding the draft. The issue is pending with Department of Animal Husbandry, Dairying and Fisheries, MOA since then.

5.10 Identification and tracking of ships

5.10.1 Identification of ships

The International Ship and Port Security Code (ISPS)[22] code came into force internationally with effect from 1st July 2004. Internationally, for example, in the United States, UK and Japan, the control and compliance measures of ISPS are under their Coast Guards. However, in India, Ministry of Shipping nominated Director General of Shipping [DG (S)], to implement the new requirements as provided in the ISPS Code. Accordingly, DG (S) issued a circular in Nov 2005 advising all ships to provide 'Pre-Arrival Notification of Security' (PANS) to respective port authorities at least twenty four hours prior to arrival of ship.

Though maritime security is a vital concern for Coast Guard and it is the most suited to deal with the issue, till February 2009, it was kept out of the ambit of ISPS compliance, as DG Shipping rather belatedly in February 2009 (after 26/11 Mumbai attacks) instructed Ship masters, ship owners, managers and operators to submit PANS to Indian Coast Guard. Audit also noticed that as on March 2010, many ports are still not ISPS compliant. As regards submission of PANS to ICG by ships arriving in Indian waters, it was seen that even as on date (May 2010) all ships entering Indian ports are not providing reports to ICG. Further, ICG stated that any omission by ships can not be ascertained. Audit also noticed that there are no penal provisions for non compliance by ships. DG(S) informed in March 2010 that instructions for mandatory reporting of PANS to ICG were in the process of being notified in the Gazette of India. However, the penal provisions have not been notified in the gazette of May 2011.

5.10.2 Tracking of ships

AIS (Automatic Identification System) is a maritime navigation safety communications system standardised by the International Telecommunication Union (ITU) and adopted by the International Maritime Organisation (IMO) that provides vessel information, including the vessels' identity, type, position, course, speed, navigational status and other safety-related information automatically to appropriately equipped shore station, other ships, and aircrafts. After the DG (S) issued circulars in 2009 that vessels between 100 and 300 Gross Tonnage operating within the coastal waters of India and all Indian fishing vessels operating in Indian EEZ and above 20 metres in length be fitted with on-board AIS of an approved type, ICG was entrusted with the enforcement of compliance of this requirement in case of deep sea fishing vessels operating under the LOP scheme. In the case of other fishing vessels, which are more than 20 meters in length, the regulatory roles were to

[22] The **International Ship and Port Facility Security** (**ISPS**) **Code** is an amendment to the **Safety of Life at Sea (SOLAS) Convention (1974/1988)** on minimum security arrangements for **ships, ports** and **government** agencies. Having come into force in **2004,** it prescribes responsibilities to governments, shipping companies, shipboard personnel, and port/facility personnel to "detect security threats and take preventative measures against security incidents affecting ships or port facilities used in international trade.

be enforced by the State Fisheries Department and other concerned authorities. This requirement was to be complied within a period of three months from the date of issue of the circular and, in case of non compliance the vessels were liable to be detained for investigation purpose.

It was observed in audit that 53 vessels having LOPs are operating in Indian EEZ and all these vessels are fitted with AIS equipment, whereas, only 86 *per cent* of Fishing Vessels of 20m or more in length have been fitted with the AIS till March 2011, despite repeated circulars being issued by DG (S). Further, DG(S) has not notified penal provisions (May 2011) in case of non compliance.

5.11 Registration of fishing vessels

The unorganised fishing sector deploys a total of around three lakh vessels. Registration of different types of boats, including small fishing boats and dhows, etc. is mandatory under Merchant Shipping Act 1958 as well as under various existing State/UT Marine Fisheries Acts and the ICG only advises State Governments regarding the mechanism for identifying fishing boats, landing centres, etc.

