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# Report of the Comptroller and Auditor General of India

for the year ended March 2007

## Union Government (Defence Services)
## Air Force and Navy

Report No. CA 5 of 2008

**(Compliance Audit)**

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**Note:- Categorisation of the paras has been done on the basis of financial powers of the sanctioning authorities and accountability factor. The para which involves more than one organization has been shown against Ministry of Defence.**

# PREFACE

This Report for the year ended March 2007 has been prepared for submission to the President under Article 151 of the Constitution. The Report relates mainly to matters arising from test audit of the financial transactions of Ministry of Defence, Air Force, Navy, and Coast Guard. Results 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 Services have been included in Report No. CA 4 of 2008.

The Report includes 31 paragraphs.

The cases mentioned in the Report are among those which came to notice in the course of audit during 2006-07 and early part of 2007-08 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 the Defence Services during 2006 – 07 was Rs 88, 675 crore. Of this, the Air Force and Navy spent Rs 24,691 crore and Rs 16,322 crore respectively. The combined expenditure of the two services accounts for 46 *per cent* of the total expenditure on the Defence Services. The major portion of the expenditure of the Air Force and Navy is capital in nature, constituting almost 60 *per cent* of their expenditure.

Some of the major findings arising from test audit of transactions of the Air Force, the Navy, Coast Guard and associated units of the Defence Research and Development Organisation and Military Engineering Services included in the Report, are discussed below:

## I. Upgradation of an Aircraft

IAF's Aircraft 'A' upgrade programme approved in August 1999 at a cost of Rs 430 crore will have limited viability as inherent problems being faced by the Aircraft and engines have not been resolved. The feasibility of the project was doubtful *ab-initio* and considerable time overruns would further dilute benefits of the project as the upgraded aircraft would have a very short residual life. Reductions in scope of the upgrade with the intent to contain costs have also truncated the envisaged role of the aircraft projected to the sanctioning authority. Besides, even the limited number of aircraft modified were accepted by IAF with restrictions. Project costs were severely understated and would actually be over Rs 900 crore i.e. more than two times the approved cost while various unamortised and hidden cost remained out of the ambit of the project. Advance payment of Rs 156 crore to HAL even before approval by the sanctioning authority was in violation of budgetary and financial controls. Failure to conclude a contract with HAL even after eight years of approval of the Project vitiated the control framework of the project.

*(Paragraph 2.6)*

## II. Acquisition of VIP Boeing Business Jets

Ministry concluded a contract with M/s Boeing Company of USA for acquisition of three Boeing Business Jets at an aggregated cost of Rs. 936.93 crore for VIP use to replace two existing Boeings of the Communication Squadron of IAF. The acquisition process for the VIP aircraft deviated from laid down procedures and well recognized norms of propriety. Supplies valuing USD 50 million were contracted without the benefit of competition. Besides, the acquisition of

both the aircraft and Self Protection Suite was inordinately delayed leading to a total cost escalation of USD 19.70 million. In addition, even after four years of the existing VIP aircraft becoming unsuitable for VIP flights, replacement aircraft are yet to be inducted. Procurement of a third additional aircraft as stand by arrangement costing Rs 312.44 crore was avoidable. Despite spending Rs 936.93 crore, newly acquired VIP aircraft will not be used for international travel necessitating continued use of Air India aircraft with all its adverse consequences.

*(Paragraph 2.1)*

## III. Acquisition of Landing Platform Dock

Navy acquired an ageing 36 years old foreign ship from a foreign Government after refurbishment at a cost of USD 50.63 million without physical assessment of the ship. Poor condition of the ship entailed significant changes in the scope of the refurbishment work with cost of refurbishment, repairs, etc going up from USD 15 million to USD 36.94 million. Navy did not bring all costs for consideration of the Competent Authority while seeking approval.

*(Paragraph 2.3)*

## IV. Delay in replacement of obsolete and decommissioned radars in IAF

Ministry concluded a contract with Hindustan Aeronautics Limited in March 2002 for procurement of 17 Precision Approach Radars at an aggregated cost of Rs 193.10 crore. Acquisition of these critical Radars to replace obsolete/decommissioned radars was considerably delayed and Air Force bases are operating flights with old radars, identified as obsolete sixteen years ago, with operational limitations. The acquisition process also deviated from the prescribed procedure. Further, of the ten radars delivered by HAL only one could be made functional, that too, with intermittent failure and remaining nine radars costing Rs 100.52 crore are yet to be commissioned.

*(Paragraph 2.2)*

## V. Lack of transparency in awarding a Contract

Ministry, concluded a contract with M/s ABG Shipyard Ltd., a private shipyard in March 2004 for acquisition of three pollution control vessels for the Coast Guard. The acquisition process followed by Coast Guard HQ lacked transparency and deviated from prescribed purchase procedures, which also contributed to delay. Flaws and distortions in the procedures adopted by the Coast Guard and the Ministry yielded no assurance that the decision taken to award a contract worth Rs 368 crore for building specialized vessels to a private shipyard was technically sound and financially prudent. This is corroborated by the unsatisfactory progress of the project leading

to revision in delivery schedule of the vessels. Payment of Rs 221 crore released to the shipyard is not commensurate with the milestones specified.

*(Paragraph 5.1)*

## VI. Sub-optimal performance of Pilotless Target Aircraft

Pilotless Target Aircraft (PTA) are required by Indian Air Force (IAF) for providing realistic airborne targets for training of aircrew and ground crew in air to air and surface to air weaponry. Although design and development of PTA commenced in 1980, DRDO and HAL failed to provide an indigenous PTA to meet the training needs of IAF even after a lapse of 27 years and after an expenditure of Rs 165 crore. Despite the fact that initial development of a prototype failed to fully meet the Qualitative Requirements of IAF, DRDO went ahead with limited series production of PTAs. Further, clearance by the Ministry for bulk production without evaluating the performance of limited series production of PTA indicated serious flaws in development of technology and the production programme. Sub-optimal performance of three delivered PTAs led to IAF putting on hold its acceptance of the balance 12 PTAs ordered on HAL. IAF also withdrew its commitment to the PTA-II programme in favour of imports. The basic objective of providing IAF with realistic airborne target for weapon training hence remained unfulfilled seriously affecting training efforts.

*(Paragraph 2.5)*

## VII. Delay in Procurement, Installation and Commissioning of a Training Simulator

Ministry concluded a contract in March 2004 with M/s TSL Technologies Ltd, New Delhi to upgrade, at a cost of Rs 31 crore, an existing simulator installed in a Naval Training Establishment. Simulator, considered vital for the training of pilots and observers of Seaking helicopter, could not be upgraded and inducted into the Indian Navy even after a lapse of a decade and expenditure of Rs 18.52 crores affecting the quality of training. Associated costs of over Rs 3 crores due to usage of helicopters could have been avoided had the project been completed on time. Related developments may lead to cancelling of the contract with extra financial implication of Rs 18.50 crores, without ultimately achieving the objective.

*(Paragraph 2.8)*

## VIII. Delay in setting up of Overhaul facilities

A project conceived in 1986 for the augmentation of repair and overhaul of Gas Turbine (GTs) for a class of ships in the Navy awaits completion even after two decades. As a result of lack of synchronization of various project activities, equipment and spares procured at a cost of Rs 21.16 crore have remained unutilised for eight years since the date of purchase. Even after the completion of the project, its utility to the Navy will remain limited as the GTs have already received their scheduled overhaul from the OEM and benefits accrued from the project will be marginal as more than half of the service life of the ships, for which the facility is being created, would be over.

*(Paragraph 2.7)*

## IX. Procurement of unsuitable Guns for Navy and Coast Guard Organization

Navy as well as Coast Guard placed orders on an Ordnance Factory, for manufacture of a type of gun without proper clearance of its prototype. Acceptance of guns costing Rs 28.44 crore by Directorate of Naval Armament Inspection from the Ordnance Factory, for issue to Navy and Coast Guard was improper as the weapon platform is incomplete without an accompanying stabilized optronic pedestal compromising operational effectiveness, thus defeating the purpose of procuring these guns.

*(Paragraph 2.4)*

## X. Upgradation of an Airport of Indian Navy

Government sanctioned upgradation of an existing Naval Airport jointly used by Airport Authority of India in October 2002 at an estimated cost of Rs 191.52 crore. Lack of integrated approach, synchronization and deficiency in planning on the part of Navy led to delay in construction of magazines and relocation of a Naval Armament Depot. As the risk factors for both aircrafts and explosive stores still exist, the upgraded airport is not usable for operation by the Long Range Maritime Reconnaissance aircraft of the Navy as well as bigger aircrafts of the civil airlines. As such, value for money for the investment of Rs 145.16 crore remains unrealised.

*(Paragraph 4.4)*

## XI. Non-crediting of Cash Flow Benefit to IAF

Ministry paid Rs 370 crore as an advance to Bharat Dynamics Limited (BDL) in 1998-99 against a missile project for IAF. BDL passed on cash flow benefit of Rs 52.19 crore to IAF till March 2003 . After 2002-03, BDL did not pass on the cash flow benefit to IAF against the advance held by them. As a result, IAF was deprived of revenue to the extent of Rs 91.33 crore which could have been ploughed back into the project with diminishing financial liability to IAF.

*(Paragraph 3.7)*

## XII. Non-recovery of interest due on ad-hoc advance

Under a sanction accorded by the Ministry, the Controller of Defence Accounts released an interest bearing ad-hoc advance of Rs Rs 113.40 crore in March 2002 to Bharat Electronics Limited against a project. Despite clear provision in the contract, Controller of Defence Accounts failed to recover interest of Rs 46.70 crore from BEL on the ad hoc advance provided to the company.

*(Paragraph 3.6)*

## XIII. Procurement of sub standard components for a helicopter

Ministry concluded a contract in October 2003 with Indo Russian Aviation Limited, a joint venture company for procurement of rotables for helicopter 'D' at a cost of Rs 12.43 crore. Fuel Control Units were supplied by IRAL from an unreliable source and were found to be substandard exposing helicopter 'D' to flight safety hazard and the helicopters had to be grounded for want of FCUs. Five Auxiliary Power Units costing Rs 1.06 crore also failed and are yet to be replaced. While punitive action taken by Air HQ was ineffective being tentative and inadequate, the company was awarded further contracts for supply of equipment and spares for IAF by the Ministry and Air HQ. The firm also failed to supply 12 out of 82 lines of spares and equipment contracted for.

*(Paragraph 3.2 )*

## XIV. Unauthorised erection of Antenna on a defence building

An Air Force station violated canons of financial propriety and disregarded security safeguards by allowing a private company to erect an antenna on a defence building located in a sensitive security zone. Even though the company is exploiting facilities of public property, payments made by the company are regularly being deposited in the non-public account of the Air Force station. Air Force Officers have also been provided mobile phones free of cost by the company. The case needs detailed probe to fix responsibility for the violation and omission.

*(Paragraph 3.9 )*

## XV. Excess procurement of imported spares

Material Organisation, Kochi and Naval HQ worked out requirement for nine items of spares even though there was no demand outstanding for those spares revealing deficiency in provisioning. Failure to correctly assess the requirement of spares resulted in excess procurement costing Rs 6.20 crore. The spares have remained unutilized since their procurement in 2004-2006.

*(Paragraph 4.3 )*

## XVI. Non-realisation of revenue from disposal of felled trees

To establish a Naval Academy at Ezhimala, project authorities had cut large number of trees for site clearance. Failure of DEO Chennai to fix the minimum reserve price and consequential delay in disposal of 25,605 felled trees led to non-realisation of revenue to the extent of Rs 1.87 crore by the Navy. Naval authorities also failed to make compensatory afforestation equal to ten times the number of trees cut, thus defying the above requirement of the Ministry of Environment subject to which the project was cleared.

*(Paragraph 4.7)*

## XVII. Excess procurement of gear boxes for an Aircraft

Ministry placed an order in June 2005 on a foreign firm for procurement of 44 gear boxes for an aircraft of the IAF. Audit scrutiny revealed that failure of IAF to ensure timely repair and inadequate planning for technical life extension of gear boxes already held by IAF led to avoidable procurement of 44 gear boxes at a cost of Rs 164.78 crore.

*(Paragraph 3.1)*

## XVIII. Avoidable expenditure on import of Nickel Cadmium Cells

Despite instances of procurement of Nickel Cadmium Cells from the indigenous sources, Directorate of Naval Air Material overlooked the existence of the approved indigenous firms whose rates were much lower than the foreign supplier. As a result, the Directorate imported 1470 Nickel Cadmium Cells at a price nearly three times higher than the rates of approved indigenous cells, entailing an extra avoidable expenditure of Rs 1.31 crore.

*(Paragraph 4.2)*

## XIX. Procurement of spares for Off-shore Patrol Vessels

Three Off-shore Patrol Vessels of the Coast Guard became due for their 24000 hourly routine between April 2006 and January 2007. Owing to faulty maintenance planning and delays in taking up the scheduled maintenance routine of engines of the vessels, spares worth Rs 7.90 crore remain unutilized. Further, over provisioning of spares led to avoidable expenditure of Rs 57 lakh.

*Paragraph 5.2)*

## XX. Management of Transport in Air HQ and other IAF Units located in New Delhi

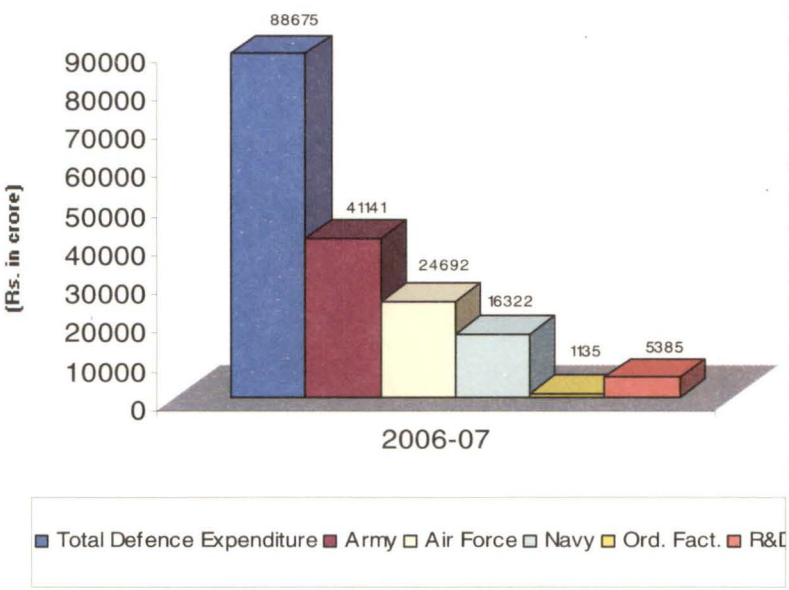
Air Force Station possesses a large fleet of passenger vehicles and huge establishment of MT drivers above the sanctioned establishment in violation of rules thereby flouting economy measures of the Government. Indiscriminate use of service vehicles resulted in unauthorised exploitation entailing an extra expenditure of Rs 5.60 crore during the last three years which was unauthorisedly regularised by Air HQ.

*(Paragraph 3.10)*

# CHAPTER I: FINANCIAL ASPECTS

## 1 Financial Aspects

The total expenditure on Defence Services during 2006-07 was Rs 88,675 crore as against Rs 83,660 crore during 2005-06. This was 5.99 *per cent* higher than the expenditure of 2005-06. The share of the Air Force and the Navy in the total expenditure on Defence Services in 2006-07 was Rs 24,691 crore (27.84 *per cent*) and Rs 16,322 crore (18.40 *per cent*) respectively. The expenditure on the Air Force was 12.62 *per cent* higher than the expenditure during the preceding year, and in case of the Navy it was 14.79 *per cent* higher than the preceding year.




The total revenue expenditure on Defence Services for the year 2006-07 was Rs 54,846 crore, as against Rs 51,322 crore during 2005-06. The Air Force and the Navy together accounted for Rs 16,901 crore, representing 31 *per cent* of this expenditure.

The total capital expenditure on Defence Services for the year 2006-07 was Rs 33,828 crore, as against Rs 32,338 crore during 2005-06. The Air Force and the Navy together accounted for Rs 24,113 crore, representing 71 *per cent* of this expenditure.

1.2 Expenditure of the Air Force and the Navy during 2006-07 under broad categories is analysed in the following table:

| Category | AIR FORCE | | NAVY | |
|---|---|---|---|---|
| | Rs in crore | *Per cent* of total | Rs in crore | *Per cent* of total |
| **Pay and allowances** | 2597 | 10.52 | 1615 | 9.89 |
| **Transportation** | 178 | 0.72 | 166 | 1.02 |
| **Stores** | 6250 | 25.31 | 2718 | 16.65 |
| **Works** | 909 | 3.68 | 489 | 3.00 |
| **Repair & Refit** | -- | -- | 1202 | 7.36 |
| **Other expenditure** | 130 | 0.53 | 646 | 3.96 |
| **Capital acquisitions** | 14627 | 59.24 | 9486 | 58.12 |
| **Total** | **24691** | **100** | **16322** | **100** |

1.3 The summarized position of appropriation and expenditure during 2006-07 in respect of the Air Force and the Navy is reflected in the table below:

**(Rs in crore)**

| | Final Grant/ Appropriation | Actual Expenditure | Total Excess/Savings (+) / (-) |
|---|---|---|---|
| **AIR FORCE** | | | |
| **REVENUE** | | | |
| Voted | 10115.89 | 10062.96 | (-) 52.93 |
| Charged | 5.93 | 1.54 | (-) 4.39 |
| **CAPITAL** | | | |
| Voted | 13710.20 | 14617.29 | (+) 907.09 |
| Charged | 15.30 | 10.00 | (-) 5.30 |
| **Total** | **23847.32** | **24691.79** | **(+) 844.47** |
| **NAVY** | | | |
| **REVENUE** | | | |
| Voted | 6889.27 | 6836.29 | (-) 52.98 |
| Charged | 1.37 | 0.24 | (-) 1.13 |
| **CAPITAL** | | | |
| Voted | 9607.77 | 9484.64 | (-) 123.13 |
| Charged | 3.60 | 1.07 | (-) 2.53 |
| **Total** | **16502.01** | **16322.24** | **(-) 179.77** |

1.4 Unspent provisions constituted 1.09 *per cent* of the final grant/appropriation of the Navy, and overspent provision 3.54 *per cent* of the Air Force.

1.5 An analysis of the Appropriation Accounts, Defence Services, has been included in the Report of the Comptroller and Auditor General of India for the year ended March 2007: Union Government – Accounts of the Union Government (Report No. 13 of 2007).

1.6 This report indicates that an amount of Rs 2.70 crore was recovered and there was also a saving of expenditure to the extent of Rs 5.50 crore at the instance of Audit during the year.

# CHAPTER II: MINISTRY OF DEFENCE

## 2.1 Acquisition of VIP Boeing Business Jets

**The acquisition process for the VIP aircraft deviated from laid down procedures and well recognized norms of propriety. Supplies valuing USD 50 million were contracted without the benefit of competition. Besides, the acquisition of both the aircraft and SPS was inordinately delayed leading to a total cost escalation of USD 19.7 million. In addition, even after four years of the existing VIP aircraft becoming unsuitable for VIP flights, replacement aircraft are yet to be inducted. Procurement of a third additional aircraft costing Rs 312.44 crore was avoidable. Despite spending Rs 936.93 crore on new VIP aircraft these will not be used for international travel necessitating continued use of Air India aircraft with all its adverse consequences.**

The Ministry concluded a contract with M/s Boeing Company of USA in October 2005 for acquisition of three Boeing Business Jet Aircraft at an aggregated price of USD 161.425 million (Rs 734 crore) to replace two existing Boeing aircraft of the Communication Squadron. Ministry also concluded another contract in September 2005 with a foreign Government for acquisition of Self Protection Suites (SPS) for these jets through the Foreign Military Sales (FMS) route at a total cost of USD 44.60 million (Rs 202.93 crore). These aircraft fully equipped with superior VIP configuration including state of art communication, entertainment facilities and SPS are scheduled to be delivered between January 2008 and October 2008.

Audit scrutiny of the records connected with the acquisition revealed the following:

### I Procurement of a third additional aircraft was not justified

Communication squadron of the Indian Air Force (IAF) maintains two Boeing aircrafts along with other aircrafts for operating flights for internal travel by VIPs. For international travel by VIPs, aircraft from Air India are hired. Acquisition of the three aircraft in replacement of existing two Boeings was initially proposed in December 1999 to meet requirements of both domestic and international travel of the VIPs. Despite a subsequent decision to use the

new aircraft only for domestic travel, the procurement of the third additional aircraft was retained on the plea of stringent servicing schedule leading to less availability of aircraft and for meeting training commitments. According to the Ministry (December 2007) a standby aircraft was required to avoid increased flying efforts, increase in operation cost and to meet the increase in quantum of flying owing to visit of foreign heads. Audit observed that the third aircraft procured by the Ministry was avoidable due to past trend of low utilization levels (27 *per cent* over a period 1999-2007) of the existing Boeing aircraft by VIPs, increased availability of aircraft to the squadron after induction of four new Executive jets in 2005 and modification of eight AN-32 aircraft for use by VIPs. Fifty five *per cent* of the total flying done by existing Boeings was already meeting the training commitments and additionally, two other Boeing aircraft were also available with IAF for the same purpose. Holding a new large aircraft costing Rs 312.44 crore as standby would lead to an unacceptable level of redundancy and to sub-optimal use of high cost capital asset.

## II Restricted use of aircraft only for internal travel

In July 2001 it was decided to continue use of Air India aircraft for international travel and limit the use of new aircraft to domestic travel only resulting in reduced specifications with regard to range and endurance of aircraft. Accordingly, contracted aircraft were without auxiliary fuel tanks needed to extend the range of aircraft. The new aircraft were thus technically equipped only to undertake short and medium haul domestic flights, thereby, continuing the reliance on Air India aircraft for undertaking international travel despite spending Rs 936.93 crore on new Business Jets.

Ministry stated in December 2007 that the aircraft with the range of 3000 nautical miles (nm) was primarily intended for internal travel. However, it can be used for international flight covering entire Europe and Africa. Ministry's contention is not acceptable since Air HQ, while justifying the necessity for the aircraft in December 2000, had admitted that desirable range needs to be 4500 nm to ensure non-stop flights to London and the mandatory range requirement for international flights needs to be 3700 nm. Evidently, the aircraft contracted for is more than the requirement of internal flight and falling short of the requirement of international flight.

Thus, despite incurring huge expenditure, the objective of procuring aircraft which could be used for international flights was not achieved.

## III Acquisition process deviated both from prescribed procedures and norms of propriety.

### (a) Operational Requirement (OR) were incomplete and tentative

The OR was tentative with respect to cabin layout, interiors, instrument landing system and communication facilities. This resulted in change in scope of supply involving additional costs of USD 5.25 million for the three aircraft which remained out of the ambit of competitive bidding.

### (b) Technical evaluation was not comprehensive

No flight evaluation of the aircraft offered by the two vendors (M/s Boeing and M/s Air Bus Industries) was undertaken in terms of Request for Proposal (RFP), on the ground that performance of the aircraft was well documented even though extensive customization of layout for VIP role and addition of several non-standard communication equipment were involved. Though aircraft were required to be short listed based on their ability to operate from critical airfields, the Ministry decided that field trials only of aircraft offered by L-1 company be undertaken to verify this capability. Undertaking field trials after opening of price bids and determination of L-1 bidder was not consistent with the terms of RFP and the provisions of Defence Procurement Procedure. Ministry admitted (December 2007) that Technical Evaluation Committee's (TEC) decision of not undertaking flight trials before declaring L1 vendor was a violation of approved procurement procedure.

Key aspects such as finalization of aircraft induction schedule, evaluation and installation of SPS, finalization of layout and interiors, air crew and ground crew training, maintenance planning, provision of list of recommended spares parts including spare engines and other rotables etc. that should have been addressed and settled at the stage of technical negotiations were deferred to the commercial negotiations stage. As such, position on several issues was not frozen even after technical evaluation and the opening of price bids which led to non-competitive cost additions besides denying equal opportunity to the competing vendors.

## IV Several concessions were made to the selected bidder

The vendor was shortlisted even though it did not have arrangements for carrying out comprehensive repair and maintenance facilities in India. Shortfalls with respect to OR and RFP conditions relating to cabin layout, communications equipment, initial supply of spares list and submission of a definite offer for SPS were condoned. Though the company's commercial offer was valid only for four months against the RFP's requirement of 12

months, the same was condoned and the company was allowed to extend the validity of its offer after opening of price bids with escalation of USD 19.70 million. Additionally, though the RFP provided that prices quoted were required to be fixed and firm, the vendor was allowed to escalate its quoted prices without being bound to any escalation formula specified in its commercial proposal. Several deviations from standard contract conditions were allowed on the insistence of the vendor. The contract was made subject to Washington State Law and the company was exempted from providing bank guarantees for advance payments and from furnishing performance warranty. A diluted liquidity damages clause was incorporated in the contract without CFA[1] approval. An advance of 17.5 *per cent* of the contracted cost was allowed as against the norm of limiting advance to a maximum of 15 *per cent* prescribed in DPP 2005.

Most of the deviations were allowed on the plea of urgency for completing the acquisition. This would appear unjustified given the inordinate delays noticed at all stages. As a result, the interests of the Government as the buyer of the aircraft were seriously compromised.

