



सत्यमेव जयते

Report of the
Comptroller and Auditor General
of India

for the year ended March 1997

Union Government (Defence Services)
Air Force and Navy
No.8 of 1998

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PREFATORY REMARKS

1. This Report for the year ended 31 March 1997 has been prepared for submission to the President under Article 151 of the constitution. It relates mainly to matters arising from test audit of the financial transactions of Ministry of Defence, Air Force, Navy, Coast Guard and associated Defence Research and Development Organisation. Result of audit of Ministry of Defence, in so far as they relate to Army and Ordnance Factories, Army HQ, Ordnance Factory Board, field units of Army, Ordnance factories, associated research and development units and Military Engineer Service have been included in Report No.7 of 1998.

2. The Report includes 30 paragraphs and 4 reviews on (i) Aircraft accidents in IAF (ii) Air transport facilities for VVIPs and OEPs (iii) Induction and utilisation of MI-26 helicopters (iv) Construction of Frigates.

The Draft Paragraphs were forwarded to the Secretary, Ministry of Defence for furnishing the reply/comments of the Ministry within six weeks. However, as brought out in paragraph 5, replies to 12 draft paragraphs and 3 reviews have not been received as of January 1998.

3. The cases mentioned in the Report are among those which came to notice in the course of audit during the year 1996-97 and early part of 1997-98 as well as those which came to notice during earlier years, but could not be included in the previous Reports.

OVERVIEW

The total expenditure of Air Force and Navy including capital expenditure, during 1996-97 was Rs 7696 crore and Rs 4015 crore respectively, which together represents 38.34 *per cent* of the total expenditure of Rs 30545 crore on Defence Services. Some of the major findings of audit of accounts of Air Force, Navy, Coast Guard and associated Research and Development Organisations included in the Report are mentioned below:

Performance Reviews

I Air transport facilities for VVIPs and OEPs

- The VIP squadron set up mainly to provide air transport to the President, Vice President, Prime Minister and Heads of foreign Government is over-provided with too many aircraft. The VVIPs for whose use the squadron is set up, utilised the fleet of Boeings for only 29 *per cent* of the total utilisation and Avros were utilised by them for only 18.66 *per cent*.
- Other entitled personage viz. Defence Minister, other Ministers, Chiefs of Staff etc. are to make use of commercial air service, whenever possible, which implies that they are to use the special flights only when it is not possible to use the commercial flights. They used Boeing aircraft for 2361 flight hours and Avros for 4253 flight hours during the period of review. The inescapability of use of special flights by them in place of commercial air service was not established in the documents in any case.
- The strength of the VIP squadron consisting of three Boeings, seven Avros and six MI-8 helicopters would appear to be in excess of requirements as is evident from the low average utilisation per Boeing at only 50 flight hours per month, 27 flight hours per Avro per month and 21 flight hours per helicopter per month. Even out of this, the VVIPs on an average used each Boeing and Avros for merely 15 hours and five hours in a month.
- The system of requisition and utilisation of special flight by other entitled personage did not provide scope for transparent justification of inescapability of utilisation of special flights in compliance to Government orders. The Air HQ cannot be expected to satisfy itself about inescapability of special flights by them, especially when the requisitions are for Raksha Mantri, Raksha Rajya/ Up Mantri, Defence Secretary and Chiefs of the three Services.
- The pattern of utilisation of special flights was suggestive of low consideration for economy in use of special flights by other entitled personage. Not only special flights were used to places well connected by commercial air service without establishing the inescapability, Boeings were used with low payload of less than or equal to five and less than or equal to 10

passengers on 169 and 436 occasions, where in most cases Avros could have been utilised for economy. Similarly in 748 of 1814 Avro sorties the number of passengers were only one to five. Besides, empty flights were undertaken /flown in 31 to 82 *per cent* cases. Helicopters were flown empty to far off places from New Delhi to provide air transport to other entitled personage.

- The system did not provide for prompt recovery of charges for unofficial use from accompanying non- official persons. Rs 14.70 crore was outstanding for recovery against three ex-Prime Ministers. No recoveries were effected from 608 personages who travelled with VVIPs, 1022 non-official persons who travelled with Raksha Mantri and 359 who travelled with Raksha Rajya Mantri.
- Raksha Mantri used special flights during 1992-93 on 88 of the total 132 special flights occasions to Mumbai and Pune and on 136 out of 216 occasions during 1996-97 to Lucknow. Both the places are well connected by commercial air service.

(Paragraph 2)

II Aircraft accidents in IAF

- The IAF lost 147 aircraft and 63 pilots in 187 accidents during 1991-97. During the same period there were 2729 incidents , many of which could have caused accidents.
- While the average number of accidents for all types of aircraft per 10000 flying hours has come down from 1.52 in 1991-92 to 0.89 in 1996-97, the accident rate for fighter stream, though down from 3.53 in 1991-92 , continues to be high at 1.89 per 10000 flying hours.
- MIG-21 variants have the highest rate of accidents at 2.55 per 10000 flying hours, though it is down from 3.99 during 1991-92.
- The courts of inquiry categorised 67 *per cent* accidents to technical defects during 1996-97, which was up from only 28.21 *per cent* in 1991-92. IAF attributed most of technical defect accidents to manufacturing/overhauling by HAL.
- 77 out of 187 accidents were attributed to human error. Human error accidents can be a direct fall out of compromise in training due to non availability of Advance Jet Trainer aircraft which exposes the young pilot to operational environment without transition training of jet trainers, doubtful reliability of existing trainer aircraft consisting of HPT-32, Kiran and Iskra, non availability of synthetic training aid (simulators) etc.
- Many accidents and incidents were due to bird hits. But the measures to control the chances of bird hit, which requires involvement of other ministries were languishing.

(Paragraph 7)

III Construction of Frigates

- The pace of construction of frigates for Indian Navy has been tardy. Cabinet decided way back in 1964 the force level of the frigates as 28. The Indian Navy is no where near that figure 34 years after the decision by the cabinet.
- CCPA sanctioned construction of nine frigates in 1977 and 1986 at Mazagaon Docks Limited (MDL) and Garden Reach ship builders and Engineers Limited (GRSE). Only one has been commissioned in November 1997. Five are under different stages of construction. The construction of the remaining three has not been taken up at all by MDL.
- The open-ended cost and time frame, besides resulting in delay has also resulted in many fold increases in their cost. The first frigate commissioned in November 1997 costs Rs 697 crore against approved cost of Rs 294 crore. Overall MDL has already spent Rs 1741 crore on three Frigates (one commissioned and two under construction) against the approved cost of Rs 882 crore, GRSE has spent Rs 922 crore against Rs 360 crore for the three frigates under construction.
- The Ministry has been providing the budget and releasing the payments much beyond the estimates approved by the CCPA. The expenditure in excess of the authorised amount requires approval of CCPA.
- The overall accountability/responsibility for planning, designing, monitoring etc. of the project is not well defined.

(Paragraph 22)

IV Induction and utilisation of MI-26 helicopters

- IAF imported four MI-26 helicopters during 1986 and 1989 at Rs 81.52 crore for airlift requirement of Army at high altitude in Northern and Eastern sectors. However, while the utilisation of the helicopters has been low, their reliability in time of need is doubtful due to their low serviceability. Two of them were grounded for 26 and 38 months due to unserviceability. The serviceability rate in 1996 had plummeted to 40 per cent against 62 per cent in 1993.

(Paragraph 8)

V Procurement of laser guidance kits

- Laser guidance kits are used to convert an ordinary weapon into a laser-guided weapon. Ministry concluded a contract with a foreign firm in March 1994 for import of 315 kits at US \$ 6.29 million subject to the condition that the firm obtained unconditional export licence

for use of kits on all aircraft irrespective of their origin. Despite inability of the foreign firm to obtain unconditional export licence, Ministry imported 315 kits in 1997 with restriction on their use on aircraft of western origin only. The restriction on their use will severely curtail their deployment on a small number of combat aircraft of western origin only.

(Paragraph 9)

VI Import of an incorrect interchangeable item

- Air HQ imported an item of equipment used in repair and overhaul of helicopters costing Rs 5.11 crore without verifying the manufacturers claim of inter-changeability of this item with washers and nuts actually required by the Base Repair Depot entrusted with repair and overhaul of the helicopters. They failed to exercise their own judgement in view of the quoted price of Rs 96000 presumably in place of the price of Rs 153 and Rs 122 for the washers and nuts. Moreover the Air HQ made payment of Rs 4.15 crore for supply of 569 units supplied against their orders for 200 only. The Base Repair Depot was holding 669 units of the equipment valued at Rs 5.11 crore, out of which Rs 4.15 crore have already been paid to the foreign manufacturer for 569 units.

(Paragraph 13)

VII Delay in setting up of repair facilities

- IAF imported a medium size tactical transport aircraft during 1984-1991. The Ministry did not ensure that the repair/overhaul facility is set up by the time the first batch becomes due for overhaul. The progress of approval of the project for setting up the repair facilities and actual execution has been tardy. While the first overhauls were due in 1990, the repair facilities are likely to be completed by 2000 as of now. In between the Ministry had to extend the time before overhaul with help of the manufacturers and get the aircraft overhauled abroad at expenditure of Rs 3.20 crore and Rs 69.56 crore respectively. The repair of aero-engines at the Base Repair Depot was also lower than the designed target necessitating repair of large number at the manufacturers at Rs 26.11 crore. By the time the repair facilities are set up, 75 per cent of even the extended life of most of the aircraft would be over.

(Paragraph 3)

VIII Delay in decision leading to extra expenditure

- Despite knowledge of limited period of validity of negotiated offer for cost of overhauling of IL-76 transport aircraft, the Ministry delayed communication of their approval, which led to an extra expenditure of Rs22 lakh on overhaul of two aircraft during 1996-97.

(Paragraph 4)

IX Failure to conclude contract within validity period

- Ministry took more than two months to communicate approval to the Indian Mission in the country of manufacture for import of spares for repair of 37 missiles which were due for refurbishing. The validity of the offer of the manufacturers expired in the meantime. The foreign supplier jacked up the price from Rs 7.73 crore to Rs 14 crore. The ministry had to abandon the idea of getting them refurbished by the manufacturers. Subsequently, the IAF made 21 of them serviceable by cannibalising the others.

(Paragraph 10)

X Clearance of defective material

- Negligent clearance of sub-standard metal for use as shell material in manufacture of 1.08 lakh cartridges for training of air crew rendered them unfit for use for the intended purpose and has put a question mark on the expenditure of Rs 3.58 crore on their manufacture.

(Paragraph 12)

XI Procurement of an unsuitable system

- Air HQ imported 'Vicon-80' system meant for CCTV imagery evaluation and transmission of aerial photography at Rs 2.72 crore. Since they did not test the equipment on DoT circuits, on which these were to be used, the system has been utilised only sub-optimally.

(Paragraph 14)

XII Non-utilisation of transmitters

- 26 of 35 sets of high frequency transmitters purchased by Air HQ during November 1991 to September 1993 valued at Rs 2.78 crore have never been used since their purchase.

(Paragraph 15)

XIII Fabrication of Mechanical Runway Sweepers

- Air HQ failed to get seven out of 11 runway sweepers purchased in September 1992 fabricated for five years due to purchase of unsuitable auxiliary engines and inadequate follow up.

(Paragraph 17)

XIV Extra expenditure due to non-enforcement of risk clause and failure to place orders within validity of offers

- Air HQ not only failed to make risk purchase of towels due to default of a supplier, they also failed to decide the bids with reference to invitation of quotations as a result of cancellation

of first supply order. While the risk purchase recovery foregone was Rs 30.40 lakh, the cost of delay in decision was another Rs 8.65 lakh.

(Paragraph 18)

XV Delay in clearance of cargo

- Negligence by Air HQ and Embarkation Headquarters Mumbai resulted in avoidable payment of container detention charges and demurrage aggregating Rs 24.59 lakh on import of tyres and tubes of an aircraft Air HQ was alerted only after Mumbai port trust informed them of their intention to auction the consignment.

(Paragraph 21)

XVI Non-utilisation of imported sonars

- Navy imported three sonars used in naval ships for detection of submarines over long range during 1994-96 at Rs 42 crore prematurely, since the ships were likely to be constructed not before 1998, 2000 and 2002 respectively. Even the keels for two of three ships were not laid by January 1994 when the ministry placed orders for import of sonars.

(Paragraph 24)

XVII Extra expenditure due to delay in procurement of underwater valves

- Naval HQ spent an extra amount of Rs 73.65 lakh on import of under water valves for INS Viraat by ignoring the lower offer on the ground of urgency. Ultimately the supply of valves was delayed resulting in another extra expenditure of Rs 48 lakh on extended dry-docking. Of the 100 valves received, only 38 could be fitted on the ship during the repair period. Out of the remaining, 40 valued at Rs 80 lakh are either defective or surplus.

(Paragraph 28)

XVIII Recovery at the instance of Audit

- This Report contains three cases in which the departmental officers recovered/agreed to recover excess payment of Rs 2.06 crore upon being pointed out by Audit.

(Paragraphs 20, 32 and 34)

XIX Inordinate delay in installation and commissioning of a system

- Failure of Naval HQ to purchase all items necessary for installation of a torpedo detection system for over 3 years led to delay in its installation on the ship for about six years. The system costing Rs 63.45 lakh was yet to be proved.

(Paragraph 31)

XX Negligence in releasing a salvaged ship

- Negligence of Eastern Naval Command in sending the intimation of recovery of Rs two crore towards salvage charges of a foreign ship and consequential delay resulted in the ship owners becoming untraceable by the time the address given by them was contacted, five years after the release of the ship.

(Paragraph 33)

XXI Response of the ministries/departments to draft Audit Paragraphs

- Despite recommendation of Public Accounts Committee followed by directions of Ministry of Finance to send the response to the Draft Audit Paragraphs within six weeks, the Secretary, Ministry of Defence did not send response in case of 15 out of 32 Paragraphs / Reviews included in this Report.

(Paragraph 5)

XXII Follow up on Audit Reports

- Public Accounts Committee desired that ministries should submit remedial Action Taken Note to the Committee within three/four months of laying of the Audit Reports on the table of Parliament. Ministry of Defence did not submit remedial Action Taken Note on 52 Paragraphs included in the Audit Reports of 1993 to 1997 in disregard of the recommendations of the Public Accounts Committee and consequent instruction of Ministry of Finance.

(Paragraph 6)

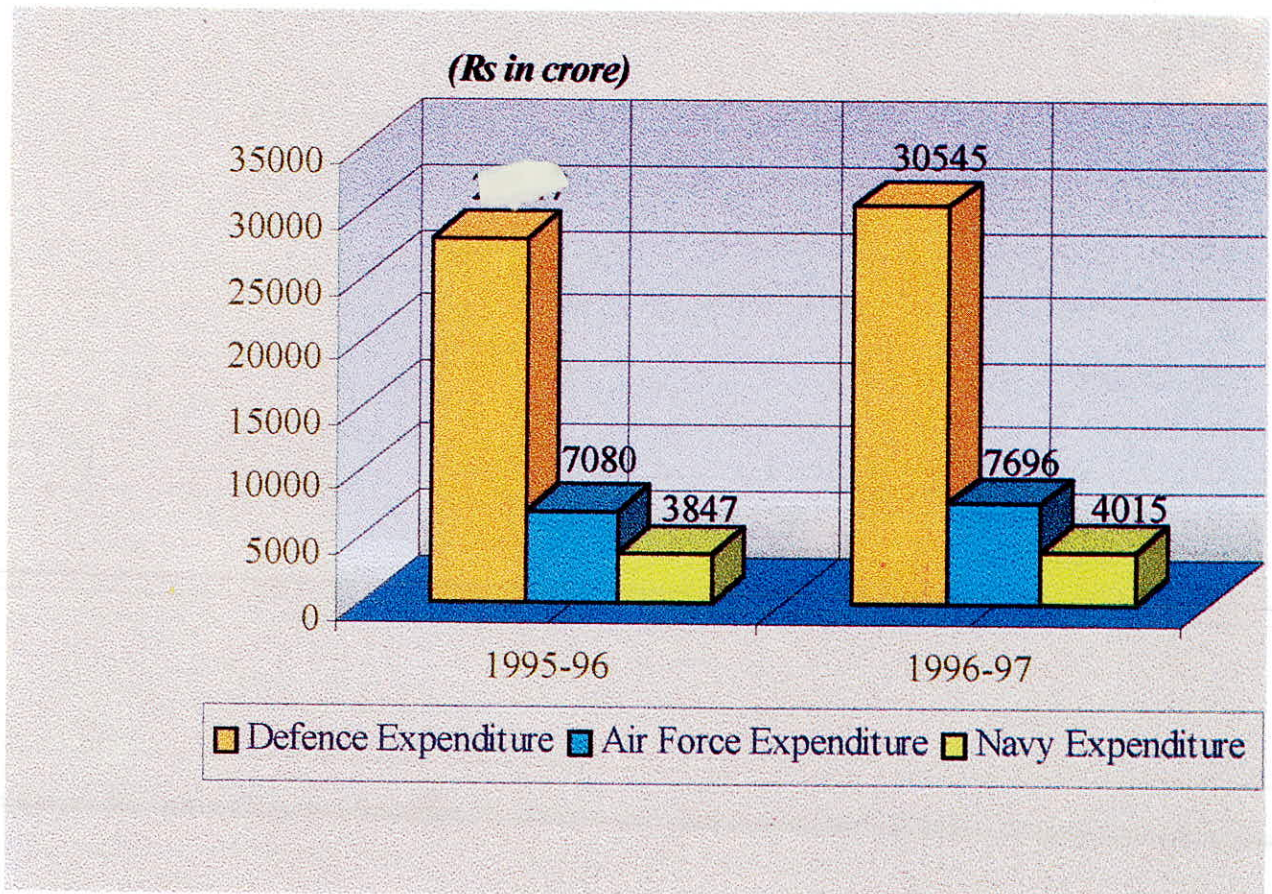
CHAPTER I

FINANCIAL ASPECTS

1 Financial Aspects

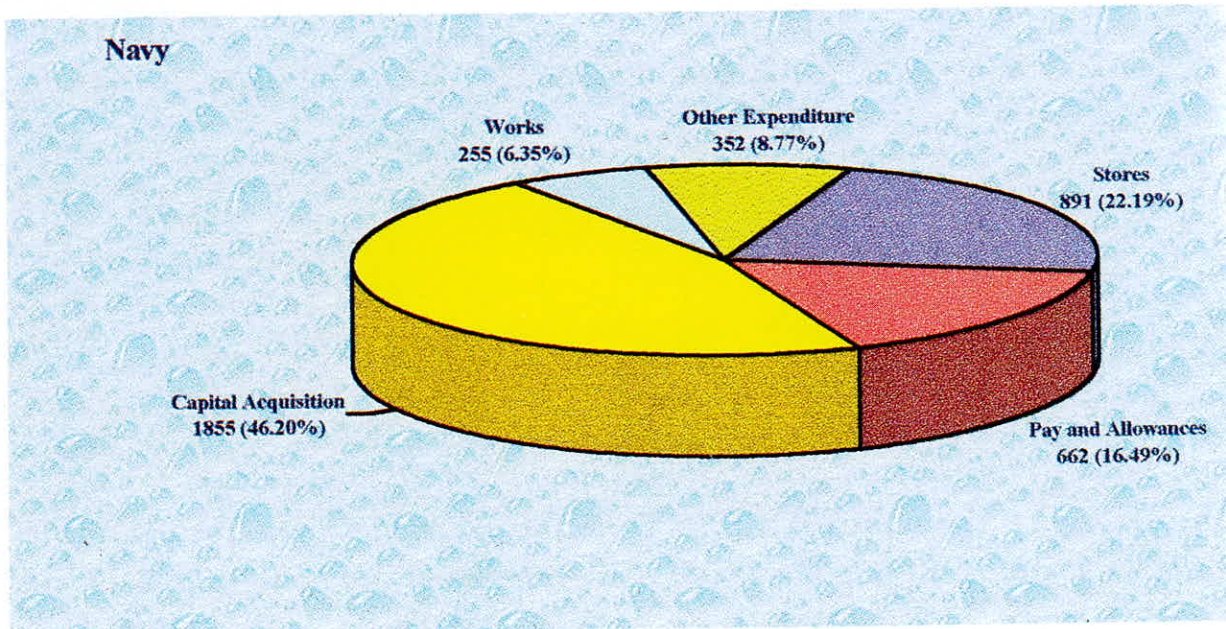
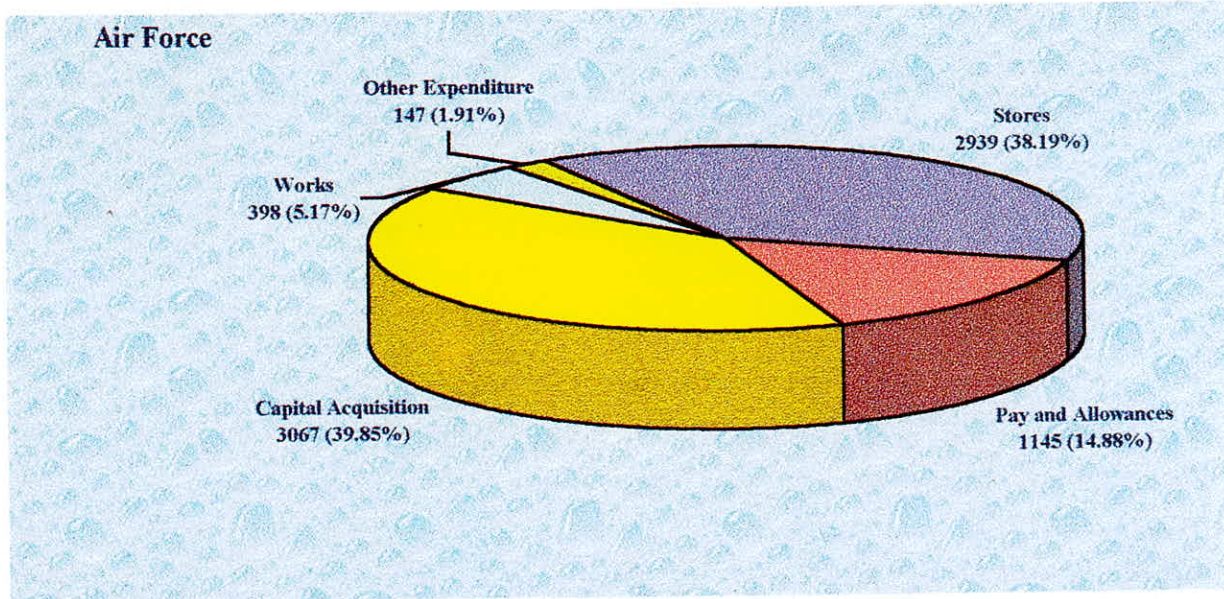
1.1 The total revenue and capital expenditure on Defence Services during 1996-97 was Rs 30545 crore, 9.30 *per cent* more than 1995-96. The share of the Air Force and the Navy in the total expenditure on Defence Services in 1996-97 was Rs 7696 crore and Rs 4015 crore respectively. The expenditure on Air Force and Navy was 8.70 *per cent* and 4.37 *per cent* more than the expenditure during the preceding year.