While, it is not feasible to check each and every fishing boat especially during dark hours, rough sea and, extreme weather due to vastness of the sea and the limited capabilities of the sensors fitted with the ship/aircraft ICG on patrol, Audit observed that there is no uniform system of registration and control as well. Further, these ships have no regulatory / tracking system for monitoring their movements. Coast Guard in its reply stated (November 2010) that it was in the process of developing software to create/develop a database of licensed fishermen, registered Indian fishing boats, colour code and license for fishing in any stipulated area.

5.12 Crossing of IMBL by Indian fishermen

Often, Indian fishermen transgress into foreign waters lured by a better fish catch and are escorted back by the ICG in order to avoid their apprehension by the authorities of neighbouring countries. In this connection, ICG ships, while on patrol, have on many occasions reported that Indian fishing boats are operating across the Indo-Pak International Maritime Boundary Line (IMBL) on Gujarat Sea board. These fishing boats were easy prey for hijacking by foreign elements for subversive and terrorist activities in Indian waters. Further, ICG ships had observed that such vessels many times did not display registration numbers, name and other details of their fishing boats prominently in the place as specified in the Fishing Act. However, the ICG is not empowered to take penal action against such vessels and the MOD, in April 2008, had written to the Ministry of Agriculture (MOA) to take up the matter

with the Government of Gujarat and other coastal state governments for taking suitable deterrent action to prevent Indian fishermen from crossing the IMBL.

Recommendations

- *There is an immediate need to remove constraints in terms of infrastructure, own vessels and equipments that are limiting ICG effectiveness in patrolling.*
- *Planned coastal security measures such as coastal security operations, as approved by the Government, should not be allowed to be diluted. An institutionalised system needs to be put in place within the Ministry of Defence to monitor periodically, the efficacy and continuity of, coastal security measures.*
- *There is an immediate need for ICG to evolve norms for patrolling in maritime/ coastal zones, based on available resources. The norms so evolved should be adhered to strictly. Annual/ periodic achievements against the norms should be reported to the Ministry of Defence. Such norms should be periodically reviewed.*
- *Government should address the concerns impacting coastal security viz. need to remove legal constraints faced by ICG, the required empowerment of ICG, penal provisions for non-compliance to Pre Arrival Notification of Security(PANS) and Automatic Identification System(AIS), crossing of IMBL by Indian fishermen, in a time bound manner.*

CHAPTER 6

Other Operational Roles

ICG is also, *inter alia,* responsible for maritime search and rescue, assistance in salvage, marine pollution control, protection/conservation of living and non-living resources in the EEZ and Continental Shelf.

Audit noted that the Indian Coast Guard does not maintain a complete and comprehensive database of its operations. In all the SAR, pollution control, anti-poaching operations etc., ICG could not furnish information about the number of cases where the missions were not successful or could not be carried out due to inadequacy of resources or other constraints. Audit noticed that figures submitted by RHQs and the ICGHQ in respect of above operations did not tally in many cases. It was also found that LOPs submitted by the ships are not complete, and there is no communication from the RHQ/ICGHQ to the ships about this deficiency.

6.1 Search and Rescue – Poor Management Information System

A comparison of achievements of the Indian Coast Guard since 2003-2008, furnished by CGHQs relating to search and rescue operations was compared with the same data furnished by the Regional Headquarters. It was found that CGHQ has furnished inflated figures as indicated in the table.