## V IAF's approach with regard to SPS was uncertain and the acquisition process flawed.

Even though SPS was a mandatory fitment for the VIP aircrafts, RFP issued did not bear detailed specification for the SPS. After M/s Boeing was declared the L-1 bidder, despite not making a proper offer for a SPS, the acquisition of SPS was taken up under the FMS[2] route with the foreign Government in a de-facto single vendor situation. Prices quoted both for equipment and services were not negotiable and no warranties or performance guarantees were provided. There was thus no assurance that the acquisition of the systems at a total cost of USD 44.60 million was cost effective.

IAF's overall approach with regard to equipping VIP aircraft with SPS was vacillating and it frequently changed its requirements and opted for equipment which did not meet its own broad technical requirements. Finally, a system which had not been evaluated by the IAF at all was accepted. The system was accepted at a time when it was only in the initial stages of being integrated on a few transport aircraft of the Air Force of the foreign Government. Inadequate scrutiny of the offer of the foreign Government is also revealed by the fact that IAF was unaware that the offer did not have provision for "in-

[1] Competent Financial Authority
[2] Foreign Military Sales

country programming" of the system which would now need to be contracted at an extra cost. The accepted system is also believed to be expensive to maintain as subsystems require frequent repair and overhaul.

Ministry stated (December 2007) that the OR of the SPS were made based on knowledge of available equipment like RWR[3], MAWS[4] and CMDS[5] forming part of the SPS. The Ministry added that although advantages of IRCM[6] and DIRCM[7] were well known, DIRCM at that time was a state of the art technology and was being supplied by few vendors. Availability of DIRCM was suspect as its technical details were not available. These were therefore, not included in the OR. Ministry's reply is not tenable since IAF had prepared the Broad Technical Requirements (BTR), specifying technical details of sub systems including IRCM for SPS. Thus non-inclusion in the RFP deprived M/s Airbus opportunity to give a competitive bid.

Due to the uncertain approach adopted, it took almost four years for the Ministry to finalize acquisition of SPS equipment resulting in cost escalation of USD 4.8 million. Besides due to the delays these systems would be available for integration only after completion of interiors of the aircraft, and their retro-fitment is to cost an additional USD 4.0-5.0 million as per the estimation provided by the foreign Government.

## VI Acquisition process was not efficiently managed

The proposal to induct new aircraft was first mooted in May 1997. However, acquisition of these aircraft could be contracted only in October 2005 i.e after a lapse of over eight years, even though procedural deviations were condoned to speed up the acquisition process. Some specific instances of delays at critical stages were as under:

- Finalisation of OR and issue of RFP took 22 months after the first statement of case for the acquisition was proposed in December 1999.
- Technical evaluation was completed in February 2002 but price bids were opened only in September 2002 i.e after a delay of seven months as time was lost in addressing problems arising out of non-submission

[3] Radar Warning Receiver,
[4] Missile Approach Warning System
[5] Counter Measure Dispensing System
[6] Infra-red Counter Measure
[7] Direct Infra-red Counter Measure

of an offer for SPS by M/s Boeing. Delay at this stage was also because requirements with regard to interiors and layout continued to evolve.

- The PNC[8] which commenced work in September 2002 could submit its report only in late June 2003. Three rounds of discussions were held with the vendor at intervals of two months each. As a result, a best and final offer of USD 148.62 million made by the vendor in February 2003 with a 31 March 2003 validity could not be availed of. Though revised prices were once again negotiated in April 2003, the PNC could give its report only in late June 2003.
- As the PNC did not settle contract issues while finalizing prices, five months were spent in obtaining legal advice before the proposal could be processed for CFA approval.
- Response to comments from Ministry of Finance received in February 2004 was sent after a year's delay. By then, prices negotiated in April 2003 were no longer valid and had to be renegotiated in August 2005 so that a firm cost proposal could be submitted to the CFA.

Ministry stated in December 2007 that there were no procedural deviations since this was a major acquisition and the procedure prescribed for acquisition needed to be followed, the time for processing the case could not be termed as delay. Ministry's contention is not tenable as the entire acquisition process took more than four years time in finalisation of the contract revealing inordinate delay in almost all stages of the acquisition despite commitments of Air HQ/Ministry to a compressed schedule to conclude the contract by June 2002. Further, many of the deviations justified on the ground of urgency, like opening of price bids without finalising technical evaluation, determination of L1 bidder without definite conclusion on the selection of SPS, etc. were in violation of normal procurement procedure and practices.

As a result of the inordinate time taken, the L-1 bidder repeatedly revised offered prices. Between November 2002 and August 2005 the cost of the acquisition increased from USD 141.76 million to USD 161.425 million i.e by USD 19.70 million (Rs 89.64 crore). Of this, while USD 5.25 million (Rs 23.89 crore) was due to change in scope of supply, USD 14.45 million (Rs 65.75 crore) was due to escalation.

[8] Price Negotiation Committee

## 2.2 Delay in replacement of obsolete and decommissioned radars in IAF

**Acquisition of critical Precision Approach Radar to replace obsolete/decommissioned radar was considerably delayed. The Air Force bases are, therefore, operating flights with old radars, declared obsolete 16 years ago, with operational limitations. The acquisition process also deviated from the prescribed procedure. Further, of the ten radars delivered by HAL, only one could be made functional, that too, with intermittent failure and nine radars costing Rs 100.52 crore received by IAF under the contract are yet to be commissioned.**

Ministry concluded a contract with Hindustan Aeronautics Limited (HAL) in March 2002 for procurement of 17 Precision Approach Radars (Radar) at an aggregated cost of Rs 193.10 crore. HAL had collaborated with M/s FIAR, Italy for supplying of these radars to Indian Air Force (IAF). Five radars were to be supplied by M/s FIAR in fully furnished (FF) condition to HAL for delivery to IAF and remaining 12 radars were to be manufactured by HAL (raw material stage) under transfer of technology from FIAR. In terms of the contract, five radars (static) were to be delivered between July 2003 and March 2004 at the rate of one set every two months. Delivery of the balance 12 radars (8 static and 4 mobile) manufactured by HAL was to commence from July 2004 and completed by April 2007 at the rate of one set every three months. While 15 of the radars to be procured were meant to replace 12 existing obsolete radars and three decommissioned radars, two radars were to be new inductions.

As of November 2007, HAL has delivered five FF radars imported from OEM and five radars manufactured by it. The deliveries were made between February 2005 and October 2007. The remaining seven radars of raw material (RM) stage are yet to be supplied by HAL.

Audit examination of the acquisition process and post-contract events disclosed the following:

## I Delay in initiation and finalisation of contract

There were inordinate delays in initiation and finalisation of the acquisition owing to deficient planning and procedural delays in the Ministry/Air HQ as indicated below:

- The need for the procurement had arisen as IAF had declared 16 radars, inducted between 1973 and 1983, obsolete in 1991 and six of them had already been decommissioned. Normally, procurement of critical equipment must be planned well in advance so that obsolete systems are replaced as soon as such replacement becomes due. Although the radars were declared obsolete in 1991 and the system suffered from inherent limitations and poor spare back up, IAF initiated the case for replacement of the radars only in 1995, i.e. after a gap of four years.
- After obtaining "in principle" approval of the Competent Financial Authority on 5 September 1998, Request for Proposals (RFPs) were issued to seven known vendors on 14 September 1998. In response, three proposals were received from (i) BEL, in collaboration with Omnipol of Czech Republic, (ii) HAL, in collaboration with M/s TESLA of Czech Republic, and (iii) HAL in collaboration with M/s FIAR, Italy. The Technical Evaluation Committee (TEC) in February 1999 found that the system offered by all the vendors met the Operational Requirements (ORs). Based on the recommendations of a Site Evaluation Committee (SEC), consisting of representatives from IAF, BEL and HAL, which evaluated the offers of all three vendors, the radar offered by M/s FIAR through HAL was finally accepted in March 2002.
- Ministry took more than five years in concluding the contract. Avoidable delays were evident following site evaluation trials which were completed in October 1999. Ministry took 29 months in taking a decision to award the contract to HAL in collaboration with M/s FIAR.

Ministry stated in November 2007 that though the proposal for procurement of radar was initiated in June 1995, RFP could be issued only in September 1998 due to paucity of requisite budgetary allocation during 1996-97 and 1997-98. Thereafter, it was actively progressed and time taken was that required for thorough examination of the case at each stage. While absence of budgetary allocation may explain delay in issue of RFP, it does not explain delay in initiating a case for replacement. Also, absence of allocations for purchase of radars whose procurement process had been initiated in 1995 indicates deficient planning and inept budgetary formulation. Moreover, even after

getting the budgetary allocation in 1998-99, Ministry was able to conclude the contract only in March 2002. Further delays at various stages of conclusion of contract indicated Ministry's lackadaisical approach in replacing critical radar systems that had been declared obsolete more than a decade ago.

## II Lack of Competition

Bids were invited from seven vendors on the basis of data available with Air HQ. Ministry's records did not indicate the basis and criteria on which these seven vendors were selected for invitation of bids. Even out of seven vendors, Ministry got only three offers and two of them were from the same Defence PSU i.e. HAL which had collaboration with two different foreign vendors. After the site evaluation, two offers were eliminated leaving only one vendor i.e. HAL in collaboration with M/s FIAR, which could produce a functional radar for site evaluation. This outcome itself is an indication of an inadequate vendor base of Air HQ on which the offers were invited and the tender process carried limited assurance that the process adopted sufficiently fostered competition, as the avenue for wide publicity through open advertisement was not used.

## III Deficient Technical evaluation

- Technical evaluation undertaken was deficient as it did not assess one of the RFP requirements, i.e of state-of-the-art technology. The radar that the Technical Evaluation Committee (TEC) recommended was claimed by the vendor themselves to be out-dated and obsolescent. Although a presentation was made at Air HQ by M/s Galileo Avionic (M/s GA), formerly known as M/s FIAR, in January 2002 wherein the vendor proposed to redesign the system due to obsolescence of majority of components of their radar and IAF had agreed for the modifications, Ministry / Air HQ went ahead with conclusion of the contract for the old radar. Thus, the basis on which the TEC declared that the technology of this radar would provide a much-needed boost to indigenous technology is questionable.
- Contrary to the requirement of procurement procedure approved by the Government, the Site Evaluation Committee constituted did not include any member from DRDO[9] and DDP&S[10].
- The offer of M/s Tesla who had quoted lowest rate (L1), was rejected on the ground that it did not make a functional radar available for site evaluation. Ultimately, an obsolete radar which was offered for site

[9] DRDO – Defence Research and Development Organisation
[10] DDP&S – Department of Defence Production and Supplies

evaluation was accepted by IAF. As of now, these radars are operating with limitations as there are software related problems.

**IV Post contract developments affecting delivery schedule**

- As per contract, supply of five FF sets was to commence from July 2003 to March 2004 and supplies of remaining 12 RM sets were to be staggered between July 2004 and April 2007. However, after conclusion of contract with HAL, the foreign collaborator in July 2002 indicated that there would be some delay in supply of first six radars due to redesigning of a fairly large number of components. Therefore, based on the request from HAL the delivery schedule was revised in respect of FF sets to commence from May 2004 and completed by October 2004 and delivery of remaining 12 RM sets was to commence from August 2004 and completed by September 2006. The vendor failed to deliver the radars even within the extended delivery schedule and requested IAF to extend the delivery schedule further without imposing liquidated damages. Five FF sets and five radars of RM phase were actually delivered between February 2005 and October 2007 after delay ranging from nine to 12 months and remaining seven RM phase radars have not been supplied so far (November 2007).

- The inadequacy in technical evaluation of the products is evident from the fact that though the five FF sets were installed between March 2005 and November 2005, only one radar could be made functional in February 2007 and remaining nine radars were yet to be commissioned due to delay in development of software by OEM. Moreover the five FF sets supplied by the vendor are not considered reliable due to occurrence of frequent defects. The main reasons for inordinate delay in installation/ commissioning of radar are attributable to contracting of an underdeveloped and un-productionised system and prolonged delay on the part of OEM to complete the development of software required in the system.

Ministry stated in November 2007 that the evaluation of TEC and conclusion of contract took time, and in the meantime the company upgraded the transmitter and receiver portion of the radar due to obsolescence of components which also involved modification of the software leading to delay in commissioning of radar. This implies that even though IAF was informed in January 2002 about the obsolescence aspect of the components, Ministry went ahead with conclusion of contract and obsolescence aspect remained unanswered even after delivery of the radar by the company. As a result, only a single radar delivered over the last 32 months could be commissioned, that too, with limitations.

### V Delay in delivery of radars affecting flying operations

The radars presently installed in various air bases were identified obsolete sixteen years ago. The operating bases are operating flights with the obsolete radars with restriction on visibility/cloud condition. Further, the first five radars were dismantled in anticipation of commissioning of new radars and hence, the bases are operating without radar which may have serious consequences in terms of flight safety. Ministry stated in November 2007 that to assist the safe landing of aircraft, the bases are utilizing air defence radar. This adhoc arrangement had its limitation as the Directorate of Flight Safety informed audit in October 2007 that non availability of radar led to three accidents of aircraft involving loss of Rs 67.03 crore during the period between 1994-95 and 2002-03.

To sum up, acquisition of critical Precision Approach Radar to replace obsolete/decommissioned radar has been considerably delayed and the Air Force bases are operating flights with radar declared obsolete sixteen years ago, with operational limitations. The acquisition process also deviated from the prescribed procedure. Further, of the ten radar delivered by HAL only one could be made functional, that too, with intermittent failures and nine radars costing Rs 100.52 crore received by IAF under the contract are yet to be commissioned.

## 2.3 Acquisition of Landing Platform Dock

**Navy acquired an ageing foreign ship after refurbishment at a cost of USD 50.63 million without physical assessment of the ship. Poor condition of the ship entailed significant changes in the scope of the refurbishment work with cost of refurbishment, repairs etc going up from USD 15 million to USD 36.94 million. Navy did not bring all costs for consideration of the Competent Authority while seeking approval.**

Ship 'X' is an amphibious Landing Platform Dock (LPD) commissioned in a foreign Navy in 1971 meant for transporting and landing troops, equipment and vehicles by using landing crafts and helicopters. In September 2004, the concerned foreign Government offered the ship 'X' for sale to India under the Excess Defense Article (EDA) programme through the Foreign Military Sales (FMS) route. The ship, in the absence of any further extensions, was to be decommissioned in 2006. On the basis of a joint visual inspection with the foreign Navy (September 2005), the Indian Navy (IN) concluded that the LPD would meet its requirements for the next 12 to 15 years. The foreign Navy indicated that the basic cost of the ship 'X' would be 10 *per cent* of its original

cost since the condition of the ship was 'F8 poor; repairs required'. In its non-negotiable Letter of Offer and Acceptance (LOA), the foreign Government offered a package worth USD 48.23 million which was accepted and accordingly, Government sanction issued in July 2006 provided for each item of the package as follows:

| Sl No | Item | Amount |
|---|---|---|
| 1 | Basic cost of the ship | USD 6,786,900 |
| 2 | Ship OB spares, components, accessories and 4 LCM[11] | USD 1,865,840 |
| 3 | Industrial availability | USD 15,000,000 |
| 4 | Ship B&D spares | USD 10,50,000 |
| 5 | Crew Training, Messing & Berthing | USD 5,207,400 |
| 6 | Logistics Assistance | USD 2,192,000 |
| 7 | Other Technical Assistance | USD 3,650,000 |
| 8 | Programme Management | USD 1,713,000 |
| 9. | Administrative charges | USD 1,134,620 |
| 10 | Tech, Non-Tech Books , Transportation, Administrative support costs | USD 183,130 |

The ship after refurbishment and refit in the supplier's country was commissioned in the Indian Navy on 22nd June 2007 as ship 'Z'. The cost at present is USD 50.6 million (Rs 202 crore) which may go up further.

Audit scrutiny of the documents relating to the contract reveals the following:

## I Contract was concluded without a proper physical assessment

The non negotiable offer of the foreign Navy was accepted without a rigorous technical evaluation of the actual physical state of the ship and on-board equipment. Rather, there was over-reliance on information provided by the foreign Navy on the condition and maintenance history of the ship. Since the ship was still in use, no dry-dock examination could be conducted to examine the state of the hull and access key areas of the ship. Ultimately, its sea-worthiness was concluded on the basis of a visual inspection. As a result, the ship initially classified as F8 i.e., poor condition, requiring repairs at the time

[11] LCM – Landing Craft Mechanised

of approval was downgraded to F9: 'Unserviceable – requiring major repairs' at the start of the overhaul and refit activities. Consequently, the provision made for refit and repair work fell short of USD 21.94 million and large amounts of additional work had to be approved as discussed at para below.

The envisaged life of this class of ships was 40 years. By 2003, however, the ships were not considered suitable for further modernization and were to be decommissioned. By IN standards also, the service life of an aircraft carrier is 40 years while the service life of a Landing Ship Tanks (LST) is 21.8 years. Since the ship 'X' has already outlived major part of its service life (36 years up to 2007) before being commissioned in Indian Navy, decision for the acquisition of the ship does not appear to be prudent. In fact, while claiming that the ship would have a residual life between 10 and 15 years, no basis for reaching this conclusion has ever been given.

The ship was purchased in a hasty manner to take advantage of reduced administrative costs. In fact, not only was the acquisition approved by Government on 31 July 2006 but the contract itself was signed on the same date. Absence of due diligence in examination of the contract is testimony to the dilution of standard procurement procedures.

**II Scope of the project was changed without approval of CFA**

After the signing of the LOA, a team of the foreign Navy was deputed to make a detailed condition assessment before any refit work, i.e. Industrial Availability (IA), was undertaken. As per this assessment, funding required for Industrial Availability (overhaul, refit and repair activities) was USD 29.88 million, i.e. nearly double of the original estimate and the sanctioned amount (USD 15 million). However, when the work on the Industrial Availability (IA) was actually commenced, the requirement for funds increased to USD 36.94 million. The excess of USD 21.94 million was met through an amendment to the LOA and by reviewing the items noted in the table below in addition to others and achieving 'roll-backs and savings' i.e. Navy utilised funds meant for other items towards IA. However, the final scope of work necessitated augmented funding of USD 2.4 million. Unable to further divert funds, Navy finally obtained Government sanction for an additional USD 2.40 million in May 2007.

| Sl. No. | Item | Amount (in USD million) | |
|---|---|---|---|
| | | As per LOA | After roll-backs and savings |
| 1 | LPD | 6.78 | 1.89 |
| 2 | On-board spares + LCM | 1.86 | 0.37 |
| 3 | Messing and Berthing | 1.69 | 1.32 |
| 4 | IA (i.e. overhaul, refit and repair activities) | 15 | 33.89 (36.94 after Amendment 1) |
| 5 | Supply Support | 10.5 | 3.66 (2.66 after Amendment 1) |
| 6 | Programme Management | 1.71 | 0.88 (0.37 after Amendment 1) |
| 7 | Other Technical Assistance | 3.65 | 0.38 |

Audit reviewed the rollbacks and savings having a financial implication of USD 18.89 million and found that these were done without the approval of competent financial authority (CFA) even though they resulted in a substantial change in scope of the project.

Audit also found that these changes had potential for impacting operations and future maintenance of the ship adversely. For instance,

- Original induction cost of the LPD was reduced by almost 44 *per cent* due to downward revision of rating. This is likely to impact future operation and maintenance costs.
- There has been a reduction in the amount expended on OB[12] spares and the four LCMs, due to their condition being downgraded and hence these have been procured at 5 *per cent* of their induction cost. However, when justifying the original cost of the spares to CFA, Ministry had claimed that these were 'new items' and acquisition cost equivalent to 30 *per cent* of their induction cost was 'reasonable'.
- Supply Support (SS) in terms of B&D[13] spares were to be provided for a period of five years and COSAL[14] spares for a period of two years in addition to other items. However, Amendment 1 to the contract drastically modified these provisions resulting in nil provision of B&D spares and only selected COSAL spares with no specification of time period. Thus, USD 7.84 million approved for SS was utilized for IA. Besides the adverse

[12] OB spares – On board spares
[13] B&D spares – Base and Depot spares
[14] COSAL spares – Coordinated shipboard allowance list spares

impact upon future refits as these items will not be readily available, additional expenditure will have to be incurred to procure these items.

- Amount sanctioned for Other Technical Assistance and Programme Management has been reduced without assessing impact upon short-term needs of the refit and repair and long-term needs, since there is curtailment of the services provided. Apparently now a decrease of over 78 *per cent* in the value of services provided could be absorbed without any effect, signifying a lack of proper estimation of costs and effective negotiation.

While presenting the case to Government, IN stated that the refit work package would be on a 'not exceeding' basis and, therefore, the cost of the package would, in effect be 'capped'. Subsequently, the proposal for the additional USD 2.40 million was justified on the grounds that all projections were based on best available data with the foreign Government and the purchaser was required to pay any cost exceeding the amount estimated in the LOA. Considering that this transaction was the first of its kind, the IN and Ministry could have drawn lessons learned by other nations from similar acquisitions. For instance, the acquisition by the Australian Navy of two LSTs through the same FMS / EDA route at a cost of USD 61 million in 1994, is a case to point where inadequate examination of the ships' condition by the Australian Navy had resulted in considerable time (14 to 44 months) and cost over-runs (USD 192 million).

## III Navy did not bring on board all costs while seeking approval of CFA

- IN had specified that it did not 'envisage any major/large-scale modification on the platform during its residual life.' The validity of this assumption is doubtful considering that the ship was delivered only in a 'safe-to–steam' condition and would require upgrades and modifications, costs for which were not assessed, to discharge its envisaged role. In fact, IN is already in negotiation with a foreign firm for refurbishment of the weapon system installed on-board the ship.
- Spares and services support for the residual life, a part of the follow-on material support case, would be executed through a separate LOA.

## IV Restrictive clause

Restrictive clauses raise doubts about the real advantages from this deal. For example, restrictions on the offensive deployment of the ship and permission to the foreign Government to conduct an inspection and inventory of all articles transferred under the End - Use monitoring clause of the LOA. Given that the ship is of old vintage, IN would remain dependent upon foreign based support.

In sum, the decision to purchase ship 'X' at a cost of USD 50.63 million was concluded without a proper physical assessment of the ship. There was a change in the scope of the project without the approval of the competent authority. Navy did not bring all costs on board while seeking approval of the CFA.

The case was referred to the Ministry in September 2007, their reply was awaited as of December 2007.

## 2.4 Procurement of unsuitable Guns for Navy and Coast Guard Organization

**Acceptance of guns costing Rs 28.44 crore by Directorate of Naval Armament Inspection from an Ordnance Factory for issue to Navy and Coast Guard was improper as the weapon platform is incomplete without an accompanying stabilized optronic pedestal (SOP) compromising operational effectiveness thus defeating the purpose of procuring these guns.**

In August 2005, Ministry sanctioned the procurement of 11 guns of type 'M' along with 12 Stabilised Optronic Pedestal (SOP) from an Ordnance Factory (OF) at a cost of Rs 44.24 crore for the Indian Navy (IN) to be fitted on various classes of ships. Further, in December 2005 Ministry sanctioned nine type 'M' guns and 12 SOPs at an aggregated cost of Rs 34.71 crore for fitment in different vessels being operated by the Coast Guard Organisation.

As per Staff Requirements (SRs), the type 'M' gun was to be integrated with the SOP as the latter is a necessity for controlling the gun, remote operation, surveillance and firing of the gun. Audit scrutiny of the documents relating to procurement of the type 'M' guns disclosed that inspite of the gun's incompatibility with the marine environment, Navy went ahead with the present contract revealing poor planning and an ad hoc approach. Detailed findings are given below.

### I. Navy as well as Coast Guard placed order on OF without proper clearance of the prototype of the guns.

Despite a requirement for a suitable gun since 1997, Navy did not draft any SR for a gun capable of meeting marine environment and Naval application. Instead, from 1997 onwards, Navy and Coast Guard Organisation spent

Rs 18.83 crore in trying to adapt a successful land gun to the marine environment. This gun, though commissioned and fitted onto designated ships could not be operationally exploited.

Finally, Naval HQ formulated preliminary SRs in September 2001 for the naval version of the OF gun designated as type 'M', which were later revised in September 2002. Thereafter, Naval HQ raised an indent on the OF Board in July 2003 for supply of two prototypes of type 'M' guns at an estimated cost of Rs 2.20 crore. Based on Factory Acceptance Trials (FATs) of the first prototype at OF in September 2004, the gun was approved for installation on a nominated ship 'Y'. The order of August 2005 was placed without awaiting the Sea Trials Report from ship 'Y' on the grounds that this would delay fitment on designated ships. However, results of the trials on-board the ship 'Y' continued to find the gun unsatisfactory. In spite of this, Naval HQ as well as Coast Guard HQ placed orders in 2005 for these type 'M' guns and SOPs[15] from OF at an aggregated cost of Rs 78.95 crore.

The Harbour Acceptance Trials (HATs) and Sea Acceptance Trials (SATs) and repeat SATs of the prototype were held in May 2006. The trial team in June 2006 raised several observations on the performance of the gun and cleared the gun on the condition that these would be addressed. The status as on date is that against Navy's indent, all 11 guns have been supplied and installed in the ships and five guns have been delivered to Coast Guard for fitment in ships. Observations raised in June 2006 have not been addressed fully. Most importantly, not even one SOP has been provided with the gun.

Though the SRs prepared provided for clearance of prototype before bulk production, Navy / Coast Guard placed an order on the OF in haste without waiting for the trial report and even before obtaining assurance on one of the most important elements of any gun, i.e. the efficiency of the fire control system after integration with the gun mounting system.