SHARE OF EXPENDITURE AIR FORCE AND NAVY



1.2 The distribution among major areas of expenditure like capital acquisition, stores, pay and allowances and works during 1996-97 in Air Force and Navy is shown in the pie charts below:

(Rupees in crore)



1.3 Test check of various transactions and review of certain projects/activities relating to Air Force, Navy and Coast Guard revealed instances of injudicious planning, delay in decision making, weaknesses in project implementation, flaws in import of costly equipment of operational importance and their non-utilisation, cost

and time overruns in creation of facilities, avoidable procurement resulting in idle investment, overpayments and extra expenditure etc.

1.4 An amount of Rs 34.71 lakh was recovered at the instance of Audit during the year. In addition, the department accepted the recovery of Rs 1.71 crore, pointed out by Audit during the year and stated that they would recover this amount.

CHAPTER II

MINISTRY OF DEFENCE

Review

2 Air transport facilities for VVIPs and OEPs

2.1 Introduction

Ministry of Defence maintains a fleet of aircraft in the Air Force Communication Squadron at New Delhi to provide air transport within the country to VIPs. The squadron operates three Boeing 737, seven Avro aircraft and six MI-8 helicopters. The orders regulating the use of special VIP flights stipulate that except the President, Vice President, the Prime Minister and the Heads of foreign Governments who are categorised as "VVIP", other entitled personages (OEPs) i.e. Defence Minister, Minister of Home Affairs, Cabinet Secretary, other ministers of the Central Government, Minister of State in the Ministry of Defence, Chiefs of the three Services, Defence Secretary and senior Service and civilian officers connected with Defence organisations can also avail of the facility of special flight. However, other entitled personages are to make use of commercial air services on official duty, whenever possible.

2.2 Scope of Audit

The utilisation of aircraft in the squadron was reviewed and commented upon in paragraph 4 of Report No 3 of 1989 of the Comptroller and Auditor General of India. In their Action Taken Note, Ministry of Defence had stated, in January 1991, that remedial/corrective measures had been instituted. Utilisation of aircraft and compliance to the rules and procedures for special flights during the period 1992-93 to 1996-97 was reviewed in Audit during March-June 1997.

2.3 Organisational set up

The squadron is under the functional and administrative control of Headquarters Western Air Command. Requests for airlifts for entitled personages are made direct to Air HQ and/or to the Ministry. The squadron arranges the flights on receipt of approval from Air HQ.

2.4 Highlights

- **The strength and utilisation of the fleet of the VIP squadron, which in turn involves considerable capital and recurring expenditure is not properly controlled. The limited hours per aircraft used by the VVIPs, failure to establish the inescapability of the special flights by the other entitled personages in place of commercial flights etc. provide an unmistakable impression of excess provision of the fleet.**
- **The VVIPs, for whom the VIP squadron is maintained by Indian Air Force, actually used the special flights of Boeing and Avro aircraft to the extent of only 23.5 per cent of the total flight hours. On an average, the VVIP use of the aircraft was about 20 hours per aircraft per month only, out of which, about 15 hours per aircraft was utilisation of Boeing 737.**
- **The use of special flights by other entitled personages, in spirit, was to be an exception rather than a rule. They were to use commercial flights, whenever possible. The other entitled personages used special flights for 6614 hours during the five years: 1992-97, out of which 2361 hours were of Boeing 737.**
- **The system of requisition and approval did not provide scope for establishing why commercial flights could not be used by the other entitled personages before asking for special flights. The system does not also provide any check by the Ministry or Air Headquarters about compliance to the Government orders for use of commercial flights as far as possible.**
- **Not only the inescapability of use of special flights by other entitled personages was not established, the pattern of utilisation of special flights by them suggested low concern for value for money in as much as Boeings and Avros were used for destinations well connected by commercial flights and for less**

than five persons in each trip on a number of occasions.

- The low concern for economy was also evident by large empty flying. The aircraft were brought back to New Delhi empty and were positioned empty the next day or later to far off places for bringing back the same other entitled personages. The squadron also flew helicopters empty to far-flung places where the OEPs went by Boeing or Avros for hopping trips to other destinations. The empty flying by helicopters was as high as 82 per cent.
- The review also underscores unauthorised and arbitrary diversion of aircraft from other squadron to this squadron without approval of the Ministry.
- The orders regulating the VIP flights, the system of recovery of charges from non-entitled persons accompanying VVIP/OEPs and for personal/private use by them do not adequately safeguard the bonafide use of official flights by non-entitled persons and does not ensure recovery against such use.

2.5 *Procurement and utilisation of aircraft*

2.5.1 The Ministry procured two Boeing 737 aircraft and inducted them into the VIP squadron during April-June 1984.

The prescribed utilisation was fixed at 75 flying hours per aircraft per month. The squadron continued with the approved establishment of two Boeings till 1992-93. But in August 1993, Air HQ diverted two more Boeings to the squadron from another Air Force Unit without approval of the Ministry, though the Government had approved the strength of only two Boeings for this squadron.

While Air HQ sent back one of the two unauthorisedly diverted aircraft to its parent unit in June 1995 after retaining it unnecessarily for 23 months, the other aircraft was still held in the squadron.

2.5.2 *Utilisation of Boeings*

Scrutiny of the records of the squadron for the period 1992-97 disclosed that out of the total 9425.50 flying hours (normative cost: Rs 210.30 crore), only 2762.10 hours constituting 29 per cent of the

Air HQ unauthorisedly diverted two more Boeings to the squadron.

Merely, 29 per cent of the total Boeing flying hours was utilised for VVIP role.

total flight hours were utilised for VVIP role as shown below:

Actual flying hours						
Year	Prescribed flying hours	VVIP	OEPs	Training	Miscellaneous	Total
						Hrs. : Mins.
1992-93	1800	482:40	503:55	583:35	4:35	1574:45
1993-94	3000	593:55	435:25	671:40	5:45	1706:45
1994-95	3600	417:55	520:30	1276:45	7:00	2222:10
1995-96	2925	519:10	517:55	805:20	6:45	1849:10
1996-97	2700	748:30	383:30	929:45	11:15	2073:00
Total	14025	2762:10	2361:15	4267:05	35:20	9425:50
Flying hours @ per aircraft per month (in hours)		14:48	12:39	22:52	0:11	50:30

@ Based on average availability of aircraft per month

While each Boeing aircraft was used for the VVIP flight for only 14:48 hours in a month, the remaining flying hours were spent for other use, 25 per cent of the flight time was used for special flights by other entitled personages and 45 per cent was stated to have been used for training. The Boeing aircraft was inducted into the squadron exclusively for VVIP task. The utilisation of the Boeings for 2361:15 hours at normative cost of Rs 50.62 crore by other entitled personages was established as escapable.

2.5.3 Utilisation of unauthorisedly diverted Boeings

The two Boeings diverted unauthorisedly to the VIP squadron were never utilised for VVIP role.

The two Boeings diverted to the VIP squadron from another Air Force Unit without approval of the Ministry were never utilised for VVIP role even on a single occasion. These were instead utilised for special flights for other entitled personages and training as indicated below:

Actual flying hours				
Year	VVIP	OEPs	Training	Total Hrs. : Mins.
1993-94	NIL	161:35	289:05	450:40
1994-95	NIL	241:40	961:55	1203:35
1995-96	NIL	311:00	448:00	759:00
1996-97	NIL	252:35	415:15	667:50
Total		966:50	2114:15	3081:05
Flying hours @ per aircraft per month @ On the basis of average availability of the aircraft		14:27	31:37	46:04

Thus, while the unauthorised diversion of the two Boeing 737 aircraft by Air HQ, which were actually purchased for other operational purpose, underscores the arbitrariness of the decision, their actual utilisation confirms that the augmentation of this fleet at the expense of the operational requirement of the other squadron, was not based on objective and acceptable grounds.

2.5.4 Avro aircraft

The Ministry prescribed flying task of only 45 hours per aircraft per month for Avro aircraft. The total actual flying hours of the seven aircraft during 1992-97 were as under:

Actual flying hours						
Year	Authorised task	VVIP/OEPs Role	Training	RTR*	Misc.	Total Hrs. : Mins.
1992-93	3780	1183:45	547:15	492:00	65:50	2288:50
1993-94	3780	1211:40	493:05	283:20	81:35	2069:40
1994-95	3780	1085:50	696:05	188:05	31:30	2001:30
1995-96	3780	1376:10	695:30	340:00	37:10	2448:50
1996-97	3780	1507:20	519:45	420:10	58:30	2505:45
Total	18900	6364:45@	2951:40	1723:35	274:35	11314:35
Average flying hours per aircraft per month		15:09	7:02	4:06	0:39	26:56
Aircraft held		= 7 nos.				
* Route Traffic Role						
@ Utilisation by VVIP		= 2111:20 hours				
@ Utilisation by OEPs		= 4253:25 hours				

Avro aircraft was used for 26:56 hours only as against prescribed 45 flying hours per month.

On an average each Avro aircraft was used for only 26:56 hours in a month. Out of this, the use for special flights for VVIPs and other entitled personages was only for 15:09 hours per aircraft per month. The VVIP use of Avro aircraft constituted only a very small part of about 18.66 *per cent* of the total utilisation.

2951 hours of Avro flights constituting 26 *per cent* of the total flying hours at normative expenditure of Rs 27.49 crore were stated to have been used for training purpose and 1723 hours (normative cost: Rs 16.05 crore) for 'route traffic role'. The squadron stated that the 'route traffic role' referred to commitments of this squadron in terms of carriage of personnel. However, the SFRs did not indicate the names of the persons who were carried on RTRs. As per the Government orders this squadron is entrusted with the task of providing air transport to VVIPs and other entitled personages and did not include any RTR role. Thus, the bonafides of utilisation of the aircraft for a purpose not included in Government orders was not established.

2.6 Consideration for economy and compliance to Government Orders

Government Orders stipulate use of commercial air service whenever possible for other entitled personages. But, IAF special flights were frequently used by OEPs.

The Government orders authorising use of special flights by other entitled personages on official duty clearly stipulate that the users will make use of commercial air services whenever possible. The underlying objective of such stipulation is that while the special flights may be used by the other entitled personages for places not connected by commercial air service or in case of emergent requirement, as far as possible they should use commercial air services. However, the system of requisition and documentation does not provide scope for ascertaining why it was not possible for the other entitled personages to use the commercial flights instead of IAF special flights. The system of requisition and the form of requisition do not provide for recording the reasons as to why the commercial air service could not be used. The Air HQ, being a subordinate office, cannot be expected to question the requisition by the other entitled personages, particularly those from the Ministry of Defence to ascertain why commercial air service cannot be used. The justification for use of aircraft of VIP squadron by other entitled personages was, therefore, not transparent.

As per the instructions of the Government, the use of commercial flights by other entitled personages ought to be the rule

and the use of special IAF flights an exception. Therefore, unless otherwise established that the use of commercial flight on official duty was not possible for any reason including emergencies, requisition and use of special flights was against Government orders.

Test check of SFRs disclosed that on 652 occasions other entitled personages undertook journey from New Delhi in Boeing aircraft and on 408 occasions in Avro aircraft to the stations like Mumbai, Jamnagar, Pune, Chandigarh, Indore, Guwahati, Hyderabad, Calcutta, Jodhpur, Lucknow, Bangalore etc. which are well connected by commercial air service. The documents made available to Audit did not establish inescapability of use of special flights in any of them.

2.7 Aircraft used with very low payload

The maximum pay load capacity of Boeing aircraft was reduced from 126 to 54 passengers to cater to VVIP standard by redesigning the interiors. Similarly, the pay load capacity of Avro aircraft was also reduced from 43 to 20 passengers.

As brought out in the preceding paragraph the utilisation of special flights by other entitled personages did not provide any evidence for consideration of economy in expenditure by use of commercial services. To compound this, the Boeing and Avro aircraft were used by other entitled personages even when very few persons were required to undertake the journey.

Viewed against the background that the Boeing aircraft was provided in the squadron primarily for VVIP use, the utilisation of Boeing aircraft with minimal payload by other entitled personages was not called for.

Other entitled personages used the Boeing aircraft on 169 occasions when the total number of persons were equal to or less than five in the group. On 436 occasions the total number consisted of equal to or less than 10 and on another 294 occasions it was only 15 or less.

Similarly, out of 1814 sorties of Avro aircraft for other entitled personages, as many as 748 sorties constituting 41 per cent of the total, consisted of one to five persons only.

OEPs used Boeing/ Avro aircraft even when few persons travelled.

Out of 1814 Avro sorties for OEPs, 748 sorties carried one to five persons only.

2.8 MI-8 helicopter

The Ministry fixed a norm of only 25 flying hours per helicopter per month. The actual flying hours of the six MI-8 helicopters during 1992-97 were as under:

Actual flying hours					
Year	Authorised task Hours	VVIP/OEPs role Hours	Training Hours	Misc. Hours	Total Hrs. : Mins.
1992-93	2280	991:40	446:30	27:05	1465:15
1993-94	1800	1131:30	270:25	31:20	1433:15
1994-95	1800	718:55	459:55	41:00	1219:50
1995-96	1800	1370:05	374:10	43:55	1788:10
1996-97	1800	1408:40	219:10	42:10	1670:00
Total	9480	5620:50	1770:10	185:30	7576:30
Average flying hours per helicopter per month		15:37	4:55	0:31	21:02

Thus, on an average, each helicopter was used for only 21 hours in a month. Out of this, 15:37 hours per helicopter per month was used for carriage of VVIP/OEPs.

2.9 Empty flying

Empty flying of Boeing and Avro constituted 31.40 and 33.37 per cent of the total special flight hours.

In case of helicopters, the empty flying was as high as 82.43 per cent.

As per Government orders, unnecessary flights by aircraft returning empty from destinations and going back to collect the same passenger ought to be avoided as far as possible. Analysis of flight records disclosed that during the period 1992-97, the empty flying of Boeing and Avro constituted 31.40 and 33.37 per cent respectively of the special flight hours for VVIP/OEPs involving total normative cost of Rs 54.72 crore. The empty flying of MI-8 helicopters for positioning and returning back to base was as high as 82.43 per cent of the total flying for VVIP/OEPs flights involving an expenditure of Rs 38.80 crore. Much of the empty flying by helicopters was due to the practice of flying them to another destination from New Delhi, which the OEPs used to visit by special Boeing /Avro flights. The helicopters were taken empty to as far off places as Mumbai, Pune, Varanasi and Lucknow and back to New Delhi.

Test check disclosed that the both Boeing and Avro aircraft were brought back empty to New Delhi from as far off places as Bangalore, Guwahati, Visakhapatnam, Coimbatore, Hyderabad, Pune, Nagpur,

Indore, Port Blair and Carnic and were positioned again to bring back the same entitled personages the following day or later..

2.10 Use of special flights by other entitled personages

Analysis of utilisation of special flights by other entitled personages during 1992-97 disclosed the following position:

Use of aircraft by OEPs during 1992-97			
Type of aircraft	Boeing	AVRO	Total flight hours
RM @	302	273	575
RRM	92	162	254
RURM	-	106	106
CAS	665	115	780
COAS	474	567	1041
CNS	348	477	825
Others	481	2553	3034
Total	2362	4253	6615
@: Flying hours only during one year and nine months, since PM was holding charge of Raksha Mantri during rest of the period			

Aircraft used by OEPs

Reckoning the total utilisation of flight hours by other entitled personages during 1992-93 and pro-rata for nine months of 1996-97 during which separate Raksha Mantri was incharge of the Defence Ministry, the Raksha Mantri utilised the special Boeing and Avro flights for upto 25 *per cent* of the total utilisation by the OEPs.

The CAS utilised special flights of Boeing to the extent of 28 *per cent* of the total utilisation by OEPs while the utilisation by COAS and CNS constituted 20 and 14.7 *per cent* respectively.

Pattern of utilisation of special flights by RM/RRM/RUM

Year/ Period	Total No. of Special flights	No. of repeated Flights to the same place	Name of the place of repeated flights	Remarks
-----------------	------------------------------------	---	---	---------

Raksha Mantri

1992-93	132	88	Mumbai/Pune	* During 1993-96 PM was looking after the Defence Portfolio
1993-94	Nil	Nil*	-	
1994-95	Nil	Nil*	-	
1995-96	Nil	Nil	-	
1996-97	216	136	Lucknow	

Raksha Rajya Mantri

1992-93	21	2	Tiruvanathapuram	
1993-94	26	2	Kochi	
1994-95	16	Nil	Nil	
1995-96	16	3	Hyderabad	
1996-97	19	4	Tambram	

Raksha Up Mantri

1992-93	Nil	Nil	Nil	RUM in position only during 1995-96
1993-94	Nil	Nil	Nil	
1994-95	Nil	Nil	Nil	
1995-96	62	12	Bhopal	
1996-97	Nil	Nil	Nil	

The analysis further disclosed preponderance of visits to specific places like Mumbai, Pune, Lucknow, Bhopal which constituted between 19 to 67 per cent of the total visits undertaken by the respective entitled personages. Of the 236 repeated special flights to Mumbai, Pune, Lucknow and Bhopal 98 were of Boeing. During 1992-93, 88 out of 132 special flights of RM were to Mumbai and Pune. During the nine months in 1996-97, of the 216 flights undertaken, 136 flights were to Lucknow.

Empty helicopters were also flown to Lucknow, Varanasi, Mumbai, Pune for further conveyance of the OEPs to places like Azamgarh, Mirzapur, Kunjali, Ahmednagar, Sangli, Solapur, Malegaon, Someshwar. An instance of use of special flight for visit to religious places also came to notice.

2.11 Propriety

Orders of January 1981 permit VVIPs and Raksha Mantri to take any passenger with them as they consider necessary for the purpose of their journey. The recoveries from such non-entitled persons who accompany the VVIPs and Raksha Mantri is to be made only when the specific intimation is received from the respective Ministry.

Personages travelled with VVIPs were either their family members or media personnel.

The system of recoveries from non-official persons accompanying the VVIPs/RM was not fool proof.

Scrutiny of SFRs disclosed that 608 personages who travelled with VVIPs during 1992-97, were either their family members (403), friends (47) or media personnel (158). Similarly, 1022 such persons which included family members (65), guests (356), politicians (98) media personnel (137) and others (366) accompanied Raksha Mantri during 1992-93 and June 1996 – March 1997. Raksha Rajya/Up Mantri also carried 359 such personages including state politicians (161) with them during 1992-97 for which no recoveries had been effected in the absence of any instruction from the concerned Ministry. This was indicative of the fact that the orders regulating the VIP flight and the system of recovery do not adequately safeguard the bonafide use of the special flights by non-official persons accompanying the VVIPs and Raksha Mantri.

2.12 Non-recovery of detention charges

Government orders of January 1981 provided for recovery of detention charges for halt of aircraft in excess of first 48 hours when used by the Prime Minister for non-official visit. While revising the rates of recovery for the period 1992-93, the Ministry fixed in March 1992 the detention charges at the rate of 50 *per cent* of the recovery rate if the aircraft remained idle for more than two hours at a stretch at an outstation.

Air HQ failed to claim detention charges of Rs 2.76 crore on account of PM's visits.

Test check of documents relating to recovery of bills for 1994-95 revealed that Air HQ did not raise bills for airlift and detention charges aggregating to Rs 4.08 crore on account of Prime Minister's non-official visits. Internal Audit also failed to notice this irregularity as their records were not complete. Besides, while raising the bills in May 1996 for such journeys undertaken in April 1996, detention charges of Rs 2.76 crore had not been claimed by Directorate of Accounts, Air HQ.

2.12.1 *Outstanding recoveries against ex-Prime Ministers*

Records maintained by Controller of Defence Accounts (Air Force) revealed that as of March 1997, Rs 14.70 crore was outstanding against three ex-Prime Ministers on account of unofficial flights as under:

Rs 14.70 crore for unofficial flights was outstanding against three ex-PMs.

Period	Amount outstanding
1989-90	Rs 1.80 crore
1991-92	Rs 5.87 crore
1993-94 to 1995-96	Rs 7.03 crore
	----- Rs 14.70 crore -----

2.13 *Indemnity bond etc. ignored*

The Ministry stated, in January 1991, that all concerned secretaries had been advised in September 1989 to comply with the mandatory requirement of submission of indents, passenger manifest, indemnity bond, approval etc.

Despite instructions duty flight certificates/ indemnity bonds were not being received by Air HQ.

Scrutiny of flight records for the period 1992-97, however, revealed that despite instructions, neither the duty flight certificates nor indemnity bonds/undertakings were being received by Air HQ alongwith the passenger manifest.

2.14 *Recommendation*

The analysis of utilisation of special flight including unsubstantiated requirement by OEPs and overall low utilisation of flight hours per aircraft per month give an unmistakable impression of over-provision in the fleet of the VIP squadron which needs to be reduced and controlled. The powers to determine the strength of the fleet of VIP squadron by new acquisition or diversion or both should

vest only with the Cabinet since maintenance of VIP squadron commits a substantial amount of non-recurring expenditure besides recurring expenditure on maintenance, operation and replacement etc. Besides, the system of utilisation needs to be streamlined and made transparent to ensure that the OEPs utilise the VIP fleet only in inescapable cases of non-availability of scheduled commercial services or emergencies.

The matter was referred to the Ministry in December 1997; their reply was awaited as of January 1998.

3 Delay in setting up of repair facilities

Tardy planning and execution of setting up of repair and overhaul facilities of the transport aircraft compelled the IAF to send large number of them to the manufacturers for overhaul at an expenditure of Rs 69.56 crore. The facilities, when fully operational, are likely to be used for a very short span of the useful life of the aircraft. Besides, poor performance of overhaul of aero-engines resulted in large number of engines also being sent for overhaul to the manufacturers at Rs 26.11 crore, most of which was avoidable with full capacity utilisation.

Indian Air Force (IAF) introduced a medium size tactical transport aircraft in 1984. While the Ministry imported majority of its present fleet during the three years i.e. 1984, 1985 and 1986, many others were imported during 1987-1991. It is incumbent upon the Ministry to set up the repair facility for aircraft/ equipment more or less simultaneous with their induction so that the facilities are available by the time their first major repair/overhaul is due. Cases of delay in setting up of repair facilities after induction of imported aircraft/equipment have been reported in the past in paragraphs No.6 of Audit Report No.9 of 1993 and No.2 of Audit Report No.8 of 1997.

Audit of setting up of repair facilities of above mentioned transport aircraft disclosed lackadaisical planning and execution of the project with the result that large number of airframe and aero-engines had to be sent abroad to the manufacturers for major overhaul, incurring of considerable expenditure in foreign exchange and resulting in a much higher turn round time. Another serious impact of the delay, as in other cases pointed out earlier, is that as and when repair facilities are fully set up, major portion of the useful including the extended

useful life of the aircraft would be over. The facilities set up at a considerable expenditure are likely to be used, therefore, for a very short period only.