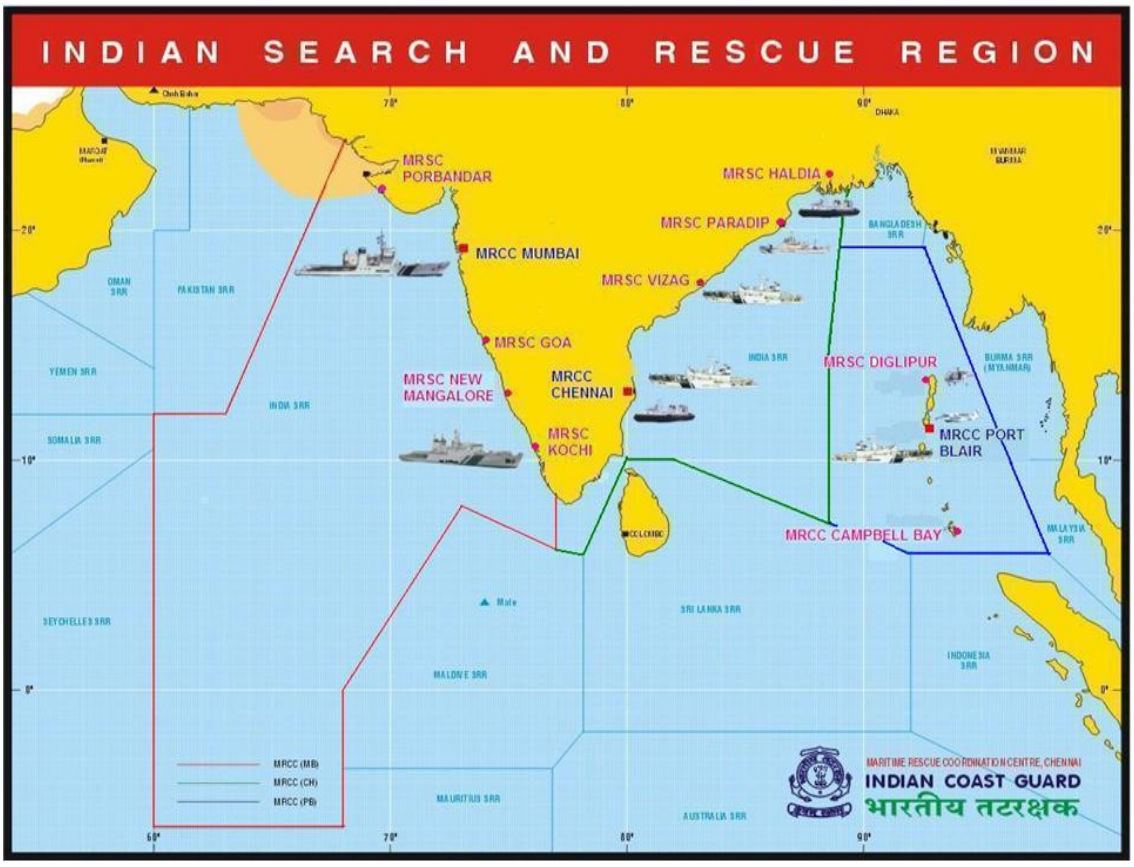
23 Discrepancies in figures for SAR missions

Achievements	CGHQ figures	Combined figures of 3 Regional Headquarters
No. of boats/crew apprehended during Anti smuggling operation	19 vessels, 86 crew (Nil during 2005 and 2007)	-
No. of foreign fishing vessels/crew apprehended	204 vessels 1489 crew	110 vessels 778 crew
Pollution response operation in India/foreign	15	27
No. of SAR missions/sorties Life saved including Medical Evacuation cases.	433 1135 2926 + 67	844 - 2187 + 69

Rescue at Sea

In reply, Coast Guard Headquarters stated, in July 2009, that figures given by them may be taken as correct. However, the reasons for discrepancy in the data were not furnished. Since the Headquarters figures should be based on the data given by Regional Headquarters, it can not be regarded as inaccurate.

ICG Chetak carrying out a rescue operation



Source: Indian Coast Guard

Further, ICGHQ has not fixed any parameters for assessing the performance of the ICG in respect of its charter of duties. Indian Coast Guard stated that it is an Armed Force of the Union, therefore it neither functions as a profit-oriented nor achievement-oriented service. Hence, no targets have been fixed for such function or charter of duties.