Ministry stated in January 2008 that indent does not specify that the gun and SOP are to be delivered together as a completed system and all eleven guns have been supplied without SOP. Ministry added that there has been a delay in the supply of the SOP since bulk production of SOPs was only cleared after successful integration and SATs in November 2006. Ministry admitted that in

[15] Inclusive of both August and December 2005 orders i.e.11 type 'M' guns and 12 SOPs at an estimated cost of Rs 44.24 crore for Navy and 9 type 'M' guns and 12 SOPs at an estimated cost of Rs 34.71 crore for CGO

the absence of the SOP, the guns can operate albeit with reduced efficiency in the local mode with an operator. Ministry's contention is not tenable in view of the fact that the delivery schedule indicated in the indent of August 2005 provided for supply of one gun mount with SOP within six months and the remaining at the rate of one per month thereafter. Therefore, clearance of prototype of the guns without integration of SOP for bulk production lacks rationale. Further, operational capability of the gun in local mode was not the requirement of the NSQR[16] since the guns can be adapted to marine environment only after their successful integration with the SOP and in their reply Ministry had admitted that stabilisation and tracking ability were the primary problems of the SOP. In fact, during operational exploitation in January 2007 it was found that the gun was operating with reduced accuracy in tracking a target due to lack of the SOP.

**II. Acceptance of unsuitable guns also puts question mark on the effectiveness of technical control by the inspection agency.**

Audit scrutiny revealed that:

(a) Some of the parameters evaluated in the SAT trials were not as per the qualitative requirements formulated by NHQ. For instance,

| Stipulated requirements | Details of trial carried out | Remarks |
|---|---|---|
| Target to be used was 1.5m x1.5m | Target used in Sea Trials was 6m x 2m in T1 and CCD modes | Target size was much larger |

(b) Moreover, in other respects like detection and recognition of ranges and tracking of the target, the trials were not conducted as per conditions specified in the SRs. Another serious flaw was the fact that the accuracy of the guns stipulated in the SRs was not met. These are detailed in the table below:

[16] NSQR – Naval Staff Qualitative Requirements

| Stipulated Requirements | Deficiencies noted | Remarks |
|---|---|---|
| **Tracking** | Firing trial could not be carried out in CCD mode. The system failed to lock onto the overturned target. Difficulty experienced in tracking the target was attributed to the performance of the Stabilisation system. | Compatibility with marine environment i.e. ship-board operations, remained unaddressed |
| **Capable of surveillance, target sighting and tracking at night using camera / thermal imager** | Night vision facility not provided | Lack of Night vision facility has impaired operations during night and at times of low visibility. Though this could have been overcome by installation of the SOP, the guns have been delivered and installed without the SOP. |
| **Accuracy of +/-5m** | Reduced accuracy due to manual firing in the absence of stabilised optronic pedestal | The Optronic Pedestal gives an added advantage of extended vision in tracking of targets. |

Hence, claims with regard to achievement of these parameters mentioned in the trial report are questionable. Nevertheless, factory production was commenced without adequate assurance in key areas like tracking, detection and accuracy in the functioning of the gun. This seriously compromises the operational requirements of the Navy.

(c) As per the Qualitative Requirements, the gun with the SOP constitutes a complete system. However, the guns have been delivered without the SOP. Norms specified in the indent provided for inspection of the gun and SOP by the Quality Assurance Organization and Naval Armament Inspectorate. The inspection procedure was flawed as an incomplete system was cleared for delivery to the user. This was further compounded by the user accepting the delivery which was not as per indent.

Ministry admitted in January 2008 that the inspection note had not been forwarded by the inspection agency for the guns, pending liquidation of some minor observations like proper document by the OF etc. Ministry further added that the guns were subjected to thorough inspection by a team nominated by Naval HQ, which included members from the inspection agencies. Ministry's contention is not acceptable since the guns should not

have left the factory premises after production without the inspection certificate and Naval HQ's efforts to clear the guns by their own appointed team contravene the principle of independent and impartial inspection.

In conclusion, hasty decision in the clearance of the guns without the trial report and without ensuring achievement of parameters in vital areas like tracking, detection and accuracy led to procurement of ineffective guns for the Navy and Coast Guard ships at an investment of Rs 28.44 crore. Moreover the efficiency of the fire control system after integration with the gun mounting system could not be proved because the trials were not conducted as per the qualitative requirements formulated. Acceptance of guns by Directorate of Naval Armament Inspection from the OF, for issue to Navy and Coast Guard is improper as the weapon platform is incomplete without an accompanying SOP compromising operational effectiveness thus defeating the purpose of procuring these guns.

## 2.5 Sub-optimal performance of Pilotless Target Aircraft

**DRDO and HAL failed to provide an indigenous PTA to meet the training needs of IAF even after a lapse of 27 years and after an expenditure of Rs 165 crore. Despite the fact that initial development of a prototype failed to fully meet the Qualitative Requirements of IAF, DRDO went ahead with limited series production of PTAs. Further, clearance by the Ministry for bulk production without evaluating the performance of limited series production of PTA indicated serious flaws in development of technology and the production programme. Sub-optimal performance of three delivered PTAs led to IAF putting on hold its acceptance of the balance 12 PTAs ordered on HAL. IAF also withdrew its commitment to the PTA-II programme in favour of imports. The basic objective of providing IAF with realistic airborne target for weapon training hence remained unfulfilled seriously affecting training efforts.**

Pilotless Target Aircraft (PTA) are required by Indian Air Force (IAF) for providing realistic airborne targets for training of aircrew and ground crew in air to air and surface to air weaponry. The project for design and development of PTA had commenced in 1980 and after development of prototype and limited series production, the Ministry entered into bulk series production phase of PTA for which it concluded a contract in December 2003, with Hindustan Aeronautics Limited (HAL) which provides for procurement of 15 analog version PTA christened as Lakshya-I (PTA-I) for IAF at a total cost of Rs 50.96 crore. Supplementary orders for supply of spares, consumables and expendables (SCE) were also placed on HAL in February 2007 at an aggregated cost of Rs 7.85 crore.

Design and development of the prototype and subsequent limited series production (LSP) of PTA were undertaken by Aeronautical Development Establishment (ADE) a unit under Defence Research and Development Organisation (DRDO) and PTA engines (PTAE) by HAL. These activities were spread over more than two decades.

Development of PTA by ADE and PTA engine by HAL was delayed and the developed prototype (PTA I) did not fully meet the Qualitative Requirements (QRs) despite expenditure of Rs 26.21 crore (PTA-I) and Rs 9.22 crore (PTA engines) incurred on the project. Clearance by the Ministry for LSP of PTA-I despite its failure to meet QRs and import of 25 PTA at a cost of Rs 23.42 crore and 14 engines at a cost of Rs 6.57 crore for use with LSP of five PTA were commented upon in para 30 of the Report of the Comptroller and Auditor General of India (Audit Report No. 9 of 1997 - Air Force and Navy)[17]. In their Action Taken Note, Ministry in December 2001 had stated that bulk production of PTA after successful development was planned to be entrusted to HAL and regular production at HAL was expected to commence from 1998-99. However, HAL could not commence bulk production of PTA pending finalisation of orders from the three Services. Ministry assured Public Accounts Committee that during the interim period infrastructure and facilities set up at HAL would be adequate for commencing production of PTA immediately after receipt of orders from the Services.

Audit examination disclosed that the project continued to suffer from delays and inefficiencies even at the stage of bulk production which led to sub-optimal performance of PTA and delay in fulfillment of commitments against the orders placed by IAF. Deficiencies noticed in project management are discussed below:

## I IAF had to accept PTA engine with limitation due to training compulsion

During Price Negotiation Committee (PNC) meeting, held in November 2002 it transpired that the engine developed by HAL had certain limitations. It had an altitude limitation of 6.5 kilometer against QR altitude of 9 kilometers. Besides, HAL had offered a life guarantee of only five landings as against a minimum guarantee of ten landings envisaged in QR. These limitations were, however, accepted by IAF so that training of personnel in Air Defence Weapon System did not get further adversely affected given that the existing imported Chakor PTA had been phased out.

[17] Design and Development of PTA for the 3 services was also commented on extensively in para 46 of the C&AG's Audit Report No. 3 of 1989 for the year ended 31 March 1988.

## II Ministry's clearance for bulk production of PTA I was seriously flawed

ADE delivered five PTAs in 1999-2000 under LSP. But IAF could not conduct any autonomous mission using the PTAs due to non-availability of spares and consumables. Subsequent mission carried out by the IAF revealed numerous defects and design deficiencies in PTA-I which were brought to the notice of ADE in March 2004. However, none of the promised improvements have been proven by ADE on PTA-I. The Ministry, however, concluded contract for bulk production of PTA-I with HAL in December 2003 without waiting for the results of performance of the PTA-I developed by ADE under LSP. As a result, HAL proceeded to undertake bulk production of PTA-I with major deficiencies like defects in tow body, poor endurance, inadequate product support, deficiency in booster brackets seriously affecting operation of PTA.

Although three PTA-I were delivered by HAL in August 2005, under bulk series production, the first campaign with these could only be undertaken during December 2006 due to multiple problems associated with engines manufactured by HAL. During the trials, the PTA-I could be test flown only upto the height of 2.5 Km. against the contracted lower QR of 6.5 Km. The PTA-I were again test flown on 7 March 2007 at the instance of ADE for verification of the height performance of the aircraft and its operational capability. However, this could not be ascertained as within 14 seconds after launch the PTA-I crashed into water.

DRDO stated in September 2007 that the decision to go ahead with bulk production was based on the performance of PTA-I under LSP as well as the experience of Air Force and Navy during 39 flights of PTA during 1999-2003. Hence the observation that the decision on the bulk production of PTA was taken without studying the performance of PTA under LSP does not reflect the factual position. The contention of the DRDO is not tenable as Air HQ in their reply to the draft para had admitted the sub optimal performance of PTA-I and stated that ADE and HAL had promised to implement modifications for addressing the shortfalls. However, the promised improvements are yet to be operationally implemented.

## III Shortfall in meeting delivery schedule

The delivery schedule of 15 PTA-I as per the contract with HAL was to commence from March 2005 and was to be completed by December 2006. The IAF, however, received only three PTA-I in August 2005 and the balance 12 PTA-I are yet to be delivered by HAL (March 2007). Despite the delay,

Ministry did not impose any liquidated damages on HAL in terms of the contract.

Air HQ, however, confirmed in August 2007 that no liquidated damages were imposed as HAL promised to deliver the balance PTAs by the scheduled date which was extended up to June 2007. DRDO stated in September 2007 that initially the delay was due to non availability of imported Line Repair Units (LRUs) of PTAs and subsequently, because of the failure of indigenised PTA engines manufactured by HAL. Despite DRDO's claim of bringing out continuous improvement, Air HQ refused to accept the PTA and as such the issue of delivery of balance 12 PTAs remained unresolved as of November 2007.

## IV Overpayment to HAL

In terms of the contract, an amount of Rs 23.19 crore inclusive of IAF's share of DRE was payable to HAL on account of delivery of the first three PTA-I. Air HQ had however, released Rs 45.68 crore till 2005-06 representing 90 *per cent* of the contract amount. Clearly, therefore, an amount of Rs 22.49 crore was paid to HAL in excess against the contract provision.

## V Failure to avail of warranty benefits

As per the contract, each PTA-I bears a warranty of one year from the date of acceptance or launch recovery cycle of five sea dunking whichever is earlier and if the PTA-I fails to perform as per specification, the supplier shall replace or rectify the same free of charge. IAF did not undertake a single launch of the three PTA-I delivered by HAL between August 2005 and July 2006 to avail of the warranty benefits. Subsequently during the trial conducted in December 2006, the PTA-I failed to gain the required height in the first round. During trial later conducted in March 2007 at the instance of ADE to verify the height performance and operational capability, PTA-I crashed into water within 14 seconds after launch entailing a loss of Rs 2.93 crore. Air HQ recommended that the balance 12 HAL manufactured PTA-I not be accepted in the current form. As the warranty period was allowed to expire without any launch, IAF would neither be able to get any replacement of the PTA-I that crashed into water nor claim any compensation from HAL for its non-performance.

## VI Requirements for weapons training remained unfulfilled

The requirement for aerial target for missile firing and annual training is about 158 targets. To cater for these targets, the existing PTA would have to deliver 79 launches per year. The inability of the PTA to meet the training

requirement of IAF has adversely affected the training status of pilots and missile crew. PTA-I with its sub optimal performance was found to be unsuitable for meeting the Air-to-Air missile training requirement of IAF. Air HQ stated in October 2007 that HAL supplied PTA could meet only 27 *per cent* of the required target and admitted that due to delayed delivery and shortfall in the performance of HAL make PTA, IAF could not plan and achieve the processing of required number of aerial targets for missile training of crews.

## VII Purchase of spares, consumable and expendable for PTA

Air HQ placed orders on HAL for purchase of spares, consumable and expendable for PTA in February 2007 at a cost of Rs 7.85 crore in order to meet the requirement of 50 launches for PTA-I. In view of the fact that till date HAL has not been able to prove its engine performance and the three PTA delivered are also found unsuitable and further unwillingness of IAF to accept the remaining twelve PTA-I, such procurement of spares was avoidable.

## VIII Lack of coordination between various wings of the Ministry led to sanctioning of project Lakshya (PTA) II without commitment from users

Despite various shortcomings detected in the PTA-I manufactured by ADE under LSP, and by HAL under bulk production, the production agency as well as ADE was unable to bring any improvement in its performance over the last eight years. IAF itself on several occasions had extorted ADE for rectification of technical and operational shortcomings in PTA-I instead of attempting development of digital version of PTA (PTA-II) as they had serious concerns about its future. After feasibility study carried out at an expenditure of Rs 1.57 crore by ADE, Ministry sanctioned in January 2006 the development project for PTA- II at a cost of Rs 45.85 crore with probable date of completion as January 2009 without any commitment from users. As of March 2007, an expenditure of Rs 4.92 crore had already been incurred on this project with an outstanding commitment of Rs 10.85 crore for which payment is yet to be made.

After ten months of the sanction, Ministry in October 2006 informed audit that proposal for procurement of PTA II has been dropped and IAF's requirement of PTA would be met through import. However, DRDO and ADE continued working on the project. This indicated lack of coordination, deficient project planning and development, and lack of confidence of the users in the indigenous technology developed, resulting in unfruitful investment of scarce resources.

To sum up, DRDO and HAL failed to provide an indigenous PTA to meet the training requirement of IAF even after a lapse of 27 years and after incurring an expenditure of Rs 165 crore. Despite the fact that initial development of the prototype failed to meet the QR fully, ADE went ahead with limited series production. Further, clearance by the Ministry for bulk production without evaluating the performance of PTA under LSP was ill advised. The performance of both LSP PTA and the HAL produced PTA revealed serious deficiencies in development of the PTAs, in transfer of technology and the bulk production undertaken by HAL. As a result, the PTA-I delivered to IAF performed sub-optimally forcing IAF to put on hold the balance PTAs ordered on HAL and withdraw its commitment to the PTA-II programme. Consequently even after over two decades, indigenous efforts for meeting critical weapons training needs of IAF remain unsuccessful.

## 2.6 Upgradation of an Aircraft

**Aircraft 'A' upgrade project approved at a cost of Rs 430 crore would have limited viability as inherent problems being faced by the aircraft and engines have not been resolved. Widespread time overruns would further dilute benefits from the project as the upgraded aircraft would have a very short residual life. Reduction in scope of the upgrade with the intent to contain costs would truncate the role projected to the CFA. Besides, modified aircraft were accepted by IAF with limitations. Project cost was severely understated and would actually be over Rs. 900 crore i.e., at least two times the approved cost. Advance payment of Rs. 156 crore to HAL even before CFA approval was a violation of budgetary and financial controls. Failure to conclude a contract with HAL even after eight years of CFA approval vitiated the control framework of the project.**

Ministry mooted a proposal in June 1999 for upgradation of 40 aircraft 'A' out of its then fleet strength of 133. The upgradation comprised modern navigation, attack and electronic self-defence systems as the aircraft was equipped only with first generation navigation systems and lacked night flying capability. The programme, approved by the competent financial authority (CFA) in August 1999, was to be carried out indigenously under a cost ceiling of Rs 430 crore. In terms of project milestones agreed between HAL[18] and Indian Air Force (IAF) in October 1999, Initial Operational Clearance (IOC)

[18] Hindustan Aeronautics Limited

for the Design and Development (D&D) phase was to be achieved by December 2001 and serial modification of all the aircraft was required to be completed by December 2004. As against this, conditional IOC was achieved in 2006 and serial modification of all the aircraft is projected to be completed by December 2008. Product support to the aircraft itself will be available from OEM only up to 2012. Thus, the upgraded aircraft will be available to IAF for a short period. Decision to take up the project of upgradation of such aircraft at a high cost was ill conceived and will lead to the investment of more than Rs. 430 crore being rendered largely unfruitful. Delay in project execution is also likely to result in substantial cost overrun. Detailed audit findings on the planning and project implementation are discussed below.

## I Project's feasibility was doubtful from the very beginning

IAF undertook avionics upgradation programme of 40 aircraft 'A' despite being aware of the limited residual life of the aircraft and the continued problems/design deficiencies that affected serviceability and utilisation rate of the entire fleet. The decision to persist with the project was ill-conceived in view of the following:

- The aircraft 'A' fleet had consistently suffered low serviceability (about 50 *per cent*) during the ten year period prior to the approval of the upgradation and the utilization rate (UR) of the fleet averaged 8.42 hours per aircraft per month as against authorized UR of 15 hours.

- There were inherent and irretrievable design deficiencies in the aircraft, aero-engine defects, uncertain product support and inadequate capacity of repair agencies for repair and maintenance. IAF, in fact, lost 17 aircraft 'A' between 1988 and 2001 in accidents due to technical defects.

- In October 2000, the Total Technical Life (TTL) of the aircraft was increased from 1500 hours/15 years to 1800 hours/30 years. The aircraft life was limited and the potential for further life extensions was also correspondingly low.

- In 2001, serious doubts were expressed in Air HQ about the viability of the upgrade project given the plethora of problems affecting the aircraft. It was recognized that benefits would get further diluted if a realistic time frame of seven to eight years for completing the upgrade was factored in.

- HAL, which was responsible for executing the upgrade, was itself doubtful about adhering to the project's timeframe.

- A study undertaken by Air HQ on the reliability of aircraft 'A' found that irrespective of the upgrade, problems relating to the airframe and aero-engine needed to be resolved. Yet, Air HQ, in September 2001, decided to move ahead with the upgrade project in the hope that these problems would be resolved and timeframe for the upgrade would be strictly followed.

- There was uncertainty about the availability of product support for the engine of aircraft 'A' as it was believed that the engine would not be in use anywhere in the world around 2005 and beyond, other than by IAF. The basic aircraft and the system would be supportable from maintenance point of view by the OEM only upto 2012.

Audit examination (September 2007) further disclosed that product support for the aircraft had become further uncertain and would be available only up to 2012 as manufacture of the aircraft and aggregates was stopped by the OEM[19] in 2005.

Thus, given the very low serviceability rate of the aircraft due to aero-engine defects etc., uncertainty about product support by the OEM for critical systems of the aircraft and very limited residual life of the aircraft, it was grossly inappropriate on the part of IAF to take up a major avionics upgradation programme costing around Rs 921 crore for such an old and ailing fleet.

Ministry stated in December 2007 though the production of aero-engines was stopped by OEM, supply of spares was continuing. HAL, being the licensed manufacture of the aero-engines used in aircraft 'A', has manufacturing facilities for most spares and facilities of repair and overhaul for the aero-engines are also available in the concerned Base Repair Depot. Ministry's stand is not acceptable as HAL has the facility/spares for repair of only 31 *per cent* of the total aggregates of the aircraft. A request to HAL to conduct studies for extending aircraft life beyond 1800 hrs was discontinued in October 2005 due to persisting air frame and engine related problems and the non maintainability of the fleet. However, HAL did bring out the fact in October 2000 that the upgrade project would be viable and yield benefit only if aircraft life is extended to at least 3000 hrs – a far cry from the existing 1800 hours.

[19] Original Equipment Manufacturer

As regards serviceability, Ministry stated that the serviceability rate of the aircrafts has improved to the extent of 64 *per cent* and adequate product support is being rendered by various Divisions of HAL. Ministry's claim of improved serviceability ignores the fact that two aircraft 'A' squadron were number plated (phased out) in 2002-03 and 2005-06, which allowed diversion of all serviceable engines and components to remaining squadrons. Therefore, improved serviceability, as claimed, was relevant only in the context of reduced number of squadron/aircraft and not giving an overall picture of aircraft 'A' fleet being held by IAF. Further, the existing serviceability rate is below the norm of 75 *per cent* fixed by the Government. The serviceability rate may further get reduced as the fleet gets older and the availability of spares and product support from the OEM becomes restricted.

## II The project was beset by time overruns

The upgrade project was not commenced even two and a half years after Government approval for the project in August 1999. The delays were due to delays in finalization of Standard of Preparation (SOP), indecision on mode of procuring equipment and deliberations on the feasibility of the project itself. A Memorandum of Understanding (MoU) was signed between HAL and DARE[20] for the D&D stage only in March 2002. As per revised project milestones, D&D was to commence from April 2002 and be completed in October 2004 with achievement of IOC. After successful development of proto-type, series modification of aircraft involving installation of proven avionics as per SOP was re-scheduled for a February 2008 completion.

Despite the re-scheduling, project milestones continued to be missed due to delays in software development and integration by DARE and delayed supplies of customer furnished equipment and those to be arranged by DARE. The most critical cause for the delay was, however, the inability of IAF to make available even two serviceable prototype aircraft on a permanent basis for the D&D phase. Earmarked aircraft had to be frequently changed due to un-serviceability and occurrence of major snags. Delays in series modifications were also on account of non-finalisation of the Electronic Warfare (EW) suite.

As a result, go ahead for series modifications was given with clearance of an interim SOP in July 2005 followed by a conditional IOC in July 2006 i.e after a time overrun of 21 months. The final operational clearance (FOC) for the D&D phase is now envisaged for February 2008. Series modification of aircraft which was due to commence in October 2004 actually commenced in August 2005. As against 26 aircraft to be supplied by March 2007, only 10

[20] Defence Avoinics Research Establishment

aircraft were accepted by IAF by April 2007. Modification of all the 38 aircraft is now expected to be completed only by December 2008. However, delivery of fully upgraded aircraft, incorporating all required sub-systems including modifications proposed post-FOC, will extend beyond this date. These delays have further diluted the utility of the upgrade project which was low to begin with.

Ministry stated in December 2007 that there were delays in deciding the collaboration partner of HAL for D&D phase which culminated into tripartite MOU among DARE, IAF and HAL signed in March 2002. The probable dates of completion of the prototype development and IOC/FOC had to be revised. Ministry's contention is not tenable as the project proposal initially submitted to the CFA for approval itself indicated involvement of all the three parties and there was no reason to find afresh a collaboration partner.

### III Series upgrade of aircraft has been accepted by IAF with limitations

The first D&D milestone i.e. achievement of IOC was due in October 2004. Due to delays affecting the D&D phase, IAF as a concession cleared an interim SOP in July 2005 based on which an Interim Initial Operational Clearance (IIOC) was given for the project in September 2005. This condition implied that serially modified aircraft would have only basic functionality. The critical EW[21] system, ECM[22] suite, IFF[23], LDP[24], backup Core Avionics Computer (CAC) system and several other systems would not be integrated.

Though IOC was granted in July 2006, this was facilitated by a change in scope of IOC itself. Reduced scope implied that the aircraft would be without integration of nine weapon systems and other capabilities. Their integration would stand shifted to the FOC stage, due in 2008.

It was also noticed that there was mismatch between the development timeframe of the preferred Airborne Self Protection Jammer (ASPJ) and the upgrade schedule. These jammers which are being developed by DARE since 1999 are expected to become available only by 2011. The ASPJ being fitted as a stop gap measure was found to be non-compliant with ORs and their integration on series modified aircraft has been stopped since the 13th aircraft. IAF has now proposed integration of an imported ASPJ even though problems had been encountered while integrating this ASPJ on non-upgraded aircraft 'A'.

[21] EW– Electronic Warfare
[22] ECM - Electronic Counter Measure
[23] IFF - Identification Friend or Foe
[24] LDP - Laser Designator Pod

Acceptance of serially modified aircraft in a lower standard with limitations will have operational repercussions as sub-systems would either be unavailable or deliver lower functionality. Upgrade to higher standards would also need to be performed and revalidated which would involve additional costs and time. While 20 series modified aircraft were stated to have been delivered to IAF, only ten had been accepted as of April 2007, that too with critical limitations.

## IV Change in the scope of upgrade diluted critical capabilities

An important objective of the upgrade project was to provide the aircraft with a modern self protection suite, precision day/night strike capabilities and increased radius of action. However, audit scrutiny shows that the scope for the upgrade approved by CFA in 1999 was substantially revised in September 2001 on cost considerations to avoid resubmission of the case to the CFA rather than on grounds of operational merit. The revised SOP deleted systems such as NVG[25] equipment, Digital Flight Data Recorder (FDR), air to air refueling systems and TACAN[26] while adding an advanced VICON pod. Deletion of NVG equipment would constrain night strike capabilities of the upgraded aircraft, while omission of refueling equipment would restrict the area of operations. Further, deletion of the FDR was not justified as Air HQ itself had projected that the existing FDRs had become unreliable.