The total technical life of the aircraft is 15 years, which can be extended up to 20 years after periodical life extension checks. The first overhaul of the aircraft was due at the end of the sixth year or 4000 flying hours, whichever, was earlier. As such, large number of aircraft became due for their first major overhaul during 1990-92, while others purchased between 1987-1991 also became due for their first overhaul during 1993-1997.

There were delays in conclusion of contract, in issue of Administrative approval and completion of civil works.

The Ministry concluded a contract with the foreign manufacturers for technical collaboration for setting up of repair and overhaul facilities of the aircraft and aero-engines in March 1987 i.e. 30 months after the induction of the first batch of the aircraft. From March 1987, the process of convening the Board of Officers (BOO), their recommendations and administrative approval took more than four and a half years. The Ministry accorded administrative approval for first phase of the works services at Rs 3 crore as late as December 1991. By this time, the first batch of aircraft was already due for overhaul. The Ministry took another two and a half years to accord administrative approval for the second phase of the works at an estimated cost of Rs 3.31 crore in June 1994. The third phase at Rs 3.28 crore was approved in October 1995. While the first phase had been completed in December 1995, the second and third phases were yet to be completed as of July 1997.

Since the overhaul facilities were not established in time, the Air Headquarters (HQ) extended the life between overhaul of the aircraft from six to eight years at an expenditure of Rs 3.20 crore with the help of the manufacturers and from eight to nine years indigenously. Despite this, due to the slow pace at which the repair/overhaul facilities were being set up, the IAF was not in a position to meet the overhaul requirements of the transport aircraft. Since even the extended life of nine years of most of the aircraft was coming to close by 1993-95, the Ministry entered into an agreement with the manufacturer to further extend the life before overhaul at US \$ 5 million equivalent to Rs 15.78 crore in June 1994.

Delay in setting up of repair/overhaul facilities resulted in overhaul of aircraft abroad at a cost of Rs 69.56 crore.

Since, the first batch of aircraft inducted in 1984 were relatively of older technology, their life between overhaul could not be extended beyond nine years, the Ministry was compelled to enter into an agreement with the foreign manufacturers for the overhaul of the aircraft procured in 1984 at a cost of Rs 33.75 crore. Subsequently, the Ministry had to enter into two more contracts in April 1996 and July 1997 for overhaul of another batch of aircraft at an expenditure of Rs 35.81 crore since the repair/overhaul facilities were not yet completed.

As of July 1997, the Ministry expected the facilities to be set up and fully operational by 2000. More than 75 *per cent* of even the extended useful life of the majority of the aircraft would be over by that time. For the remaining also, the facility of overhaul is likely to be used for a very short time of their useful life.

The Ministry, apart from clarifying the reasons for delay stated, in November 1997, that even if the facilities were created within the time, yet some aircraft would have had to be sent to the manufacturers due to the limited capacity of the repair facilities being set up. The reasons advanced by the Ministry about the delay in convening the BOO, change in requirements of works services by the foreign specialists, political situation in the erstwhile USSR etc. were not all beyond the control of the Ministry so as to cause the extent of delay brought out above. Besides, if the facilities were set up in time, only very small number of aircraft would have been required to be sent to the foreign manufacturers for overhaul, due to the limitation of the capacity being set up.

Repair/overhaul facilities for aero-engines

The facilities for repair/ overhaul of aero-engines were set up at another Base Repair Depot (BRD) in 1990. The capacity created was to cater for repair/ overhaul of 55 aero-engines per year. The BRD, however, could not achieve the task allotted to it during the year 1992-93 to 1995-96 as shown below.

Year	Installed capacity of repair/overhaul of engines	Tasks achieved	Percentage of tasks achieved compared to col. 2
1	2	3	4
1992-93	55	30	55
1993-94	55	32	58
1994-95	55	38	69
1995-96	5	53	96
Total	220	153	69

Shortfall in the capacity created led to despatch of aero-engines abroad for repair at a cost of Rs 26.11 crore.

Due to shortfall in repair/overhaul, 79 aero-engines had to be sent to the manufacturer abroad for repair at a total cost of Rs 26.11 crore. Test check of time taken in overhaul by the manufacturers revealed that it ranged between two and five years, as against five months required for overhaul indigenously, resulting in increased turn round time and reduced availability of the aero-engines.

4 Delay in decision leading to extra expenditure

Delay in conclusion of contract led to extra expenditure of Rs 22 lakh.

Two Russian made heavy transport aircraft IL-76 were due for overhaul in 1996. The Ministry considered the quote of US \$ 8.40 million for overhaul of the two aircraft not reasonable and directed in December 1995 that the Price Negotiation Committee (PNC) should make efforts to bring down the price. The PNC could negotiate the cost to US \$ 7.45 million in March 1996.

The draft offer of the manufacturers for overhaul at the above negotiated price of 21 March 1996 was valid upto 10 April 1996. However, the Ministry did not reflect the same concern for economy as during their 'in principle' approval in December 1995. As a result, their approval was communicated on 15 April 1996 i.e. five days after the last date for which the offer of the manufacturers was valid. Air Headquarters (HQ) took eight days to forward the proposal to the

Ministry on 29 March 1996. While Defence Secretary approved the proposal on 3 April 1996, the approval of Raksha Rajya Mantri (RRM) could be obtained only on 15 April 1996.

Failure of the Ministry to conclude the contract within the validity period resulted in extra expenditure of Rs 22 lakh.

The manufacturers did not honour their earlier commitment of the negotiated price of US \$ 7.45 million since the validity of their offer had expired. Ultimately, the agreement for overhaul of the two aircraft was signed on 25 April 1996 at US \$ 7.51 million. The extra cost of delay in decision was US \$ 60000 equivalent to Rs 22 lakh.

The two aircraft have since been overhauled by the manufacturers and received back in December 1996 and March 1997 respectively:

The Ministry stated, in June 1997, that the proposal had to be approved at the level of RRM and hence the time taken was around 15 days, which was quite normal. The reply of the Ministry underscores their insensitivity to extra expenditure which was easily avoidable. While 15 days time can be termed as normal for approval, the Ministry ought to have shown better management in clearance of the proposal when they were faced with the prospect of expiry of the validity of the offer, which was creditably brought down significantly by the PNC.

5 Response of the ministries/departments to Draft Audit Paragraphs

On the recommendation of the Public Accounts Committee (PAC), Ministry of Finance issued directions to all ministries in June 1960 to send their response to the Draft Audit Paragraphs proposed for inclusion in the Report of the Comptroller and Auditor General of India within six weeks. The Draft Paragraphs are always forwarded by the respective Audit Offices to the Secretaries of the concerned ministries/departments through Unofficial/Demi Official letters drawing their attention to the audit findings and requesting them to send their response within six weeks. The fact of non-receipt of replies from the ministries is invariably indicated at the end of each such Paragraph included in the Audit Reports.

Draft Paragraphs/Reviews proposed for inclusion in the Report of the Comptroller and Auditor General of India for the year ended March 1997: Union Government, Defence Services (Air Force &

Navy) : No 8 of 1998, were forwarded to the **Secretary, Ministry of Defence** between May and December 1997 through Unofficial letters.

Thirty two Paragraphs from among those whose Drafts were sent to the **Secretary** have finally been included in this Report. Out of these, in 15 Paragraphs as indicated below, the response of the Secretary could not be included due to non-receipt of their replies.

Ministry/Department	Total No. of Paragraphs on the Ministry/ Department included in the Report	No. of Paragraphs in which reply not received from Secretary, Ministry of Defence	Paragraph Number
Ministry of Defence	32	15	2, 6, 7, 16, 22, 23, 26, 27, 28, 29, 30, 31, 32, 33, 34

6 Follow up on Audit Reports

Despite repeated instructions/recommendations of the PAC, the Ministry did not submit remedial ATNs on 52 Audit paragraphs.

With a view to ensuring enforcement of accountability of the executive in respect of all the issues dealt with in various Audit Reports, the Public Accounts Committee (PAC) decided in 1982 that ministries / departments should furnish remedial / corrective action taken notes (ATNs) on all paragraphs contained therein.

The Committee took a serious view of the inordinate delays and persistent failures on the part of large number of ministries/departments in furnishing the ATNs in the prescribed time frame. In their Ninth Report (Eleventh Lok Sabha) presented to the Parliament on 22 April 1997, the PAC desired that submission of pending ATNs pertaining to Audit Reports for the years ended March 1994 and March 1995 be completed within a period of three months and recommended that

PAC recommended submission of all pending ATNs up to 1995 within three months.

From 1995-96 ATNs are to be submitted within four months of placing the Report on the Table.

ATNs on all paragraphs pertaining to the Audit Reports for the year ended 31 March 1996 onwards be submitted to them duly vetted by Audit within four months from the laying of the Reports in Parliament.

Review of outstanding ATNs on paragraphs included in the Report of the Comptroller and Auditor General of India, Union Government, Defence Services (Air Force and Navy) as of January 1998 revealed as under.

Ministry failed to submit ATNs on 28 paragraphs of and up to the Reports for the year ended March 1995.

Ministry did not submit ATNs on 24 of 28 paragraphs in the Report for the year ended March 1996.

- The Ministry failed to submit ATNs in respect of 28 paragraphs included in the Audit Reports upto and for the year ended March 1995 as indicated in Appendix-I.
- Though the Audit Report for the year ended 31 March 1996 was laid on the table of the Parliament on 20 March 1997 and the time limit of four months for furnishing the ATNs had elapsed in July 1997, the Ministry did not submit ATNs on 24 out of 28 Paragraphs included in the Audit Report, details of which are in Appendix-II.
- In eight cases (Sl No 6,14,17,18,19,23,26 and 27 of Appendix I), ATNs had not been received at all from the Ministry eventhough these were due for the period ranging from one to three years. In yet another case (Sl. No 2 of Appendix I), the Ministry had not responded to the vetting comments of Audit for over four years despite reminders.

The position of pending ATNs was reported to the Ministry in August 1997, their reply was awaited as of January 1998.

CHAPTER III

AIR FORCE

Reviews

7 Aircraft accidents in IAF

7.1 *Introduction*

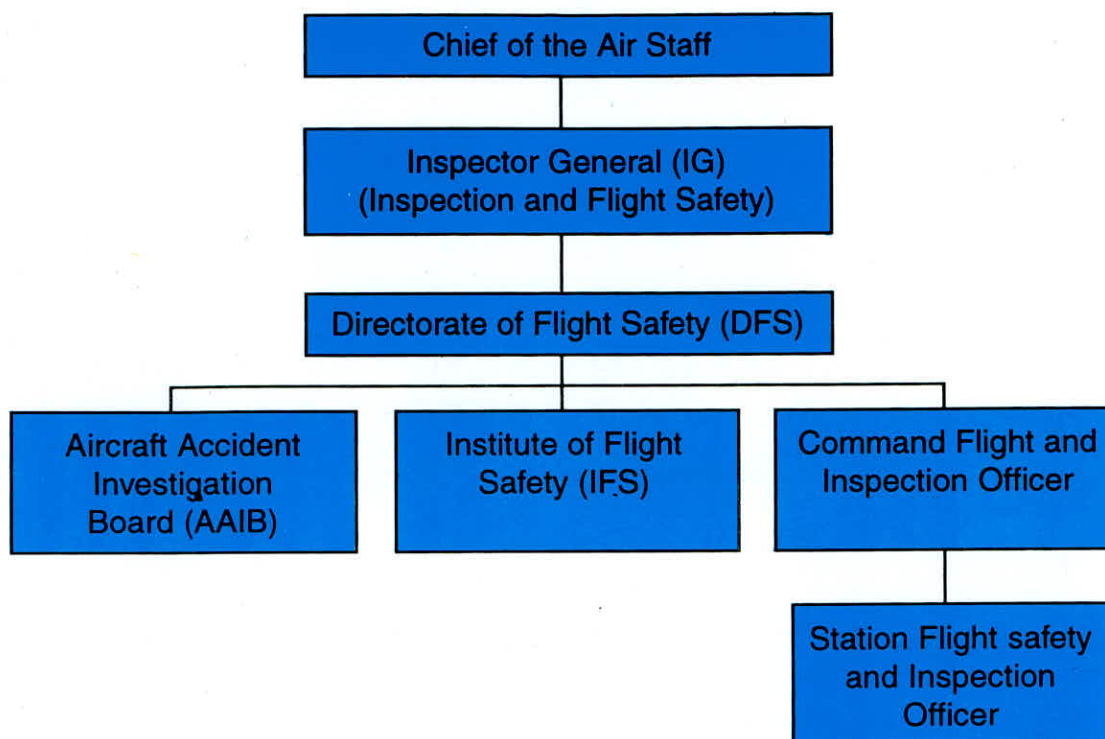
187 accidents and 2729 incidents of Indian Air Force (IAF) aircraft took place during the six year period April 1991 to March 1997. In 147 accidents the aircraft were totally destroyed and the IAF lost 63 pilots in accidents during this period. Each accident or incident, wherever necessary, is investigated by an independent court of inquiry consisting of specialists from various fields. The determination of causes of accidents and incidents and the timely introduction of preventive measures together with their implementation constitute the core of the IAF's flight safety programme. Apart from this, Air HQ/ Ministry constituted six high powered committees to investigate the causes of accidents and suggest remedial measures during 1982-97. The last committee set up in February 1997 under the chairmanship of Scientific Advisor to Raksha Mantri had submitted its report in September 1997 which was under consideration in the Ministry.

This review addresses the issues relating to the investigations of accidents and incidents and follow up measures by the IAF during 1991-97.

7.2 *Organisational set up*

The organisational set up at Air HQ which is responsible for reporting and investigation of accidents and formulating flight safety

policies is as indicated in the chart given below:



7.3 Highlights

- While the overall accidents per 10000 flying hours have registered a decline over the period 1991-97, the accident rate of fighter stream, particularly MiG-21 variants continue to be high. The IAF lost 147 aircraft and 63 pilots in 187 accidents during 1991-97. Of these, 41 per cent were due to human error and 44 per cent were attributable to technical defects.
- The IAF attributed the accidents to technical defects due to deficient operation/maintenance procedure including overhaul by HAL. The facilities for training of pilots in IAF were far from satisfactory. While the basic trainers were defective and unreliable, the trainee pilots had to undergo training on operational jet fighters MiG-21 in the absence of advanced jet trainers. Doubts have also been raised on the competence of the instructors in flight training establishments.
- The synthetic training equipment viz. Flight simulators, computer based training equipment and hot shot training aid are either not operational or have not been acquired depriving

the trainee pilots of Indian Air Force of modern training equipment. The execution of measures for minimising the bird menace in and around the airfields is languishing. Meanwhile, 17 accidents entailing a loss of Rs 170.67 crore took place between 1991-97 due to bird hit besides 574 incidents.

- The finalisation of investigation of the accidents was delayed in most cases.

7.4 Aircraft mishaps

The year-wise breakup of the total of 187 accidents and 2729 incidents in IAF between April 1991 and March 1997 is given in the table below :

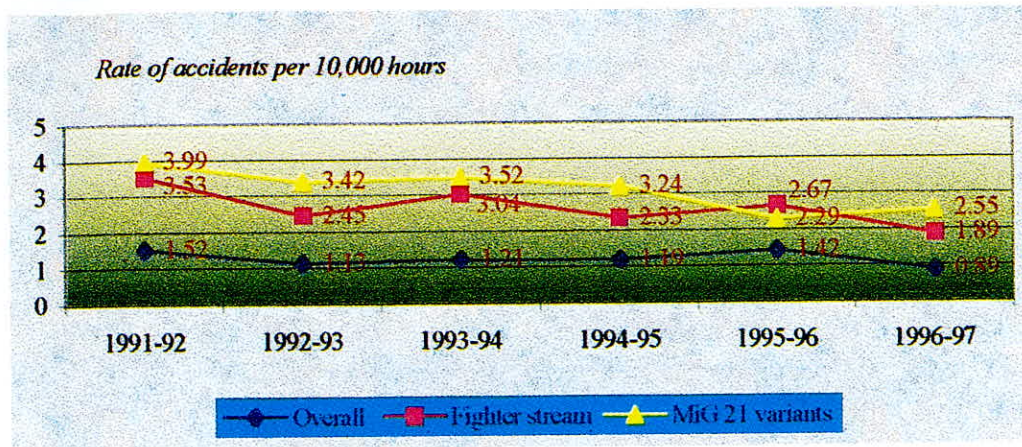
Year	Total Flying Hours	Accidents	Incidents
1991-92	256200	39	499
1992-93	238362	27	459
1993-94	239412	29	416
1994-95	252822	30	410
1995-96	268385	38	465
1996-97	275505	24	480

There had been 187 accidents and 2729 incidents during 1991-97. Of these, 147 were serious, where aircraft were totally destroyed and 63 pilots lost their lives.

Of the total, 147 accidents were serious, where the aircraft valuing Rs 704 crore were totally destroyed or rendered beyond economical repair. In these accidents 63 pilots lost their lives.

7.4.1 Rate of accidents

Rate of accident in IAF during the period 1991-97 calculated with reference to number of accidents for every 10000 hours of flying is indicated in the chart below:



Rate of accidents in fighter stream was higher particularly in the MiG-21 variants.

It would be seen from the above that overall rate of accidents in IAF ranged between 0.89 and 1.52 during the period under review. Data revealed that rate of accidents in respect of fighter stream was high and ranged between 1.89 and 3.53. The rate of accidents in MiG-21 variants was still higher and ranged between 2.29 and 3.99.

7.4.2 Stream-wise accidents

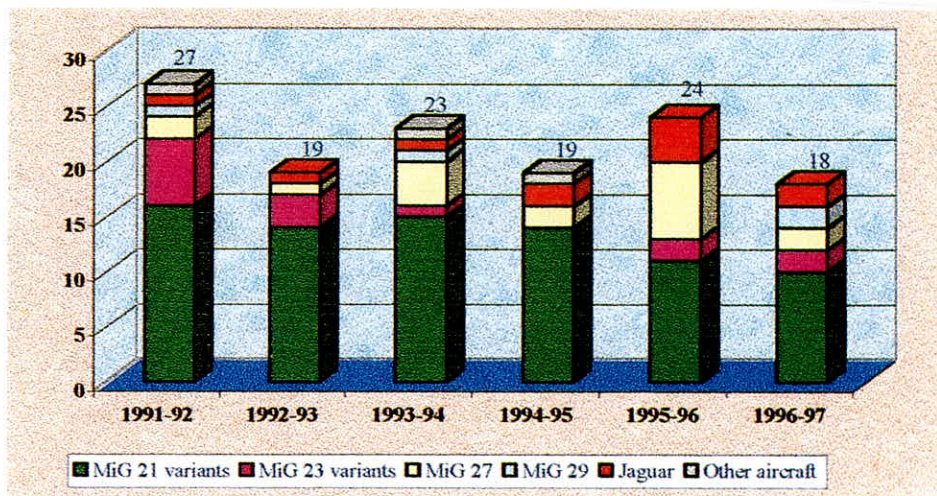
The share of various streams of aircraft involved in accidents were as below :

Year	Share of Accidents			
	Fighter	Trainer	Helicopter	Transport
1991-92	27	08	03	01
1992-93	19	04	03	01
1993-94	23	04	01	01
1994-95	19	07	04	-
1995-96	24	08	04	02
1996-97	18	02	02	02
Total	130	33	17	07

Fighter stream accidents accounted for 63 – 79 per cent of total accidents.

The accident on fighter aircraft was maximum and ranged between 63 and 79 per cent of total accidents whereas that of the trainer aircraft ranged between 8 and 23 per cent. Eventhough, there

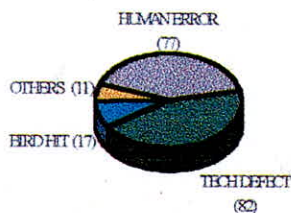
was decline in total number of accidents during 1996-97, the accidents involving fighter aircraft remained as high as 75 per cent of the total accidents. Besides in nearly 62 per cent of fighter aircraft accidents, the aircraft involved were MiG-21 variants inducted in 1960s as shown in the chart below :



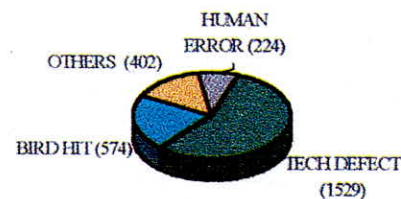
7.4.3 Cause-wise accidents

Human error, technical defects and bird strike were the main contributory factors leading to aircraft accidents and incidents as indicated in the chart below :

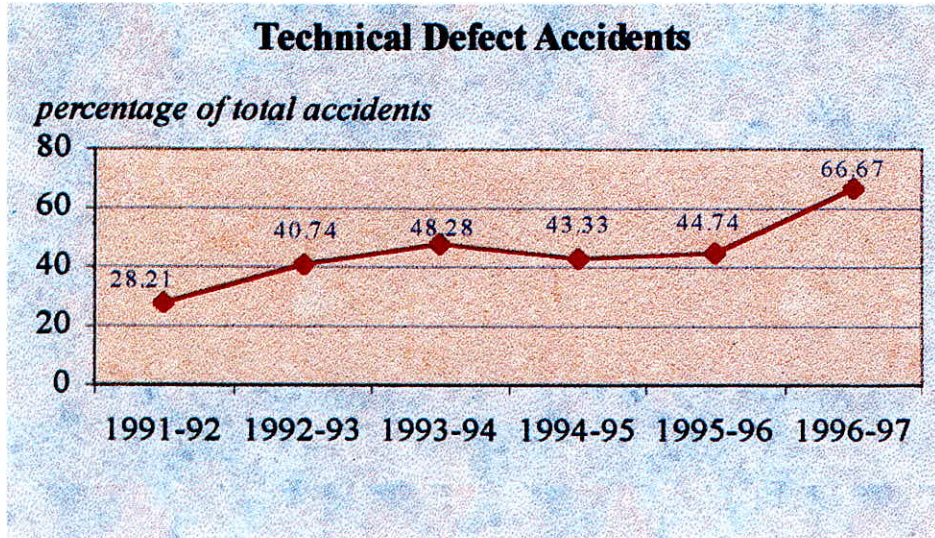
ACCIDENTS



INCIDENTS



The number of accidents due to technical defects showed an upward trend. During 1996-97, it was as high as 67 per cent of the total accidents as indicated in the graph below. Bird strike was responsible in case of 9 per cent of the accidents and 21 per cent of incidents.



7.5 Causes of accident

Operating standards in IAF were not failsafe.

The courts of inquiry (COI) after noticing shortcomings/ deficiencies in IAF flying training, maintenance and operating procedures during their investigations, have made numerous recommendations for revision, standardisation, updation and formulation of special operating procedures, servicing instructions/schedules and training syllabus. Despite this, some of the serious accidents due to mid-air collision, fuel starvation etc. were indicative that the operating standards in IAF were not failsafe. Analysis of cause wise accidents is discussed below:

7.5.1 Human error

Majority of human error accidents were caused due to inadequate flying skill, poor airmanship / supervision and error of judgement.