In audit opinion, targets, if fixed for successful operations as a certain percentage of total operations, would help in assessing the effectiveness and efficiency of the organisation. Internationally, US Coast Guard sets a success rate of 85 *per cent* as annual target in SAR operations. In the absence of this information, audit could not ascertain the effectiveness and efficiency of the operations.

6.2 Environment protection

As per the Coast Guard Act 1978, it is the duty of the Indian Coast Guard to take such measures as are necessary to preserve and protect the maritime environment and to prevent and control marine pollution. A large number of vessels are sent to Alang, Gujarat, Mumbai and Kolkata for ship-breaking. In Alang, the main destination, about 300-350 vessels are imported every year with the total quantity of scrap being approximately 3 to 3.5 million tons. A considerable risk is associated with such vessels due to carriage of toxic substances on-board and jettisoning of such substances in Indian waters prior to arrival. The vessels proceeding for ship breaking yards notify the Director General (DG) Shipping under the Government of India and are cleared by DG Shipping and other concerned authorities.

Ship Breaking at Alang

Audit, however, noted that no legislation exists for mandatory reporting by ports or ships to ICG regarding ships proceeding to ship-breaking yards so that the ICG can take necessary preventive measures to avoid environmental pollution. ICG pointed out that it was imperative to know the arrival details of all vessels so that ICG could investigate such vessels. DG Shipping, on its part, stated that the requirement of providing pre-arrival information (PANS) to ICG extends to all ships arriving at ISPS[1] compliant port facility. However, Alang is not an ISPS compliant port although DG Shipping has already initiated the process of implementing the provisions of ISPS at Alang. Once Alang becomes an ISPS compliant port, the requirement of PANS would follow.

Thus, ICG is unable at present to prevent marine pollution by pre-empting possible dumping of toxic substances in the absence of specific information about arrival of ships to breaking yards.

6.3 Pollution control

Protection of marine environment is a statutory duty of the Indian Coast Guard. ICG has established three pollution response centres at Mumbai, Chennai and Port Blair and also at an environmentally sensitive location at Vadinar for dedicated pollution response activities to counter pollution from oil spills, chemical and other hazardous substances. These centres also train ICG personnel in pollution response. These centres are equipped with pollution response equipment and staffed with trained personnel.

Pollution Response Readiness

[1] International Ship and Port Security Code (ISPS) is a comprehensive set of measures to enhance the security of ship and port facilities developed by the International Maritime Organisation, in response to the perceived threats to ships and port facilities in the wake of 9/11 attacks in the United States.

The Coast Guard's pollution control activities have been hampered by the absence of dedicated boats for the purpose. The ICG has, since 1997, initiated the procurement process for three Pollution Control Vessels (PCVs). Though DAC gave approval in June 2000, regulatory violations in the acquisition procedure and other lapses (framing technical requirements during technical evaluation of bids rather than indicating them in the RFP, acceptance of an engine other than the initially preferred choice, adoption of different criteria for evaluation of FE component in the bids, the past performance of the vendor not taken into account) by Ministry of Defence, led to delay in the finalisaton of the contract, which was signed in March 2004. Poor selection of vendor[2] and other issues have contributed to delay in delivery of the vessels and even the first vessel, though scheduled for commissioning in September 2006, was delivered only in October 2010. Remaining two dedicated pollution control vessels had not been delivered by December 2010.

Recommendations

- *ICG should put in place a reliable Management Information System covering a full data base of ICG operations including SAR for better internal control and improving reliability of ICG data. The data base should also include data where operations were not successful or undertaken.*
- *Preventing marine pollution is an important ICG function. There is a need to equip ICG with requisite vessels in discharge of its statutory duties.*

[2] This issue was commented upon in Para 5.1 of the C&AG's Audit Report for the year ended March 2007.