## V Shortcomings in procurement and deployment of sub-systems

The upgrade project involved integration of a total of 23 sub systems. Of these, 11 were customer furnished equipment (CFE) and 12 were HAL supplied equipment. Seven of the CFEs were sourced from foreign vendors at a cost of Rs 283.95 crore. Of these, six were procured under options clauses of existing contracts for the same equipment at a cost of Rs 209.58 crore. Besides unserviceability and deficiencies in the functioning of several sub-systems which necessitated modifications even on delivered aircraft, audit scrutiny of procurement of CFEs also disclosed:

- There was unseemly haste in the procurement of five CFE items costing Rs 202.29 crore since action was initiated in March 1999, well before the MOU was signed in March 2002 and in spite of the fact that IAF was re-considering the viability of the project. Mismatch between procurement action, upgrade milestones and actual roll-out led to equipment procured remaining unused. In addition, warranty of six imported CFE valued at Rs 279.40 crore have expired even before these were utilized.

[25] Night Vision Goggles
[26] Tactical Air Navigation

- Use of option clause to buy six items had limited justification given that subsequent delays in the project belied the urgency for purchase. In the case of INGPS[27], the vendor substantially increased the price even though procurement was made under the option clause, resulting in higher costs to the extent of USD 321,038. This aspect was commented upon in Para 2.4 of the Report of the Comptroller and Auditor General of India (Report No 5 of 2006 – Air Force and Navy).
- Procurement under options clause was under the assumption that equipment ordered for one type of aircraft could be integrated onto another type. However, problems in integrating these equipment on Aircraft 'A' were encountered in the case of HUD[28], VICON pods and INGPS.

## VI Actual cost was understated and several hidden costs existed

The cost of the project as approved by the CFA was Rs 430 crore. However, these cost estimates did not include the following:

- The cost of equipment such as RWR, SPJ, CMDS[29], VICON pod, and INCOM[30] on the plea that these would be catered for in other projects. The cost of SPJ alone was estimated to be around Rs 427 crore. INCOM and CMDS would additionally cost Rs 15.98 crore and Rs 4.55 crore respectively.
- Work services and integrated logistics systems had not been catered for and included in the upgrade proposal approved by the CFA. Out of a requirement of work services for providing 'I' level facilities for as many as 14 avionics, Board of Officers for only one was completed by 2005. Work services costing Rs 3.87 crore were in the planning stage as of mid July 2007.

Further, delay in availability of work services led to interim arrangements for storage of equipment and testers and shifting of location for testing and training. Project costs also did not include the integrated logistics systems which HAL estimated would cost Rs 34.49 crore.

If these costs are taken into account along with the cost of providing additional features which were proposed post-FOC as also payments towards warranty charges, profit on bought-out items, and higher man-hour rates to HAL, the

[27] Inertial Global Positioning System
[28] Head Up Display
[29] Radar Warning Receiver, Self Protection Jammer; Counter Measure Dispensing System
[30] UHF/VHF Communication

total direct project cost would be upwards of Rs 916 crore against the cost estimates of Rs 430 crore, for which approval of CFA was obtained.

Ministry stated in December 2007 that updated cost estimate including cost of works services works out to Rs 493.49 crore, as CFEs, etc were procured under other ongoing schemes of IAF. Ministry's reply is not tenable as the CFEs like SPJ, INCOM etc., were included in the original project proposal as a part of upgradation programme approved by CFA and there is no valid reason to view the cost of CFEs outside the ambit of the project. Clearly, Air HQ and Ministry flouted internal controls and financial rules in not going to the CFA for a revised sanction and by not disclosing several cost elements.

In addition, there are several other unamortized and hidden costs that would increase the real cost of the upgrade. For instance,

- HAL was to be paid Rs 14.61 lakh per month per aircraft which was not made part of project cost. IAF placed 29 aircraft with HAL much in advance of the start of series modifications and these aircrafts have been idling for periods up to 17 months from March 2004 to August 2005 without being taken up for upgrade, besides IAF incurring an expenditure on account of monthly payments.
- Two aircraft 'A' positioned at HAL as lead aircraft since 1996-97 also had to be overhauled later though these had not flown for the last five years.
- Three series modified aircraft and two D &D aircraft not fitted with RWR in the required configuration would require retro-fitment at a cost of Rs. 4.79 crore which would have to be borne by DARE.
- As the OEM of aircraft 'A' had assured product support only upto 2012, IAF has advanced the phase-out schedule for aircraft 'A' squadron to 2005-06 from 2007-08 to make serviceable engines and spares available for the upgraded aircraft 'A'. Such premature phase out constitutes a cost for supporting upgraded aircraft.

## VII Other issues

### *(a) Full payment to HAL was made in advance even before CFA approval and without a signed contract.*

An 'on account' advance of Rs 156 crore was paid to HAL as early as March 1999, i.e four months before CFA approval was given, even though modalities for the upgrade continued to be under discussion, D&D phase commenced almost two years later and series modification of aircraft 'A' was taken up

only in 2005. The payment was obviously intended to prevent the lapsing of funds revealing significant weaknesses in budgetary controls.

*(b) Delay in signing of formal contract*

The upgrade project remained devoid of a control framework as no contract has been concluded till date between the Ministry and HAL for undertaking series modification of the aircraft. As such the rights and responsibilities of the contracting parties remain undefined, thereby creating a project environment that is susceptible both to cost and time overruns and work defects.

Ministry stated in December 2007 that the problem related to airframe and aero engines had initially put a question mark on viability of upgrade project. Major problems have since been resolved. There were also delays during design and development, and the upgraded aircraft would be available in service till 2025. The reply is not acceptable as various limitations arising out of the structural condition of the aircraft, manufacturing line being closed by OEM, limited facilities available with IAF and HAL for repair and maintenance support, limited residual life of aircraft, make the upgradation unviable.

In sum, the upgrade project approved at a cost of Rs 430 crore would have limited viability as inherent problems being faced by aircraft 'A' and engines have not been resolved. Widespread time overruns would further dilute benefits from the project as the upgraded aircraft would have a very short residual life. Reduction in scope of the upgrade with the intent to contain costs would truncate the role projected to the CFA. Besides, delivered series modified aircraft were accepted by IAF with limitations. Project costs were also severely understated and would actually be at least two times the approved costs. Failure to conclude a contract with HAL even after eight years of approval by CFA vitiated the control framework of the project.

## 2.7 Delay in setting up of Overhaul facilities

**A project conceived in 1986 for repair and overhaul of Gas Turbines for 'T' class of ships awaits completion even after two decades. Lack of synchronisation led to technical documents, equipment and spares procured at a cost of Rs 21.16 crore remaining unutilized for the last eight years.**

Marine Gas Turbine Overhaul Centre (MGTOC) known as INS Eksila was conceived as an integrated establishment to meet the overhaul requirements of

Gas Turbines (GTs) fitted on board Naval ships. With the induction of 'T' class of ships in the Indian Navy, between 1987 and 1989, an amount of Rs 14 crore was earmarked for augmentation of existing repair and overhaul facilities and setting up of a Test Station for GTs for these particular ships at INS Eksila. This was a part of the creation and augmentation of repair facilities at Naval Dockyard, Visakhapatnam, which had been approved by the Government in October 1989 at a cost of Rs 51 crore. The project undertaken by DGNP[31] was anticipated to be completed by 1995-96. The project, however, experienced considerable time and cost over-runs. Audit examination of relevant documents disclosed that the project suffered from various shortcomings in both planning and execution since inception as are discussed below.

## I Deficient Planning and protracted delays

The Soviet Project Report[32] (SPR) (April 1987) envisaged augmentation of existing repair facilities for GTs fitted in the 'T' class of ships and setting up of stand alone facilities and a test station for post repair and overhaul testing of the GTs. There was initial delay in execution of the project due to disintegration of erstwhile Soviet Union. Subsequently, the project was reviewed by M/s Zorya of Ukraine (OEM[33]), who, in 1994, submitted a fresh proposal for setting up of a Test Station for testing the GTs which was accepted by Naval HQ. In 1996, Naval HQ accepted the proceedings of a Board constituted in 1994 to evaluate the proposal of the OEM. After six years, another board constituted (June 2000) for re-siting and costing the test station project recommended (March 2001) that the entire work be off-loaded to a single firm on turn key basis. More than four years later, in December 2005, DGNP awarded a consultancy contract for preparing another Detailed Project Report (DPR) for setting up of testing facilities to Rail India Technical and Economic Services (RITES). RITES submitted the DPR in April 2007 which is under consideration by DGNP. Even after 17 years of the approval by the Government for creation of repair and test facilities, only the stage of DPR has been reached with respect to the critical test facilities. The DPR itself is yet to be approved and its actual implementation is yet to commence.

[31] Director General Naval Projects
[32] Prepared by specialists of former Soviet Union
[33] OEM – Original Equipment Manufacturer

Ministry stated in July 2007 that the break up of the erstwhile USSR[34] made it difficult for the Navy to obtain information and clarifications on the SPR which had inadequacies. Further, full cooperation from the vendor was also not available initially. The reasons given by the Ministry are not tenable in that:

- the time (eight years) taken by Navy to identify the inadequacies in the SPR, received in 1987 appears to be inordinately long. Navy became aware of the deficiencies only after the OEM had pointed these out. Ministry should have comprehensively assessed the suitability of the SPR before taking CFA[35] approval in 1989.
- In developing a DPR only for test facilities, Navy isolated the test stations from the overall project instead of working on an integrated project concept. Even with this limited objective, Navy is yet to approve the DPR and prepare an implementation schedule (April 2007).

## II Splitting of Work

Absence of an integrated project concept had its inevitable fallout in the execution of works services for setting up of the facilities. The original proposal to the CFA in October 1989 envisaged augmentation of the common repair facilities existing at MGTOC, along with the creation of a General Repair Bay with additional facilities[36] meant specifically for the repair and overhaul of M-15 GTs. Except for the Electroplating facility[37], no work services were planned, sanctioned and executed for the new facilities till February 2002. The electroplating facilities had to be created afresh at a cost of Rs 1.21 crore in 2005. MGTOC authorities stated that the existing electroplating facility was re-appropriated for utilization in the repair of other type of GTs. Clearly, the expenditure incurred did not serve the intended purpose.

Navy continued to be unclear about the exact scope of the facilities required and constituted several boards of officers between 1994 and 2002 to determine

[34] USSR – Union of Soviet Socialist Republic
[35] CFA – Competent Financial Authority
[36] Sand Blasting, Shot Blasting, Electroplating, Shell Bearing Repairs and Boiler Rooms
[37] Work services completed in 1995 at a cost of Rs. 44 lakh

requirements for the planned facilities. Though after 1994, Navy placed substantial reliance on the OEM for planning these facilities, it did not enter into any firm agreement with the OEM for continued and structured assistance. Between March 2002 and January 2006, three different sanctions amounting to Rs 8.42 crore for the execution of work services and purchase of equipment were obtained in pursuance of the recommendations made by different Boards. These work services were sanctioned and executed under Annual Technical Works Programme and the expenditure was booked under a separate code head, completely de-linking the works services from the ambit of the project. In fact, these had not been included in the revised cost projections for which approval of the CFA had been obtained in 2004. Navy, even after 17 years, could not submit a comprehensive proposal for the creation of these facilities. Not only was the separate funding of these work services *prima facie* irregular and against the principles of effective project management, but also indicated an ineffective internal control system. Till today, Navy has not frozen its requirements and, thus, the total project cost remains under estimated and indefinite.

### III Equipment and spares imported from abroad remained unutilized

By June 1997, equipment costing Rs 97.90 lakh was procured by DGNP for the Repair and Test facilities. Navy also procured Repair Technical Documents worth USD 2.5 million (Rs 10.70 crore) and tools, appliances, jigs and fixtures worth USD 1.76 million (Rs 7.53 crore) between June 1997 and December 1999 for undertaking repair of GTs. These equipment are lying unutilized since the date of procurement on account of non - establishment of repair facilities. Against a contract concluded in 2000, Navy obtained spares worth Rs 1.95 crore (April 2001) which not only remained unused but were purchased before obtaining the tools and equipment required for over-hauling. At the same time, other tools and equipment were planned to be sourced from the OEM, but sanctions were not issued since the OEM quoted very high rates. This lack of coordination between the purchases and the progress of the project led to the unnecessary blocking of funds as the equipment so procured cannot be utilised till 2010, the expected date of completion of the project.

### IV Delay on the part of Ministry in issuing revised cost approval

As there were substantial delays in commencing the work leading to cost overrun, Naval HQ submitted its proposal in April 1998 to the Ministry for obtaining a revised approval of CFA for Rs 114.90 crore of which Rs 39.75

crore pertain to creation of new facilities and Rs 75.15 crore pertains to M-15 E GT repair/test facilities. The Ministry took six years to give the revised approval in January 2004. This delay of six years was attributable to the time taken for determining the procedure to be followed for vetting of the proposal. After deliberating on whether the proposal needed to be screened by a Committee of Secretaries headed by the Finance Secretary prior to being submitted to the CFA, it was finally decided by the Ministry that such screening was not necessary. Thus, protracted delay of more than ten years resulted in cost overrun of Rs 31.15 crore over the initial approved cost.

The project, as per the revised CFA approval, was to be completed by the end of 2006 and sanction for the remaining works worth Rs 55.58 crore was to be issued within three months of approval by the CFA. However, no sanction, except the sanction for consultancy services for Rs 49 lakh, was issued even after two years of the receipt of revised approval of the CFA.

## V Impact of delay

As a result of the non establishment of the repair facilities, Navy was compelled to send nine GT Aggregates[38] to the OEM abroad for overhaul and repair at a cost of USD 26.98 million (Rs 107.94 crore) between May 2001 and December 2005. Ministry stated in December 2006 that the probable date of completion of the test station is April 2010, and the Ministry is non committal about various other aspects of the project.

To sum up, a project conceived in 1986 for augmentation of repair and overhaul of GTs for 'T' class ships awaits completion after two decades. As a result of lack of synchronization of various project activities, equipment and spares procured at a cost of Rs 21.16 crore have remained unutilised for eight years since the date of purchase. Even after the completion of the project, its utility to the Navy will remain limited as the GTs have already received their scheduled overhaul by the OEM and benefits accrued from it will be marginal as more than half of the service life of the ships, for which the facility is being created, would be over.

[38] GTA – Gas Turbine Aggregates (a set of four Gas Turbines and four Reduction Gears)

## 2.8 Delay in Procurement, Installation and Commissioning of a Training Simulator

**Simulator, considered vital for the training of pilots and observers of helicopter 'C', could not be upgraded and inducted into the Indian Navy even after a lapse of a decade and expenditure of Rs 18.52 crore affecting the quality of training. Associated costs of over Rs 3 crore due to usage of helicopters could have been avoided had the project been completed on time. Related developments may lead to cancelling of the contract with extra financial implication of Rs 18.50 crore, without ultimately achieving the objective.**

Simulators are aimed at providing simulated cockpit and rear cabin crew training for pilots and observers to enable them to acquire higher flying skills. Ministry concluded a contract in March 2004 with M/s TSL Technologies Ltd, New Delhi to upgrade, at a cost of Rs 31 crore, an existing simulator installed at Training Establishment 'L' as the simulator originally procured in 1978 was meant for training in two older versions of the helicopter which have already been phased out. As per the contract, upgradation programme of the simulator, meant to make it suitable for training with respect to helicopter 'C', was to be completed by March 2006. As of June 2007, the firm had delivered equipment worth Rs 1.87 crore to the Training Establishment 'L'. A consignment costing Rs 8.70 crore is lying at Kochi port since August 2006 awaiting collection. Work services for housing the simulator are yet to be completed.

Audit scrutiny of the records relating to the conclusion of contract and post contract events revealed numerous inadequacies and flaws, as under:

### I *Technical configurations not firmed up before inviting bids*

The Qualitative Requirements (QRs) for the upgradation of the simulator were formulated and frozen in 1998 by Training Establishment 'L' without being referred to various agencies like DRDO[39], DDP&S[40], DGQA[41]/ DTDP[42] (Air) and the Directorate of Standardization. The QRs were, thus,

[39] DRDO – Defence Research and Development Organisation
[40] DDP & S – Department of Defence Production and Supplies
[41] DGQA – Director General of Quality Assurance
[42] DTDP (Air) – Director of Technical Development and Production (Air)

accepted by Naval HQ / Ministry without complying with the requirements of Defence Procurement Procedure approved in 1992. Naval HQ effected several revisions in the QRs even after these were frozen and accepted. These involved qualitative changes like incorporation of re-configurability in terms of Advanced Light Helicopter and also quantitative changes. Consequently, Naval HQ took more than four years to finalize the Request for Proposal (RFP) after the QRs were drawn up in July 1998.

II ***Selection process lacked transparency***

Naval HQ initially identified two firms namely M/S Macmet India Ltd in collaboration with M/s Marconi Alenia Ltd of UK and Hindustan Aeronautics Limited (HAL) in collaboration with M/s British Aerospace Ltd. The Technical Evaluation Committee (TEC) evaluated the two offers in November 1999 and concluded that both the vendors were competent to undertake the upgradation, but recommended M/s Macmet as technically superior. This was not accepted by the Ministry as no preference could be made on the basis of technical superiority and selection would be on the basis of commercial quotes received. In view of the huge difference in commercial bids of the two firms (Rs 19 crore) it was recommended by Integrated Finance, in September 2000, that the tender process be made more competitive by including M/s Tata Electronic Development Services (TEDS). M/S TEDS, in collaboration with M/S BVR, Israel, submitted its proposal in November 2000.

Even though a second TEC, convened in March 2001, evaluated the offers and recommended issue of RFPs to all the three participating vendors, the RFPs could only be planned to be forwarded to the vendors in February 2002, one year later. In the meantime, in December 2001, there was a new entrant into the field namely, M/s TSL Technologies, after they gave a presentation to Naval HQ in December 2001. Subsequently, in March 2002, in a sudden development M/s BVR, Israel intimated that their partnership with M/s TEDS had been terminated and their new partner henceforth would be M/s TSL Technologies, New Delhi. In spite of this confusing and fluid situation in July 2002 Naval HQ recommended issue of RFP to M/s TSL Technologies after it was satisfied with the arrangement with M/s BVR. Thus, the process of identification of vendors which commenced in November 1999 concluded in the short-listing of four vendors in December 2002, after three years.

Following a single stage – two bid system, the RFP was issued to all four vendors in August 2002. Three firms[43] responded and the third and final TEC found (December 2002) the proposal of M/s TSL and M/s Macmet as technically meeting Navy's requirement. Ultimately, the contract was awarded to M/s TSL in March 2004. However, in another twist, M/s BVR informed Naval HQ in May 2004 that M/s TSL who bid for the contract with M/s BVR as their technical collaborators had refused to work jointly with them and were seeking other alternatives. From subsequent events it transpired that the equipment dispatched was by another company, M/s Elbit, the present collaborator indicating that the previous arrangement of M/s TSL with M/s BVR no longer existed.

Given the circumstances, it would have been in the best interest of Navy had there been binding contractual terms regarding the role and responsibilities of the partner. Naval HQ was well aware of the antecedents and financial standing of the collaborator (i.e. M/s BVR). It also knew that M/s BVR were responsible for critical elements of the upgradation project. Nevertheless, Naval HQ did not take any precautionary measure to ensure that original collaborative arrangements were maintained. Ministry stated in November 2007 that contract with M/s TSL had enough safeguards in terms of performance warranty and Bank guarantee. Ministry added that M/s BVR was not a party to this contract. While this may be true, nonetheless, the fact remains that it was the collaborative arrangement of M/s TSL and M/s BVR which had been found competent and capable of undertaking the upgrade project when considering the offer at the technical stage. Thus, suo motto changing of the collaborator by M/s TSL without reference to Naval HQ / Ministry raises questions on the competence of the new unevaluated partnership, despite all assurances and guarantees. Further, the technical capability of M/s TSL was doubtful as it was subsequently unable to successfully demonstrate certain parts of the software and hardware due to a number of interfacing problems during Factory Acceptance Trials (FATs) in early 2006. It then, emerged that the FATs would take a longer time because the firm was undertaking this type of work for the first time and the work was of a complex nature. Obviously, Naval HQ did not independently assess the capability of the firm. These developments put a serious question mark on the transparency of the tender process adopted by Naval HQ in selection and technical evaluation of vendors.

[43] M/s Macmet, M/s TSL and M/s HAL

III ***Civil works were not dovetailed with the upgradation programme.***

The Ministry's in-principle approval in July 2001 to the upgradation proposal did not include the cost of associated civil works on the premise that different vendors had different requirements and therefore, the cost of civil work could be estimated only after the selected vendor forwarded the finalized simulator configuration plan. On conclusion of the upgradation contract (March 2004), civil works required to house the simulator were sanctioned in March 2005 at an estimated cost of Rs 1.75 crore. However, M/s TSL requested for changes in the facilities in July 2005 which entailed revision of the sanction. The revised sanction was issued in April 2006 for Rs 2.92 crore. The work under the revised sanction commenced in September 2006 and the amended probable date of completion (PDC) for balance activities / simulator commissioning based on the estimated completion of civil works (December 2007) is now February 2008.

Ministry stated (November 2007) that the increase in cost of civil works was attributable to additional requirements in the Facility Installation Plan (FIP) projected by M/s TSL entailing revision in the scope of work Evidently, the technical and financial appreciation of the civil works conducted initially was inadequate. Non synchronization amongst various segments of the project led to slippages resulting in increased costs and delays affecting the training needs of the Indian Navy.

IV ***Extra contractual developments led to stoppage of work and delay in taking decision may lead to additional financial liability for Navy.***

Due to the Ministry's directives, work on the project was stopped in 2006. Rs 7.95 crore has already been paid to the firm towards advance, preliminary design review and critical design review. A consignment costing Rs 8.70 crore despatched by M/s Elbit as per the contract is still lying uncleared at the Kochi airport since August 2006 incurring demurrage charges each day. After delivering the equipment, the firm has repeatedly been requesting for a schedule of further Factory Acceptance Trials and deputation of Naval team. Ministry stated (November 2007) it was working out modalities for assigning the remaining part of the contract to M/s Elbit by including the firm as sub contractor of M/s TSL. As per the customs authorities notice, the consignment will be auctioned, if not collected. The equipment is also likely to get damaged as it is not stored under specially controlled conditions. As per Naval HQ's own estimation, if the contract is cancelled without reasonable justification,

Rs 18.50 crore would have to be paid to M/s TSL which would be a heavy financial loss. This would also mean that there would be no simulator for the Helicopter 'C' available in the near future for training.

V ***Adverse impact on quality of flying training***

As a result of inordinate delay in the completion of the programme envisaged nearly a decade ago, the 45 hours of simulator training that a trainee should complete in a year as per syllabus remain unaccomplished. In addition, there are associated costs with the usage of actual helicopters for training purposes by inexperienced pilots. Expenditure on this account for one year (i.e. 2005-06 assuming that the project would have been completed on time) alone is over Rs 3 crore. This could well have been avoided if there had been no delays in the process of identification of vendors, issue of RFP, etc.

Moreover, Naval HQ confirmed that there is a proposal to phase out the Helicopter 'C' by 2010. In a parallel development, there is also a plan to upgrade the avionics and weapon systems of the helicopter 'C'. Thus, the functional utility of the simulator at an investment of Rs 34 crore would be limited. In case of upgradation of the aircraft, modifications would become necessary in the software at an additional cost.

To sum up, the upgraded simulator was still unavailable to trainees on Helicopter 'C' even though its necessity was identified in 1999. Extra contractual developments have led to stoppage of work and delay in taking decision on the future course of action may lead to incurring additional financial liability by Navy without realizing the objective of getting an upgraded simulator to meet the training needs of the Navy. In addition, there are avoidable associated costs of over Rs 3 crore due to the usage of actual helicopters for training purposes.

## 2.9 Response of the Ministries/Departments to Draft Audit Paragraphs

On the recommendations of the Public Accounts Committee, the Ministry of Finance (Department of Expenditure) 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.

Draft Paragraphs/Reviews proposed for inclusion in the Report of the Comptroller and Auditor General of India, Union Government, Defence Services (Air Force and Navy) for the year ended March 2007, Report No. CA 5 of 2008, were forwarded to the Secretary, Ministry of Defence between July 2007 and November 2007 through demi-official letters drawing his attention to the Audit findings and requesting Ministry to send their response within the stipulated six weeks. It was brought to the personal notice of the Defence Secretary that since the issues are likely to be included in the Audit Report of the Comptroller and Auditor General of India, which is placed before Parliament, it would be desirable to include Ministry's comments in the matter.

Despite above instructions of the Ministry of Finance issued at the instance of the Public Accounts Committee, the Ministry did not send replies to 12 Draft Paragraphs out of 31 Paragraphs included in this Report. Thus, the response of the Ministry could not be included in respect of these paragraphs.

| **Ministry/Department** | **Total number of Paragraphs on the Ministry/ Department included in the Report** | **Number of Paragraphs in which reply not received from the Ministry of Defence** | **Paragraph Numbers** |
|---|---|---|---|
| Ministry of Defence | 31 | 12 | 2.3, 3.3, 3.5, 3.6, 3.8, 3.9, 3.10, 4.4, 4.5, 4.7, 4.8 (case II & III) and 6.1. |

## 2.10 Follow up on Audit Reports

**Despite repeated instructions and recommendations of the Public Accounts Committee, the Ministry of Defence did not submit initial Action Taken Notes on sixteen Audit Paragraphs.**

With a view to ensuring enforcement of accountability of the Executive in respect of all issues dealt with in various Audit Reports, the Public Accounts Committee desired that Action Taken Notes (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 Action Taken Notes on Audit Paragraphs relating to the Air Force and Navy as of 31 January 2008 revealed that the Ministry had not submitted initial ATNs in respect of 16 out of 81 paragraphs included in the Audit Reports up to and for the year ended March 2006 as enumerated in Annexure-II.