Human error comprises of error on the part of aircrew on flying duty or ground duty or of both. Majority of human error accidents were caused as a result of inadequate flying skill, error of judgement, poor airmanship/ supervision, inadequate briefing, lack of situational awareness and inability to negotiate even relatively innocuous weather condition. There were instances of accidents due to gross negligence, indiscipline and inability to handle aircraft emergencies and mishandling of controls. Of the total 77 cases of accidents due to human error, 21 were due to inexperienced pilots, 10 cases were due to error of judgement and 8 were due to non-adherence to laid down procedure and instructions. Some of the individual cases

of accidents that had occurred due to human error are discussed below:

- i) A Jaguar trainer aircraft met with a serious flying accident in June 1994 while landing. The accident occurred due to control restriction caused by a card board box placed on the rear cockpit seat. The pilot had carried the unauthorised box against the advice of technicians. IAF sustained a loss of Rs 20 crore.
- ii) Two AN-32 aircraft collided during dark night paradrop rehearsal sortie in mid air in April 1992 killing eight aircrew members and one passenger due to aircrew's over confidence, disregard to briefing and lack of situational awareness involving loss of Rs 11.82 crore. Investigations revealed that re-employed and out of touch pilots were permitted to fly a large formation sortie without preliminary practices.

7.5.2 Technical Defects

There was spurt in aircraft accidents due to technical defects, from 28 per cent in 1991-92 to 67 per cent in 1996-97. Reasons were attributable to manufacturing/overhauling agencies like HAL.

IAF lost a large number of aircraft due to technical defects. 67 per cent of the total aircraft lost in 1996-97 were lost due to technical defects against 28 per cent in 1991-92. 82 out of 187 accidents occurred due to technical defects.

IAF stated, in August 1996, that most of the accidents due to technical defects were attributable to manufacturing /overhauling agencies like HAL. They added that there had been reluctance on the part of the HAL representatives to accept failures pertaining to their technical personnel, manufacturing techniques or quality assurances.

A few instances of lapses on the part of manufacturing/ overhaul agencies are discussed below :

- i) Preliminary investigation of MiG-21 aircraft accident that occurred in July 1996 disclosed malfunction of jet nozzle involving extensive damage to Bevel Gear Pinion manufactured by HAL. However, the HAL representative did not agree to it. The court of inquiry emphasised the need to check all gears of the same lot to establish if there had been any deviation from the laid down technology during the manufacture of these gears. Following a joint investigation at

NAL, some serious lapses in following the laid down technology came to light. Meantime, one more accident occurred in October 1996 involving loss of MiG-21 aircraft due to similar failure. Had the recommendations of the court of inquiry to carry out in house investigation been undertaken immediately, the latter serious accident resulting in loss of an aircraft valuing Rs 3.36 crore could have been averted.

MiG-21 aircraft were grounded to avoid recurrence of accidents due to technical defects.

To avoid recurrence of such accidents, Air HQ decided in November 1996 to ground all MiG-21 variants fitted with R-11 engines. According to Air HQ, till such time the MiG-21 aircraft with R-11 engines are cleared to fly, it would continue to affect training as well as operational preparedness.

Failure of HAL to detect cracks in engine during maintenance led to accidents of Avro aircraft where five crew and 17 passengers on board lost their lives.

- ii) In another instance, an AVRO aircraft was involved in an accident in December 1996 in which besides total destruction of aircraft valuing Rs 4.30 crore, five air/ ground crew and 17 passengers on board lost their lives. The court of inquiry attributed it to the failure of repair agencies to detect cracks on the jet pipe swing link of the engine during servicing of the aircraft. Random checks carried out by the court of inquiry on Avro fleet revealed similar defects in 90 *per cent* aircraft fleet, which should have been detected at HAL during their overhaul. This indicated that the checks carried out at HAL during overhaul/ servicing were inadequate which in turn contributed to serious accidents.

No accountability for accidents was fixed.

Eventhough, as early as January 1995, a decision to impose a warranty clause on all HAL manufactured/ overhauled aircraft or components was taken in principle, yet no significant steps were taken in this regard. Again in January 1997, following remedial measures were suggested by Air HQ to contain lapses at repair/ overhaul agencies.

- involvement of DRDO and other independent agencies in accident investigation,
- expeditious finalisation of warranty clause with HAL.

IAF has not finalised the terms and conditions of the proposed warranty clause as of December 1997.

7.5.3 *Bird strike*

During the period under review, 17 accidents and 574 incidents occurred due to bird hit. An Inter Ministerial Joint Sub-Committee (IMJSC) formed to prepare an action plan to combat bird hit by sanitising of populated area around the airfields, while recommending in February 1990 that the capital cost intensive schemes involving modernisation of the slaughter houses, carcass utilisation centres, garbage disposal and sewerage/drainage system be met by the Central Government, pointed out that though the problem areas and their remedial measures had been identified almost a decade ago, these could not be implemented due to lack of financial resources.

Measures to control bird activity around airfields languished, severely compromising operational efficiency.

The matter of implementation of recommendations of IMJSC for sanitisation of areas around selected airfields continued to languish due to lack of will. Finally, in March 1995, Government decided to provide 100 *per cent* funding of these measures through schemes co-ordinated by the ministries of Urban development and Agriculture. However, no measures had been undertaken as of March 1997 to combat bird hit accidents /incidents.

As a result of non-implementation of these measures with seriousness, IAF entailed a loss of Rs 170.67 crore in bird hit accidents alone during the year 1991-92 onwards and even operational efficiency had to be compromised often, when vital operational missions and training exercises at low levels were forced to be either cancelled totally or restricted severely due to intensive bird activity around airfield. This has severely restricted flying training in some of the squadrons, which ultimately had to be moved out from their present location due to high-level bird activity.

7.6 *Training*

Training is imparted to pilots in three stages in various training establishments. The first stage basic training is imparted on HPT-basic trainer aircraft. Thereafter, stage II training of the pilots takes place on Kiran/ Iskra aircraft. After successful completion of stage II training and award of wings and commissioning, the trainees are trifurcated at stage III into fighter, transport and helicopter streams. Audit examined 141 cases out of 187 cases of accidents which

occurred during 1991-97 and noticed that 77 accidents occurred during training sorties and remaining 64 in other sorties. The factors responsible for accidents are discussed below:

7.6.1 *Non-availability of advance jet trainer*

Absence of AJT created a gap in training from a basic trainer aircraft to a sophisticated fighter aircraft.

The La Fontaine committee set up to make an in-depth study into the accident pattern and entire training process found noticeable co-relation between the pattern of training and aircraft accidents. It pointed out in 1982 that there exists a quantum jump in skill/judgement as IAF had no suitable operational transitional trainer aircraft to fill the intervening gap before the pilots are taken on to the operational fighter aircraft. The Ministry stated that Hunter and MiG-21 were not specially designed as advanced trainer and had some limitations for imparting air combat and weapon delivery training. It added that acquisition of an advance jet trainer (AJT) would enable the IAF to impart better operational training to the pilots. As no AJT was acquired by IAF the stage III training continued on Hunter and MiG-21.

Lack of AJT was the main reason for human error accidents.

An analysis of accident data revealed that there were more accidents in Stage III training conducted on MiG-21 aircraft than on Hunters. While in MiG operational flying training unit (MOFTU), there had been 11 accidents during 1991-97, of which, three were fatal, there were no accidents in Hunter operational flying training unit (HOFTU). The CAS viewed the lack of AJT as one of the reasons affecting the aircrew performance and stated, in May 1992, that the use of an operational trainer such as MiG-21 for advanced jet training exposes the young inexperienced pilot prematurely to an operational type without essential transitional training on AJT. In April 1995, the Ministry had highlighted to Prime Minister's office that lack of AJT was the main reason for human error accidents as pilots converting on sophisticated MiG-21 from Kiran/ Iskra trainers had difficulties in coping with the quantum jump in performance and technology of MiG-21's as compared to pilots converting on Hunters. Stage III training on Hunter aircraft continued till 1996, though it was phased out of training role in 1991 itself. From 1996 onwards, stage III training on Hunter aircraft has been discontinued and is being conducted on MiG-21s only, which is not optimally suitable for operational training role. It is note worthy that most of the simulators for MiG-21 aircraft have remained unserviceable as brought out in

paragraph 7.7.1.

Thus, non-availability of AJT coupled with unsuitability of MiG-21 for transitional training role and non-availability of simulators continued to take a heavy toll of training related accidents besides affecting adversely the combat training of pilots.

7.6.2 Unreliability of trainer aircraft

7.6.2.1 HPT-32 aircraft

HPT-32 aircraft, the basic trainer remained unreliable since its induction.

HPT-32 aircraft manufactured by HAL is in use since 1984 for imparting basic flying training of pilots. The prototype of the aircraft developed by HAL was accepted by Air HQ with diluted Air Staff Requirements (ASR). The reliability of its engine had been suspect since its induction as there had been five serious and three major accidents and 74 incidents between 1988 and 1995.

Despite implementation of operational instructions recommended by a high level joint HAL - IAF study team in August 1991 which had examined various maintenance and operation aspects as well as reliability of the engine, the engine snags still persisted. In 1995 itself, there had been 409 engine related snags creating a grave doubt on reliability of the engine. The inquiry into fatal accident at Air Force Academy and another at Basic Flying Training School in October 1995 pointed towards malfunctioning of the engine. A fresh joint study team was ordered in November 1995 which submitted its recommendations in December 1995. While implementation of recommendations was in progress, more cases of engine snag came to notice. The entire HPT-32 fleet had to be grounded in December 1995.

According to Air HQ, the unreliability of the basic trainer, where experience level of neophyte pilots to cope with such serious emergencies was very limited, was a matter of serious concern. Consequent to engine snags, limitation had been imposed on solo flying of cadets. The basic trainer aircraft, therefore, remained unreliable.

7.6.2.2 *Kiran aircraft*

Kiran aircraft used in stage II training of pilots also suffered from deficient avionics equipment.

The Kiran aircraft being used in stage II training of pilots was also beset with problems. Since 1989, there had been 11 cases of its engine flameout in air or on ground affecting the confidence level in reliability of the aircraft, thereby affecting the flying training. Besides, the performance of radio compass and radio transmission equipment fitted on Kiran aircraft had also been a weak area for considerable time. Therefore, there was immediate need for upgradation of avionics equipment of Kiran aircraft in the interest of flight safety.

7.6.2.3 *Iskra Aircraft*

Iskra aircraft inducted into the IAF in 1975 had been operating without any location aid and survival items. During last 10 years Iskra had a total of eight accidents, of which, five were serious. The accident rate during 1996 was 2.62. The requirement of fitment of rear view mirror was considered essential during close low level tactical sorties of cadets. However, the aircraft continue to fly without any location aid and survival items.

7.7 *Non-availability of synthetic training aid*

7.7.1 *Simulator*

Four of the five simulators imported for training on MiG-21 aircraft were lying unserviceable.

The simulators are synthetic training aid aimed at providing efficient training to teach various flight exercises as well as to enable pilots to acquire higher flying skills. The Rathore Committee on flight safety recommended in June 1994 that maximum number of simulators be made serviceable and operational. Four of the five simulators procured from the manufacturers abroad at a cost of Rs 12.90 crore and installed in 1970s for imparting training on MiG-21 aircraft were lying unserviceable since long. The performance of the fifth simulator, which was partly serviceable, was unreliable and the maintainability of these simulators had become doubtful due to their ageing. Pursuant to the recommendation of the Rathore Committee, Air HQ conducted a study and decided that these simulators be upgraded by changing the major components. Proposals were invited from the vendors, of which, the proposal of M/s RAMCO System, Chennai was found suitable and accepted. Air HQ obtained Government sanction in August 1996 for upgradation of the

simulators at a total cost of Rs 3.18 crore.

However, only one simulator had been upgraded and the remaining four were lying unserviceable/ unreliable as of August 1997. Besides, IAF did not have the simulator that could simulate MiG-21 BIS aircraft, which was the mainstream of the IAF.

7.7.2 *Non-availability of computer based training aid*

Considering the failure of young as well as senior pilots to face emergency situations, the CAS directed that all pilots should undergo computer based training regularly to cope with emergency situations and also to explore the availability of computer based training aid similar to that held by the Air Force of UK and USA. The IAF was yet to provide computer based pilot training device.

The IAF was yet to provide computer based pilot training device to pilots.

IAF also proposed to induct one hotshot simulator in each squadron with a view to reducing human error accidents by thoroughly practising emergencies on the ground using simulators to prepare the pilots to face the actual emergency in air. However, there has been no progress towards acquisition of such a training aid.

7.8 *Inexperienced training instructors*

Director of Flight Safety pointed out in January 1997 that chief flying instructors and senior flying supervisors in the flying training establishments do not hold institutional expertise and were among those who had either been overlooked to take over the command of a flying squadron or ignored for their next promotion. It suggested that unless the best professional officers were posted to flying training establishments, they would continue to demotivate the pilot training, ultimately affecting the trainees performance.

7.9 *Investigation of accidents*

7.9.1 As per extant orders, all aircraft accidents are to be investigated within a period of four months and loss on account of damage to aircraft and Service property be regularised within one year from date of accident.

There were delays in investigation of accident in most cases.

The time limit for finalisation of the COI was increased from one to four months in July 1993. Scrutiny of the process of finalisation of investigation of 112 accidents disclosed that Air HQ failed to finalise the cases within the revised time limit of four months also. The extent of delay in finalisation are indicated in the table :

•	No. of cases wherein Court of Inquiry finalised as of March 1997	:	66
i.	No. of cases finalised within time limit	:	12
ii.	No. of cases in which delay ranged between 4 and 12 months	:	25
iii.	No. of cases in which delay ranged between 1 and 2 years	:	27
iv.	No. of cases in which delay was more than two years	:	02

46 cases were yet to be finalised as of March 1997.

7.9.2 Committees on flight safety

In order to study and recommend various aspects affecting flight safety in IAF, the following committees were set up :

- i. La Fontaine Committee of 1982.
- ii. IG Krishna Committee of 1987.
- iii. Nehra Committee of 1989.
- iv. Pratap Rao Committee of 1991.
- v. Rathore Committee of 1994.
- vi. High Power committee.

The scope of investigation of committees was confined to a few areas only. While La Fontaine Committee mainly dealt with training aspects and accidents with special emphasis on accidents related to human error, the IG Krishna and Nehra Committee, mainly dealt with the technical problems related to MiG-21 variants. The Pratap Rao committee reviewed the accidents involving young pilots and the Rathore Committee was tasked to suggest ways and means to prevent accidents caused due to human error as well as technical defects.

While thirty out of thirty two recommendations of La Fontaine Committee including change in training pattern had been accepted and implemented, the recommendations of IG Krishna and Nehra

Committee have been accepted and implemented in full. As regards 22 recommendations made by Pratap Rao Committee, 16 were implemented and the remaining were not considered feasible. Rathore Committee had made 57 recommendations which were accepted in full. But, only 33 were implemented till May 1996. Some of the major recommendations which were yet to be implemented were related to procurement of weather radar, air combat simulators, increase in the Unit Establishment(UE) of two seater aircraft in combat squadrons and selection of pilots.

Expressing serious concern at the growing number of fighter aircraft accidents, Ministry of Defence constituted a high powered committee under the Chairmanship of Scientific Adviser to Raksha Mantri in February 1997 to identify the causes for increased fighter aircraft accidents and to prepare a comprehensive action plan to minimise the losses. The recommendations of the committee which were submitted in September 1997 were under consideration by Ministry as of December 1997.

7.9.3 Assessment of losses

Merely 47 per cent of accidents occurred between 1991-97 had been regularised.

A scrutiny, revealed that in only 47 per cent of accidents occurred during 1991-97, the loss of Rs 337.15 crore had been assessed and regularised as of March 1997, as indicated in the table below :

Year	No of Accidents	No.of cases where loss regularised	Amount of loss (Rs in crore)
1991-92	39	36	140.02
1992-93	27	21	61.74
1993-94	29	12	81.95
1994-95	30	17	52.30
1995-96	38	01	1.14
1996-97	24	-	-
Total	187	87	337.15

Losses in respect of remaining cases were yet to be regularised.

As regards flying incidents which occurred during the same period loss aggregating Rs 76.93 crore in respect of 353 incidents only had been assessed and regularised as of February 1997.

7.10 Constraints in Investigation

Aircraft Accident Investigation Board formed to investigate serious accidents was handicapped due to manpower constraints.

Aircraft Accident Investigation Board (AAIB) under Director of Flight Safety (DFS) which was responsible to investigate serious flying accidents in IAF and recommend methods of avoiding recurrence of such accidents became virtually defunct due to reduction in manning level with the formation of Institution of Flight Safety in September 1980 and formation of Inspector Generals Branch in January 1986. Pratap Rao Committee while recommending revamping of Aircraft Accident Investigation Board stated that IAF did not have required level of expertise in accident investigation. Only in October 1993, the AAIB was made functional with posting of eight officers to form five core teams. However, in May 1995, DFS stated that AAIB had on its strength technical officers experienced for MiG series of aircraft only and requested for posting of officers qualified/experienced on other aircraft to facilitate a thorough and professional investigation. Again, during 1996 the strength of AAIB depleted which was inadequate to accomplish AAIB task.

The matter was referred to the Ministry in September 1997, their sentence-wise comments were awaited. However, the Ministry stated, in January 1998, that "most of the observations made by Audit had been considered by a high power committee constituted to analyse the causes of accidents and bring out remedial measures to avoid their recurrence. The recommendations of the committee were being processed by agencies concerned". It is evident that observations of Audit are based on facts, that Air Force has taken very little action with full knowledge of facts and that the Ministry has moved from Committee to Committee instead of ensuring remedial action.

8 Induction and utilisation of MI-26 helicopters

8.1 Introduction

In order to meet the heavy lift requirements of Indian Air

Force (IAF), Government procured two MI-26 helicopters at a cost of Rs 36.09 crore and inducted them into squadron service in May 1986. Two more helicopters were inducted in February 1989.

8.2 *Organisational set up*

There is a separate squadron for MI-26 helicopters. Functional and operational control of the squadron is exercised by Air HQ.

8.3 *Scope of Audit*

Procurement, maintenance, serviceability, actual performance of the helicopter and also the manning position of the squadron and other related activities were reviewed in audit through test check of records in operating squadron and Air HQ during 1996-97.

8.4 *Highlights*

- **There were significant shortfalls in the performance of the helicopter since its induction with reference to the approved utilisation rate. The shortfall ranged between 76.74 per cent to 88 per cent during 1992-1996;**
- **Two helicopters valuing Rs 45.43 crore were lying unserviceable and grounded. While one helicopter was grounded for more than 26 months, another helicopter was grounded for a period of 38 months. During June 1995 to May 1996, three out of four helicopters were unserviceable. This adversely affected the operational capability of the squadron. The state of serviceability of the helicopter fleet was poor and registered a declining trend during 1993-1996;**
- **Two of the four helicopters were sent to the manufacturers abroad for overhaul in June 1991. These were received back in August 1993 after 26 months as against the normal period of 10 months, affecting the operational exploitation of the helicopter fleet;**
- **Procurement of two additional helicopters in 1988 at a cost**

of Rs 45.43 crore lacked justification in view of their low utilisation;

- One of the aero-engines overhauled abroad failed prematurely and had to be re-overhauled entailing extra expenditure of Rs 89.67 lakh.

8.5 *Need for a helicopter*

IAF had a mix of medium and light helicopters. Each of them had a limited lift capability which progressively got reduced at high altitudes. In view of this, Air HQ projected a requirement in October 1985 for six heavy lift helicopters. Government, however, approved in November 1985 procurement of only two helicopters along with spares, ground support and other equipment at a cost not exceeding Rs 50 crore with an option to procure two more at a later date after these helicopters were proved under Indian environmental conditions.

8.6 *Procurement and Induction*

The Ministry concluded a contract with the foreign manufacturer in December 1985 for import of two helicopters along with aviation goods at a total cost of Rs 36.09 crore. The helicopters were received and inducted into squadron service in May 1986. The utilisation rate of helicopter per month during 1986 and 1987 was only 11.52 and 12.08 hours respectively as against 50 hours planned.

Despite low utilisation of two helicopters, Air HQ proposed in June 1987 procurement of four more helicopters for meeting the enhanced air maintenance task. The Ministry decided in March 1988 to procure two more helicopters under the option clause, for which approval of the Cabinet Committee on Political Affairs (CCPA) already existed and concluded a contract in April 1988 for their import along with other associated spares for Rs 60.52 crore against the approved cost of Rs 50 crore. The cost of two helicopters was Rs 45.43 crore. The helicopters were received and inducted into squadron service in February 1989. The Ministry stated, in November 1997, that due to enhanced airlift requirement of the Army in Northern and Eastern sector procurement of two additional helicopters was necessary.

8.7 *Serviceability of helicopters*

The requirement of helicopters was worked out based on 75 per cent serviceability. However, the actual serviceability during 1993-1996 was well below the accepted norms and showed a decreasing trend as indicated below :

Year	Percentage of Serviceability Achieved
1993	61.72
1994	52.50
1995	37.37
1996	39.97

Unserviceability of two of the four helicopters for a long period affected adversely the operational capability of IAF.

In addition, one of the helicopters was continuously on ground for over 26 months and another continued to remain unserviceable for a period of 38 months from May 1994 to June 1997. In fact, between June 1995 and May 1996, three out of four helicopters were unserviceable thereby adversely affecting the operational capability of the squadron. Admitting the facts, the Ministry stated that grounding of helicopters for long periods affected the airlift capability of the IAF to some extent.

8.8 *Operation of the helicopter*

There were significant shortfalls in the performance of the helicopters with reference to approved utilisation rate.

There have been significant shortfalls in the flying efforts as compared to the approved utilisation rate in terms of hours of use during the last five years as indicated below:

Year	UR per Helicopter Per month achieved
1992	11.90
1993	21.34
1994	17.34
1995	23.26
1996	20.00

In view of the low utilisation rate,

The Ministry stated, in August 1992, that the low utilisation of the helicopters was because of the fact that the helicopters were

procurement of additional helicopters in 1988 lacked justification.

utilised only in cases where their use was considered inescapable as major components of the helicopters have a very short overhaul life and their procurement was restricted. The operating unit stated, in December 1996, that while there had been no allotted task for eastern sector during the last three years, the requirement of the northern sector was met with the two serviceable MI-26 helicopters. The Ministry stated, in November 1997, that the allotted task was fully achieved by the squadron within the existing utilisation rate. This establishes that there was no enhanced airlift requirement and procurement of two additional helicopters and associated equipment in April 1988 at a cost of Rs 60.52 crore lacked justification.

8.9 *Manning of the Squadron*

Helicopter squadron was formed in May 1986 with a Unit Establishment (UE) of two helicopters. Requisite manpower of 12 officers, 79 airmen and 21 non-combatants enrolled {NCs(E)} was sanctioned in February 1987 for operation and maintenance of the helicopters. On induction of two more helicopters in the squadron from February 1989, the Ministry sanctioned additional manpower of 6 officers, 63 airmen and 7 NCs(E) in July 1993 revising the UE of the squadron to 18 officers, 142 airmen and 28 NCs(E). The additional manpower was expected to cause additional expenditure of Rs 29.15 lakh *per annum*.