CHAPTER 7

Conclusions

7.1 Conclusions

The Indian Coast Guard has now been in existence for over three decades as the fourth Armed Force of the nation. Its role and responsibilities have, however, been slightly different from those of the Army, Navy or Air Force as the ICG is required to play a proactive role (for coastal security) as well as an active role (for search and rescue missions and pollution, etc.). This performance audit has brought to the fore critical issues which have been persisting for decades and need to be addressed urgently if the ICG is to become a more efficient and operationally ready force.

Despite the fact that the ICG has been preparing long-term (15 years) and medium-term (five years) plans, the audit noticed that long term plans did not receive approval of Ministry of Defence. The five year ICG development plans were poorly formulated with little regard for practicality and funding and were poorly implemented. Resultantly, plan targets and achievements have been less than optimal. For instance, during the period under review (IX^{th} and X^{th} Plan), the ICG could not achieve even 50 *per cent* of its targets despite funds being available.

The Indian Coast Guard operates through a network of stations and aviation units established along the coastline of India. By 2010, the ICG has managed to activate only 30 out of the 42 planned stations. Many of these stations have been suffering from shortages in terms of fleet and officers. Delays in Indian Coast Guard acquisition of vessels, aircrafts and equipments have worsened the situation. As a result, the majority of ICG's ships are either life-expired or are on life extensions. The low availability and poor serviceability of ships have been aggravated by delayed refits and maintenance routines. All in all, these stations and vessels cannot be said to be in an optimal state of preparedness. Aviation units also suffer from their corresponding problems.

In an era of heightened coastal security concerns, thus, ICG remains ill equipped to discharge its enhanced role and meet the challenges of today. Further, given the legal limitations that the ICG works under in terms of enforcement of statutory acts and operational restrictions like the absence of identification and tracking systems for vessels, ICG activities for coastal security remain largely reactive. Post 26/11, response of ICG and Government has been *ad hoc* as witnessed by increased patrolling, increased onboard operations (Indian Coast Guard) and increased funding, fast tracking procurements (Government). A flurry of coastal security measures has also been taken. In the interest of security, these initiatives need to be sustained in a well managed, result oriented manner for empowering ICG in terms of force levels and statutory powers. There is an imperative need for greater coordination and cohesion between Indian Navy and the ICG. This has to be institutionalised by the Government. Further, Government needs to urgently put in place an effective mechanism for coordination between different Ministries, Departments, States who have a stake and role in the security of the national interests of India in Maritime Zones of India and the security of Indian coasts from the threat of maritime terrorism, illegal arms trafficking and illegal inflow of both migrants and refugees from the neighbourhood.

New Delhi
Dated:

(GAUTAM GUHA)
Director General of Audit
Defence Services

Countersigned

New Delhi
Dated:

(VINOD RAI)
Comptroller and Auditor General of India

Delayed conclusion of contract for Interceptor Boats

An Interceptor Boat (IB) is a smaller size vessel used to carry out day night coastal patrol and surveillance including high speed interception in anti-terrorist / anti-smuggling / light intensity combat operations scenarios. The Indian Coast Guard has 19 IBs as of December 2010 against the projected requirement of 30 IBs in the Perspective Plan of 1985-2000. To meet these shortages, in December 2001, the Indian Coast Guard initiated a proposal for acquisition of seven IBs. This was followed six months later (July 2002) by another proposal for acquisition of two more IBs. Protracted deliberations led to the competent authority (Raksha Mantri) giving its Approval from the Necessity angle for only the seven IBs after more than a year in February 2003. The second proposal for two IBs was accorded the AON by the competent authority (Defence Secretary) in May 2003. At this stage, it was also decided to club both the proposals.

There was considerable indecision on whether the above acquisition should be on single tender basis or a more broad-based open tender. Initially, it was decided to opt for a single vendor with the order to be placed on a public sector shipyard, i.e. Goa Shipyard Limited (GSL) as they were supposed to have requisite experience but, subsequently, it was found that GSL had never constructed this kind of boat. Incidentally, this was known to the Ministry of Defence as previous two IBs, ordered in 1999, were constructed by M/s ABG, Shipyard Surat. Hence, a more competitive process was adopted. The procurement process was progressed further with the issue of a Request for Proposal (RFP) to 13 shipyards, six months later in December 2003 for nine IBs. This was followed by the vetting of the techno-commercial offers and technical evaluation of the bids of eight shipyards who responded.