# CHAPTER III : AIR FORCE

## Procurement

### 3.1 Excess procurement of gear boxes for an Aircraft

**Air HQ's failure to ensure timely repair/TTLE of gear boxes held led to avoidable procurement of 44 gear boxes at a cost of Rs 164.78 crore.**

Gear box, a critical component in Aircraft 'B' is located between the two engines of the aircraft and houses important accessories. In June 2005 Ministry placed an order on RAC MIG for procurement of 44 gearboxes for Aircraft 'B' at a total cost of USD 37.452 million (equivalent to Rs 164.78 crore @ 1 USD= Rs 44.00). The procurement was intended to replace 44 gearboxes, which had either completed their total technical life of 1000 hours or were projected to do so during the period 2004 to 2007. All the 44 gear boxes under the contract were received between March 2006 and June 2007.

IAF possesses 67 Aircraft 'B', of which 54 are held by the operational squadrons. In February 2004, when the proposal for procuring the gear boxes was mooted, the total number of gear boxes held by IAF was 105 including 67 gear boxes installed in the aircraft. Taking into account required maintenance reserve of 15 *per cent*, IAF was authorized to hold 11 gear boxes only as maintenance reserve. Besides, 12 to 14 gear boxes, as stated by the Ministry (November 2007) were to be replaced in the repairable aircraft. Thus, IAF needed a maximum of only 25 gear boxes for meeting its repair and maintenance requirements. Therefore, 38 gear boxes held by IAF in addition to those installed in 67 aircraft were adequate to take care of both operational and maintenance requirements of gear boxes for Aircraft 'B' fleet. Evidently there was no need for procurement of 44 gear boxes, had the holding of 38 gear boxes been kept in ready-to-use condition by ensuring timely repair and total technical life extension (TTLE).

In November 2005, immediately after procurement of 44 gear boxes Ministry contracted for life extension and overhaul of 17 gear boxes with the Original Equipment Manufacturer (OEM) at a total cost of USD 8.51 million and eight of these gear boxes were offloaded to the OEM.

Air HQ failed to factor in the possibility of repair and life extension of the gear boxes while proposing the procurement of 44 gear boxes. Air HQ, thus, did not plan the life extension and overhaul properly which led to the procurement of the 44 gear boxes.

Ministry stated (November 2007) that out of 105 gear boxes, only 69 were available for exploitation and the remaining being in repairable condition. Ministry added that for Aircraft 'B' fleet, timely procurement of 44 gear boxes and life extension of 17 gear boxes was an independent activity not related to procurement.

Ministry's reply confirms the audit contention that failure to timely plan repair/TTLE of gear boxes led to avoidable procurement of 44 gear boxes at a cost of Rs 164.78 crore.

## 3.2 Procurement of sub standard components for a helicopter

**FCUs supplied by a joint venture company from an unreliable source were found to be substandard exposing helicopters 'D' to flight safety hazard and the helicopters had to be grounded for want of FCUs. Five APUs costing Rs 1.06 crore also failed and are yet to be replaced. While the punitive action taken by Air HQ was ineffective being tentative and inadequate, the company was awarded further contracts for supply of equipment and spares for IAF by the Ministry and Air HQ. The firm also failed to supply 12 out of 82 lines of spares and equipment contracted for.**

Ministry concluded a contract in October 2003 with Indo Russian Aviation Ltd. (IRAL), a joint venture company, for procurement of 82 lines of rotables for Helicopters 'D' at a total cost of USD 2.70 million (Rs 12.43 crore). The delivery was to be completed within six to eight months of the signing of the contract. Against the order of 82 lines, IRAL could supply only 70 lines and proposed foreclosure of the contract in November 2005, expressing its inability to supply the balance 12 lines. However, till date neither have the supplies been completed, nor has the contract been foreclosed. The 70 lines that were supplied by the vendor included Fuel Control Units (FCU) and Auxiliary Power Units (APU). Examination of the procurement revealed that despite supply of spurious FCUs and APUs with forged documents, as confirmed by the Original Equipment Manufacturer (OEM), Air HQ did not take any serious punitive action against the firm and instead placed further

orders on the firm thus giving undue favour in blatant violation of financial rules and procurement norms. The details of the case are discussed below:

## I Supply of spurious FCU

IRAL supplied 20 FCU between May 2004 and May 2005. Of these, 19 FCUs valuing Rs 1.38 crore were reported to be spurious by the operating units. One Helicopter 'D' engaged for VIP flight, fitted with one of these FCUs was involved in an incident on 8 July 2005, wherein the engine had to be switched off due to malfunctioning of the FCU. The matter was taken up by Air HQ with the OEM, M/s FED Khairkiv Ukraine as per the contract, who confirmed that only one out of the 20 FCUs had been supplied by them and that the rest had false passport and manufacturing serial numbers. In May 2005, Air HQ asked IRAL to replace the spurious FCUs supplied by them. The company replaced 18 FCUs between October 2005 and April 2007. Ministry stated in October 2007 that one FCU was under repair. Even though the replaced FCUs were manufactured by a company other than the OEM, i.e Star PLC, Air HQ accepted the FCUs in January 2006 based on the certificate of Air Attache Moscow that Star PLC is also the manufacturer of fuel aggregates of helicopters. The certificate, however, did not specify FCU as one of the aggregates or helicopter 'D' as one of the helicopters.

Acceptance of FCUs manufactured by a firm which was not the OEM declared in the contract was not only a contractual violation, but also compromised the operational safety of helicopters. Besides, the helicopters were also grounded for want of FCUs for a long time as the replacement of spurious FCUs could be completed by April 2007. This highlights weakness of the existing system of acceptance and testing in Indian Air Force (IAF) which allowed acceptance of supplies based on the certificates furnished by the supplier/trader instead of obtaining prior confirmation directly from the OEM about the genuineness of the products supplied and conducting proper tests before acceptance and dispatch to the user units.

## II Supply of fake APUs

IRAL had also supplied 15 APU valuing Rs 3.25 crore in April/May 2004 against the aforesaid contract. On receipt inspection at the concerned Base Repair Depot, it was found that these were refurbished old APUs. The items were sourced from the Russian Aviation Company Ltd. whereas M/s Motor Sich was the specified OEM in the offer of IRAL. The OEM log books submitted were contradictory to TBO[44]/TTL[45] specified by the OEM. Besides,

[44] TBO - Time Between Overhaul
[45] TTL - Total Technical Life

out of 15 APUs supplied by the firm, three had serial numbers which were the same as those already existing with the IAF. M/s Motor Sich, the OEM, confirmed in June 2004 that these APUs were not supplied by them to India. The log book of the APUs showed that these were manufactured by M/s Motor Sich JSC in 2002-2003 and were brand new and had no operating hours. When the matter was raised by Air HQ, the OEM confirmed that the log books and the units were fake and not supplied by them. The signatures of officials of the OEM and the stamps were also forged. The log books were of an old standard which had been discontinued six years ago. The APUs supplied were then rejected and back loaded to the supplier for replacement. The 15 APUs, were replaced by the supplier between December 2004 and January 2005, of which five APUs malfunctioned. These five APUs were again back loaded to the supplier between November 2005 and May 2006 for replacement free of cost. However, these APUs costing USD 235,000 (Rs 1.06 crore) have not been replaced so far.

This again indicates that the system of acceptance and testing in IAF is defective. It needs strengthening by ensuring that either vital procurements in IAF are made directly from the OEM or at least confirmation on genuineness of the supplies made by the trader/third party is obtained from the OEM directly before acceptance to avoid spurious procurements and minimize risk to flight safety.

### III Inadequate action against the supplier

Due to unsatisfactory performance of the supplier, Air HQ decided not to issue any Request for Proposal (RFP) to the firm up to September 2006 after which the position was to be reviewed. The audit examination revealed that the issue of RFP had little punitive effect as despite failure of the company to supply the items against various old contracts and supply of items from spurious firms based on fake and forged documents, Air HQ awarded 15 contracts to the company during January 2006 to April 2007.

Ministry stated in October 2007 that the ban was still being continued till date as the firm's response was very poor towards supply of item against outstanding contracts. However, contracts against proposals which were in pipe line at the time of ban were awarded to the firm.

Award of further contracts to the defaulting firm and not taking adequate action for supplying spurious goods on forged/fake documents is highly irregular and against the provisions of Defence Procurement Manual which stipulates blacklisting of suppliers in cases of serious misconduct and continued poor performance. Since the Hindustan Aeronautics Limited (HAL) is one of the partners in the joint venture of IRAL, there is no assurance that

the spurious products are not making their way through IRAL in the repair and maintenance chain of HAL against various Repair, Maintenance Supply Orders placed by Air HQ on HAL.

## Works Services

### 3.3 Irregular Sanction and Execution of Works Services

**Action taken by various Air Force authorities in the sanction and execution of works services did not meet the standards of financial propriety and did not conform to regulations. In one instance, violation of rules in contract management led to unauthorised expenditure of Rs 38.93 lakh. In the second case, there was an unauthorised expenditure of Rs 15.28 lakh on execution of work at a private place other than the approved work site.**

Internal control system is a process designed to provide reasonable assurance to an organisation that its operations are being carried out in accordance with applicable rules and regulations in an economical, efficient and effective manner. During the audit of sanction and contracts, the following cases of irregularities in the sanction and execution of works services came to notice.

**Case I: Irregular sanction and execution of special repairs to an Officers Mess**

On the recommendation of a Board of Officers (Board), HQ Western Air Command (WAC) sanctioned additions / alterations to an Officers Mess (Mess) at HQ WAC at an estimated cost of Rs 9.96 lakh in April 2004. The work included the replacement of existing green marble flooring and other flooring with glazed ceramic coloured tiles and vitrified tiles costing Rs 6.26 lakh as a 'special item' of work. The sanction was, however, cancelled in May 2004. A fresh Board, convened in August 2004, recommended work services estimated at Rs 43.34 lakh which included, *inter alia,* changing the entire flooring of the Mess with Italian Marble costing Rs 38.93 lakh. Contrary to the recommendation of the Board these works were treated as 'authorised works'.

Even though the sanction initially accorded was cancelled, the Garrison Engineer (GE) (Air Force) Subroto Park issued tenders in July 2004 based on the cancelled sanction. Later, on receipt of a fresh sanction in August 2004, the GE issued an amendment to the original tender to cover the revised scope

of work. The contract was concluded in September 2004 by the GE under the powers delegated by the Commander Works Engineer (CWE).

Audit scrutiny of the documents revealed the following:

- The Board initially (June 2003) recommended use of glazed and vitrified tiles as special items to improve the standard of flooring. The second Board held in August 2004 recommended use of Italian marbles for the same purpose without giving any reason as to why the glazed and vitrified tiles had become unsuitable for the purpose indicating a clear lack of financial propriety, especially, when there was a large increase in expenditure of Rs 32.67 lakh.

- Provision of Italian marble worth Rs 38.93 lakh is not an authorised item and needed sanction of the Government before being incorporated in the work. Despite the Board recommending the work as a special work, HQ WAC sanctioned it as an authorised work in violation of the existing rule.

- The entire tendering process was highly suspect in both intent and action and aimed to favour a particular contractor. Inviting tenders on the basis of a cancelled sanction not only, *prima facie*, violates financial principles but bypasses all internal controls. Issuing amendments to enlarge the scope of work is further disregard for rules and procedures.

- As per rules in vogue, 'E' category contractors are eligible to quote for tenders under Rs 10 lakh. The cost of the work was initially estimated at Rs 9.96 lakh. M/s Mahinder Pal and Co., whose bid was accepted, was registered with the GE as an 'E' category contractor. After amending the original tender, the estimated cost went upto Rs 43.34 lakh. Consequently, this contractor was not qualified to undertake the work. In not re-tendering and awarding the contract to a competent contractor, the actions of GE are highly questionable as it indicates a bias in favour of M/s Mahinder Pal and Co.

- CWE in September 2004 delegated the power of issuing of technical sanction and acceptance of contract for the entire work of Rs 42.08 lakh, which is irregular since such delegation as per rule should be for sub-projects to officers within the limit of their powers. Since GE has power for only Rs 15 lakh, exercise of delegated powers by GE for the entire works costing Rs 43.34 lakh violates the rules.

**Case - II** **Irregular expenditure on execution of a work**

Based on the recommendations of a Board of Officers (Board), HQ WAC in February 2005 accorded sanction for construction of two toilets for WAC Air Force Officers' Mess, Subroto Park at an estimated cost of Rs 19.83 lakh. As per the recommendations of the Board the proposed toilets were meant for WAC Officers' Mess and OTM building, whereas the actual siting and construction was done at Air Force Auditorium, which is a non-public fund entity. The work was executed under a contract agreement of October 2005 and the work was completed and taken over by MES in June 2006 at a cost of Rs 15.28 lakh. Expenditure from public fund for a non-public entity is not authorised and hence, the sanction accorded and works executed at an expenditure of Rs 15.28 lakh are irregular and require regularisation.

The cases were referred to the Ministry in July 2007, and reply was awaited as of December 2007.

## 3.4 Savings at the instance of Audit

**In two stations deletion of work services from sanctions accorded by Air HQ and HQ EAC resulted in saving of Rs 1.46 crore at the instance of Audit.**

Failure of internal control in observing rules/Government instructions led to sanctioning of unauthorised works services entailing avoidable extra expenditure. Some instances of such internal control failure have come to notice during Audit, which are discussed as under:

**Case - I**

Air HQ sanctioned work services at Air Force Station Bikaner in January 2005 at an estimated cost of Rs 4.10 crore. The sanction included provision for a school building with ancillary services in the Air Force station estimated to cost Rs 1.36 crore. Orders of the Government issued in April 1993 prohibit opening of schools in unit lines including Air Force Stations both because state governments are responsible for providing educational facilities and also because the Central School Organisation has opened schools throughout the country to provide education to children of Service personnel. The only exception to this order is, if the nearest school is at a considerable distance from the cantonment area. In such cases, new schools can be opened after obtaining Government sanction. Audit in February 2006, observed that though the State Government schools/Central schools were located within a reasonable distance, provision for construction of the school was included in

the sanction accorded in January 2005 by Air HQ violating provisions of the above mentioned Government order and as such was irregular. On this being pointed out by Audit, Air HQ deleted the provision of works services for the school building and ancillary services from the sanction through a reduction statement and issued a corrigendum in January 2007 to the original sanction. Consequently, Rs 1.36 crore was saved at the instance of Audit.

The Ministry admitted the facts of the case in December 2007.

**Case – II**

HQ Eastern Air Command (EAC) sanctioned provision of a new class room in an Air Force School at a station at a cost of Rs 10 lakh in June 2004. In terms of Government Order of 30 October 2000, no expenditure should be incurred by Military Engineer Services after 15 October 2000 on any military building occupied by a school which is not a government-run institution. Audit in December 2004 pointed out that the sanction of works was in contravention of the above mentioned government order. HQ EAC cancelled the sanction in March 2005, which resulted in the saving of expenditure of Rs 10 lakh at the instance of Audit.

The Ministry admitted the facts of the case in December 2007.

## Contract Management

### 3.5 Irregular payments for repair services to a vendor

**Due to deficient contract management, IAF paid an extra amount of Rs 12.26 lakh. Due to wrong application of agreed AMC rates, Air HQ also had to accept an extra liability of Rs 1.98 crore on account of inadequate evaluation of spares required.**

Directorate of Plan ADGES[46] in Air HQ placed an order on M/s Hughes Escorts Communications Limited (HECL) in July 2004 for annual maintenance and annual repairs of 22 sites of an IT network of Indian Air Force (IAF) for a period of three years and for one-time procurement of spares. The order, valued at Rs 2.84 crore included, *inter alia*, annual maintenance services at a price of Rs 22.86 lakh (i.e Rs 7.62 lakh per year) and spares at a cost of Rs 1.98 crore.

[46] ADGES - Air Defence Ground Environmental Systems

The 22 sites referred above were set up by the same vendor under a supply order issued in September 2000 for establishing 99 sites of an IT network at a total cost of Rs 10.44 crore. While the warranty period for 22 sites expired on 31 October 2003, the remaining 77 sites remained under warranty till 31 December 2006. The order for Annual Maintenance Contract (AMC) and annual repairs contract placed in July 2004 covered the 22 sites for which warranty support expired in October 2003. Scrutiny of the documents relating to both the contract viz (i) contract signed in September 2000 for establishing IT networks at 99 sites, and (ii) contract of July 2004 for AMC and annual repairs at 22 sites revealed the following:

- IAF had issued a Request for Proposal (RFP) in December 1999 for establishing a satellite-based IT network at 99 locations of the IAF. This RFP required bidders to include the price for an AMC in their bid cost. The RFP also defined the scope of the AMC and the envisaged maintenance philosophy to enable bidders to price their service correctly. The contract for the work was awarded in September 2000 to M/s HECL, being the L-1 bidder. The contract included a provision for annual maintenance services by M/s HECL on expiry of warranty at the rates quoted by M/s HECL in its bid. The firm had quoted a price of Rs 15.90 lakh for the AMC to be entered into after expiry of warranty as specified in the RFP for 99 sites. Thus, contracting a separate arrangement on expiry of the warranty for AMC and payment of Rs 7.62 lakh per annum for the 22 sites only was grossly irregular as the price of AMC agreed to in September 2000 contract was Rs 15.90 lakh for contract period (i.e for a period of three years) for 99 sites. This resulted in extra payment of Rs 12.26 lakh to the firm.

- The RFP issued in December 1999 for setting up the network had clearly stipulated that bidders should recommend a list of spares necessary for ensuring 99.5 *per cent* availability of equipment at all centres. However, M/s HECL in its bid recommended only five line spares for product support. Since there was disparity in the line of spares recommended by other vendors, Radar Communication Project Office (RCPO) standardized the list to 14 lines of spares to be procured under the contract of September 2000. M/s HECL quoted a price of Rs 82.25 lakh for these spares and also supplied them as a part of the September 2000 supply order. At the time of concluding the AMC, however, the firm revised their estimate of recommended spares and proposed procurement

of an additional 19 line of spares valued at Rs 1.98 crore over and above the 14 line of spares that had already been procured as standardized spares. Air HQ did not detect this discrepancy in the AMC proposal and failed to link up the three different arrangements proposed for spares by the firm in 2000 and 2004. Clearly, not only was the evaluation of the bids undertaken initially deficient but the Professional Directorate also made an incorrect assessment of the uniform requirement of spares. As a result, Air HQ was presented with a *fait accompli* and had to accept an extra liability of Rs 1.98 crore towards spares in a non-competitive situation.

- Although the services under the AMC of September 2004 provided by the firm were far from satisfactory, IAF units took a casual approach in this regard. In terms of the contract, quarterly payments are to be made on production of a satisfactory service certificate issued by a designated Signal Unit (SU) duly countersigned by Directorate of Plan ADGES. Even though the contract was made effective from 1 November 2003, no payment was made to the firm till 13 July 2006 and at the instance of Directorate Plan ADGES the designated SU signed as many as 10 certificates on 14 July 2006 certifying satisfactory maintenance service provided by the firm during the period from 1 November 2003 to 30 April 2006 and authorized payment of Rs 66.22 lakh. Evidently, the services provided by the firm were neither properly supervised nor monitored adequately and the certificates were endorsed only to facilitate payment to the firm.

To sum up, due to deficient contract management, IAF excluded repair services from the scope of AMC agreed while placing supply order on a vendor for setting up Wide Area Network sites. Instead, under a new supply order, it paid an extra Rs 12.26 lakh due to wrong application of agreed AMC rates.

The case was referred to the Ministry in September 2007; their reply was awaited as of December 2007.

## 3.6 Non-recovery of interest due on ad-hoc advance

**Despite clear provision in the contract, Controller of Defence Accounts failed to recover interest of Rs 46.70 crore from BEL on ad hoc advance provided to the company.**

Ministry sanctioned procurement of 404 number of radar 'O' with associated spares and equipment from Bharat Electronics Limited (BEL) in March 2002 subject to signing of a formal contract with BEL and also authorized release of an advance of Rs 113.40 crore to BEL during 2001-02 against the project. Accordingly Controller of Defence Accounts (CDA) released an ad-hoc advance of Rs 113.40 crore in March 2002 prior to conclusion of the contract. Ministry finally concluded the contract in September 2005 for supply of 336 number of radars at a cost of Rs 521 crore with BEL. In October 2005, BEL preferred a claim of Rs 58.09 crore in terms of the contract without adjusting the recovery of interest for the advance already paid by CDA in March 2002. Deputy Controller of Defence Accounts (DCDA) while releasing the payment in November 2005 deducted Rs 46.70 crore towards interest and paid the balance amount of Rs 11.396 crore to BEL.

CDA, however, instructed DCDA in December 2005 to refund the amount of Rs 46.70 crore recovered from BEL on the plea that clarification regarding interest had been sought for from Air HQ and the Ministry, and recovery of interest would be made from subsequent payment on receipt of clarification from the Ministry/Air HQ. DCDA, in the same month, refunded the amount of Rs 46.70 crore to BEL.

Although CDA had implied that a clarification would be sought from Air HQ/Ministry, documents produced to Audit indicated that no clarification was sought for even after one and a half years. On this lapse being pointed out, CDA obtained confirmation from Air HQ in September 2007 that recovery of interest on the earlier advance was to be made as per contract.

Interest amounting to Rs 46.70 crore on the ad-hoc advance of Rs 113.40 crore paid in March 2002, however, remained unrealized from BEL as of November 2007 owing to the erroneous decision taken by CDA despite clear provision in the contract to recover interest.

The case was referred to the Ministry in September 2007; their reply was awaited as of December 2007.

## 3.7 Non-crediting of Cash Flow Benefit to IAF

**Ministry paid an advance of Rs 370 crore to BDL in 1998-99 for supply of 54 Missiles, but failed to monitor recovery of cash flow benefits from BDL during 2002-03 to 2006-07 against the advance paid. As a result, IAF was deprived of revenue to the extent of Rs 91.33 crore which could have been ploughed back into the project with diminishing financial liability to IAF.**

In October 1998, Ministry placed a Letter of Intent (LOI) on Bharat Dynamics Limited (BDL) Hyderabad for supply of 54 Missiles along with associated Ground Support Equipment (GSE). Pending finalisation of prices of the items after negotiations, the LOI authorised release of Rs 50 crore to BDL as on-account payment to be adjusted during payment of subsequent instalments. Subsequently, Rs 320 crore was also released to BDL in April 1999 as on-account advance for procurement of material and moving forward with the production programme. The payments were released on the condition that the benefit of improved cash flow (interest on advance at Government borrowing rate) would be passed on to Indian Air Force (IAF) and adjusted in the subsequent payments to be released to BDL, against the project cost.

Accordingly, BDL remitted an amount of Rs 16.275 crore to IAF in April 2000 as cash flow benefit. In June 2004, Ministry sanctioned the crediting of further interest of Rs 35.92 crore earned by BDL upto 2002-03 as advance to the project. The Price Negotiation Committee constituted by the Ministry finalised the prices of the Missiles, training equipment and GSE in January 2003 at Rs 906.89 crore. BDL supplied three missiles and GSE worth Rs 152.36 crore during 2003-05 and stores worth Rs 86.59 crore in 2005-06. The contract was finally concluded on 31st March 2006 at the negotiated price of Rs 906.89 crore. As per the payment terms of the contract, balance amount of Rs 500.97 crore was to be released in four stages. Of this, the first stage payment of 30 *per cent* amount to Rs 150.29 crore was released on the date of conclusion of contract.

As on 31 March 2006, the total payments released to BDL worked out to Rs 556.21 crore. Deducting the cost of supplies (Rs 238.95 crore) already made by them during 2003-06, the total advance held by BDL would work out to Rs 317.26 crore. BDL, after 2002-03, did not pass on cash flow benefit to IAF against the advance held by them. As a result, IAF was deprived of

revenue to the extent of Rs.91.33 crore (calculated at normal rate of interest that Central Government pays for the borrowings) which could have been ploughed back into the project with diminishing financial liability for IAF.
The Ministry, while accepting the fact of the case stated in November 2007 that the amount of interest accrued on the advance held by BDL beyond 31.3.2003 would be calculated in accordance with the Government policy and recovered from BDL.

## 3.8 Undue favour shown to a Company

**Air HQ was unable to take effective action against a non-performing company. The decision to withhold issue of tenders had little or no impact in arresting placement of further orders on the defaulting company. Although the company continued to default in the execution of various contracts, Air HQ viewed its performance as satisfactory and granted concessions thereby showing undue favour to the company.**

Indo Russian Aviation Ltd. (IRAL) is a joint venture company of Hindustan Aeronautics Limited, ICICI Bank Ltd, RAC MIG and Aviazapchast and is registered by Air HQ as an approved supplier for spares and components of MiG aircraft variants to Indian Air Force (IAF). In executing various supply orders awarded to it, the company failed to adhere to contractual provisions on different grounds on a number of occasions, viz. not meeting delivery schedules, non-supply of articles contracted for, frequent request for short closure of orders etc. Therefore, Air HQ, in October 2005, reviewed its performance and observed that against 41 contracts awarded during the last three years, IRAL met its obligations in only seven cases as per the delivery schedule without any qualitative compromises. The default rate, thus, worked out to 77 *per cent.* As a result, Air HQ (February 2006) during a meeting with the representative of IRAL took a decision not to issue tenders to the firm in respect of spares for MI-8, MI-17 helicopters and AN-32 Aircraft for three months and thereafter review its performance. The above ban has been extended from time to time after periodical reviews. As of July 2007, the ban is still continuing.