In view of the poor state of serviceability of the helicopter fleet, task allotted to the squadron and low utilisation rate achieved by the helicopters, the utilisation of the additional manpower in the squadron remained sub-optimal. The unit authorities stated, in December 1996, that though only one helicopter was serviceable, the aircrew were utilised in rotation to undertake the tasks allotted from time to time and to meet the training requirements. The Ministry stated, in November 1997, that provision of manpower was considered necessary to impart training to make better use of the assets for meeting operational requirements in case of need. The fact remained that the additional manpower was not utilised optimally.

8.10 *Maintenance*

IAF inventory of MI-26 helicopters consists of 12 aero-

Keeping in view the poor state of serviceability, task allotted and low UR, the utilisation of additional manpower remained sub-optimal.

engines; eight of these were installed on the four helicopters and four were procured as spare engines. The prescribed overhaul life of the helicopter is four years and that of its engine is 400 hours/seven years.

Two helicopters sent abroad for overhaul in June 1991 were received back after 26 months against normal overhaul time of 10 months.

Two helicopters inducted in 1986 had completed their life between overhaul in mid 1990. These were ferried to the manufacturers abroad for overhaul in June 1991 and were received back only in August 1993 i.e. after 26 months against normal overhaul time of 10 months. This delay, in turn, affected adversely the operational capability of squadron.

Of the 12 engines, 11 had completed their overhaul life. While four of them had been overhauled along with the above helicopters, five have been overhauled separately abroad at a cost of Rs 4.30 crore. Life extension have been carried out on the remaining three aero-engines. One aero-engine overhauled abroad at a cost of Rs 74.52 lakh in February 1992 was withdrawn prematurely in August 1994 after utilisation of 143 hours only. The engine had to be sent again to the manufacturers in December 1995 for repair and was received back in February 1996 after repair. Rs 89.67 lakh was spent on its re-overhaul. Besides extra expenditure of Rs 89.67 lakh, this also led to deficiency of the engine in the squadron.

Acquisition

9 Procurement of laser guidance Kits

Conclusion of contract with a foreign firm which could not obtain unconditional export licence for use of laser guidance kits on any platform would restrict the use of kits costing US \$ 6.29 million lakh equivalent to Rs19.86 crore on aircraft of indigenous/ western origin only.

Technical committee recommended procurement of kits from lower tenderer only if they reduced the

Laser guidance kits are used to convert an ordinary weapon into laser guided weapon. After evaluating offers from two foreign firms, the technical committee assessed that due to technical superiority of the kit of the higher bidder, consumption of weapon

rate to less than half of higher tender.

with kit of the lower tenderer would be double that with other kit for inflicting the same damage. The committee recommended in February 1994 consideration of the higher offer, unless the lower tenderer reduced their rate to less than half of the rate of higher tenderer. The price negotiation committee, however, recommended procurement of the kits from the lower tenderer at US \$ 19980 per kit. The rate of other firm was US \$ 20296 per kit.

Contract concluded in violation of committee's recommendation.

The Ministry concluded a contract with the foreign firm who had quoted lower rate, in March 1994, for procurement of 315 kits for US \$ 6.29 million at the unit rate of US \$ 19980 although the foreign Government gave conditional export licence for use of the kits on aircraft of only indigenous/ western origin which was contrary to the Ministry's earlier stand that there should be no restriction on the usage of the kits and hence available for universal application. To allow some more time to this firm to secure the appropriate export licence, the Ministry had to conclude contract with the higher tenderer in January 1995 for procurement of another 200 kits at the negotiated reduced rate of US \$ 19975 each. The supplies were received by January 1997.

Meanwhile, the contract with the lower tenderer was reactivated in February 1996, eventhough it failed to obtain unconditional export licence. The supplies of these kits was completed in August 1997. Thus, these 315 kits would be used on aircraft of indigenous/ western origin only.

315 kits can not be used on majority of combat aircraft.

The Ministry stated, in September 1997, that as compensation for the restriction in the export licence, additional multilaser code selection facility and mission planning software were negotiated and obtained free of cost from the lower tenderer. The fact, however, remains that majority of combat aircraft in the Indian Air Force being of other than indigenous/ western origin and limitation on use of the kits would render them useful for a small number of aircraft only.

Thus, conclusion and reactivation of contract for 315 kits despite the firm's failure to obtain unconditional export licence, resulted in procurement of kits costing US \$ 6.29 million with restriction on its deployment on aircraft of other than indigenous/western origin.

10 Failure to conclude contract within validity period

Failure of the Ministry to authorise the Indian mission abroad to conclude contract for import of spares for repair of missiles within the validity of the offer led to large number of missiles remaining unserviceable for long time.

Ministry approved import of spares for repair of unserviceable missiles.

37 Missiles imported during 1986 and 1987 were due for refurbishing in 1993. The foreign manufacturers quoted in May 1993 a price of Rs 7.73 crore for the spares needed for repair of these missiles. The offer was valid until the end of December 1993. The Ministry approved the proposal for import of spares in October 1993 on the consideration that the average repair cost of Rs 20 lakh per missile was economical as compared to the then existing cost of Rs 60 lakh for a new missile. The new missiles have a useful life of five years, when they need a refurbishing to extend their life by five years.

They, however, delayed authorising the Indian mission to conclude the contract.

The Indian mission in the country of manufacture asked the Ministry on 13 December 1993 for authority to conclude the contract. The indecisiveness in the Ministry culminated in a delay in communication of the authority to the Indian mission, which was finally communicated on 21 February 1994. By this time the validity of offer had expired.

The foreign manufacturers jacked up the price after the validity period.

The foreign manufacturers increased the price of the spares for the 37 missiles to Rs 14 crore in May 1994. The Ministry did not favour the import of the spares at the high price quoted by the manufacturers. The Ministry stated, in October 1997, that in the meantime the Air Force had been able to make 21 missiles serviceable by cannibalisation of some of the unserviceable missiles.

The sluggishness in the Ministry compelled them to abandon the proposal.

Thus, indecisiveness and consequent delay by the Ministry in authorising the mission to conclude the contract, despite their having already approved the proposal for import of the spares, compelled the

Ministry to abandon the proposal for import of the spares in view of the hike in the price by the suppliers resulting in the Air Force being left to hold a large number of un-serviceable missiles for a long time.

Works Services

11 Extra expenditure due to delayed sanctioning of civil works

Delay in sanctioning of civil works resulted in cost escalation of Rs 1.13 crore besides avoidable payment of Rs 27.38 lakh as compensation.

A Board of Officers (Board) recommended in February 1986 construction of 76 airmen quarters urgently. Air HQ approved the proceedings of the Board in September 1989 after a lapse of 42 months. Thereafter, the matter remained under correspondence between Air HQ, concerned unit and the Military Engineering Branch. The Engineering Branch assessed the cost of required works services at Rs 1.51 crore and submitted the approximate estimates to Air HQ only in December 1991. The matter again remained under correspondence and Air HQ asked the Engineering Branch in October 1993 to update the approximate estimates. The Engineering Branch revised the estimates from Rs 1.51 crore to Rs 2.16 crore. The case was finally submitted to the Ministry only in September 1994 after eight and a half years of recommendations of the Board. The Ministry asked Engineering Branch in November 1995 to update the estimates. The estimates were further revised to Rs 2.64 crore and the work was sanctioned in March 1996 after a further delay of one and a half year. The work was released for execution in March 1996 and the contract at a cost of Rs 2.29 crore was concluded in September 1996. The works services were scheduled to be completed by July 1998. However, the progress made till May 1997 was only 9 per cent.

Delay in construction of quarters, led to payment of Rs 27.38 lakh as compensation.

In the meantime, compensation in lieu of quarters amounting to Rs 27.38 lakh had been paid upto December 1996 to the airmen for whom the accommodation was to be constructed. This compensation would continue to be paid till the accommodation comes up.

Delay in sanctioning the works resulted in cost escalation of Rs 1.13 crore.

Ministry took 10 years in issue of Administrative approval against the time limit of 10 months required.

As per the extant instructions, the activities from actual assembly of Board to the release of works should be completed within ten months, whereas in the instant case, Air HQ/ Ministry had taken 10 years to issue the sanction, which manifests failure on the part of Air HQ/ Ministry in adhering to the prescribed time schedule resulting in escalation of cost from Rs 1.51 crore to Rs 2.64 crore.

The Ministry stated, in July 1997, that issue of sanction depends upon many factors such as preparation of approximate estimates, prioritisation of works and availability of funds. These are, however, mandatory procedures that had to be followed while issuing the sanction and should have been taken into account while fixing the time limit of 10 months against which the Ministry took 10 years.

Provisioning

12 Clearance of defective material

Clearance of sub-standard material by Director Technical Development and Production (Air) for use in manufacture of cartridges led to waste of Rs 3.58 crore.

Cartridges valued at Rs 3.58 crore were declared unfit by IAF due to defects in them.

Air HQ declared 1.08 lakh cartridges supplied by Ordnance Factory Khamaria during 1990-93 unfit for the intended use of training of aircrew in fighter aircraft. The cartridges developed splinters of shell material when put to use. The Ordnance Factory had manufactured the cartridges out of indigenous shell material cleared by Director Technical Development and Production, Air (DTD&P).

The defects were traced to high Sulphur content in the metal cleared by DTD&P(Air).

The defect in the shell material was traced to very high Sulphur content at three to five times the specification in the metal used for shell material, which resulted in micro cracks. Rectification of the defective cartridges was not considered technically safe and economically viable.

The cartridges are not likely to be used for the intended purpose.

The Ministry stated, in November 1997, that the cartridges have been cleared for use in transport aircraft IL-76. The reply of the Ministry does not, however, take away the negligent and questionable clearance by DTD&P of the sub-standard metal for use as shell material, which has put a question mark on appropriate utilisation of the entire stock of cartridges valued at Rs 3.58 crore.

13 Import of an incorrect interchangeable item

The failure of Air HQ to confirm the correctness of the supplier's claim of interchangeability of an item before concluding contracts with a foreign firm resulted in import of "trunnions" unacceptable to the users. The matter regarding refund of Rs 4.15 crore paid to the firm for 569 "trunnions" and withdrawal of the item by the firm remained unresolved as of 1997.

Test check of documents of a Base Repair Depot (BRD) in February 1995 disclosed that they were holding 669 trunnions costing Rs 5.11 crore since their receipt in August 1993 and March 1994. Trunnion is an assembly of equipment used in repair and overhaul of MI-8 and MI-17 helicopters.

Air HQ imported trunnions under a mistaken impression that the item was interchangeable with washers and nuts.

Scrutiny disclosed that these trunnions were imported by Air HQ with the approval of the Ministry under a mistaken impression on the basis of the manufacturers declaration that the trunnions were interchangeable with washers and nuts, actually required by the BRD. Since Ministry/Air HQ did not make available the original papers to Audit in which the proposal for import of trunnions in lieu of nuts and washers was approved, it could not be ascertained as to who was responsible for not satisfying with the help of technical experts that the trunnions were actually the substitute item before entering into contract for their import.

569 trunnions were received against the contracted quantity of 200 and payment of Rs 4.15 crore was made.

Air HQ concluded three contracts in March 1990, June 1991 and February 1993 for supply of 82, 100 and 200 trunnions respectively. The BRD received 569 trunnions in August 1993 against the contract of February 1993 for supply of 200 trunnions only. Despite the fact that the BRD had intimated Air HQ in

Another 100 trunnions were received in March 1994.

Air HQ asked the supplier to withdraw entire quantity of trunnions. The matter remained unresolved.

September 1993 that they did not require trunnions and had requested instructions for disposal of 369 trunnions received in excess of the contracted quantity, Air HQ cleared the payment of Rs 4.15 crore in January 1994 for the entire quantity of 569 trunnions. Instead of asking the supplier to take back the trunnions supplied in excess of the quantity contracted in February 1993, Air HQ asked them not to supply the trunnions against other contracts. However, the foreign firm supplied another 100 trunnions to the BRD in March 1994. Air HQ did not make payment for this consignment of 100 trunnions and also withheld an amount of Rs 4.15 crore in March 1994 against the firms' dues for supply of other items.

BRD reassessed the utility of trunnions and intimated the Air HQ in February 1994 that even the 200 trunnions, which they had earlier counted towards their requirement, would not be needed by them. Air HQ asked the firm in the same month to withdraw the entire quantity of 669 trunnions since it could not be used in lieu of washers and nuts. The matter, however, remained unresolved as of July 1997. The Ministry stated, in July 1997, that since the firm had offered trunnions as an in lieu item and confirmed it to be interchangeable with washers and nuts, the need for further consultation with technical specialists and BRD was not felt necessary.

The Ministry's reply ignores the basic fact of their negligence, since the washers and nuts costing approximately Rs 153 and Rs 122 respectively for each unit cannot be prima facie expected to be interchangeable with another item i.e trunnions whose unit cost was Rs 96000. It should have occurred to the persons processing and approving the contracts that prima facie the two items could not be interchangeable, which should have alerted them to probe further before entering into contract. It is also not clear how Air HQ cleared the payment for 569 trunnions even after having realised that they had ended up with an item, which was of no use and the terms of contract of February 1993 had provided them the opportunity to limit the payment to at least a maximum of 200 trunnions only. The entire sequence of entering into a contract without verifying the interchangeability and release of payment for 569 trunnions against a contract of 200 only, despite being aware of their uselessness, calls for an investigation and fixing of responsibility.

14 Procurement of an unsuitable system

Negligence of Air HQ in not testing the Vicon – 80 system required for image capture and transmission on DoT circuits before their purchase led to sub-optimal use of the system imported at a cost of Rs 2.72 crore.

The imported system was not suitable for operation on DoT circuits.

Air HQ did not test the equipment on DoT circuits on which it was to be used.

Examination of documents, in Audit in 1996, relating to the performance of the Vicon-80 system meant for closed circuit television imagery evaluation and transmission for rapid interpretation of aerial photography for intelligence briefing, target identification and dissemination of photo imagery over a distance, revealed that the system did not give the required results since their purchase, mainly due to mismatch between the modem of the system and Department of Telecommunications (DoT) circuits.

Scrutiny disclosed that the Ministry imported three systems and subsequently Air HQ purchased 15 systems from Electronics Corporation of India, Ltd., (ECIL) which, in turn, had imported the finished product and complete knocked downs. The total cost of 18 systems was Rs 2.72 crore. The Ministry cleared the equipment after testing it on satellite circuit only. However, since the system was to be used on the DoT leased circuits and DoT open circuits for transmission of the image, they ought to have tested the equipment on the DoT circuits.

Immediately after the purchase when the Air HQ put the system to use, they found that the degradation in the performance of the system was due to poor quality of the existing DoT circuits. The supplier suggested, in May 1987, replacement of the modem to enable its compatibility with the existing DoT circuits. Department of Defence Production and Supplies placed a development order in December 1993 on M/s Systech Ltd., for manufacture and supply of two encrypted modem units at a cost of Rs 7 lakh. The modem offered by the firm was still undergoing trials as of September 1997.

Even before the system was used optimally for the last 10 years since their purchase in 1987, the foreign firm which had supplied them expressed inability to supply the spares primarily due to obsolescence of the product. This compelled the Air HQ to

cannibalise six of the systems to use their parts as spares for the remaining 12 systems.

The Ministry stated, in September 1997, that the performance of the set was unsatisfactory in Eastern Air Command and also on leased DoT circuits where the transmission was slow. It added that the performance was satisfactory in two Air Commands. The Ministry's contention about satisfactory use of the system in response to the Draft Audit Paragraph was inconsistent with the note dated 23 October of Director Engineering Support in Air HQ and ACAS (systems) note dated 28 December 1995 wherein they had stated that the performance of the system was not satisfactory right since inception due to their mismatch with DoT circuits. It was not clear from the Ministry's reply how the system worked satisfactorily in other areas on more or less identical DoT circuits when these did not work satisfactorily on DoT circuits in the Eastern Air Command.

Thus, negligence of Air HQ in not testing the equipment on the DoT circuits, on which they were to be used, led to sub-optimal use of this vital equipment imported at Rs 2.72 crore besides thwarting the basic objective of dependable image capture and transmission.

15 Non-utilisation of transmitters

The unrealistic assessment of the requirement of HF transmitters by Air HQ resulted in non-utilisation of 26 transmitters costing Rs 2.78 crore since their receipt during 1991-93.

Out of 35 sets of HF transmitters purchased in 1991-1993 only nine were issued to user units.

Scrutiny of tally cards in an Equipment Depot (ED) in November 1996 disclosed that the Indian Air Force (IAF) had not utilised most of the 35 sets of high frequency transmitters purchased during November 1991 - September 1993 from Bharat Electronics Ltd., (BEL) at Rs 3.75 crore. Out of 35 sets received in the ED, only nine were issued to the user units during April 1992 to December 1994.

Subsequent scrutiny disclosed that Air HQ and the Ministry had approved the purchase of these transmitters in March 1990 in replacement of the then existing low power transmitters of medium frequency.

The allotment of remaining 26 transmitters costing Rs 2.78 crore was yet to be planned.

The Ministry stated, in December 1997, that they were now planning to allot 26 transmitters costing Rs 2.78 crore to user units. The Ministry also issued instructions to Air HQ to be careful in future and procure items/equipment based on actual requirement and not necessarily on one-to-one replacement of the items declared obsolete.

The Ministry added that in the absence of high power HF transmitters, the requirement of units was met through DoT trunk lines, point-to-point speech circuit and STD, besides the use of the another transmitter with less capacity than the high power transmitters purchased. They also added that the high power transmitters were approved to meet the operational requirements at the time of hostility to provide three tier communication system.

The reply of the Ministry underscores the negligence of the Air HQ in particular, and the Ministry in general leading to compromise in the defence preparedness since while on one hand, the transmitters were purchased to provide for the communication system in the time of hostility, on the other hand most of them were kept in stock for four to six years, they could not be expected to be put to immediate use had any hostility occurred in between.

Other Cases

16 Indecision on collection of scrap

Failure of Air Force to auction the scrap collection rights or to collect scrap under its own arrangement at a range resulted in loss of Rs 63 lakh.

The Ministry authorised in May 1985 collection and auction of all type of scrap arisings from a range under Air Force's own arrangements subject to review after three years. However, an Air Force unit which had taken over the charge of the range in December 1984 was unable to collect the scrap arisings from the range due to

inadequate manpower, transport and lack of security cover against threat from the local villagers. They proposed in November 1985 auctioning of the scrap collection rights. The Air Force Command HQ, recommended in December 1987 to the Air HQ which, in turn, approached the Ministry in October 1988 to allow the unit to auction the scrap collection rights. The Ministry sought advice of the Directorate of Intelligence in November 1988, who agreed to it in January 1989, subject to meeting the security requirements.

Air HQ took five years to examine the security aspects.

However, Air HQ took about five years in re-examining the security aspect and making a second reference to the Directorate of Intelligence in October 1994. The Directorate of Intelligence reiterated in October 1994 that the existing system of verification of credentials of contractors would meet the security requirements. Thereafter, Air HQ communicated their decision to the Command HQ in November 1994, with instructions that they should conclude the contract for collection of scrap from the range. The unit concluded a contract for 1996-97 in March 1996 for Rs 14.01 lakh.

During 1989-96 the unit collected only 18.718 tonne of metal scrap against expected quantity of 1237.45 tonne, resulting in a loss of Rs 63 lakh.

During the intervening period 1989-96 the unit had fired 2215.19 tonne explosives which was expected to yield 1237.45 tonne of metal scrap arisings valued at Rs 76.43 lakh. The unit, however, collected under its own arrangements, only 18.718 tonne of non-ferrous metal scrap and disposed it of at Rs 13.43 lakh. The indecisiveness, thus, led to an approximate loss of scrap arisings valued at Rs 63 lakh.

Thus, failure of Air Force to take decision on auction of the scrap collection rights or to effectively collect the scrap under their own arrangements for over seven years led to a loss of Rs 63 lakh during 1989-96.

The matter was referred to the Ministry in June 1997, their reply was awaited as of January 1998.

17 Fabrication of Mechanical Runway Sweepers

Negligence of Air HQ in purchase of unsuitable auxiliary engines resulted in delay of over three and a half years in fabrication of six MRS. Fabrication of remaining five MRS was yet to be taken up.

Mechanical Runway Sweepers (MRS) are used for sweeping of air field runways to suck the foreign objects from the runway. MRS are fabricated on truck chassis with an auxiliary engine to support the mechanical sweeping system.

Scrutiny of performance of supply order of December 1992 on M/s Standard Castings Pvt. Ltd., in June 1997 disclosed that only four of 11 MRS, the fabrication of which was entrusted to this firm, were delivered. Examination of the documents disclosed the following.

- (i) Air HQ purchased 11 each of TATA truck chassis at Rs 45.34 lakh and auxiliary engine at Rs 12.07 lakh in September 1992. They placed orders on M/s Standard Castings Pvt. Ltd., for fabrication of 11 MRS at Rs 61.93 lakh and two years' maintenance spares at Rs 23.16 lakh respectively. The firm was to complete the work within one year i.e. December 1993.
- (ii) Air HQ realised that they had purchased unsuitable auxiliary engine only after it was pointed out to them by the firm in March 1993. They took two years to procure another set of 11 auxiliary engines at Rs 9.23 lakh in January 1995.
- (iii) Even while Air HQ was aware that they had purchased unsuitable auxiliary engines in March 1993 itself, they were negligent in not canceling or modifying the supply order on M/s Standard Castings for 11 sets of maintenance spares. The firm supplied 11 sets of maintenance spares for Rs 23.16 lakh in July 1994.

Air HQ purchased unsuitable auxiliary engines for fabrication of MRS.

Air HQ did not cancel orders for maintenance spares even after they learnt of unsuitability of engine.

Only 4 MRS were delivered till June 1997.

- (iv) The firm had delivered four fabricated MRS fitted with the new auxiliary engines until June 1997. Air HQ had short closed the supply order in September 1996 to fabrication of only six MRS due to slow progress of work by the firm.
- (v) The Air HQ was yet to place orders for fabrication of the remaining five MRS.
- (vi) Thus, negligence of the Air HQ in purchase of unsuitable auxiliary engines has resulted in a delay of over three and a half years in fabrication of MRS and only four out of 11 MRS have been fabricated as of June 1997.
- (vii) The fabrication of five of them is still uncertain since the Air HQ had not yet placed orders for them. Though the Ministry stated, in July 1997, that the 11 engines purchased wrongly by Air HQ were issued to units and maintenance spares had been merged with the stock for utilisation, the value for money of the total expenditure of Rs 35.23 lakh is questionable.

Fabrication of five MRS was uncertain.

18 Extra expenditure due to non-enforcement of risk clause and failure to place orders within validity of offers

Failure of Air HQ to enforce the risk clause of the contract resulted in extra expenditure of Rs 30.40 lakh. Failure to place orders within validity period of offer resulted in further extra expenditure of Rs 8.65 lakh.