However, even while the TEC report for acquisition of nine IBs along with CNC composition was being approved by the Additional Secretary (Acquisition) in November 2004, the AON for two more IBs was given by Defence Secretary in October 2004. In January 2005, RM approved the proposal of clubbing the acquisition of these two IBs with the earlier proposal for nine IBs. Thereafter, revised commercial offers had to be invited from the shipyards which were found technically qualified in response to the RFP issued for nine IBs. Accordingly, the revised commercial quotations from the shipyards were received in February 2005. Thus, indecision about the exact requirement of IBs led to initiation of three separate proposals being mooted piece-meal. Each proposal took its own time from initiation at CGHQ to its finalisation at Ministry of Defence.

Finally, M/s ABG emerged as the lowest bidder out of the three shipyards, namely Mazgon Dock Limited, Hindustan Shipyard Limited and ABG, who were technically qualified for commercial negotiations. However, at this point,

ABG informed ICG about a change in the engine offered at the time of final negotiation. This development also resulted in delay of another one year as the other two vendors had to be given opportunity to come with proposals with changed engines. Ultimately in March 2006, Government accorded sanction for acquisition of 11 IBs from M/s ABG Shipyard, Surat at a cost of ₹ 212.96 crore (including cost of OBS and B&D spares). The contract was concluded on 30 March 2006 with deliveries between September 2007 and March 2010.

Even though the Defence Procurement Procedure 2006 was not in force at the time of this procurement, a broad framework is given in this document for the time to be taken at each stage of acquisition. A rough comparison of the time taken in this case with these time-lines would highlight the problems in this acquisition.

Comparison of time taken in acquisition of Interceptor Boats with broad time frame for procurement activities (DPP 2006)

Sl. No.	Activity	TIME TO BE TAKEN		TIME ACTUALLY TAKEN	
		Time (months)	Cumulative Time (months)	Time (months)	Cumulative Time (months)
1.	Acceptance of Necessity (AoN)	1	1	15	15
2.	Request for Proposals (RFP) (a) Simultaneous vetting by Acquisition Manager, Finance Manager and Technical Manager. (b) Approval of RFP by DG (Acq) (c) Receipt of responses	½ ½ 3	1 ½ 2 5	15	30
3.	Technical Evaluation Committee (TEC) (a) Evaluation of proposals and preparation of TEC report (b) Vetting of report by Technical Manager and acceptance by	3 1	8 9	6	36

	DG(Acq)				
4.	**Commercial Negotiation Committee (CNC)** **(a) Opening of bids and determination of L1** **(b) CNC Negotiations** **(c) Finalisation of CNC report** **(d) Approval of CFA-MoD/MoF/CCS** **(e) Contract Signing**	1 - ½ 1-4 ½	10 10 10/ ½ 14 ½ 15	16	52
	TOTAL TIME		**15[1] MONTHS**		**52**

[1] Excluding field trials, staff evaluation and TOC as not required in this case

Annexe 2

Statement showing squadrons/flights with aircraft in variance of Government approved UE

Unit	Type of Aircraft	Government approved UE	Year wise DG ICG approved UE				
			05-06	06-07	07-08	08-09	09-10
744 Sqn	Dornier	6	4	4	4	4	3
745 Sqn	Dornier	3	2	2	2	2	2
747 Sqn	Dornier	Nil	2	2	2	2	2
750 Sqn	Dornier	3	6	5	5	5	3
800 Sqn	Chetak	3	2	2	2	2	2
841 Sqn	Chetak	3	2	2	2	2	2
842 Sqn	Chetak	3	2	2	2	2	2
848 Sqn	Chetak	3	3	2	2	2	2
PB CTK Flt	Chetak	Nil	1	1	1	1	1
Veera/Kochi Flt	Chetak	Nil	1	1	1	1	1
ICG EFU/850 Sqn	ALH	2	2	2	2	Nil	2
Vajra Flt	Chetak	Nil	1	1	1	1	Nil
PBR Dornier	Dornier	Nil	Nil	Nil	Nil	Nil	1