Audit scrutiny of the records relating to the contracts concluded by Air HQ for procurement of spares and components in respect of MiG-series aircraft revealed the following:

- No formal notice banning issue of tenders was issued to IRAL subsequent to the decision of Air HQ in February 2006. This decision

was formalized only in the minutes of the meeting held with the representative of IRAL. The minutes of the meeting revealed that the ban order extended to spares of MI-8, MI-17 helicopters and AN-32 Aircraft for which the company was not even registered to supply and ignored various MiG variants for which the company was listed as approved supplier by Air HQ.

- Taking advantage of the fact that the ban was not applicable for spares of MiG variant, Air HQ concluded as many as 15 contracts with the company subsequent to the decision of the ban for supply of spares and equipment for various MiG Aircraft. Obviously, there were no adverse financial repercussions of the so-called ban on the company. On the contrary, the company was rewarded with orders worth USD 1665068 (Rs.7.49 crore) during the period of ban.

- A review of the performance of the company in respect of 15 contracts concluded post February 2006 period revealed that the company was able to deliver 41 *per cent* supplies, worth only USD 678859 out of the 15 contracts valued at USD 1665068 and stores worth USD 986209, (59 *per cent*) are yet to be supplied by them even after expiry of the delivery schedule. A detailed breakup of the position of 15 contracts is given in the table below:

| **Full Delivery** | **Partial Supply, not completed even after expiry of Delivery Schedule** | **Delivery Date not yet expired** | **No delivery even after expiry of Delivery Schedule** |
|---|---|---|---|
| 3 | 8 | 2 | 2 |

Therefore, the default rate in respect of the 15 contracts concluded was to the extent of 66 *per cent*. While Air HQ did not issue any notice to the company to expedite the delivery in respect of some cases, in three cases where reminders were issued, no response was received from the company.

- Air HQs' continued dealings with the company also had an adverse impact upon inventory management. For instance, in one contract worth USD 874650 for supply of 1666 number of tyres M/W (Model 2A), delay in delivery of the tyres resulted in a stock-out situation. With such a predicament at hand, Air HQ agreed to accept old stock due to criticality of requirement. In spite of these concessions, the firm was unable to supply the entire quantity as of May 2007.

To sum up, Air HQ was unable to take effective action against a non-performing company. The decision to withhold issue of tenders had little or no impact in arresting placement of further orders on the company. The firm continued to default in the execution of various contracts. In spite of this, Air HQ viewed the performance of the company as satisfactory and granted concessions, thereby showing unnecessary favour to the non-performing supplier.

The case was referred to the Ministry in August 2007; reply awaited as of December 2007.

## Miscellaneous

### 3.9 Unauthorised erection of Antenna on a defence building

**Air Force authorities violated canons of financial propriety and disregarded security safeguards by allowing a private company to erect an antenna on a defence asset. Even though the company is exploiting facilities of public property, payments made by the firm are regularly being deposited in non-public account. Air Force officers have also been provided mobile phones free of cost by the private company. The case needs a probe to fix responsibility for violation of norms.**

Reliance Infocomm Limited approached the Air Officer Commanding (AOC) of an Air Force Station in May 2004 to install a booster antenna in the station complex. Within a fortnight of receipt of the request from the company, the AOC permitted the company to install a booster antenna of 6-9 metres height on a defence building in the campus. As a goodwill gesture, the company agreed to provide 20 mobile telephones for 20 officers of the Air Force station with maximum billing amount of Rs 15,000. The company was also required to pay an amount of Rs 5000 on account of rent and allied charges to the Government. The amount was subsequently reduced to Rs 1000 in September 2005. The number of free mobile connections was increased by the company to 22 in July 2005. Subsequent to the approval, President Service Institute (PSI) of the Air Force Station, which is a non public fund entity (private entity) entered into a license agreement on 10 January 2005 with the company for installation of Pole Mounted Repeater Antenna and other required infrastructure facilities like shelter, diesel generating sets and utilities at the Air Force station. In terms of the agreement, the company is to pay monthly lease rebate of Rs 16,000, monthly cleaning charges of Rs 200 besides a non-

refundable security deposit of Rs 75,000 and a refundable deposit of similar amount. The Air Force Station in May 2007 informed Audit that the amount of Rs 16,000 paid by Reliance Infocomm to the Air Force was due to the Service Institute Fund, a non-public Fund rather than to the Government Treasury.

Examination of the documents relating to the agreement with the Reliance Infocomm revealed the following:

- Use of a defence building for the purpose of erecting antenna should be viewed as re-appropriation of a public building for private purposes, introducing a new practice and as per rule such re-appropriation should be done only after obtaining the sanction of the Government. Therefore, the approval accorded by AOC, Air Force Station besides being violative of rules on the subject does not meet standards of financial propriety.
- For erection of the antenna, Air Force Station did not seek any clearance from the Government which is essential since the area where the antenna is installed falls in a very sensitive security zone. By allowing a private company to erect an antenna in a high security zone, AOC may have not only compromised but also endangered security.
- PSI is a non-public fund entity and has no authority for leasing any public asset to a private party. Therefore, conclusion of the agreement for installation of the antenna by the Institute with the Reliance Infocomm on defence building was *prima facie* irregular.
- Receipt of Rs 16,000 per month on account of lease rebate due to the Service Institute Fund, which is a non-public fund, is also irregular since the company is deriving service essentiality from a Government asset.
- The facilities in the form of mobile connections given by the company as a goodwill gesture to 20 officers in the Station since May 2004 and 22 officers since July 2005 are undue benefits to the officers in the nature of a quid pro quo. Information made available by Air Force Station authorities indicate that the usage charges for the mobiles are being offset against the monthly lease rebate of Rs 16,000. The propriety of the same is not free from doubt.

To sum up, Air Force authorities acting in violation of canons of financial propriety and disregarding security safeguards, allowed a private company to erect an antenna on a defence asset. Even though the company is getting all facilities exploiting a Government resource, all payments made by them are unauthorisedly being deposited in a non-public account. Air Force Station

personnel are also availing of mobile connections provided by the private company free of charge.

The case was referred to the Ministry in September 2007; reply awaited as of December 2007.

## 3.10 Management of Transport in Air HQ and other IAF Units located in New Delhi

**Air Force Station possesses a large fleet of passenger vehicles and huge establishment of MT drivers above the sanctioned establishment in violation of rules thereby flouting economy measures of the Government. Indiscriminate use of service vehicles resulted in unauthorised exploitation entailing an extra expenditure of Rs 5.60 crore during the last three years which was unauthorisedly regularised by Air HQ.**

As one of its administrative responsibilities, Air Force Station (AFS), New Delhi provides transport to officers and personnel working in Air HQ and 17 other IAF units located in Delhi. Government in June 1982 sanctioned an establishment of 119 vehicles and 173 drivers for Air Force Station New Delhi. Against the sanction, the details of vehicles (as in July 2006) held by Air Force station are shown below:-

| Category of vehicles | Passenger carrier | Load carrier | Others MC, Tender and Trailer | Total |
|---|---|---|---|---|
| Authorised | 53 | 32 | 34 | 119 |
| Held | 336 | 57 | 69 | 462 |

Examination of documents relevant to the operation of Mechanical Transport (MT) fleet by AFS, New Delhi revealed the following:

### I AFS possesses a large fleet of vehicles in violation of rules

Vehicles have been acquired under purchase orders placed by the Directorate of Mechanical Transport (DMT) in Air HQ against demands projected by IAF units to replenish deficiencies on account of down-gradation of vehicles after approval by the Ministry. These vehicles are then received by an Equipment

Depot (ED) which is responsible for holding MT vehicles centrally. The pattern of holding of vehicles by AFS, New Delhi vis-à-vis the authorisation for the last five years is indicated as under:-

| Year | Vehicle authorised as per policy age | Vehicles held | Excess |
|---|---|---|---|
| 2003 | 119 | 442 | 323 |
| 2004 | 119 | 478 | 359 |
| 2005 | 119 | 480 | 361 |
| 2006 | 119 | 490 | 371 |
| 2007 | 119 | 478 | 359 |

Audit scrutiny revealed that a large number of vehicles, majority of which are passenger cars are being held unauthorisedly by the AFS on loan basis from the ED. AFS clarified in February 2007 that allotment of additional vehicles on loan over and above the present establishment was deemed necessary to meet additional requirements.

The reply is not acceptable as the excess holding in respect of passenger vehicles alone was more than 600 *per cent* of the authorisation thereby flouting the austerity measure imposed by the Government circumventing instructions of Ministry of Finance.

**II Air HQ provided a huge establishment of MT drivers to the AFS by indiscriminate transfer and posting.**

To run the vehicles, Air HQ mobilised three times the authorised strength of service personnel by posting and transferring staff from other IAF establishment without regard for the vacancies existing at the AFS as shown below.

| Category of Drivers | Service Personnel | Civilians | Total |
|---|---|---|---|
| Authorised | 110 | 63 | 173 |
| Held | 344 | 51 | 395 |

The phenomenal increase in the posting of service personnel as MT drivers has additional cost implications as their posting in Delhi warrant payment of higher rates of compensation in lieu of quarters and city compensatory allowance.

## III Vehicles were deployed for unauthorised duties and diary logs were not reliable

The MT vehicles as per rule are to be deployed for official duties for operational purpose. General scrutiny of the car diaries maintained by the AFS revealed irregularities of following nature:

- In many cases, passenger cars have regularly been deployed on working days for various places within the Delhi peripheral area to carry Service Officers on tour of duty to different destinations with no mention of location.
- Users of the vehicles are mostly officers in charge of Works Directorate, Engineering, Training, and Operational Directorate in Air HQ. At times only destination is written in the car diaries without mentioning the nature of duties.
- Service vehicles have been deployed on Sundays, Saturdays and other holidays to drop officers at various locations and shown as tour of duties without any tour programme.
- Instances of duties being performed for more than 100 kms by a single officer on holidays are quite common. Distances of more than 100 kms were not even signed by the user officer leaving room for doubt regarding the authenticity of the claims.
- According to Air Force Instructions (AFI), no service transport is required to be appropriated for the sole use of any officer other than the Chief of Air Staff. In violation of these instructions, Air HQ issued in January 2002 a directive on re-allocation of staff vehicles of AFS New Delhi. Under this directive, various pools were created at the level of Vice Chief of Air Staff (five vehicles), Principal Staff Officer (three vehicles), each Assistant Chief of Air Staff (one vehicle) and each Air Commodore (one vehicle) along with drivers. Distribution of service vehicles in this manner encouraged use of service vehicle as personal vehicle.
- The AFI also stipulates the authorisation of vehicles between residence and place of duty of the officers holding specific appointments. Audit examination, however, disclosed that a number of vehicles were/are being used between the residence and officers and back by the officers not holding specific appointment.

## IV Indiscriminate use and misuse of service vehicles

Air HQ has laid down an authorised mileage of 14,400 km per annum for load and passenger carrying vehicles after taking into consideration the actual mileage requirements of IAF units. Exceeding the authorised mileage not only

had financial implication but also hastened the process of wear and tear of the vehicles. Audit found that during the period from 2003 to 2006, under mentioned numbers of passenger vehicles exceeded the authorised mileage and on many occasions, the excess mileage was between 200 *per cent* and 300 *per cent*. The data also indicates an increasing trend in the number of vehicles exceeding the authorised mileage between 2003 (27 *per cent*) and 2006 (*38 per cent*).

| Year | No of vehicles held | No. of vehicles exceeding authorised mileage |
|---|---|---|
| 2003 | 442 | 119 |
| 2004 | 478 | 147 |
| 2005 | 480 | 125 |
| 2006 | 490 | 184 |

The excess mileage was predominantly due to misuse of passenger vehicles over which DMT and AFS New Delhi had virtually no control. The excess mileage covered entailed an extra/unauthorised expenditure to the tune of Rs 5.60 crore during the period.

AFS authorities stated in February 2007 that the excess mileage covered by the vehicles was due to induction of additional units in Delhi and frequent visits of foreign delegations, transportation of personnel and equipment for UN mission, Himalayan Car Rally, various seminars and conference, celebration of Republic Day and Air Force Day, conveyance of airmen and school going children from Gurgaon etc. AFS further added that in March 2006 DMT regularised the excess mileage and the station has taken up a revision of establishment in May 2005. The contention of AFS does not appear to be correct as these events could certainly increase the utilisation on a few days when those special circumstances occur but they can not explain the excessive use round the year. In fact, Ministry has repeatedly advised Air Force to initiate economy measures like hiring of vehicles which would also serve the purpose. Moreover, the excess mileage was regularised by DMT as a matter of course even though the Directorate is not empowered to do so. Also, no measures were taken for prevention of misuse of the service transport. The Ministry may establish an effective system for monitoring issue and utilisation of vehicles obtained on loan.

The case was referred to the Ministry in September 2007; reply was awaited as of December 2007.

## 3.11 Recovery at the instance of Audit

**An amount of Rs 66.39 lakh was paid to HAL in excess against an RMSO owing to failure of internal controls at various stages and DAD recovered the amount overpaid at the instance of Audit.**

Air HQ placed an RMSO[47] on HAL[48] Nasik in May 2005 for 34 items of spares of a system at a cost of Rs 3.53 crore. Against the order, HAL was paid Rs 1.42 crore (40 *per cent* of the contract amount) as 1st stage payment in July 2005. Audit scrutiny revealed that the rate of one of the items viz. Access Panel, had been shown in the RMSO as Rs 49,978.00, whereas the actual price as per catalogue was only Rs 1163.00. As a result, HAL was overpaid an amount of Rs 66.39 lakh during the 1st stage payment. The professional/Technical Directorate in Air HQ, while initiating the RMSO did not verify the price with reference to the HAL's catalogue. DAD[49] admitted in March 2006 that the price quoted in RMSO was not verified with reference to the price catalogue and recovered the amount of Rs 66.39 lakh from HAL in July 2006 at the instance of Audit. DAD, however, held that as a matter of practice it does not verify prices while making 1st stage payment and prices quoted in catalogue are checked only at the time of making final payments and at that time over-payments, if any, are adjusted. The discrepancy discloses inadequate concern for internal control both at the level of Professional and Technical Directorate in Air HQ and DAD. It also shows that DAD failed to take into account the full financial implications of such overpayments considering that Government also lost interest of Rs 8.04 lakh on the over-payments made in this case as it remained unrecovered for almost a full year.

Ministry admitted the facts in December 2007 and intimated audit that all DAD cells were instructed in September 2007 to verify the items in RMSO with reference to approved price catalogue.

[47] RMSO – Repair Maintenance and Supply Order
[48] HAL: Hindustan Aeronautics Ltd.
[49] DAD – Defence Account Department

# CHAPTER IV : NAVY

## Procurement

### 4.1 Procurement of Cables

**Material Organisation, Visakhapatnam placed an order on a non-qualified firm for supply of cables indented for critical mid-life update of ships. The firm could not execute the supplies leading to delay in supply of critical stores by over a year and extra avoidable expenditure of Rs 1.63 crore on account of procurement of the cables at higher rate from another source. Audit examination also revealed that undue favour had been shown to the non-qualified firm in the placement of order.**

In December 2004, Material Organisation, Visakhapatnam (MOV) raised an indent of 56 types of cables for use in the mid-life update (MLU) of ship 'Q' and ship 'R' besides annual consumption and maintaining minimum stock level. Limited tenders were floated in December 2004 to 22 vendors based on which orders for 46 items were placed in March 2005 on a NOIDA based firm M/s Mansfield Cables with a stipulated date of supply of 5 June 2005. The vendor however did not make the supplies within the stipulated delivery period. MOV extended the delivery period until 31 March 2007 and procured some of the urgent supplies from other vendors at an additional cost of Rs 1.63 crore.

Scrutiny of records revealed various shortcomings and inadequacies in contract management by MOV which are discussed as under:

I **Flaws in provisioning and procurement process**

- Based on a prescribed lead time of upto seven months for completing all activities pertaining to revenue procurements and the scheduled date for commencement of the MLU of ship 'R' of January 2004, the indent for cables should have been finalized prior to June 2003. Finalisation of the indent was, however, delayed by 18 months.
- Against the indent of December 2004 for cables, MOV issued tender enquiries to 22 vendors without ascertaining whether these vendors

were qualified and capable of manufacturing and supplying these cables.

- The Quality Assurance Organisation in March 2004 had asked all Material Organisations in the Navy to adopt new specification (NES 526/527) for cables to be used in the Naval ships because cables in use had limited fire hazard properties. Despite this, MOV issued the tender enquiry for cables under old specifications in December 2004, and changed the specifications of the cables only after quotes had been opened. Such changes reveal that the primary procurement agency had not kept itself abreast of changed needs of the users and the changes mandated by quality assurance agencies.
- All the vendors including M/s Mansfield Cables agreed to supply the cables of the changed specifications at the quoted price. Thus, assurances on supply of cables with new specifications were accepted from vendors without verifying their capabilities.

II **Irregular and injudicious selection of vendor**

- Meanwhile, the indentor intimated acute urgency for procurement of 22 types of cables after the tenders had been issued in December 2004 and quotes had been opened in February 2005. Using this plea, MOV placed orders for some of these items on M/s Mansfield Cables in March 2005 solely on the basis of verbal commitments for early supply and the rates to match L1 offers even where the vendor was not L-1.
- M/s Mansfield Cables was not an established vendor for cables. This firm was only registered as a Category "E" vendor and its credentials as a quality manufacturer of cables had not been established. The firm was subsequently unable to execute supplies and requested to cancel the supply contract in September 2006 without any financial implications.
- Inquiries about the credibility and standing of the 22 vendors who were issued Limited Tender Enquiry were made by MOV from Director of Quality Assurance Navy (DQAN) only in April 2005. DQAN informed MOV that of the parties only four were registered with it for manufacture and supply of cables of the required specifications and all others were either registered as manufacturer and supplier of cables of other specifications or were not registered at all by the DQAN for manufacture and supply of the required cables.
- M/s Mansfield Cables was not registered with DQAN for manufacture and supply of any kind of cable. MOV took the plea that the selected

vendor was registered as a Class E vendor and that it was informed only in April 2005 that it was not registered with DQAN for supply of cables of the tendered specifications. This plea is not acceptable as MOV being a primary materials organization with key procurement responsibilities, should ordinarily be aware of requirements with regard to qualifications and status of various vendors short listed by it for participation in tenders for different items.

III **Undue favour shown to M/s Mansfield Cables**

- Even though the vendor was unable to undertake supplies long after the scheduled date of delivery, no action was taken to cancel the order and make the vendor liable for penalties in the form of liquidated damages or risk purchase.
- As per the contract, the stipulated date of delivery of the material was 5 June 2005. Since the supplies were not made by the vendor, the date of delivery was extended by MOV to 31 March 2007 in July 2006.
- In the meanwhile, to meet the critical requirement for cables for the MLU of ship 'R', MOV issued a fresh indent for 39 items of cables in September 2005 and placed orders with four established vendors for 32 items in December 2005 for supply between May and August 2006.
- As a result of the delay in supplies by M/s Mansfield Cables, the MOV procured these critical supplies at an additional cost of Rs 1.63 crore from the established vendors of 2005 December tender enquiry. The cost of purchases in December 2005 was also higher by Rs 1.23 crore in comparison to the cost arrived at by taking into account the lowest price quoted against the December 2004 tender by established vendors. Thus, injudicious selection of a non-established vendor caused a loss to Navy of Rs 1.23 crore.

Ministry stated in July 2007 that MOV included the firm in the limited tender enquiry based on the firm's letter in which it claimed to have made supplies to high profile customers. Indian Navy ships being of Western and Russian origin and equipment being of miscellaneous origin, use variety of cables under different specifications. The specification, both new and old, are primarily of British standard and do not include specification of Russian origin cables. The firm had failed to supply the item since 23 items fell under specification of Russian origin cables which did not fall under old specification. In the meantime, prices of copper (the main constituent of

cable) rose unprecedently and no undue favour has been shown to the firm. Ministry's contention lacks conviction in that:

- The specifications for the cables were revised by the Quality Assurance Organisation in March 2004. MOV, even after ten months did not pay any attention to the need for adopting the new specifications.
- The ships 'Q' and 'R' of Russian origin were commissioned in the Navy in 1982 and 1986 respectively. It is a matter of poor material management that the Navy could not standardise the specification of cables required for the Russian origin ships during the last two decades.
- The supplier at the time of acceptance of the offer had agreed to supply cables under new specification. Thereafter, again the supplier was shown favour by allowing him to supply cable of old specification knowing fully well that the cable of old specification were potential fire hazard and all the shipyards had discontinued using these cables on Naval ships. The position regarding increase in cost of material, is not relevant, as the suppliers are bound by the terms and conditions of the contract.

IV **Delays in supplies and increased cost.**

If the December 2004 tender had been limited only to established and qualified vendors expenditure on procurement of cables would still have been lower by Rs 1.23 crore in comparison with the procurement undertaken in December 2005. As such wrong selection of a non-established vendor caused a loss of Rs 1.23 crore to the Navy.

## 4.2 Avoidable expenditure on import of Nickel Cadmium Cells

**Naval HQ imported Nickel Cadmium Cells from a foreign firm at a price nearly three times higher than the rates of approved indigenous suppliers, entailing an extra avoidable expenditure of Rs 1.31 crore in the procurement of 1440 Cells.**

The Directorate of Naval Air Material (DNAM) in Naval HQ placed two orders on Aviation Spares International (ASI), England in December 2004 and

February 2005 for supply Nickel Cadmium Cells which are used in the batteries of Seaking and Chetak helicopters. The first order was placed for supply of 1320 cells at a unit price of PDS[50] 150 (Rs 12,790) and the second order was for supply of 120 cells at PDS 145 (Rs 12,364) per unit. These orders were placed along with other items of spares for Seaking helicopters.

Since supplies from the foreign firm did not materialise till March 2005, Material Organisation (MO) Kochi initiated procurement action for local purchase of 450 cells to meet the urgent requirements. In response to the tender enquiry issued to five Indian firms, a quotation of Rs 3,307 per cell was obtained from High Energy Batteries (India) Pvt. Ltd., Mathur in June 2005. This procurement action was dropped in August 2005 as supplies against orders placed on the foreign firm had started arriving.

Audit scrutiny of the procurements made by DNAM disclosed that the prices of PDS 150 (Rs 12790) and PDS 145 (Rs 12364) per cell at which imports were made in December 2004 and February 2005 respectively were not competitive. Even though only one foreign firm i.e ASI had quoted for this item, DNAM did not compare these prices with that of indigenous suppliers to determine the reasonableness of the price. The Regional Centre for Military Airworthiness (Helicopter), CEMILAC had given clearance for using indigenous cells manufactured by M/s HBL NIFE Power Systems Hyderabad and High Energy Batteries India Limited, Mathur in Seaking Helicopters in July 2003 and August 2004 respectively. This clearance was conveyed to all the concerned agencies including DNAM. Audit examination showed that MO (Kochi) had, in fact, placed an order in July 2003 for supply of 420 cells on M/s HBL NIFE Power System Ltd., Hyderabad at a unit cost of Rs 3,400/- and the cells were received in October 2003. DNAM overlooked the existence of these approved indigenous firms whose rates were also much lower than the foreign supplier.

Thus, as compared to the offer made by High Energy Batteries (India) Pvt. Ltd., Mathur at Rs 3307 per unit in June 2005, the rates of imported cells were higher by 273 *per cent* to 286 *per cent*. As a result of import of 1440 cells at higher price, Navy incurred an extra expenditure of Rs 1.31 crore, which was avoidable.

Admitting their failure in taking cognisance of available indigenous substitutes, the Ministry in August 2007 stated that internal investigation revealed that data on last purchase price and indigenous procurement was not available on ILMS. Further, the online procurement module of ILMS was not

[50] 1 PDS = (Rs 85.27)

fully operational at the time of processing the purchase order. Consequently, due to manual vetting of a large number of items, the indigenous sources of the item got inadvertently overlooked. Subsequently, indigenization module of Integrated Logistic Management System (ILMS - Air) has been introduced to avoid such errors. The Ministry contended that the provisional clearance for one year was accorded by CEMILAC to the firm in July 2003 but the final certification/type approval was received by the Indian Navy, only after the placement of the purchase order.

Ministry's reply regarding late receipt of certification/type approval for indigenous firm is not acceptable as CEMILAC had issued clearance certificate for use of indigenous cell in July and August 2004 as well. The case, therefore, needs investigation to fix responsibility for entailing extra expenditure of Rs 1.31 crore on import of Nickel Cadmium Cells. The Ministry should also ensure that the information maintained on ILMS - Air is complete and updated regularly to avoid such instances of misprocurement.

## 4.3 Excess procurement of imported spares

**Material Organisation, Kochi and Naval HQ failed to correctly assess the requirement of nine items of spares resulting in excess procurement costing Rs 6.20 crore. The excess spares have remained unutilized since their procurement in 2004-2006.**

Naval HQ placed six supply orders between August 2003 and March 2005 on foreign vendors for the supply of spares of Seaking Helicopter based on Annual Review of Demands (ARDs) for the years 1998-99 to 2002-03 raised by Material Organisation, Kochi (MOK). The aggregate value of the supply orders was PDS 7.50 million. The spares were received by MOK[51] between February 2004 and April 2006.