General conditions of contract provide that in the event of failure of contractor to supply the stores within the delivery schedule, competent authority can cancel the contract and purchase the stores at the risk and cost of the defaulting contractor. Air HQ failed to invoke the risk purchase clause while foreclosing the orders and procured the balance quantity at an extra cost of Rs 30.40 lakh as under:

Air HQ did not invoke risk purchase during validity period.

Air HQ placed two supply orders in October 1991 on M/s Naresh Textiles and M/s Gupta Textile Mills for supply of 128500 towels each by May 1992. The firms supplied only 21771 and 21431 towels respectively up to the extended delivery schedule of April 1993. Air HQ short closed the orders for balance 213798 towels only

in July 1994 without invoking risk purchase clause as the stipulated period of 12 months for valid risk purchase from the date of failure expired in March 1994.

Air HQ failed to approve the purchase within validity of the offer.

Air HQ opened fresh quotations in September 1994. The purchase committee considered rates quoted by M/s Ganjee Wala at Rs 26.25 per towel reasonable. The offer was valid up to December 1994. However, approval of the competent authority was obtained only in February 1995, after expiry of the validity of the offer. The delay occurred due to late receipt of file from the Tender Purchase Committee. Air HQ called the quotations again which were opened in April 1995. The rates quoted by M/s Standard Niwar Mills at Rs 33.72 per towel were considered reasonable and accepted. Air HQ placed order for supply of 329598 towels comprising the balance quantity of 213798 against the foreclosed supply order of 1991 and fresh demands of 115800 on M/s Standard Niwar Mills after four years of original order in November 1995. The supply was completed by May 1996; the extended delivery schedule.

The lackadaisical attitude of Air HQ resulted in avoidable expenditure of Rs 39.05 lakh as under:

- Foregoing the risk and cost recovery of Rs 30.40 lakh on purchase of 213798 towels due to delay in risk and cost purchase within the validity of such purchase and
- Extra expenditure of Rs 8.65 lakh on purchase of 115800 towels due to their inability to place supply orders within the validity period of offer.

Delay by Air HQ cost an extra Rs 39.05 lakh.

The Ministry stated, in September 1997, that valid risk purchase could not be made as the time limit for making risk purchase had lapsed. The Ministry, however, did not state if any responsibility was fixed for causing avoidable extra expenditure to the Government and remedial measures taken by them to avoid recurrence of such negligence.

19 Avoidable loss due to delay in detection of non-receipt of equipment

Failure of Equipment Depot to raise the discrepancy report on a foreign firm is likely to result in a loss of Rs 13.57 lakh.

Air HQ received an invoice of imported stores on 20 December 1993. They presented it for payment to Controller of Defence Accounts (HQ) and requested the consignee Equipment Depot on 24 January 1994 to verify receipt of stores and take up the discrepancy, if any, with Movement Control Unit (MCU), New Delhi. The amount was paid on 9 February 1994. The Equipment Depot received the invoice on 16 February 1994 but verified the receipt of stores in June 1994.

Equipment costing Rs 13.57 lakh was not received in the Equipment Depot.

They intimated Air HQ, in July 1994, that an equipment viz., Lantern costing Rs 13.57 lakh included in the invoice, had not been received. The MCU which had received the whole consignment direct from the foreign supplier, confirmed in December 1994, non-receipt of the particular equipment. The Equipment Depot did not call for the documents from the Air HQ in time and did not raise any discrepancy report for non-receipt of equipment. The time of 90 days for raising discrepancy report was already over in January 1994.

Responsibility for loss of Rs 13.57 lakh was yet to be fixed.

The Court of Inquiry held in February 1996, however, did not fix the responsibility for the lapse and recommended write off of the loss not due to theft, fraud or neglect. The Court of Inquiry, therefore, did not fix responsibility for loss, which is prima facie due to negligence.

The Ministry stated, in August 1997, that the case had been taken up with suppliers for retrieval of equipment and court was being reconvened to fix the responsibility.

Thus, failure of the Equipment Depot to raise the discrepancy report for equipment included in invoice but not received by them is likely to result in a loss of Rs 13.57 lakh.

20 Recoveries at the instance of Audit

DCDA (HAL) agreed to recover an amount of Rs 18.12 lakh from HAL after being pointed out by Audit.

Air HQ allotted five aero-engines under warranty for repairs to Hindustan Aeronautics Ltd., (HAL), Bangalore during September 1992 - May 1994. Though warranty repairs were to be carried out free of cost, HAL submitted the invoices for Rs 18.12 lakh to Dy. Controller of Defence Accounts (DCDA) (HAL) during December 1992 - April 1995 towards repair of these aero-engines. DCDA (HAL) failed to carry out proper checks of the invoices for admissibility of claims and made payment of Rs 18.12 lakh to HAL. On this being pointed out by Audit in July 1996 and October 1996, DCDA (HAL) stated, in August 1996 and January 1997, that recovery of Rs 18.12 lakh would be effected from HAL. However, the confirmation of recovery was awaited as of November 1997.

The Ministry issued instructions to Air HQ and Controller General of Defence Accounts to avoid recurrence of such cases.

21 Delay in clearance of cargo

Negligence of Air HQ and Embarkation HQ led to delay in clearance of defence cargo involving wasteful expenditure of Rs 24.59 lakh.

Commandant Embarkation Headquarters (EHQ) Mumbai, who works under the control of Army Headquarters (HQ), is responsible for clearance for all defence cargo imported through Mumbai Port. Five containers of tyres and tubes of an aircraft imported from a foreign firm by Air HQ reached Mumbai Port on 19 April 1995.

Air HQ took 49 days in despatching shipping documents to Embarkation HQ.

Air HQ is required to ensure that shipping documents reach the EHQ at least 14 days prior to the arrival of the ship and the Commandant EHQ is to clear the cargo within three days. Air HQ did not make sure that they obtain the shipping documents in time to

make it available to EHQ Mumbai 14 days prior to the arrival of ship. Air HQ received the shipping documents on 28 April 1995 i.e. nine days after the arrival of the cargo. Yet, far from rushing the shipping document to EHQ Mumbai, Air HQ kept the shipping documents with them for 49 days until 15 June 1995. The shipping documents were stated to have been despatched by them on 16 June 1995, which never reached EHQ Mumbai.

Commandant Embarkation HQ did not take timely action to obtain shipping documents from Air HQ.

Air HQ took action only after notice by MPT about their intention to auction the stores.

Delay of over six months in clearing the cargo resulted in waste of Rs 24.59 lakh.

The Commandant EHQ Mumbai was equally responsible for not alerting the Air HQ promptly even after arrival of the cargo at Mumbai Port. A telex was stated to have been sent by EHQ to Air HQ on 10 May 1995, i.e. 22 days after landing of the cargo, which was again stated by Air HQ as not having been received by them. Air HQ received first intimation on 14 September 1995 through a notice by Mumbai Port Trust which informed them of their intention to auction the unclaimed defence stores. The Mumbai Port Trust had to remind Air HQ again on 26 September 1995 telegraphically.

Air HQ then sent an additional ink-signed copy of the shipping document to the EHQ on 27 September 1995 i.e. five months and seven days after arrival of the cargo. The Commandant EHQ finally cleared the cargo between 7 and 20 October 1995 after paying container detention charges of Rs 21.99 lakh and demurrage charges of Rs 2.60 lakh.

Thus, negligence by Air HQ and Commandant EHQ Mumbai resulted in an avoidable payment of Rs 24.59 lakh out of the Defence Service Estimates.

The Ministry stated, in July 1997, that there were lapses by the Air HQ and EHQ in despatch of shipping documents and clearance of cargo. It added that Air HQ and Army HQ have been asked to investigate the lapses. The result of the investigation were awaited as of December 1997.

It is a fit case for fixing of responsibility in the Air HQ and EHQ for negligence leading to avoidable payment.

CHAPTER IV

NAVY

Review

22 Construction of frigates

22.1 *Introduction*

Frigates play a pivotal role in Naval warfare by performing a variety of functions in both offensive and defensive role. Emergency Committee of the Cabinet decided in 1964 that the Navy should maintain a force level of 28 frigates.

Indigenous production of frigates started in 1966. Certain number of frigates of the Nilgiri Class and Godavari Class were constructed at Mazagaon Docks Ltd., (MDL) between 1972 and 1988.

Cabinet Committee on Political Affairs (CCPA) approved construction of 9 more frigates from time to time under three projects namely Project 15, 15-A and 16-A. Project 15 and 15-A were entrusted to MDL whereas Project 16-A was entrusted to Garden Reach Ship Builders & Engineers Ltd., (GRSE).

22.2 *Organisational set up*

Naval Headquarters (HQ) formulated the design and staff requirements for the frigates, while the two Defence PSUs, MDL and GRSE, undertook the construction. At the apex level, the Controller Warship Production and Acquisition in Naval HQ is responsible for overall control and management of the projects. He is assisted by Director General Naval Design (DGND), Director of Ship Production and Director of Contracts and Cost Management. Warship production Superintendents reporting to DGND are stationed at Mumbai and Calcutta to oversee the construction of the ships on day to day basis and technical check of the bills preferred by the shipbuilders. Controller of Defence Accounts (CDA) Navy is responsible for

releasing the payments of the bills submitted by the shipbuilders.

22.3 Scope of Audit

This review conducted during January - April 1997 covered activities from the conceptual stage of the Projects 15, 15-A and 16-A up to their present position. The documents available at Director General Naval Design/Directorate of Contracts and Cost Management at Naval HQ, Warship Overseeing Team, Mumbai and Calcutta and CDA (Navy) were test-checked. The aspects of timeliness and economy in construction of the frigates and their impact on operational aspects of the Navy were examined.

22.4 Highlights

- **Over the years the strength of frigates in Indian Navy has been depleting due to de-commissioning of the old frigates and tardy progress of construction of new frigates in MDL and GRSE.**
- **Only one frigate out of nine approved by Cabinet Committee on Political Affairs in 1977 and 1986 has been commissioned as of December 1997. While five are at different stages of production, construction of three was never taken up.**
- **The cost of their construction has gone up manifold. The first frigate constructed has already exceeded the cost of Rs 697 crore against the estimated cost of Rs 294 crore approved in 1989.**
- **Overall up to date expenditure for the first batch of three ships including two under construction has already crossed Rs 1741 crore as of October 1997 against the approved estimate of Rs 882 crore. The up to date expenditure for the second batch of ships under construction at GRSE had already crossed Rs 922 crore as of October 1997 against the approved amount of Rs 360 crore. The expenditure in excess of the approved estimates is unauthorised. The expenditure in excess of approved amount requires approval of CCPA.**
- **The two shipbuilders have been paid interest on working**

capital, which was claimed by them under 'material overhead' despite imprest and on-account payment to them. Besides, MDL has been paid variation on elements of cost which were to be charged at fixed rate.

- Instances of some material/equipment for the ships being purchased at varying rates by GRSE and MDL suggested deficient control over purchase of material and equipment.

22.5 *Details of projects*

22.5.1 *Project 15*

CCPA approved indigenous construction of three frigates at a cost of Rs 150 crore in 1977 as a continuation of Godavari Class Frigates under construction at MDL. CCPA approved revision of the cost to Rs 237.30 crore in 1981 at 1980 price level on the basis of quote by MDL. These frigates had improved specification over the ones planned in 1977 and were expected to have improved capabilities for countering missile threat to operate in an increasingly intense missile environment. The production of first frigate was to commence in 1982.

Naval HQ revised the staff requirements in the light of lessons learnt from the Falkland War of April 1982. Government, approved in September 1983, plan for seeking foreign assistance for re-designing the frigates. The design was modified for larger and enhanced capability frigates with foreign collaboration from 1984 and the General Arrangement Design could only be completed by 1985, i.e. eight years after the original CCPA approval in 1977. The actual construction of the first vessel started in November 1987. The frigates were expected to be constructed in a period of about 5 years and delivered between mid 1992 and 1996.

As the commencement of construction of the first frigate was delayed by more than five years and the tonnage of the frigates was also revised, the cost of the project was revised upwards to Rs 882 crore at March 1987 price level, for which CCPA approval was obtained in February 1989.

Commencement of construction activities slipped by five years due to re-designing of frigates.

22.5.2 Project 15-A

CCPA approved construction of three more frigates as the follow on of Project 15 frigates in 1986. The Ministry sanctioned in March 1986 the construction of three frigates at a cost of Rs 360 crore at MDL.

The construction of these frigates had not been taken up. Navy is redesigning them to make them of smaller size with modern warfare capabilities.

22.5.3 Project 16-A

CCPA decided in 1986 to start an alternate production line at GRSE by transfer of technology from MDL and approved construction of three frigates of Godavari Class at GRSE at a cost of Rs 360 crore in July 1986. Presuming two years for transfer of technology, the production was expected to start in 1988 and the frigates were to be delivered between 1993 and 1996.

22.6 Conclusion of contracts

22.6.1 Delay in conclusion of contracts

Contracts were concluded five years after commencement of production.

Conclusion of contract precedes commencement of production. However, in the case of Project 15 and Project 16-A, the contracts were concluded five years after commencement of production as shown below:

Sanction	Expected date of delivery as per CCPA approval	Commencement of construction	Signing of contracts
P-15: 1989(Revised)	Mid 1994	1987	November 1992
P-16A : 1986	Mid 1993	1988	July 1993

On being pointed out by Audit, DGND stated that delay in conclusion of contracts was due to delay in finalisation of certain contractual clauses between MDL and Naval HQ. Examination of the documents by Audit revealed that this delay was due to the time taken to resolve certain issues like amount of profit on licence fee and delivery schedule, etc.

Pending the signing of the contract, payments were released to the shipbuilders for the construction activities on the basis of periodical sanctions issued by the Ministry.

Thus, it is evident that by signing the contract at such late stages of the project, the Navy was not in a position to enforce economy measures or adherence to the delivery schedules.

22.6.2 Cost-plus contracts

Conclusion of cost-plus contract is against the general orders of the Government and also against the pricing policy promulgated by the Ministry in September 1984 for construction of ships. As per the pricing policy, only the contract for the first of a series of ships should be on cost-plus basis and the remaining should be fixed price contracts.

Naval HQ concluded cost-plus contracts with MDL and GRSE for Project 15 and 16-A in November 1992 and July 1993 respectively for all the frigates. Since there was a gap of two to three years in commencement of the cardinal activities of the first and second frigates, it should have been possible for Navy to conclude fixed price contracts for the second and third frigate. Naval HQ also ignored the fact that GRSE was to construct frigates on a proven design with technology transfer from MDL. The Ministry's proposal in July 1996 to convert the cost-plus contract to fixed price contract has also not been acted upon.

22.7 Time Overrun

CCPA in its approvals for Project 15 and Project 16-A frigates had laid down delivery schedules between 1987 to 1989 and 1993 to 1995 respectively. Subsequently, at the time of signing of the

Cost plus contracts were flouting the Policy norms.

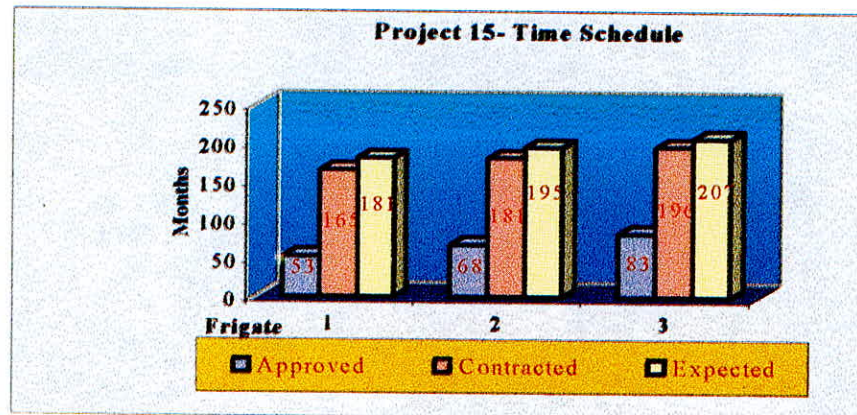
Planned and contracted delivery schedules of frigates were not maintained.

contracts by the Navy with MDL and GRSE the delivery schedules were fixed as 1996-99 and 1995-99 respectively. However, even these delivery schedules have not been adhered to, as is evident from the table below:

Project 15 Ships

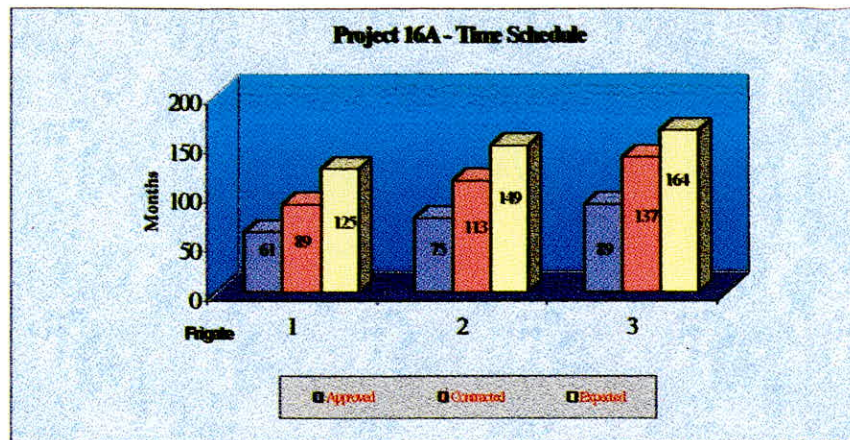
No.	Delivery as approved by CCPA	Delivery as per contract	Latest delivery proposed by shipyard	Delay (months)
1	Feb. 1987	June 1996	October 1997*	16
2	May 1988	October 1997	December 1998	14
3	August 1989	January 1999	December 1999	11

* Commissioned in November 1997



Project 16-A Ships

1	August 1993	December 1995	December 1998	36
2	October 1994	December 1997	December 2000	36
3	December 1995	December 1999	March 2002	27



CCPA had approved about 5 years time for construction of frigates in both the projects. However, Naval HQ signed contracts with MDL and GRSE with construction periods of nine years and seven years for Project 15, Project 16-A respectively. Even these extended time schedules have not been adhered to.

22.7.1 Delay in finalising designs

The delay in delivery of the frigates was largely due to frequent changes in the design by the Navy and lack of proper planning. In the case of Project 15 ships, there were as many as 32 design changes up to May 1994. Even then the designs had not been completely frozen. This led to frequent re-working of large sections of the frigates and consequent delay. In the case of Project 16-A ships, General Arrangement Drawing was finalized only in September 1994. According to Naval HQ, no laid down norms were followed for design and no standard time for each stage of design was fixed. This was indicative of weakness in the design capability in Naval Design Organization.

Frequent design changes by Navy contributed to the delay in construction of frigates.

22.7.2 Delay in procuring essential equipment

An essential system, i.e. the propeller shafting developed by a firm under the supervision of Director of Quality Assurance (WP) for Project 16-A was not delivered as required before the launch of the first frigate, i.e. January 1994. Navy supplied the propeller shaft from its stock to GRSE, which was rusted and pitted. The new shaft received was found to have defects and could be fitted on the ship

only in February 1996.

22.8 Cost overrun

22.8.1 Increase in the estimated cost

Construction cost shot up from Rs 1242 crore to Rs 3891.34 crore.

As a result of delays due to frequent changes in design etc., the estimated cost of Project 15 frigates, which was approved by CCPA at Rs 882 crore in 1989 had shot up by 142 *per cent* to Rs 2137.11 crore, as per draft CCPA paper of 1995. Similarly, estimated cost of Project 16-A frigates also rose by 387 *per cent* to Rs 1754.23 crore from the approved sum of Rs 360 crore. In absolute terms, the estimated costs have gone up by Rs 1255 crore and Rs 1394 crore respectively.

Cases where the increase in cost was unreasonably high are discussed below:

22.8.1.1 Labour and labour overhead

Planned and approved direct labour norms were not followed.

For Project 15 frigates, CCPA, approved 21.35 lakh man-days per ship, up from 13.10 lakh man-days per ship of Godavari class frigates taking into account the larger size of the vessels. However, actual man-days booked for the first frigate till August 1997 were 27.43 lakh and estimate for final completion had risen to 28.50 lakh man-days. Though, Naval HQ had assured the Ministry that a separate letter restricting the man-days to 21.35 lakh would be obtained from the shipyard at the time of signing the contract, no such letter was obtained.

Likewise for Project 16-A frigates 100 lakh man-hours were provided for each ship. But 77 *per cent* of these were consumed by January 1997, when the physical progress was only 62 *per cent*.

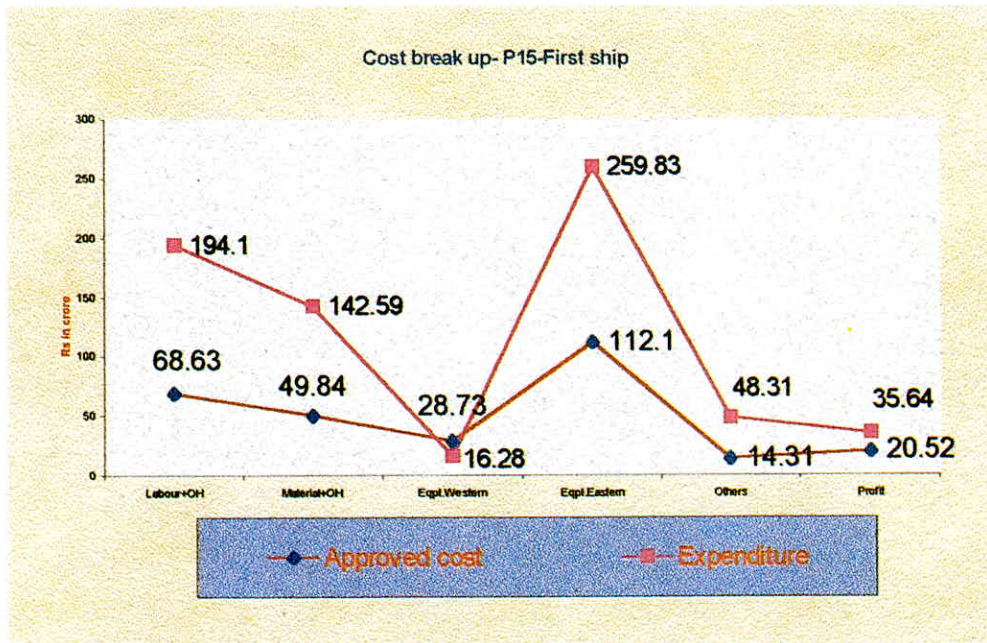
22.8.2 Excess of expenditure over estimates

22.8.2.1 Project 15

The estimates approved by CCPA, cost incurred by MDL and payments made by CDA (Navy) in respect of the first frigate of Project 15 are as given below:

**Break up of cost.
Rs in crore**

Sl.No.	Items	Approved in 1989	Expenditure as per cost return of August 1997
1	Labour and labour overhead	68.63	194.10
2	Material and material over head	49.84	142.59
3	Imported equipment (Western)	28.73	16.28
4.	Imported equipment (Eastern)	112.10	259.83
5.	Direct expenses subcontract & own plant uses	14.31	48.31
6.	Profit	20.52	35.64
7.	Total	294.13	696.75



Thus the expenditure incurred was more than 200 *per cent* of the sanctioned estimates without any further approval by CCPA.