Annexe 3

Refit cycle of AOPVs/OPVs and FPVs/IPVs/SDBs

The refit cycle of AOPVs/OPVs and FPVs/IPVs/SDBs is indicated below:

(i)	*AOPV/OPV:*	*3(SR) 62x 3 = 186 weeks*	*1(NR) 41/2 years 235+17=252 weeks*	*3(SR) 62X3 =186 weeks*	*1(MR) 9 years 468+32 = 500 weeks*
(ii)	*FPV/IPV/SDB:*	*2(SR) 55x2 = 110 weeks*	*1(NR) 40 months + 2M = 174+9 = 183 weeks*	*2(SR) 55x2 =110 weeks*	*1(MR) 9 years =355+18 =373 weeks*

(a) Short Refits (SR):

Under water shell plates are visually inspected. Underwater structures graded critical during the preceding refit are ultrasonically examined and repaired/renewed as necessary. Any specific defects noticed on the Hull plating are also rectified. The thickness of the Self Polishing Paint coatings and the Cathodic Protection System is also checked and recoated/renewed as necessary.

(b) Normal Refits (NR):

Ultrasonic Survey is conducted for fifty *per cent* of the underwater hull. The remaining fifty *per cent* under water hull is visually examined. If ultrasonic survey is not conducted due to lack of facility or equipment, drill test survey is conducted after obtaining CGHQ approval. Specific defects are then rectified. The thickness of Self Polishing paint coat is checked and recoated as necessary. Upper decks are abrasive blasted and repainted. The Cathodic Protection System is checked and renewed as necessary.

(c) Medium Refits (MR):

Ultrasonic Survey is conducted for the full underwater hull. Survey report is verified by qualified constructor officer from Navy or a Classification Society surveyor. The remaining structural members are also visually surveyed. Structures for which the percentage reduction in scantling exceeds following values are renewed:

(i) 40 *per cent* and over for minor partitions, superstructure and intermediate decks (non-strength decks).

(ii) 25 *per cent* and above for shall plates, strength deck plates, main bulk heads, machinery and main engine bearers and tank tops.

(iii) 30 *per cent* and above for internal structural like frames, longitudinal, beam frames and girders.

Upper decks and underwater hull is abrasive blasted and fresh paint applied. Cathodic Protection System is checked and repaired/renewed as required. Shafts are withdrawn for trueness and fitted back after retrieving all bearing clearances to the commissioning readings or as per limit laid down in BR 3000. The complete shaft is realigned.

Abbreviations

A

ACV	Air Cushion Vehicle (Hovercraft)
AFT	Annual Flying Task
AIS	Automatic Identification System
ALH	Advanced Light Helicopter
ALHW	Andaman & Lakshadweep Harbour Works
AOPV	Advanced Offshore Patrol Vessel

B

BIFU	Bharat Interface Unit

C

CASEVAC	Casualty Evacuation
CCD	Charge – Coupled Device
CCS	Cabinet Committee on Security
CG	Coast Guard
CGAB	Coast Guard Advisory Board
CGAE	Coast Guard Air Enclave
CGAS	Coast Guard Air Station
CGBR	Coast Guard Book of Regulations
CGHQ	Coast Guard Headquarters
CGRPS	Coast Guard Refit & Production Superintendent
CGRPT	Coast Guard Refit & Production Team
CGS	Coast Guard Station
CGTC	Coast Guard Training Centre
Ch	Chetak (Helicopter)