Audit examination of the procurement revealed that in the case of nine items of spares costing PDS 7,75,051.91 (equivalent to Rs 6.20 crore), the quantities ordered were substantially in excess of requirements. The details of excess spares procured are given in the table below:

[51] Material Organization, Kochi

| Item | Stock/ dues in Aug 2003 | Average annual Consu-mption level (ACL) | Required Stock level equal to 3 years ACL | Demand Out-standing | Dues out shown in ARD | Dues out as %age of ACL | Quan tity Orde red | Quant-ity ordered as %age of ACL |
|---|---|---|---|---|---|---|---|---|
| 'O' Ring-Type A | 29 | 2 | 6 | Nil | 128 | 6400 | 104 | 5200 |
| 'O' Ring Type B | 9 | 1 | 3 | Nil | 460 | 46000 | 473 | 47300 |
| Pin Cotter | 18 | 10 | 30 | Nil | 600 | 6000 | 582 | 5820 |
| 'O' Ring Type C | 8 | 0 | 0 | Nil | 128 | - | 120 | - |
| Clutch Plate | 10 | 8 | 24 | Nil | 44 | 550 | 62 | 775 |
| Oscillator Assy | 0 | Nil | Nil | Nil | 20 | - | 35 | - |
| Oscillator, Radio | 0 | Nil | Nil | Nil | 20 | - | 10 | - |
| AXB(Axle) | 10 | 2 | 6 | Nil | 40 | 2000 | 30 | 1500 |
| Brush Flax flag | 3 | 2 | Nil | Nil | 80 | 4000 | 80 | 4000 |

**Source: ILMS/ARD**

Although the accepted principle of provisioning is to replenish stocks of spares upto three years average annual consumption level, the quantity of nine spares procured were several times higher than the three years average annual consumption. At the time of placing the orders for these items, sufficient stocks for most of these items were available and there was practically no demand for these items.

Net requirements worked out in the ARDs were inflated primarily on account of adoption of very high "dues out" i.e. outstanding demands figures. These were clearly unrealistic as it exceeded the average annual consumption levels for the items several times over. This is borne out by the fact that since the date of receipt of these spares, MOK has neither received any demand for these items, nor has it issued any item out of the stocks held by it.

Based on their average annual consumption, the stocks held after receipt of ordered supplies in respect of these nine items were sufficient to meet requirements of 20 years or more in different cases against a provisioning norm of three years.

Ministry in September 2007 stated that in the past ARDs, which worked out net requirements for spares, were being generated manually after factoring in demands and existing stock of the spares. Acknowledging mistakes in the

manual processes, Ministry also stated that ILMS (Air), the online computerized system for inventory management, was not operational till 2003. Ministry further explained that the user units might have cancelled their demand or not placed a firm demand for spares against initially anticipated demands due to various factors like transfer of repair responsibility of engines to Hindustan Aeronautics Limited and un-serviceability of Seaking automated test equipment. Ministry also sought to defend the excess procurement by contending that the items would be utilised once repair facilities are re-established.

The reply is not acceptable as Naval HQ should have an efficient system in place to ensure that the procuring officers are aware of the latest developments and take important changes into account before placing purchase orders. Excess procurement in advance cannot be justified on the ground of possible future use. On the contrary, excess procurements militate against the very objectives of efficient provisioning which require minimization of inventory carrying costs, making accurate forecast of requirements and closely monitoring holdings, "dues out" and "dues in" at all locations. Moreover, in these procurements, requirement of making only three years provisioning to avoid unnecessary blocking of public funds has been completely overlooked by Naval HQ.

To sum up, disregard for basic provisioning rules by MOK and Naval HQ led to incorrect assessment of requirement, excess procurement and non-utilization of nine items of spares valued at Rs 6.20 crore.

## Works Services

### 4.4 Upgradation of an Airport of Indian Navy

**Lack of integrated approach, synchronization and deficiency in planning on the part of Navy led to delay in construction of magazines and relocation of an Armament Depot. As the risk factors still exist, the upgraded Airport is not usable for operation by the LRMR aircraft of the Navy. As such, value for money for the investment of Rs 145.16 crore remains unrealized.**

Based on the master plan drawn by the Airport Authority of India (AAI), Government sanctioned the upgradation of an airport of the Indian Navy in October 2002 at an estimated cost of Rs 191.52 crore. The plan included laying of a new runway apart from providing flight landing facilities, navigational approach and landing aid for all weather capabilities. However,

the proximity of the runway to some of the magazines holding bulk explosive stores of the Naval Armament Depot (NAD) was violative of safety regulations with the risk of potential damage to both the aircrafts being operated as well as to the explosive stores in NAD. This made it imperative to relocate the magazines and explosive stores, for which the sanction allocated Rs 20 crore for the construction of ammunition magazines and Rs 3 crore for the cost of land to be acquired. On 27 March 2003, Ministry signed a Memorandum of Understanding (MOU) with the concerned State Government and AAI under which AAI would execute the work for the development of the Airport with a total outlay of Rs 158.21 crore, shared by MOD (Rs 108.21 crore), AAI (Rs 25 crore) and the State Government (Rs 25 crore). The work, in terms of the milestones prescribed by the MOU, was scheduled for completion by January 2006.

The work under the project was completed by AAI to the extent of 99 *per cent* by April 2007. Naval HQ, in turn, had released an amount of Rs 95.16 crore to AAI till April 2007. Further, the lands (146.67acres) required for construction of the magazines at the new location had been acquired and taken over by the Navy in November 2004. Administrative approval for construction of the new magazines and other associated facilities to be undertaken by the Navy was accorded by the Ministry only in August 2006 due to the Ministry's refusal to issue the administrative approval before acquisition of the land required and subsequent delay in finalization of approximate estimates (AEs). The work is to be carried out at an estimated cost of Rs 18.62 crore. The time required for physical completion of the works related to relocation was 208 weeks (four years). As of May 2007, tenders for execution of the work were still to be invited.

Scrutiny of the documents revealed the following:

- The development of the airfield and part-relocation and construction of Magazines were part of the same project which was to be completed by March 2006 as indicated by the proposed spread of expenditure. Navy was to take necessary action for synchronization with the time frame developed for completion of the project. While the MOU for the part of work to be taken up by AAI was signed after five months of the date of sanction, approval for construction of the magazines was obtained after 20 months of the acquisition of land. The risk posed to life and airport infrastructure by the NAD was identified at the very inception of the project. However, lack of an integrated approach and deficiency in planning has led to a situation where even though the work for upgradation of the new Airport is near completion, the risk factors (NAD) imposing limitations in its operation are yet to be removed. Naval HQ as coordinator

of the project failed to ensure smooth and timely execution of the works services.

- The main objective of the upgradation of the Airport was to facilitate operation of wide bodied civil aircraft, IAF heavy lift aircraft and Naval Long Range Maritime Reconnaissance (LRMR) aircraft from the airfield. Till such time the magazines and the highly explosive stores are shifted to a new location, the new runway in the upgraded Airport cannot be utilized by these aircraft. Instead, the airport will continue to operate flights from the old runway with concomitant restrictions on operation of bigger aircraft, night landing facilities, navigational approach and landing aids for all weather capabilities, etc. This indicates that the Navy and AAI will not be able to derive any benefit from the investment of Rs 145.16 crore, including that of Rs 4.75 crore on night landing facilities, for the coming four years. Moreover, one of the major objectives when proposing the upgradation of the airport i.e. the operation of the LRMR aircraft for effective day and night surveillance of the Bay of Bengal will remain unfulfilled.

To sum up, lack of an integrated approach, synchronization and deficiency in planning on the part of Navy led to delay in construction of magazines and relocation of the explosive store. As the risk factors are yet to be removed, the upgraded Airport is not usable for operation of flights. Navy and AAI, therefore, are constrained to operate flights from the old runway with all accompanying restrictions.

The case was referred to Ministry in June 2007; the reply was awaited as of December 2007.

## Contract Management

### 4.5 Over payment due to non-availing of full price reduction offered by the firm

**Despite reduction in price offered by the vendor, Director of Procurement (DPRO), Naval Headquarters failed to avail of full reduction in rates and accepted higher price leading to an overpayment of Rs 40.61 lakh to the supplier.**

To meet the requirement of INS Viraat, Material Organisation, Mumbai (MOM) raised an indent in February 2004 for procurement of four Fuel Oil Pumps. Accordingly, MOM issued a single tender enquiry in September 2004

to M/s Plenty Mirrlees Pumps UK, the PAC[52] firm, which quoted a total price of PDS 736,408 (Rs 6.23 crore) for four pumps. During price negotiations in January 2005, the Naval Logistics Committee (NLC) informed the firm that the pumps were required without motor and gearbox. The NLC therefore, requested the firm for further reduction in the price offered. In response, the firm initially offered an overall reduction of PDS 60,000 with a discount of 5 *per cent* on the quoted price for all the four pumps. On further negotiation, the firm agreed to a total reduction of PDS 120,000 for the four pumps if the same were ordered without motor and gearbox, and also offered a uniform discount of 20 *per cent* on all the pumps. Based on the recommendations of NLC, the Director of Procurement (DPRO), Naval Headquarters placed an order in January 2005 on the firm for supply of four pumps at a total cost of PDS 541,124 (Rs 4.58 crore[53]). The pumps were supplied in October 2005.

Audit scrutiny of the procurement records revealed the following:

NLC while computing the total cost of the four pumps reduced only PDS 60,000 from the total quoted price instead of the final higher offer of reduction of PDS 1,20,000 offered by the firm during negotiations. As a result, the firm was overpaid PDS 48,001 due to incorrect computation of rates as shown in the table below:

| **Details of Price & Discount (in PDS)** | **Ordered price(in PDS) with incorrect amount of discount** | **Correct order price after discount allowed (in PDS)** | **Net Extra payment allowed (A)-(B) (in PDS)** |
|---|---|---|---|
| Quoted price | 736,408 | 736,408 | |
| Discount | 60,000 | 120,000 | |
| Price after first discount. | 676,408 | 616,408 | |
| Less 20 *per cent* discount on discounted price. | 135,280 | 123,281 | |
| Price after second discount | 541,128 (A) | 493,127 (B) | |
| **Overpayment (A) – (B)** | | | **48,001** |

*Currency rate prevailing at the time of negotiation 1 PDS =84.60 i.e. 48,001 PDS=Rs 40,60,884.60 Say Rs 40.61 lakh.*

[52] Proprietary Article Certificate
[53] 1 PDS @ Rs 84.60

NLC and DPRO displayed a very lax attitude in not taking advantage of the reduction in price offered by the supplier and accepting a higher price for the contract. The overpayment is directly a result of NLC/DPRO not performing their duties in the expected manner.

Audit also observed that the indent raised did not indicate whether the fuel oil pumps to be procured were to be with or without motor and gear box and the quote of the firm was obtained on the basis of complete fuel oil pumps. Informing the supplier about the actual requirement at the time of price negotiations is improper and reveals an ad hoc approach towards provisioning.

To sum up, inaccurate price determination on the part of Naval HQ and casual attitude of the NLC while negotiating the price of pumps led to non-availing of the reduction in price offered by the supplier and acceptance of higher price in the contract. As a result, the firm was overpaid to the extent of Rs 40.61 lakh.

The matter was referred to the Ministry in July 2007; reply was awaited as of December 2007.

## 4.6 Refund of Rs1.66 crore by the supplier at the instance of Audit

**Failure in adhering to procurement norms and ineffective price analysis led to purchase of spares at exorbitant price. Naval HQ obtained a refund of Rs 1.66 crore from the vendor in June 2007 after being pointed out in audit.**

Based on an Annual Review of Demands (ARD) for procurement of spares of Seaking Aircraft from Material Organisation, Kochi, (MOK) Directorate of Naval Air Material (DNAM) in Naval HQ placed an order on Westland Helicopters Limited (WHL), United Kingdom in December 2004 for supply of 186 items of spares. The order included purchase of ten Bearing LH having two different part numbers at an aggregated cost of PDS 215,770 as per details given in the table below:

| Sl. No. | Name of the Item/Spare | Part No. of the spare | No. of units purchased | Unit price (in PDS) | Total Cost Price (in PDS) |
|---|---|---|---|---|---|
| 1. | Bearing LH | 1020 WD01-45-91200 | 5 | 21577* | 107,885 |
| 2. | Bearing LH | 1021-WD01-45-91200-22 | 5 | 21577* | 107,885 |
| | Total | | 10 | | 215,770 |

* After allowing discount @ 11 *per cent* and adding P&F[54] @ 2.5 *per cent* the supplies were made in September 2005.

Scrutiny of records of MOK during 2006-07 revealed that:

**Inadequate price analysis and acceptance of exorbitant rates**

WHL in July 2004 informed DNAM that the two part numbers of the Bearing LH were brought under identical standard number and requested DNAM to order the latest standard. The information provided by the vendor meant that Bearing LH under two old part numbers were the same item and had to be treated as such while conducting price analysis, determining applicable rates for bulk quantity and placing order for supply. Overlooking the critical information provided by the vendor, DNAM ordered five each of the items under two different part numbers, which was indicative of their casual approach in examining the quotation of the firm before conclusion of the contract.

Against a slab system of pricing[55] quoted by the bidder for these items with prices going down from PDS 23,652.72 per unit of spare for a quantity upto five units to PDS 589.25 per unit for a quantity exceeding 200, DNAM failed to take advantage of the reducing rates by ordering for five pieces of both items.

Further, it was observed that the last purchase price of Bearing LH by the same firm in April 2003 was PDS 809.77 and the rate of the item purchased from another firm in December 2004 was PDS 398.09. Viewed in this background, the price of the item quoted for was *prima facie* unreasonably high. Despite this, DNAM did not question the abnormally high price quoted by WHL.

[54] P&F – Packing and Freight

[55] For quantity upto 5--- PDS 23652.72, 6-12-----PDS 3942.17, 13-24----PDS 1892.21, 25-49----PDS 946.12,50-199-----PDS 685.78, 200 & above-PDS 589.25

DNAM, therefore, failed to follow the procurement procedure which demands that before conclusion of the contract, price quoted by the firm should be examined, analysed and compared to the previous contract prices and other contemporary reference prices available to the accepting authority so as to ensure the fairness and reasonableness of the rates quoted by the bidders.

**Recovery of excess payment from the vendor at the instance of Audit**

In April 2007, when Audit pointed out to DNAM that WHL had apparently got undue financial benefit of PDS 211791.30 and advised that the excess amount paid to WHL be recovered, DNAM took up the matter with WHL who reduced the cost of the item from PDS 21577[56] to PDS 930 and refunded Rs 1.66 crore.

Thus, at the instance of Audit, Naval HQ obtained a refund of Rs 1.66 crore from WHL in June 2007. Notwithstanding the fact that recovery has been made circumstances leading to the acceptance of these exorbitant rates need investigation for fixing responsibility. This is required since the final price paid by DNAM for the bearings is still over 134 per cent higher than the price quoted by another vendor in 2004.

**Failure of internal control mechanism**

Additionally, Integrated Finance of the Ministry as well as the authority sanctioning the procurement also failed to point out the abnormally high rate quoted by WHL, thereby completing the circle of lapses at each stage.

Ministry admitted in October 2007 that there was an error due to manual vetting of large number of items put to tender and once the anomaly in pricing was intimated by Audit, M/s WHL was prevailed upon to supply the item at World Wide Price List (WWPL) of the company and assured Audit that instructions have been issued to all concerned for repeated and thorough vetting of quotes etc.

To sum up, failure in adhering to procurement norms, ineffective price analysis led to acceptance of higher rate in the contract exposing failure in internal controls, at every stage of administration including finance. The matter needs investigation and fixation of responsibility so as to prevent recurrence of such incidence.

[56] Discount 11 *per cent*
Add 2.5 *per cent* on account of Packing and Freight

## Miscellaneous

### 4.7 Non-realisation of revenue from disposal of felled trees

**Failure of DEO Chennai to fix the minimum reserve price and consequential delay in disposal of 25,605 felled trees led to non-realisation of revenue to the extent of Rs 1.87 crore by the Navy. Naval authorities also failed to make compensatory afforestation equal to ten times the number of trees cut contrary to the above requirement of the Ministry of Environment subject to which the project was cleared.**

Government sanctioned a project to establish a Naval Academy at Ezhimala in July 1995 at an estimated cost of Rs 500.76 crore as revised in December 2003. The project is spread over an area of 2500 acres of land and site clearance for execution of work involved cutting of a large number of trees. As per Cantonment Law, the trees cut during execution of work are to be disposed off by the contractors, and MES[57] is to realize the revenue by making commensurate deductions from payments due to the contractors. In this manner, MES realised an amount of Rs 42.81 lakh from disposal of 6961 trees against three contracts during the period from 2000 to 2003.

Director General, Defence Estates (DGDE) in May 2003 introduced the following new procedure for removal of trees from Naval Academy Project, Ezhimala as one-time exception to the existing practice:

- The contractor would cut, remove and stack the trees at a place identified by a Board of Officers[58] at such cost as may be determined by the MES and provided for in the tender.

- DEO[59] Chennai would determine the minimum reserve price (MRP) of the cut trees by including the cutting charges paid to the contractor and dispose the same by public auction in accordance with the provision of the Government letter of 1982.

- While the security of trees stacked until disposal was the responsibility of the Project Management Authority, DEO was to ensure that trees are auctioned within the shortest possible time to avoid degradation and ensure maximum revenue to the Government.

[57] MES – Military Engineer Services
[58] The Board was to include representatives from DEO and MES.
[59] DEO – Defence Estate Officer

Audit scrutiny of the documents relating to disposal of cut trees revealed that subsequent to issue of the above procedure, MES concluded six contracts under which 25605 trees were cut during the period 2003-07, incurring an expenditure of Rs 99.34 lakh. However, no MRP for these trees has been fixed as of March 2007. As a result of non-fixation of MRP, 25605 felled trees remained un-disposed depriving the Government of revenue to the extent of Rs 1.87 crore (calculated on pro-rata basis) as shown in the table below:

| Contract year | Tree cut and stacked (in numbers) | Delay in disposal | Unrealised Revenue (Rs in crore) |
|---|---|---|---|
| 2002-03 | 3447 | 4y 9m | 0.252 |
| 2003-04 | 18472 | 3y 9m | 1.348 |
| 2004-05 | 425 | 2y 9m | 0.031 |
| 2005-06 | 1285 | 1y 9m | 0.093 |
| 2006-07 | 1976 | 9m | 0.144 |
| Total | 25605 | | 1.868 |

y – years; m- months

The un-disposed trees due to lack of proper storage are exposed to vagaries of weather with consequential deterioration in their condition resulting in diminished market value. The case also highlights inefficiency of DEO who could not fix MRP of cut trees for periods ranging from one to six years.

Director General Naval Academy Project (DG NAVAC) clarified that DEO and Forest Department were to assess the MRP and auctioning of the felled trees was to be conducted thereafter, by DEO Chennai. Implementation of the procedure ran into problems due to delay on the part of DEO to assess the MRP. DG NAVAC also stated that they have taken up the matter with the Ministry to revert to the old procedure.

To sum up, failure of DEO Chennai to fix the MRP for disposal of the felled trees led to non-realisation of revenue to the extent of Rs 1.87 crore. Further, the project was cleared by the Ministry of Environment in 1993 subject to the condition that ten times afforestation for the number of trees cut would be made. The Project authorities however, failed to comply with this mandatory requirement for compensatory afforestation.

The case was referred to the Ministry in July 2007; reply awaited as of December 2007.

## 4.8 Savings/recovery at the instance of Audit

**Deletion of unnecessary items from purchase orders by Naval HQ and a Naval Depot at the instance of Audit resulted in saving of Rs 4.04 crore in two cases. In the third case, an amount of Rs 37.78 lakh was recovered by a PSU at the instance of Audit.**

At the instance of Audit, Indian Navy cancelled unnecessary procurement of stores resulting in savings in expenditure to the extent of Rs 4.04 crore in two cases. A PSU also recovered an amount of Rs 37.78 lakh at the instance of audit in the third case. These are discussed as under:

**Case - I**

Based on the Annual Review of Demands for the period 2000-04 raised by Material Organisation, Kochi (MOK), Naval HQ placed four purchase orders between March 2004 and July 2006 for various Seaking spares at an aggregated cost of Rs 22.96 crore. These orders included 17 Piston Assembly, among other items. In the course of audit in August 2006, it was observed that there was neither any consumption of this item since 2001, nor any demand outstanding for the item. Audit, therefore, requested MOK to review the requirement of the Pistons. Based on the reassessment done by MOK, Naval HQ amended the purchase orders in January 2007, deleting 17 numbers of Piston Assembly, from these four purchase orders. Thus, deletion of Piston Assembly from the purchase orders at the instance of Audit resulted in saving of Rs 3.84 crore.

Ministry accepted the facts in July 2007 and stated that necessary instructions have been issued to all concerned agencies to ensure a thorough scrutiny of requirement in future.

**Case - II**

Weapon Equipment Depot (WED), Visakhapatnam placed a purchase order in July 2004 on Bharat Electronics Limited (BEL), Bangalore for supply of 23 items of spares required for the repair and overhaul of Radar Aparna installed on board the INS Kripan and INS Kuthar. While BEL supplied one item costing Rs 1.47 lakh in November 2005, the remaining items could not be supplied.

Meanwhile, the requirement of spares for the radar on board INS Kuthar was met through cannibalizing of old spares and refurbishing defective items. Overhauling and repair of radar of INS Kripan was off loaded to BEL. Although the overhaul and repair of both the ships was completed in January 2005 and August 2005 respectively, WED extended the delivery period in the purchase order of July 2004 upto March 2006.

Audit in February 2006 brought to the notice of the WED that the need for the spares no longer existed as the refits of both the ships were already completed and the requirement of Base and Depot spares was covered in another purchase order placed by Naval HQ on BEL in June 2005.

WED in April 2006 deleted 22 items from the purchase order thereby, effecting savings of Rs 19.73 lakh at the instance of Audit.

The case was referred to the Ministry in August/September 2007; reply was awaited as of December 2007.

**Case - III**

INS Sarvekshak, a survey ship of the Indian Navy, built by Goa Shipyard Limited (GSL) was commissioned in January 2002 and the Guarantee Docking (GD) of the ship was slated for the second half of May 2003. However, since the Short Refit and Dry Docking (SRDD) of the ship was also to be undertaken in 2003, it was decided in the Annual Refit Conference 2003 to carry out the GD routines alongwith the SRDD work package. Based on the sanction accorded by HQ Southern Naval Command (SNC), Naval Ship Repair Yard (NSRY), in August 2003, placed a work order on Cochin Shipyard Ltd. (CSL), Kochi awarding the work of Guarantee Repair Dry Docking (GRDD)/ SRDD and allied work package for INS Sarvekshak at a cost of Rs 1.31 crore. The work commenced in September 2003 and was completed in October 2003.

Audit observed (August 2004) that the GRDD work should have been carried out by GSL, under a guarantee clause and not by CSL. NSRY authorities clarified (October 2004) that GSL had expressed its inability to undertake the guarantee liabilities along with Short Refit work package as their sub contractor Mumbai Port Trust (MPT) was unwilling to undertake any repair job. The firm, however, had agreed to pay for the cost of guarantee refit and dry docking if it was undertaken at any other commercial yard. In spite of this

assurance, Audit noted that no action for recovery of Rs 37.78 lakh on account of GRDD from GSL was initiated. Consequent to the audit observation, Joint Controller of Defence Accounts, Kochi recovered the amount in December 2006 from one of the bills of GSL.

Thus, an amount of Rs 37.78 lakh was recovered from the GSL at the instance of Audit.

The case was referred to the Ministry in August 2007; their reply was awaited as of December 2007.

# CHAPTER V: COAST GUARD

## 5.1 Lack of transparency in awarding a Contract

**The acquisition process of PCVs followed by Coast Guard HQ lacked transparency and deviated from prescribed purchase procedures that also contributed to delay. Flaws and distortions in the procedures adopted by the Coast Guard and the Ministry yielded no assurance that the decision taken to award a contract worth Rs 368 crore for building specialized vessels to a private shipyard was technically sound and financially prudent. This is corroborated by the unsatisfactory progress of the project leading to revised delivery schedule of the vessels. Payment of Rs 221 crore to the shipyard is not commensurate with the specified milestones of construction.**

Government, in February 2004, approved acquisition of three Pollution Control Vessels (PCVs) by the Coast Guard (CG) at a total cost of Rs 368.75 crore from a private sector shipyard M/s ABG Shipyard Ltd. Ministry, accordingly, concluded a contract with the shipyard in March 2004. As per the contract, the first PCV was to be delivered by September 2006, the second in March 2007 and the third in September 2007. However, no PCV had been delivered as of December 2007. In the meantime, payment of Rs 221.02 crore, constituting over 60 *per cent* of the order value has been made to the shipyard.

Examination of the documents relating to the contract as well as post contract events revealed the following:

### I Cancellation of initial tender due to non adherence to the procurement procedure

Necessity for procurement of three PCVs for Coast Guard was felt in 1996. Staff Requirements (SRs) for the vessels finalised in September 1997 were issued to five Public Sector shipyards and one private shipyard (M/s ABG) by CGHQ in December 1997, inviting technical and commercial offers. Technical evaluation committee in early 1999 refined and amplified the SRs and a formal request for proposal was issued to shipyards in November 1999. The technical evaluation committee did not prepare a report or give reasons for either shortlisting or rejecting shipyards. Ultimately because of non-compliance of the procedures, on the advice of the Ministry, the process was

aborted in January 2000. As a result of CGHQ not following the prescribed procedure the procurement was unnecessarily delayed.