A committee was constituted under the chairmanship of Cmde. Randhawa in 1993 to study and recommend desirable and achievable standard norms for the quantities and rates of input of materials, labour etc. with respect to major activities involved in ship construction. In the absence of standard for booked man-days per unit of work, like hull fabrication, steel outfit laying of pipe and cables etc.

No standard norms followed for booking of man-hours for cost control.

and in absence of ceiling for man-days in the contract, there was no contractual obligation on the part of shipyards to restrict man-days.

The committee's recommendation on normative costs said that scientific norms must be evolved for labour utilisation in order to obviate indiscriminate overbooking.

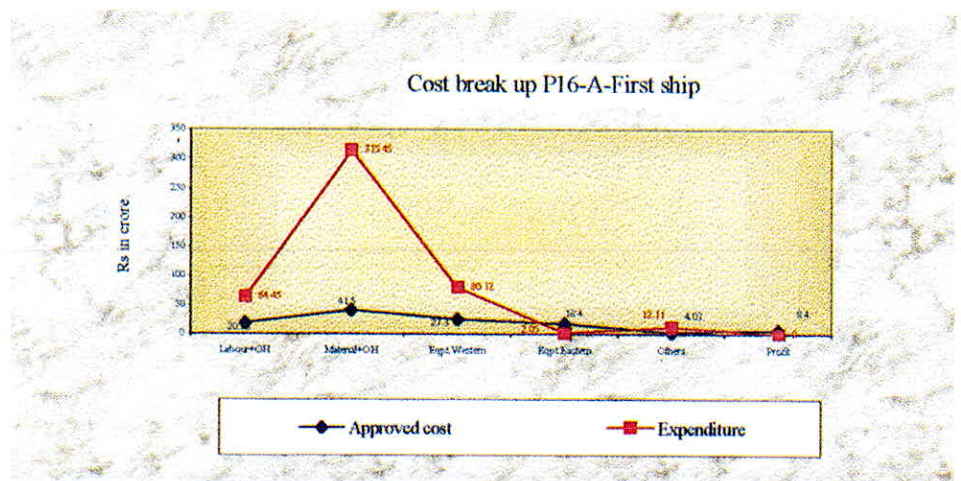
However, no such standards were evolved in the case of these two projects. This coupled with ineffective control mechanism has resulted in the Labour and Labour overhead charges exceeding all estimates approved during execution.

22.8.2.2 Project 16-A

A similar situation emerges by comparing sanctioned cost and expenditure incurred for the first of the Project 16-A frigates under construction at GRSE which are as shown below:

(Rs in Crore)

Sl. No.	Item	Sanctioned in 1986	As per cost Return of July '97
1	Labour and labour overheads	20.33	64.45
2	Material and material overhead	41.50	315.45
3	Imported equipment (Western)	27.30	80.12
	Imported equipment (Eastern)	18.40	2.05
4	Direct expenses subcontract & own plant uses	4.07	12.11
5	Profit	8.40	-
6	Total	120.00	474.18



22.8.3 *Extra contractual payments*

22.8.3.1 *Material overhead*

One of the items of the cost in both the projects, P-15 and P-16A related to material and material overhead. As would be evident from the tables above the expenditure booked by MDL and GRSE on material overhead as of August 1997 and July 1997 respectively are Rs 142.59 crore against the provision of Rs 49.84 crore for MDL and Rs 315.45 crore against Rs 41.50 crore in the sanctioned estimate for GRSE. While both shipbuilders have been paid imprest and on account payment have been made to them periodically, they have included interest on working capital in the material overhead in their cost return and claimed them from CDA (Navy). The interest on working capital constituted 60 *per cent* of the material overhead in case of MDL and over 30 *per cent* in case of GRSE.

Interest on working capital paid contrary to the terms of contract.

22.8.3.2 *Own Plant Usage (OPU) variance on Dry Dock and Slipway charges*

As per the agreement, charges on account of use of the shipbuilders' plant and equipment, not specifically included under labour overheads were to be paid at four *per cent* of the labour overheads as own plant usage charges subject to certain adjustments. Hire charges at the prescribed rate for dry docking and slipway are payable at fixed rates from time to time and no variations on percentage basis is available on hire charges for dry docking and slipway.

However, MDL claimed variations on hire charges at the rates applicable for labour overheads over and above the hire charges at the prescribed fixed rates. Since variations on hire charges for dry docking and slipway, being claimed at fixed rates, were not available, MDL's claim of labour overhead included an inadmissible amount of Rs 51.15 lakh as of August 1997.

22.8.3.3 *Transfer of technology*

While processing the proposal for Project 16-A ships at GRSE, Naval HQ indicated in February 1986 that no cost would be involved in transfer of designs/drawings/technology from MDL to GRSE. No such liability was indicated in the CCPA proposal also. However,

GRSE had paid Rs 1.10 crore up to July 1989 to MDL towards transfer of technology. This payment lacked propriety as Navy had already paid MDL for the technology built up on Project 16 frigates.

22.9 *Payments in excess of sanctions*

Against the revised cost of Rs 882 crore for Project 15 frigates sanctioned in May 1989, an amount of Rs 1741.09 crore has already been paid by the CDA (Navy) to MDL up to October 1997. Likewise, GRSE has been paid Rs 922.27 crore up to October 1997 for Project 16-A frigates against the sanctioned cost of Rs 360 crore.

Payments were made without sanctions of competent financial authority.

Based on progressive expenditure, approval to the revised cost of both projects was required to be obtained from CCPA before incurring expenditure exceeding the limit of the amount approved by CCPA.

On being pointed out by Audit, CDA (Navy) had taken up the matter with the Ministry in July 1997. The reply of the CDA (Navy) and the Ministry are awaited. The expenditure beyond the limits approved by CCPA are, therefore, unauthorised. The Ministry ought to strengthen the budgeting and financial control to ensure that the expenditure is not incurred without approval of the competent authority and their approval is obtained immediately when it is anticipated that the expenditure is likely to exceed the sanction.

22.10 *Other interesting points*

22.10.1 *Procurement of equipment*

Test check of purchase orders of GRSE and MDL for the procurements of same equipment almost during the same period for Projects 16-A and 15 respectively revealed that GRSE purchased them at a considerably higher cost compared to the price paid for by MDL. In four cases, the procurement by GRSE had entailed an extra expenditure of Rs 4.72 crore. Similarly, a comparison of price in the supply orders for two equipment placed by Navy and MDL revealed that MDL which had placed the orders three to six months earlier, had procured the equipment at higher rates resulting in extra expenditure of Rs 1.20 crore in respect of Project 15 ships. Evidently, the Navy

Procurement of material by the shipyards were uneconomical.

had no mechanism of ensuring that the shipyards procured equipment at the most economical rates.

22.10.2 *Purchase of steering gear and stabilisers*

MDL obtained quotations from two firms for stabilisers and steering gear for Project 15 frigates based on the staff requirement prepared by the Navy. The offer of first firm was cheaper by Rs 96 lakh as compared to that of the second firm for supply of one imported set and two indigenous sets. However, on the advice of Naval HQ, MDL placed supply order on second firm for three sets in November 1987.

This was despite the fact that the General Manager of MDL had opined that the offer of the first firm was also acceptable and that there was no rationale in accepting the higher offer of the second firm, which he considered unfair, unreasonable and unsuitable. Even the Navy had found both the offers acceptable. Naval HQ did not put forth any reason for accepting the higher rates.

22.10.3 *Fire on board a frigate under construction*

On 16 May 1996, a fire broke out on board the first frigate of Project 15. The Board of Inquiry ordered by MDL suspected deliberate mischief /sabotage and commented on inadequate fire fighting preparedness at MDL. The loss due to the fire was assessed at Rs 2.16 crore and the cost of repairs had been assessed at Rs 2.26 crore.

Yet another fire broke out on 10 October 1996 on the same frigate. Naval HQ contended in May 1997 that this fire did not damage any of the items on board and had therefore no cost and time overrun.

Frequent incidence of fire not only reflects on the inadequacy of the fire fighting arrangements of ship builders but also raises doubts about the security arrangement in the shipyard when viewed in the context of observation made by the Board of Inquiry about the deliberate mischief/sabotage. The MDL was contractually bound for the care and protection of the vessel till it is handed over to the Navy.

Lack of security arrangements resulted in fire on board the ship under construction.

22.10.4 *Non-levy of liquidated damages and non-amendment of the contract*

As per the conditions of the contract liquidated damages were to be levied for delays of more than three months in delivery schedules and two months beyond the delivery schedules in respect of Project 15 and Project 16-A respectively. If the delivery of vessel(s) exceeds five months, the delivery schedules have to be modified by formally amending the contract.

However, though the actual delivery of first frigate as per the contract for Project 15 was in June 1996 and the anticipated delivery of the other frigates under both the project are far beyond stipulated period, the contracted delivery schedules have neither been amended nor liquidated damages levied.

22.11 *Impact on force level and Defence preparedness*

The desired force level of frigates in the Indian Navy was assessed at 28 in 1964 and the indigenous construction of the frigates was a step in the direction of achieving this objective. However, the delay in construction of frigates due to redesigning, delay in launching an alternate production line etc. has led to a situation where only one frigate constructed indigenously has been commissioned in the Navy during the last nine years.

Force level continued to deplete, compromising operational preparedness.

During the above nine year period large number of frigates were decommissioned with the result that the overall strength of the frigates, instead of going up has actually come down significantly. Further, even the existing frigates in service being of old vintage are due for decommissioning during the coming years. This could lead to a further reduction in frigate force level with obvious consequences for defence preparedness of the country.

22.12 *Project monitoring*

CCPA while approving Project 15, stipulated that a project leader with requisite authority be identified within the management structure. Similarly, in the case of Project 16-A the then Prime Minister had directed that the Project leader should be identified and

The monitoring mechanism lacked

adequacy despite the directives by the PM.

told to assemble his team. He should be vested with full autonomy so that accountability could be fixed. However, no such central project leader was nominated.

On being pointed out in Audit, Naval HQ stated that the project leader should have been nominated at MDL. Naval HQ, further stated that the progress of the projects was being reviewed quarterly with representatives of the Ministry and CDA (Navy).

However, this is not tenable since it was expected of the project leader that he will have full autonomy and accountability for the project and therefore, a sufficiently high level officer should have been appointed and provided with overriding authority over shipbuilders and Naval Design Directorate. Besides, even the direction of the PM was not followed.

The matter was referred to the Ministry in October 1997; their reply was awaited as of January 1998.

Acquisition

23 Irregularities in acquisition of land

Ministry approved acquisition of a plot in Mumbai for Navy at Rs 11.49 crore against DGDE assessed price of Rs 1.88 crore only for the expressed urgent requirement of expanding their flying activities. The Navy proposes to use this expensive land for construction of married accommodation.

Land measuring 3.693 acres (14945.57 sq.mtr.) at Sassoon Dock Mumbai, was requisitioned under the Defence of India Act in February 1942 and was in the possession of the Army since 1943. When the Army no longer required the land, the Navy took it over in 1978 and proposed its acquisition for construction of married accommodation. The Ministry, however, did not agree to the proposed acquisition for construction of married accommodation stating that there was hardly any case for acquisition of the land in question unless the land requirement for all the three Services was worked out

and the net deficiency known. Naval Headquarters(HQ) projected urgent operational necessity of the land in July 1986 for expansion of flying activities. The Ministry issued the sanction for its acquisition in October 1986 at a cost of Rs 1.88 crore, as estimated by Director General Defence Estates (DGDE). Collector of Mumbai, ordered acquisition of the plot in March 1987 under the Requisitioning and Acquisition of Immovable Property Act (RAIP) and paid advance of Rs 1.51 crore in June 1988 towards 80 *per cent* of the estimated compensation to the landowner with a liability to pay the balance on assessment of the actual compensation by the Collector.

DGDE had assessed in August 1985 the compensation at Rs 1.88 crore on the basis of sale value in 1978 of the land adjacent to it, @ Rs 637 per sq.mt. duly escalated by 10 *per cent per annum*. As per the RAIP Act, the compensation should have been determined by an agreement or the price the requisitioned property would have fetched in the open market on the date of acquisition. However, this was not done. When the Collector got the valuation done through the Town Planning Department of the State Government, in April 1990, the compensation payable was worked out as Rs 11.49 crore. The Ministry decided, in March 1992, that it would be in the interest of the Navy to vacate the land and to reconvey it to the landowner considering the astronomical increase in compensation. However, DGDE did not favour this decision as huge amount by way of rent would be payable to the landowner in the event of reconveyance. The Navy too expressed difficulties in vacating the land. Considering these factors and having confirmed by the DGDE that the compensation assessed by the Collector was reasonable, the Ministry sanctioned in June 1994, payment of Rs 11.49 crore for the acquisition. DGDE deposited the balance of Rs 9.98 crore payable to the landowner with Bombay High Court through the Collector in January 1995.

The compensation exceeded the initial estimate by Rs 9.98 crore and had to be paid as a fait accompli.

The land was not used for the intended purpose.

Eventually, the Navy did not utilise the land for the intended purpose of expansion of their flying activities for which it was acquired. Instead, they are contemplating construction of married accommodation on it.

The matter was referred to the Ministry in July 1997; their reply was awaited as of January 1998.

24 Non-utilisation of imported sonars

Sonars costing Rs 42 crore were imported by Navy without proper evaluation of actual requirement. These have no prospects of their immediate utilisation. The indigenous development and production efforts have also remained unexploited so far.

Sonars are used by Naval Ships for detection of submarines over long range. This paragraph underscores the negligence by Navy in finalisation of the staff requirement for indigenous developmental project and premature import of at least three of the six sonars during 1994-96 besides procedural omission of violation of delegated powers as under:

- i) Naval Physical and Oceanographic Laboratory (NPOL) undertook a project for development of a prototype of sonar in 1986 at an estimated cost of Rs 6.04 crore. NPOL was expected to develop the prototype by April 1991 with scheduled development of the engineered system by 1995.
- ii) The Ministry concluded a contract in June 1990 with a foreign firm for procurement, installation and commissioning of three sonars at a cost of Rs 19 crore with an option for import of three more sonars at Rs 19.78 crore by December 1993. The three sonars received between February 1991 and June 1992 at Rs 26.05 crore were installed on three Naval anti-submarine warfare ships. The contract of June 1990 also provided for setting up of three logistics support workshops for sonars under supplementary contract, which was concluded in March 1992. The workshops to be set up by December 1995 were actually completed by February 1997, behind schedule by 14 months. The workshops were originally estimated to cost Rs 12.27 crore. However, the actual cost of materials alone imported in February 1994 from the foreign firm aggregated to Rs 20.13 crore.

While indigenous development of sonars was in progress, the Navy imported three sonars at Rs 26.05 crore.

The requirement was split up and sanctioned in piece-meal by the Ministry.

The total cost of import of the three sonars and equipment for these three workshops under the contract of June 1990 and supplementary contract there under aggregated to Rs 46.18 crore. As of June 1990 all proposals for expenditure beyond Rs 20 crore needed the approval of Cabinet Committee on Political Affairs (CCPA). By

splitting the contracts for the three sonars and logistics support workshops, the Ministry avoided placing the proposal before CCPA for their approval.

While the Navy slow pedalled on the indigenous development, three more sonars were imported at Rs 42 crore knowing fully that there would not be any immediate use.

While NPOL had developed the prototype of sonar by October 1991, the Navy did not finalise their outline staff requirements for four and a half years until February 1996. NPOL, therefore, could not bring out the engineered model as per the original schedule. Meanwhile, the Ministry approved another contract for import of three sonars from the same firm in January 1994 at Rs 42 crore for their deployment on three naval ships of a particular class under construction in Garden Reach Ship Builders & Engineers Ltd. (GRSE). The import of sonars was premature and the Ministry and the Navy failed to assess the progress of construction of the ships. Scrutiny disclosed that even the keel for two of the three ships were not laid by January 1994. As of now, the three ships are expected by mid 1998, end 2000 and mid 2002 only. On the basis of past experience of indigenous construction of ships the completion of these ships is likely to go even beyond these dates. Thus, sonars received by January 1996 under the contract of January 1994 are likely to remain unused for at least two to six years. The approach of the Ministry and Navy towards the development project *vis-a-vis* their preference for premature import of sonars is not discernible. On one hand they did not facilitate development of sonars by NPOL by defining the qualitative requirement quickly followed by trial and evaluation and on the other hand, they chose to import three sonars at Rs 42 crore much in advance of their actual requirements.

On the issue of their failure to obtain the approval of CCPA, the Ministry stated, in October 1997, that since the cost of three sonars under the contract of June 1990 was only Rs 19 crore, the approval of CCPA was not necessary. The Ministry had ignored the fact that the contract, in essence exceeded the then delegated powers of the Ministry since the import of equipment for logistics support workshops were made through supplementary contract under the original contract of June 1990. The Ministry ought to have estimated the cost of equipment etc. for logistics support workshops at the time of the main contract itself and obtained the approval of CCPA.

On the question of scheduled development of the engineered system by 1995, the Ministry stated that scope of R&D project was

only for development of R&D model of sonar system called 'Vasuki.' The reply of the Ministry was not consistent with their Memorandum for Expenditure Finance Committee for sanction of the R&D project and their note 8 of 25 May 1989 on file No.WP/1407/1/MF wherein it was clearly stated as "It is planned to fit indigenous towed array sonars on our new construction ships of Project 16-A, Project 15. NPOL Cochin is presently involved in a competence building R&D project, production model of the same is likely to be available only by 1994/1995".

Works Services

25 Avoidable expenditure due to delay in according financial concurrence

Delay in obtaining financial concurrence for acceptance of a tender resulted in extra expenditure of Rs 59 lakh. This also resulted in escalation in the cost of project from Rs 2.84 crore to Rs 4.64 crore.

The Ministry sanctioned in March 1987 construction of the deficient married accommodation for senior sailors and DSC personnel at a station at a cost of Rs 2.84 crore.

Tenders for site clearance and construction of building including internal services of the project, issued in July 1988, were received by the Chief Engineer Cochin Zone (CE) in October 1988. The lowest tender of Rs 2.53 crore being more than the amount of Rs 2.45 crore available in the administrative approval for this portion of the project, the CE referred the case to the Engineer-in-Chief (E-in-C) in November 1988 for obtaining financial concurrence of the Ministry. Although Naval HQ sent the file to the Ministry on 3 January 1989, the Ministry failed to communicate financial concurrence within the extended date of validity, i.e. April 1989. The lowest tenderer refused to extend the validity further. As a result, the lowest tender could not be accepted. Thereafter, fresh tenders were issued on four occasions in June 1989, March 1990, October 1990 and March 1991 and the lowest quote against last tender was

Financial concurrence not accorded against first call of Rs 2.53 crore.

Rs 3.12 crore.

Financial concurrence accorded against last call of Rs 3.12 crore. Cost of the project was revised to Rs 4.64 crore.

The financial concurrence sought in May 1991 from the Ministry against last tender was finally accorded in December 1991 with overall liability of Rs 3.44 crore for site clearance and building portion of the project. Thereafter, CE accepted the tender in January 1992 and the work commenced in February 1992. The delay also resulted in escalation of the overall cost of the project, necessitating the revision of sanction in October 1995 from Rs 2.84 crore to Rs 4.64 crore. As of June 1997, the project was stated to be 78 per cent complete.

Thus, the delay in obtaining financial concurrence from the Ministry against the first call led to an avoidable expenditure of Rs 59 lakh (difference between fifth call Rs 3.12 crore and first call Rs 2.53 crore) towards execution of contract, besides escalation in the total cost of the project from Rs 2.84 crore to Rs 4.64 crore.

Accepting the facts, the Ministry stated, in November 1997, that the net difference of Rs 59 lakh between tendered amount in the first call and fifth call, was on account of escalation in the cost during intervening period of three years.

26 Non-utilisation of assets

Inordinate delay in construction of a building, resulted in non-utilisation of the assets costing Rs 1.61 crore for intended purpose.

Naval Headquarters (HQ) decided in 1982 that all equipment/stores relating to a particular class of ships, supply of which was expected during 1983-85, be stocked at a Naval Store Depot (depot).

Government sanctioned in January 1986 the construction of assets at

A board of officers (Board) convened in June 1982 recommended construction of a new three storied building, partly air-conditioned at a rough estimate of Rs 60 lakh. However, Government

a cost of Rs 97.94 lakh revised to Rs 99.47 lakh in October 1987.

sanctioned construction of these assets after 3½ years in January 1986 at a cost of Rs 97.94 lakh, revised to Rs 99.47 lakh in October 1987. Meanwhile, the equipment/stores having arrived in the depot during 1983-85 had to be stocked in the existing store houses by readjustment.

Construction of building was completed in March 1995 at a cost of Rs 1.61 crore. Escalation amounting to Rs 10.73 lakh had to be paid due to delay in construction.

Even after sanction of works, Military Engineer Services (MES) took more than three years, from October 1987 to April 1991 in concluding the contract agreement for the construction. MES also delayed construction by more than two years. The total cost was further revised to Rs 1.62 crore in February 1993. The building was handed over to the users in March 1995. The completion cost of the building at Rs 1.61 crore included payment of escalation charges of Rs 10.73 lakh. In the meantime, another unit handed over a large godown to the depot in December 1991 and the equipment/stores were shifted to that godown.

The building was unsuitable for the purpose for which it was constructed.

While the construction of the building was in progress, the users pointed out in August 1993 that the building would be unsuitable for the intended purpose as the doors were too small for the entry of material handling equipment. However, modification of doors to the required dimension was not feasible as structural beams had already been constructed. Ultimately the building was completed with the door of the size 9' x 8' against required door size of 12' x 10'. The depot accepted this as fait accompli. The ships were scheduled for decommissioning in 1997-99. Naval Command, however, stated in July 1997 that decommissioning was likely to be postponed.

It was noticed that the size of doors had never been earlier specified by the users until August 1993. The inordinate delay in sanction and construction led to completion of accommodation costing Rs 1.61 crore when its necessity for the intended purpose ceased to exist. Shifting of the items to new building was not viable.

The matter was referred to the Ministry in August 1997; their reply was awaited as of January 1998.

Provisioning

27 Extra expenditure in procurement of spares

Ignoring the cheaper offer of a firm by Naval Headquarters resulted in extra expenditure of Rs 17.44 lakh in purchase of spares.

Controller of Material Planning Naval Stores Depot (CMP) projected in August 1993, requirement of spares for repair of PCBs to be used during normal refit of INS Viraat, planned in 1993-95. Director of Logistics Support (DLS), raised an indent in July 1994, alongwith quotations from M/s Siemens Plessey Systems and M/s FEL Avionics Ltd. in May and June 1994 respectively on Directorate of Procurement/ Foreign Purchase Cell (DPRO/FPC) for arranging procurement.