COMCG	Commander Coast Guard
COMDIS	District Commander
CRN	Close Range Naval

D

DAC	Defence Acquisition Council
DADF	Department of Animal Husbandry, Dairying and Fisheries
DG(S)	Director General of Shipping
DGICG	Director General Indian Coast Guard
DGLL	Director General Light Houses and Light Ships
DHQ	District Headquarters
Dor	Dornier (Aircraft)
DPM	Defence Procurement Manual
DPP	Defence Procurement Procedure
DPSU	Defence Public Sector Undertaking
DSPV	Deep Sea Patrol Vessel

E

EEZ	Exclusive Economic Zone
ELTA	A firm name
EOFCS	Electronically Operated Fire Control System
EO	Electro Optic
EP	Enrolled Personnel
EPIRB	Emergency Position Indicating Radio Beacons

F

FE	Foreign Exchange
FLIR	Forward Looking Infra Radar
FPV	Fast Patrol Vessel

G

GoM	Group of Ministers
GPI	Glide Path Indicator
GPS	Global Positioning System
GSHRB	Gyro Stabilised Horizontal Role Bar

H

HAL	Hindustan Aeronautics Limited
HAT	Harbour Acceptance Trials
HMG	Heavy Machine Gun
HQANC	Headquarters Andaman & Nicobar Command

I

IB	Interceptor Boat
IBL	International Boundary Line
IC	Interceptor Craft
ICG	Indian Coast Guard
ICGDP	Indian Coast Guard Development Plans
ICGHQ	Indian Coast Guard Headquarters
ICGPP	Indian Coast Guard Perspective Plans
ICGS	Indian Coast Guard Ship
IFF	Identification of Friend/Foe
IHQ	Integrated Headquarters
IMBL	International Maritime Boundary Line
IMO	International Maritime Organisation
IN	Indian Navy
INDSAR	Indian(Maritime) Search & Rescue
INS	Indian Naval Ship

IPV	Inshore Patrol Vessel
ISPS	International Ship and Port Security Code
ITU	International Telecommunication Union

J

JCP	Joint Coastal Patrolling
JOC	Joint Operation Centres

K

KM	Kilo Meter

L

LMG	Light Machine Gun
LOP	Letter of Proceedings
LOP	Letter of Permission

M

MDA	Maritime Domain Awareness
MEA	Ministry of External Affairs
MHA	Ministry of Home Affairs
MOA	Ministry of Agriculture
MOD	Ministry of Defence
MOF	Ministry of Finance
MPV	Medium Patrol Vessel
MR	Medium Refit
MRSA	Maritime Reconnaissance and Surveillance Aircraft
MSA	Maritime Security Advisor
MSAB	Maritime Security Advisory Board
MZI	Maritime Zones of India

N

NAVGUARD	Navy & Coast Guard
NM	Nautical Mile
NR	Normal Refit

O

OEM	Original Equipment Manufacturer
OPV	Offshore Patrol Vessel

P

PANS	Pre Arrival Notification of Security
PCV	Pollution Control Vessel
PSU	Public Sector Undertaking

Q

R

RFP	Request for Proposal
RHQ	Regional Headquarters
RIB	Rigid Inflatable Boat

S

SAR	Search and Rescue
SART	Search and Rescue Transponder
SAT	Sea Acceptance Trials
SDB	Seaward Defence Boat
SOC	Statement of Case
SOLAS	Safety of Life at Sea
SOP	Stabilised Optronic Pedestal
SOS	Ship Operating Standards
SR	Short Refit

SRGM	Super Rapid Gun Mount
SRR	Search and Rescue Region

T

U

UE	Unit Establishment
UK	United Kingdom
UNCLOS	United Nations Convention on Law of the Seas
USA	United States of America
UT	Union Territories

V

VHF	Very High Frequency
VRU	Vertical Reference Unit

W

X

XBT	Expandable Bath Thermograph

Y

Z