DPRO/FPC failed to process the cheaper offer.

DPRO/FPC did not process the quotations received in May and June 1994 although the offer of the latter firm was valid for sixty days and was also extendable further. Instead, DPRO/FPC invited fresh quotations on limited tender basis and concluded two contracts in February 1995 with the former at £74554.25 and latter at £87637.90 respectively. The supply of spares was completed by June 1997 under both the contracts. In the meantime, as the normal refit of the ship was completed between 31 December 1993 to 29 November 1994 the entire stock of spares remained un-utilised as of May 1997.

Non-processing of cheaper offer led to extra expenditure of Rs 17.44 lakh.

A cost comparison of spares offered by FEL Avionics Ltd. in June 1994 and those based on fresh quotation revealed net extra expenditure of Rs 17.44 lakh. The extra expenditure was attributable to the failure of DPRO in not processing the offer of the FEL Avionics Ltd. of June 1994 for which no valid reasons/ justification was recorded.

The matter was referred to the Ministry in June 1997; their reply was awaited as of January 1998.

28 Extra expenditure due to delay in procurement of underwater valves

Ignoring the cheaper offer by Naval Headquarters caused extra expenditure of Rs 73.65 lakh besides avoidable payment of dry docking expenses amounting to Rs 48 lakh due to non-availability of underwater valves in time.

Leakage of the underwater valves in INS Viraat caused a flooding incident in 1993, which kept the ship out of operation for three months besides damage to various machinery. As refurbishment/ repair of the valves proved partially successful for short duration only, fitment of 154 new valves was scheduled during 20 July 1995 to 29 October 1995.

Naval Stores Depot, Mumbai projected requirement of 154 valves only in October 1994 to Director of logistic support in Naval HQ. The latter raised an indent for earliest procurement of 148 valves on 2 March 1995 to Directorate of Procurement (DPRO).

Navy opted for import of underwater valves at an additional cost of Rs 73.65 lakh on the ground of ensuring timely supply.

Tenders were received from two indigenous and one foreign firm in April and June 1995. Although the prices quoted by a Mumbai based firm were cheaper by Rs 73.65 lakh in respect of 95 valves in comparison to the quotations received from foreign firms, Naval HQ decided in May 1995 to procure the valves from foreign firm to ensure timely availability of reliable valves.

Naval HQ concluded two contracts for supply of 100 valves at a cost of Rs 2.04 crore with the foreign firm as under:

Date of contract	Qty of Valves	Cost (Rs in lakh)	Delivery Schedule
30 May 1995	68	159	By 31 August 1995
13 July 1995	32	45	By 6 October 1995
Total	100	204	

Foreign supplier failed to supply the valves within the delivery schedule.

The final cut off date agreed to by the Cochin Shipyard Limited (CSL) entrusted with the task of fitment of valves, for supply of the valves to them was 5 October 1995. The foreign firm did not supply the valves within scheduled delivery period. Actual supply materialised as follows.

Qty. of Valves received	Date of receipt at CWH Mumbai	Number of valves and date of receipt at CSL	
14	8 September 1995	27	5 October 1995
13	22 September 1995		
41	29 September 1995	41	10 October 1995
32	19 October 1995	32	30 October 1995

Delayed receipt of valves at CSL resulted in non-fitment of 62 valves.

Even though the dry docking schedule was extended up to 7 November 1995, the CSL could fit only 38 valves in the ship. Out of the remaining 62 valves, 22 could not be fitted due to time constraint, two were defective, 27 were unsuitable requiring modification and 11 were surplus.

Chances of utilising 40 valves in future are remote.

Thus, the foreign firm could neither meet the delivery schedule nor were the valves supplied by it reliable. The chances of utilisation of 40 valves costing Rs 80 lakh are remote.

Additional expenditure was incurred on repair of defective valves.

The main circulating valves procured by CSL from the same foreign firm were also found defective. Certain additional works had to be carried out by CSL on them and they are to charge Rs 8.74 lakh therefor if the foreign firm does not pay for it. Investigation into the reasons for procurement of unsuitable, excess to actual requirement and defective valves including main circulating valves was contemplated by Naval HQ.

Extension in dry-docking schedule caused extra expenditure of Rs 48 lakh.

CSL completed the essential repair dry docking by 13 January 1996. In the process, the extension of dry-docking schedule resulted in extra expenditure of Rs 48 lakh.

Thus, delay of over 15 months in projecting the requirement and raising the indent for underwater valves resulted not only in extra expenditure of Rs 73.65 lakh due to acceptance of higher tender but also to non-fitment of 40 valves costing Rs 80 lakh despite extension of dry docking at a cost of Rs 48 lakh. Further, while the shipyard incurred an expenditure of Rs 8.74 lakh on rectification of six main circulating valves, 27 underwater valves were still to be modified and two were defective.

The matter was referred to the Ministry in July 1997; their reply was awaited as of January 1998.

29 Failure to invoke risk purchase in time

Failure to make risk purchase within the stipulated period resulted in extra expenditure of Rs 44.50 lakh

Naval HQ purchased a heavy crane in 1994 after six years of sanction for its purchase. Their failure to make risk purchase within the stipulated period resulted in extra expenditure of Rs 44.50 lakh. Audit scrutiny of purchase disclosed the following:

Naval HQ issued PAC for a non PAC item.

i) Naval HQ placed an indent for the crane on Director General Supplies and Disposals (DGSD) in June 1988 along with proprietary article certificate (PAC) in favour of M/s Marshall Sons & Co. DGSD had to refer back the case to Naval HQ in July 1988 as this crane was not a proprietary item. Thereafter, PAC had to be withdrawn by Naval HQ.

ii) DGSD placed an order on M/s Marshall Sons & Co. in June 1989 for supply of the crane at a cost of Rs 40.50 lakh by November 1989 which was extended up to July 1990. Further extension was not granted as Naval HQ put a condition that it may be subject to hiring of crane at the expense of the firm.

Naval HQ failed to give clearance for risk purchase within the stipulated period.

iii) After cancellation of above order at risk and cost of defaulting firm, DGSD floated risk purchase tenders in December 1990 and informed Naval HQ on 21 February 1991 that the date of breach was 31 July 1990. Even though stipulated period of nine months for risk purchase from date of breach expired on 30 April 1991, Naval HQ did not give clearance for acceptance of either the lowest offer of Rs 50.05 lakh or the second lowest offer of Rs 54 lakh till 15 April 1991, when the offers expired. DGSD had to treat the indent as cancelled/withdrawn. Naval HQ had submitted the case to the Ministry on 3 April 1991 and reminded the Ministry for return of the file only on 30 May 1991 after the offers expired. The file was considered to have been lost whilst with the Ministry of Defence. However, the loss of file had not been investigated. Naval HQ reconstructed another file in October 1991 i.e. six months after the stipulated period of valid risk purchase expired.

The delay in risk purchase rendered the extra expenditure of Rs 44.50 lakh unrecoverable.

- iii) The crane was ultimately procured by Naval HQ in August 1994 after three years of cancellation of indent by DGSD at a cost of Rs 85 lakh, resulting in an extra expenditure of Rs 44.50 lakh. During the intervening period the user had been operating under severe constraints. No damages could be recovered from the defaulting firm till January 1997.

The matter was referred to the Ministry in June 1997; their reply was awaited as of January 1998.

30 Purchase of sub-standard items

Failure of inspection authority to inspect the stores properly before despatch, resulted in receipt of sub-standard stores valuing Rs 23 lakh from a firm between May and July 1995.

25 items valuing Rs 42.94 lakh were supplied by a firm after inspection.

Controller of Procurement of Naval Stores, Visakhapatnam placed supply order on M/s HC Supplies Division in November 1994 for supply of 26 items for refit of a ship by December 1994 at a cost of Rs 47.21 lakh. Quality Assurance Officer (Warship Equipment), New Delhi inspected 25 items tendered by M/s HC Supplies Division in May and July 1995 before despatch to the consignee. After acceptance in inspection, the firm supplied these items valuing Rs 42.94 lakh between May and July 1995. The firm was paid Rs 40.90 lakh till January 1997. The items were guaranteed for a period of 12 months from the date of inspection or receipt whichever was later.

13 items valuing Rs 23 lakh were found substandard in April 1996.

Firm neither replaced the items nor the cost thereof was recovered from it.

During visual inspection of the items in February 1996 the users found that the items were sub-standard and the firm was asked to replace them failing which their cost would be recovered. The firm requested for joint inspection on 29 February 1996. Admiral Superintendent, Visakhapatnam reported in April 1996 that 13 items costing Rs 23 lakh were found below specification/defective. The defects to quote a few were "Item is MS not Bronze", "Not as per drawing", "Without holes stapping". It is clear that the inspecting officer failed to inspect the stores properly before despatch. As of April 1997, neither joint inspection had been conducted nor was the amount recovered. In the meantime, refit of the ship was stated to have been completed in April 1996 by cannibalising spares from another ship.

Thus, the failure of inspection authority to inspect the stores properly before despatch resulted in procurement of sub-standard stores valuing Rs 23 lakh, which remained in the stock since their receipt in 1995. This calls for fixing responsibility for perfidious inspection and clearance.

The matter was referred to the Ministry in May 1997; their reply was awaited as of January 1998.

Other Cases

31 Inordinate delay in installation and commissioning of a system

A system costing Rs 63.45 lakh could not be proved for acceptance since its procurement in 1991 due to failure of Naval HQ to procure all essential items alongwith the system and delay in rectification of defects observed at the time of installation.

BEL supplied a system and spares at a cost of Rs 63.45 lakh by October 1991.

In order to protect a Naval ship from enemy torpedoes, Naval HQ placed an order on Bharat Electronics Ltd (BEL) in March 1990 for supply of a detection system and spares at a total cost of Rs 63.45 lakh. As per the order BEL was responsible for proving the system. The system was received in a Naval Equipment Depot by October 1991. After three years of the above order, Naval HQ placed an order on Garden Reach Ship Builders & Engineers Ltd (GRSE) in March 1993 for supply of cable reel drums and other stores costing Rs 7 lakh, which were necessary for installation of the system. GRSE delayed supplies as Naval HQ failed to send the Form 'D' and excise duty exemption certificate alongwith the supply order. These documents were sent to GRSE in February 1994 only. GRSE supplied the items in June 1994. Naval HQ placed yet another order for procurement of certain stores including setting up and testing of the system at a total cost of Rs 4.83 lakh on BEL in January 1994.

Weapon acceptance trials of the system conducted in October 1994 revealed a number of defects.

The system was installed on the ship in October 1994. The weapon acceptance trials conducted in the same month revealed a number of defects/ deficiencies like the length of fish with connector being more than the height of gantry, which created difficulty during

HATs conducted in November 1996 revealed that performance of the system was unsatisfactory.

The system is yet to be proved for acceptance.

streaming and recovery, excessively rusted gantry roller etc. and overall condition of the equipment was not satisfactory. The Harbour Acceptance Trials (HATs) of the system conducted in November 1996, also revealed that the performance of the system was unsatisfactory. Fresh HATs were yet to be carried out as of August 1997.

Failure of Naval HQ to procure all essential items alongwith the system coupled with delay in rectification of defects observed during installation of the system, deprived the ship of the mechanism required for its safety from enemy attack. The system procured in October 1991 at a cost of Rs 63.45 lakh was yet to be proved for acceptance as of August 1997. In the meantime, the warranty of the system had expired.

The matter was referred to the Ministry in May 1997; their reply was awaited as of January 1998.

32 Recovery of Rs 1.53 crore at the instance of Audit

Deficient internal control in the office of Controller of Defence Accounts (CDA) Navy led to overpayment of Rs 1.53 crore. CDA (Navy) assured recovery from future bills after being pointed out by Audit.

Director of Logistics Support in the Naval HQ placed a supply order for two radars on Bharat Electronics Ltd.(BEL) in October 1991 at the cost of Rs 1.96 crore and Rs 1.67 crore respectively. The payments to BEL were to be made in stages, i.e. 20 per cent as advance, 65 per cent to meet the cost of material and other costs booked to the project, 10 per cent on proof of despatch and five per cent on receipt of consignment. BEL supplied one radar in March 1993. The second radar was yet to be supplied as of November 1997.

Scrutiny of payments made to BEL by CDA (Navy) disclosed that a total of Rs 3.80 crore was paid until May 1993 as against the total admissible payment of Rs 2.27 crore, which included payment of up to 95 per cent of the cost of the first radar and 20 per cent towards advance for the second.

The overpayment of Rs 1.53 crore took place due to deficient

internal control in the office of CDA (Navy) which failed to deduct the progressive on account' payments already made to BEL while releasing the payments of Rs 1.54 crore and Rs 98 lakh on 10 and 25 May 1993. CDA (Navy) failed to apply even the macro control as the total progressive payment of Rs 3.80 crore made in fact exceeded the total cost of both the radars.

CDA (Navy), stated, in October 1996, that the overpayment would be recovered from the pending bills of BEL. This is a fit case for fixing responsibility for negligence.

The matter was referred to the Ministry in June 1997; their reply was awaited as of January 1998.

33 Negligence in releasing a salvaged ship

Negligence of Navy in releasing a salvaged ship without obtaining enforceable security and the address of insurance agent of the ship followed by delay in communicating the address of shipping company to CDA (Navy) Mumbai, has rendered the recovery of Rs 2 crore towards salvage charges remote.

Scrutiny of accounts in the office of Controller of Defence Accounts (CDA) Navy, Mumbai in November 1996 disclosed that he had not been able to recover the salvage charges of about Rs 2 crore due from the owner of a foreign ship for more than five and a half years.

The foreign mercantile Ship, which was caught in cyclonic storm in the Bay of Bengal in April 1991, was rescued with the help of three ships and two aircraft of Indian Navy and Coast Guard. As per the agreement between the owner of the ship and the Commanding Officer of INS Rajput in April 1991, charges for salvage operation were payable to Government of India by the owner of the ship. The owner of the ship was to provide a security for the amount of the salvage charges within a week. Until the ship owner provided the security, the maritime lien on the salvaged ship was to vest in Government of India. The Navy, however, allowed the ship to sail in May 1991 after obtaining a note from the ship owner that their insurance agent was to be contacted for claim.

CDA (Navy) has not been able to recover Rs 2 crore for about six years.

Navy allowed the salvaged ship to sail without obtaining security.

Eastern Naval Command HQ took six months to ask the Naval Base Logistic Officer Visakhapatnam in November 1991 to work out the amount of recovery towards salvage charges. He worked out the salvage charges at Rs 1.95 crore in December 1991 and requested CDA (Navy) to claim and recover the amount.

The chances of recovery are remote since the owners are not traceable.

Since complete address of the shipping company and their insurance agent was not available in the papers sent to them, it took CDA Navy four years to get the address from Naval HQ/Eastern Naval Command. The claim preferred by CDA Navy in February 1996 at that address was returned undelivered with remarks "*Gone away/removed*".

Besides Rs 1.95 crore to be recovered from the owners of the ship on account of charges for Naval ships and Aircraft, Rs 4.94 lakh was also recoverable towards the charges for Coast Guard aircraft used in the salvage operations.

Thus, negligence of the Navy in releasing the salvaged ship without obtaining enforceable security followed by delay in communicating the charges to CDA (Navy) further compounded by not indicating address of the insurance agents and delay in communicating the address of the shipping company has led to a situation, where the recovery of the entire amount of Rs 2 crore is remote.

The Ministry should investigate the lapses on the part of the concerned officers and fix responsibility.

The matter was referred to the Ministry in June 1997; their reply was awaited as of January 1998.

CHAPTER V

COAST GUARD

34 Recovery of overpayment at the instance of Audit

Failure of Controller of Defence Accounts (Navy) to detect error in calculation of escalation led to overpayment of Rs 34.71 lakh, which was recovered at the instance of Audit.

Government entered into a contract with Garden Reach Ship Builders & Engineers Ltd (GRSE) in August 1988 for construction and delivery of two Inshore Patrol Vessels at a cost of Rs 9.25 crore each. The contract stipulated that the price was to be adjusted by 0.04 *per cent* over the total cost of the vessel on account of wage escalation. While computing wage escalation, incentive component was also to be considered as per agreed formula.

GRSE preferred a bill for wage escalation in November 1990 in which the incentive component was taken @ Rs 157.82 as against @ Rs 64 leading to an excess claim of Rs 34.71 lakh. While the representative of Coast Guard Headquarters failed to verify the correctness of the increase in the wage structure claimed in the bill, Controller of Defence Accounts (CDA), Navy also failed to detect the error resulting in overpayment of Rs 34.71 lakh. On being pointed out by Audit in December 1990, CDA (Navy) recovered Rs 34.71 lakh in November 1996 from another bill of GRSE after a lapse of about six years.

The matter was referred to the Ministry in June 1997; their reply was awaited as of January 1998.

New Delhi
Dated

- 6 MAY 1998

Jai Narain

(J.N.GUPTA)
Principal Director of Audit
Air Force and Navy

Countersigned

New Delhi
Dated

- 8 MAY 1998

V. K. Shunglu

(V.K.SHUNGLU)
Comptroller and Auditor General of India

Appendix-I

(Referred to in Paragraph 6)

Position of ATNs outstanding as of January 1998

Sl. No.	Report No. and Year	Chapter of the Report	Para No	Pertains to	Brief subject	Remarks
1.	9 of 1993	IV	23	Navy	Naval Store Depot	Final ATN awaited
2.	9 of 1993	IV	27	Navy	Unauthorised use of Government building for running Naval Public School	Final ATN awaited
3.	9 of 1993	IV	38	Navy	Unauthorised Provision of residential telephone	Final ATN awaited
4.	9 of 1993	IV	43	Navy	Delay in commissioning of liquid nitrogen plant	Final ATN awaited
5.	9 of 1994	IV	25	Navy	Procurement of soot blowers	Final ATN awaited
6.	9 of 1994	IV	29	Navy	Avoidable expenditure in hiring of a generator	ATN not received
7.	9 of 1994	VI	35	R&D Org.	Avoidable expenditure in the hiring of private buildings for a project	Final ATN awaited
8.	9 of 1995	II	3	(MOD) Navy	Unauthorised funding of a project	Final ATN awaited
9.	9 of 1995	IV	15	Navy	Naval Air Stations	Final ATN awaited
10.	9 of 1995	IV	16	Navy	Naval Yardcraft	Final ATN awaited
11.	9 of 1995	IV	19	Navy	Excess expenditure over sanctioned cost	Final ATN awaited
12.	9 of 1995	IV	20	Navy	Delay in construction of a dry dock	Final ATN awaited
13.	9 of 1995	IV	25	Navy	Extra expenditure on procurement of transmitters	Final ATN awaited

14	9 of 1995	IV	27	Navy	Extra payments on power consumption	ATN not received
15	9 of 1995	IV	30	Navy	Delay in induction of a life saving equipment	Final ATN awaited
16	9 of 1995	VI	35	R&D Org.	irregular expenditure	Final ATN awaited
17	9 of 1996	II	3	MOD	Avoidable expenditure due to incorrect claims	ATN not received
18	9 of 1996	II	4	MOD	Follow up on Audit Reports	ATN not received
19	9 of 1996	III	13	Air Force	Delay in computerisation of an Indian Air Force Command	ATN not received
20	9 of 1996	IV	20	Navy	Review on the working of controllerate of procurement of Navy	Final ATN awaited
21	9 of 1996	IV	22	Navy	Import of defective system	Final ATN awaited
22	9 of 1996	IV	24	Navy	Delay in setting up of a missile complex	Final ATN awaited
23	9 of 1996	IV	25	Navy	Non-utilisation of a workshop	ATN not received
24	9 of 1996	IV	26	Navy	Non-utilisation of a hangar	Final ATN awaited
25	9 of 1996	IV	31	Navy	Avoidable expenditure	Final ATN awaited
26	9 of 1996	IV	33	Navy	Non-installation of training equipments	ATN not received
27	9 of 1996	V	37	Coast Guard	Loss due to improper storage	ATN not received
28	9 of 1996	VI	38	R&D Org.	Working of Naval Research and Development Laboratories	Final ATN awaited

Appendix – II

(Referred to in Paragraph 6)

Position of ATNs outstanding as of January 1998

Sl. No	Report No. and Year	Chapter of the Report	Para No	Pertains to	Brief Subject	Remarks
1	8 of 1997	II	2	MOD	Delay in setting up of repair facilities	ATN not received
2	8 of 1997	II	4	MOD	Follow up on Audit Reports	ATN not received
3	8 of 1997	III	5	Air Force	Specialist vehicles held by IAF	Final ATN awaited
4	8 of 1997	III	6	Air Force	Unfruitful expenditure on procurement of radars	Final ATN awaited
5	8 of 1997	III	7	Air Force	Procurement of missiles	Final ATN awaited
6	8 of 1997	III	9	Air Force	Procurement of unsuitable gliders	ATN not received
7	8 of 1997	III	10	Air Force	Unnecessary procurement of radar tubes	Final ATN awaited
8	8 of 1997	III	11	Air Force	Procurement of unsuitable machines	Final ATN awaited
9	8 of 1997	III	12	Air Force	Damage to rotor blades of a helicopter	Final ATN awaited
10	8 of 1997	III	13	Air Force	Loss due to negligence	ATN not received
11	8 of 1997	III	14	Air Force	Wasteful expenditure on import of an equipment	ATN not received
12	8 of 1997	III	15	Air Force	Recoveries at the instance of Audit	Final ATN awaited
13	8 of 1997	IV	17	Navy	Avoidable expenditure on construction of excess accommodation	ATN not received

14	8 of 1997	I V	18	Navy	Delay in provision of radars	ATN not received
15	8 of 1997	IV	19	Navy	Procurement of sub-standard boiler tubes	Final ATN awaited
16	8 of 1997	IV	20	Navy	Procurement of defective life boats	Final ATN awaited
17	8 of 1997	IV	22	Navy	Extra expenditure in procurement of cotton waste	ATN not received
18	8 of 1997	IV	23	Navy	Procurement of Article TEM-3 without cables	Final ATN awaited
19	8 of 1997	IV	24	Navy	Non-deduction of income tax at source	Final ATN awaited
20	8 of 1997	IV	25	Navy	Avoidable payment of surcharge due to low power factor	ATN not received
21	8 of 1997	IV	26	Navy	Delay in setting up of engine test facilities	Final ATN awaited
22	8 of 1997	IV	27	Navy	Avoidable loss due to delay in preferring railway claim	Final ATN awaited
23	8 of 1997	V	29	Coast Guard	Wasteful investment on construction of jetty	Final ATN awaited
24	8 of 1997	VI	31	R&D Org	Delay in commissioning of an imported equipment	ATN not received

ERRATA

Page	Paragraph	For	Read
43	9	US \$6.29 million lakh	US \$ 6.29 million
74	22.12	Naval HQ further stated that the progress of the projects was being reviewed quarterly with representatives of the Ministry, CDA (Navy)”	Naval HQ, further sated that the progress of the projects was reviewed quarterly in a meeting consisting of representatives of the Ministry, Naval HQ and CDA (Navy)