## II Serious deficiencies in the tendering process and award of contract

In December 2001, a fresh tender was issued which finally resulted in placement of order on M/s ABG in March 2004 for the procurement of the vessels. Following serious deficiencies were noticed in the tendering, evaluation and selection process of this procurement:

(i) Instead of having an open tender to maximise competition, CGHQ sought to include only M/s ABG along with other Public Sector shipyards in the tender enquiry but this was turned down by the Ministry. CG issued 12 tenders to five Public Sector shipyards and seven private shipyards giving only 45 days to the bidders to respond. Techno-commercial bids were received only from the Goa Shipyard Ltd (GSL), the Garden Reach Shipyard Ltd and M/s ABG. Thus, the process of tendering was not very competitive as no private shipyard other than M/s ABG submitted their offer.

(ii). As per rule, technical evaluation is to be done on the basis of performance parameters given in the Request for Proposal (RFP), classified as under 'Essential' and 'Desirable'. However, these parameters were not indicated in the RFP. Instead, TEC determined these parameters at the time of evaluating the bids, thereby depriving the bidders the opportunities to take these parameters into account at the time of preparing their bids.

(iii) CGHQ recommended that only firms offering a particular make of engine "Pielstic" be considered. This was a departure from the RFP wherein a choice of alternative engines[60] had been given.

However, to technically qualify M/s ABG, a totally different propulsion system, manufactured by M/s. Bergen Diesel, was accepted. CG's contention that M/s Bergen was later taken over by Ulstein group which was subsequently acquired by Vickers group and the company was finally taken over by M/s Rolls Royce, the foreign collaborator of M/s ABG, does not hold water as it is not so much as the name of the company which is relevant but the design specifications. In this case, as CG HQ themselves admitted, the engine was a Bergen engine being manufactured by Ulstein.

[60] The RFP specified Pielstick,/ Wartsila/ Ulstein or Caterpillar engines be installed.

(iv) The commercial bids received from GSL and M/s ABG did not contain any break-up of costs. A break-up was finally called for from M/s ABG only during the Price Negotiation Committee (PNC) meeting. Even the comparison of the two bids indicates a lack of consistency in the methodology adopted. For instance, the bids, submitted in January 2002, were finally opened in September 2003. While the FE component of GSL was evaluated at September 2003 exchange rates, resulting in an escalation of almost Rs 59 crore from its January 2002 bid, the FE component of ABG was evaluated at January 2002 rates which, interestingly, were not specified at all.

(v) M/s ABG had quoted an improbably low price for the basic cost of one ship. As per the comparison done by CGHQ, the cost of the material package (Rs 78.50 crore) offered was drastically lower than that of an Advanced Offshore Patrol Vessel as escalated to Rs 82.77 crore (September 2002). Additionally, the technical capabilities and financial standing of M/s ABG were not assessed before the issue of tenders contrary to Ministry's advice in November 2001. This was done only before opening of the commercial bid. The poor track record of the company in meeting targets against a previous contract for construction of interceptor boats for CG was also not factored into the evaluation process. As a result, Ministry/Coast Guard placed an order of the magnitude of over Rs 350 crore on M/s ABG in 2004 when the turnover of the company in the year previous to issue of the RFP was only Rs 86 crore.

(vi) CGHQ flouted procedure in not requiring validation of the equipment to be installed on the plea that much of the equipment specified was in the inventory of CG and there was no need to hold separate trials for standard equipment. CG's explanation that their 'Trial Protocol' in vogue has stood the test of time is not adequate as only 25 *per cent* of the total contract value is linked to satisfactory completion of vessel's trials. Therefore, in the event of the shipyard being unable to deliver the vessel of requisite design and performance, the Government's option would be severely limited, and its interest compromised.

## III Shortfalls and slippages in contract execution

The first vessel was to be delivered by the shipyard in October 2006. By CG's own admission progress of work was dismal. Progress reports made available for examination disclose significant deviation from milestones both with regard to submission and approval of drawings and ordering of equipment. Quality concerns are also an issue because M/s ABG deviated and continues to deviate from standard ship building practices in a number of cases in disregard

of the requirements of the Construction Overseeing Team of the CGHQ. Orders (by M/s ABG) for critical pollution control, navigation communication and heli deck equipment have only either recently been placed (June 2007) or not placed at all. The shipyard, as of June 2007, had not even submitted technical proposals in 10 cases of procurement. The critical Integrated Platform Management System is yet to be installed on the first ship. With the diversion of manpower by M/s ABG from the project, even the first ship is not likely to be delivered until March 2008. In spite of all this, payment of Rs 221.02 crore has been made which is not commensurate with the payment due of Rs 190.52 crore as per the milestones specified giving the company an undue financial benefit of Rs 31 crore.

As of June 2007, construction of hull of second and third vessel was completed to the extent of 53 *per cent* and 48 *per cent* respectively.

In sum, the Coast Guard has not been able to acquire a single PCV in a decade though the acquisition process commenced in 1997 itself. The acquisition process lacked transparency and deviated from prescribed purchase procedures, which also contributed to delays. Flaws and distortions in the procedures adopted by the Coast Guard and the Ministry yielded no assurance that the decision taken to award a contract worth Rs 368 crore for building specialized vessels to a private shipyard was technically sound and financially prudent. This is corroborated by the unsatisfactory progress of the project leading to revision of the original delivery schedule of the vessels between September 2006 and September 2007 to October 2007 and October 2008. Moreover, Rs 221 crore released to the shipyard is not commensurate with the milestones specified.

## 5.2 Procurement of spares for Off-shore Patrol Vessels

**Owing to faulty maintenance planning and delays in taking up the scheduled maintenance routine of engines of Coast Guard Offshore Patrol Vessels, spares worth Rs 7.90 crore remain unutilised. Further, over provisioning of spares led to avoidable expenditure of Rs 57 lakh.**

Engines of three Coast Guard Offshore Patrol Vessels (OPVs) - Vijaya, Veera and Vikram were due for 24,000 hourly routine in April-May 2006, September 2006 and January 2007 respectively for extending the life of the engines by another 24,000 hours. For carrying out this routine, Coast Guard (CG) HQ placed five supply orders for procurement of control and engineering spares at

an aggregated cost of Rs 11.45 crore during 2003-05. The details of orders placed are given in the Annexure-I.

Audit scrutiny of the documents relating to purchase of spares revealed the following:

- All three OPVs, Vikram, Vijaya and Veera commissioned in early 1980s, were due to complete their normal life span of 20 years by 2005 and the Ministry had already been considering the proposal for acquisition of three OPVs for their replacement. Based on approval of the Competent Financial Authority, Coast Guard placed an order for construction and delivery of three OPVs on Goa Shipyard Limited in February 2006 to be supplied by December 2009. In order to keep the existing OPVs running, Coast Guard extended the life span of these OPVs simultaneously and made the procurement of spares for 24000 hourly routine though these engines would hardly be used for 5000 hours until the supply of the new OPVs.
- Spares worth Rs 7.90 crore meant for Veera and Vikram are lying in store. The 24,000 hourly routines for Veera could not be taken up as its related refit package is yet to be sanctioned. Spares worth Rs 3.56 crore meant for Vijaya could only be used after four to 30 months.
- Spares meant for Vikram were lying unused on the ground that it was due for decommissioning in 2010 and hence 24,000 hourly routines of the vessel was not taken up. The spares for this routine will be utilised for Varuna which is planned to be done in 2008. Incidentally all three OPVs have completed their normal life span by 2005 and are on extended life. Evidently, the spares were procured without regard to the maintenance schedule of the respective ships, and their utilisation in near future remained uncertain.
- In respect of 39 items, Coast Guard procured almost double the quantity prescribed in the series bulletin. Ministry sought (November 2007) to justify the procurement as these being anticipatory/emergency spares with long lead time in procurement and the spares would be used for Vajra and Vivek falling due for routines in 2008 and 2009 respectively. Audit examination shows that the lead time for procurement of these spares in most cases were less than six months, and these spares were actually procured for Vikram, Veera and Vijaya for which only 24,000 hourly routines of Vijaya could be undertaken. Clearly, 39 items of spares worth Rs 57 lakh were procured in excess.

Ministry attributed in November 2007 the reasons for delay in undertaking 24,000 hourly routines to long lead time in processing of refit sanction, abnormally high rate quoted by PSUs and their non participation, and availability of limited expertise and infrastructure.

Ministry's reply indicates its inability to ensure timely maintenance routine of ships. Further, 24,000 hourly routines are falling as per scheduled maintenance and these are unconnected with the refit schedule. Non-carrying out of scheduled routine has its toll on the condition of the ship as Vikram even before receiving 24,000 hourly routine will be decommissioned and CG HQ procured the spares without even ascertaining the real condition of the main engine of the Vikram.

To sum up, owing to faulty maintenance planning and delay in taking up the scheduled routine of the engines spares worth Rs 7.90 crore remain unutilised and over provisioning of spares has led to avoidable expenditure of Rs 57 lakh. Delay in carrying out the routine and running the engines beyond scheduled limit of routine will have negative impact on the condition and performance of the engines.

# CHAPTER VI : IT AUDIT

## Air Force

### 6.1 Integrated Material Management On-Line System

**HIGHLIGHTS**

**Integrated Material Management On-Line System (IMMOLS) project was approved for implementation without undertaking pre-project preparatory work determining the scope of IMMOLS and working out specific user requirements, which resulted in several revisions during development of the system with consequent time and cost overruns.**

***(Paragraph II (ii))***

**There were slippages in implementation of project components mainly due to revision in the scope of the project, delay in setting up of WAN and purchase of hardware led to delay in development of the software for IMMOLS besides denying operational benefits.**

***(Paragraph II (v))***

**Data generated by the system was not reliable in all cases and IAF was still depending on manually prepared data.**

***(Paragraph III (i))***

**Deficiencies in application controls had serious implications on managing inventories and taking appropriate decisions.**

***(Paragraph IV)***

**Weaknesses in security measures like passwords, backups, crash recovery testing and restoration exposed the system to security threat.**

***(Paragraph V)***

## I Introduction

(i) The Indian Air Force (IAF) requires an efficient logistical function backed by significant computerisation since it is a capital intensive and technology oriented service which spends almost 60 *per cent* of its budget on aircraft, allied system and spares. In November 1995, Integrated Material Management On-Line System (IMMOLS) was sanctioned by the Government at a cost of Rs 23.86 crore to improve material management, by reducing procurement lead-time for the entire range of inventory and supply lead time. In addition to operational benefits, savings to the extent of Rs 100 crore were expected to accrue within the first few years of implementation. The project was envisaged to be completed by February 2000.

The project is implemented by the IMMOLS Project Team (IPT) consisting of 10 officers and a coordinator from M/s Tata Consultancy Services (TCS) headed by an IAF officer as Global Coordinator. The project was to be monitored by a Steering Committee of eight members and headed by a Chairman.

### (ii) Scope and methodology of audit

The audit was conducted to evaluate the efficiency and effectiveness of the project implemented, the extent to which its objectives were achieved and best practices of information technology (IT) management followed. The scope of the audit included evaluation of the development of the application, execution of the project, utilisation of the application, and assessment of general and application controls. A test check of records maintained electronically and manually was conducted in the office of the IPT, Air HQ and eighteen implementation sites. The review also covered examination of documents relating to development of IMMOLS. The audit findings are detailed in the succeeding paragraphs.

## II Project implementation

(i) In terms of activities, the project was proposed to be completed as follows:

| | |
|---|---|
| Stage I | System study and requirement analysis |
| Stage II | Design, development and porting |
| Stage III | Installation |

With regard to scope the project was implemented in two major phase viz. Pilot phase and Series Phase.

| PHASE | NUMBER OF SITES | DESCRIPTION | PROBABLE DATE OF COMPLETION OF PARALLEL RUN |
|---|---|---|---|
| Pilot | 22 | The last line balances of two weapon systems viz. Jaguar and MiG 23 aircraft were ported | February 1999 |
| Series | 108 (later increased to 130) | Entire range of IAF inventory | February 2000 |

(ii) **Pre-project preparations**

IAF approved the project without any pre-project preparatory work like undertaking a feasibility study, determining the scope of the proposed system and fixing user requirement specifications as also the formats of reports to be generated. As a result, the scope of the project was vague and had to be revised which resulted in time and cost overrun as also design deficiencies as discussed in the following paragraphs.

(iii) **Frequent Revisions in the Scope of the system**

As against the initial assessment of 502 terminals required for connecting to servers spread over 130 locations, a system study conducted in March 1998 after signing the contract (July 1996) assessed the requirement as 2000 terminals. Based on the revision, the cost of the project was more than doubled from Rs 23.86 crore to Rs 49.87 crore. Further, the implementation in the first stage was restricted to inventory items of MiG 23 and Jaguar weapons systems. This was later revised (January 2003) to include the entire IAF inventory. Consequently, the parallel run, started for the two weapon systems in September 2002 had to continue till October 2006 along with other inventory items, which delayed the benefits of operationalising the application software at the pilot sites.

(iv) **Development testing**

The testing procedure adopted to certify the application software was inadequate as problems were identified during implementation at the pilot sites rather than through a separate testing phase. Ideally, application software should be adequately tested prior to release in a simulated test environment with a test plan which would include all aspects to be tested and unexpected results resolved before the release. The problems observed, however, were rectified and implemented through enhancements. As a result, the design of

the application software underwent revision 26 times over a period of five years (2003-07). These changes were critical and in addition to normal bugs noticed during operation. Scrutiny of each version revealed the following:

| Version | Number of enhancements |
|---|---|
| Version 4.0 | 17 |
| Version 4.1 | 17 |
| Version 4.1.3 | 7 |
| Version 4.2 | 25 |
| Version 5.1 | 17 |
| Version 4.3 | 7 |
| Version 5.0 | 7 |

The frequent changes indicate the absence of a proper strategy in testing and change management. Latest user manuals (August 2006) were updated only till Version 4.0. of the software.

(v) **Delay in execution of project**

Ministry signed an agreement (July 1996) with M/s TCS for developing the application software by March 1998 for a contract value of Rs 23.86 crore. After completing 'system study and requirement analysis' (March 1998) as the first stage of the contract, M/s TCS designed, developed, ported and implemented the application software at the 22 pilot sites by September 2002 after a delay of over three and a half years. While M/s TCS was responsible for delaying the development of the software, procurement by IAF was also laggard in respect of hardware like servers/client machines and also SATCOM[61] based 'Wide Area Network' (WAN). The second stage series-phase activities at the remaining 108 sites, envisaged for completion by February 2000, were taken up in January 2003 and completed at all 130 sites by October 2006. The delay in completion of second stage installation was due to delay in commissioning of WAN. The project has finally been completed after incurring an expenditure of Rs 72.21 crore. Thus, slippages in implementation of various project components delayed the development of the software by six and a half years thereby denying operational benefits and the envisaged saving of Rs 100 crores by way of reduced administrative costs for the delayed period.

(vi) The initial contract with M/s TCS provided for hiring of 9600 bps lines of Department of Telecom (DoT) based WAN at a cost of Rs 1.10 crore. Later, in August 1997, Radar Communication Project Organisation (RCPO) recommended a satellite based Wide Area Network on the basis of techno

[61] SATCOM : It is a Satellite communication based Wide Area Network

economic criteria and ease of installation to meet the high data transfer rate requirement of IMMOLS. Considering the technical superiority and future requirements of the Air Force, Ministry sanctioned, in August 1998, SATCOM based WAN at a cost of Rs 15 crore. Against targeted dates of commissioning the network at 22 pilot phase sites by March 2001 and remaining 108 sites by September 2002 actual dates of commissioning were November 2001 - December 2002 and December 2006 respectively. This was due to delay[62] in placement of supply order by two years and delays in supply, installation and commissioning by six years. Improper assessment of hardware needs also resulted in delay in completion of the project as also additional expenditure to the extent of Rs 1.21 crore.

Most importantly, the ambiguity with regard to establishment of an efficient and technologically superior network has not been resolved till date. In the Steering Committee meeting held in April 2007, a second migration of IMMOLS from SATCOM based WAN to AF Net has been decided. Once this decision is implemented SATCOM facilities created at cost of Rs 17.50 crore would become redundant. Thus, the delay in completion of WAN has rendered the expenditure incurred on it largely unfruitful.

## III System Operation

Deficiencies noticed in operation of the system are discussed below.

### (i) Reliability of IMMOLS data

In April 2007, on-line Provisioning Review (PR) using IMMOLS was activated. Thus, future Current Annual Requirement (CAR) data was to be automatically generated through replicated demands of all 130 self-accounting units of IAF. This entire process is represented through the GIG[63] data of the system which indicates the inventory status and availability of stock along with their purchase rates. However, audit scrutiny of the PRs revealed that IAF is still depending on the manually prepared CAR data as these are considered more reliable than the system generated data. No corrective action had been taken for making the system-generated data reliable. Further, audit analysis of the master data available in GIG revealed that the data fed and available in the system was not factually correct in many cases. It was noticed that the unit cost of certain items like aeroengine, generator set, and ambulance, Car 5 CWT Maruti Gypsy etc shown in GIG ranged from zero to Rupee one. Likewise, in the case of inactive items, a summary report generated at one site revealed that out of 69228 items, unit price in respect of

[62] Date of sanction – August 1998. Date of Order September 2000

[63] GIG – Global Item Gallery represents details about the inventory of IAF

14168 items was not available at all. IAF had not taken any action in checking the accuracy of data fed in the system for its purification.

(ii) **Electronic documentation**

All units that form an e-cycle based logistics activity have to perform their role on IMMOLS e-documents. However, financial concurrence given by the Internal Financial Advisor (IFA), essential for provisioning and procurement cases to be approved by the competent financial authority, continues to be carried out off line. Requirements are printed and each case is processed manually. Besides diluting the very purpose of automation, future decision-making is also affected as the earlier advice of the IFA is not available on-line for future guidance of the user. Reasons for this were not on-record/intimated.

(iii) **Non-utilization of a facility under Procurement Module**

IMMOLS has the facility, under procurement module, to generate details of Director General Supply and Disposal (DGS&D) rate contracts. However, the module contains only data relating to test transactions of DGS&D rate contracts as data relating to other rate contracts was not being fed into the system and the facility was not available to the user. Basically, master data, as on date, is still incomplete in certain respects.

(iv) **Pendency in replication of documents**

Replication of documents is the transfer of data between servers of various sites about the Balance of Stock Demand raised, demand met through issues of inventory, etc. Timely replication is critical for the success and effectiveness of on-line inventory management. For example, if connectivity between Air HQ and one of the depots is not established for 15 days, then Air HQ would be viewing the balances of stock, demand raised etc. of inventories 15 days earlier. Audit noticed that replication of documents was pending at all the 18 sites test checked in audit due to connectivity problems leading to reduced satisfaction levels, delayed materialization of demands, delayed stock visibility, etc. During the audit of selected units, documents which included master stock status, demands of units to the Equipment Depot (ED), etc. and numbering from one to 144771 were pending replication for periods ranging up to 357 days. Further, the demands of (1) inventory items under 'Demand' module that are satisfied by issue of in-lieu items[64] and (2) those met through

[64] In lieu items are those items which can replace another item by performing the required functionality. However, they may or may not be inter changeable both ways, hence, they are for all purposes different items.

non IMMOLS vouchers due to connectivity problems do not get cleared in the system and continue to be depicted as unmet demand.

(v) **Non-availability of legacy data and duplication of inventory data**

After transition from the manual system, only the last line balances (LLB) of all the inventory items were ported to IMMOLS. However, detailed inventory data of EDs/Base Repair Depots (BRDs) for the period was not transferred. In the absence of full data, the transaction pattern/history of all the items was not available. Data in respect of inactive stores was also not available in the system in test checked cases for use by management. Test check in audit further revealed that the same items were appearing with different inventory numbers at the same or different location. Therefore, the data generated by the system lacks assurance on its correctness affecting management decision on provisioning, procurement and stocking, etc.

IV **Application controls**

(i) Application controls are specific to cases of processing individual transactions. These controls are used to provide assurance that all transactions are valid, authorized, complete and recorded properly. Data relating to certain important modules extracted and analyzed in audit revealed deficiencies as discussed below.

(ii) Users are able to raise demands for items which have previously been partially met. This inflates the demand position depicted in the system since partially met demands continue to exist in the system as a 'full' demand. This happens because the issuer after supply cannot modify the demand status from 'full' to 'partial' or 'nil' supply. Only the demanding agency can alter these details. In case, the user does not update its demand status according to supply, the entire demand will remain in the system as 'outstanding', which inflates the demand position.

(iii) The results of 'dues-out'[65] under 'Masters' module and 'Demand' module for the same item are different which indicates the system is not giving the correct results.

(iv) Local purchase is carried out by the units to meet their immediate consumption under delegated powers. Central purchases are undertaken either by Air HQ/Command HQ for dependent units and these are stored at mother depots (ED/BRD). However, in IMMOLS, there is no difference between local and/or central procurements. Under 'Procurement' module the output screen for Local and Central

[65] Dues - out: It indicates the inventory items to be issued by the depots

menu are the same, and as such the system is not producing the correct results.

(v) In MTV[66] linking report under 'Demand' module the summary does not tally with the details in the report. This also indicates that the system is not generating the data correctly.

(vi) IMMOLS envisaged generating Discrepancy Reports (DR) indicating details of discrepancies raised / approved / cancelled under 'Demand' module. The system does not generate any such report.

V **System Security**

Weaknesses in the security environment are discussed below:-

i. **Password Security** - IMMOLS application software accepts User Identification of any permitted user with a password selected by the user. The system accepts even a single character password, which has a high security risk particularly in the absence of any other security measures like enforced potential periodical change of passwords.

ii. **Virus Infection** - Virus infection were prevalent at certain sites exposing the vulnerability of the system. In fact, IAF decided (March 2001) to withdraw CD-ROM and Floppy Disk Drives (FDD) from 450 client terminals as a security measure. Subsequently, FDD and CD-ROMs were procured and installed in 1000 terminals. The decision needs to be reviewed as using peripheral devices for secondary storage exposes the system to virus attacks.

iii. **Backup and crash recovery testing** - Directives were issued (April 2006) for safeguarding the electronic data by taking periodical backups and putting in place crash recovery procedures. These procedures prescribe how to take backup, its storage and other particulars. Deficiencies were noticed in following the prescribed procedures. Of the 18 sites test checked in audit, backups were not tested for crash recovery at any of the sites. Monthly backups were being forwarded to HQ Maintenance Command at only four of the 18 sites and the remaining units were keeping the backup at the same location defeating the objective of keeping the data under safe custody at an offsite location. Four of the 18 sites were not keeping two copies of backups and transaction log files with the CEO and AOC of the units as required.

iv. **Delay in restoration of the system** - IMMOLS is a critical on-line system, the failure of which would cause serious disruption in the functioning of the organisation. Time taken to restore the system at various units ranged from four to ten days. Measures taken to overcome such events and put in place continuity plans were not on record.

[66] Material Transfer Voucher Report: This report specifies whether the inventory was brought on charge by the consignee

## VI Procurement Issues and Other Points of Interest

### (i) Wasteful expenditure on integration of software

IAF decided (2001) to integrate an application, namely Integrated Production and Resource Management System (IPRMS) with IMMOLS at a cost of Rs 55 lakh so as to make the task of IPRMS more efficient. However, integration of IPRMS with IMMOLS was severed in December 2005 due to technical resons. Board of Officers proposed (October/ November 2006) that data exchange with IMMOLS be done off-line. Thus, injudicious decision not to integrate IPRMS with IMMOLS resulted in wasteful expenditure of Rs. 55 lakh on its integration.

### (ii) Irregularities in purchases

IAF purchased hardware viz., 45 Primary and Secondary Servers, 1000 terminals during August 2005 at a cost of Rs.12.47 crore after inviting limited tenders in which only two tenderers participated. Reasons for not inviting open tenders as per the provisions of Defence Procurement Manual were not on record. Order was placed on one of the group companies of M/s TCS viz. M/s Tata Infotech Ltd (TIL), which also merged with it in August 2005. The order was placed after rejection of the tender of another vendor M/s HCL Ltd on the ground that the servers to be supplied by them did not have the approval of Transaction Processing Council (TPC) rating. Rejection of the tender for supply of computer terminals that did not require TPC rating along with rejection of the tender for supply of servers was irregular.

### (iii) Under-utilization of on-line facilities

The rates of last five purchases of an item are available on- line at GIG under the Screen Module Masters. This facility was not being utilized in all cases of purchase effectively as is evident from the fact that one of the pilot sites (24 ED, AF) procured 306 Lamp (GIG No.479382) for Chetak/Cheetah Helicopters at a unit cost of Rs 276 under a supply order placed on M/s JB Industries, New Delhi-15 on 27 October 2006. HQMC procured 1989 number of the same item at a unit price of Rs 1960 under another supply order placed on Hindustan Aeronautics Limited, Bangalore on 13 January 2007. Apparently HQ MC did not negotiate on the higher price offered by HAL on the basis of reference price available in the GIG before placing order. Non-use of the IMOLS module resulted in an avoidable extra expenditure of Rs 33.49[67] lakh.

[67] (1989 nos x Rs 1960) – (1989 nos x Rs 276) = Rs 33.49 lakh rounded to Rs 33 lakh

## VII Conclusion

The implementation of the project suffered due to ambiguous scope of the IMMOLS project and delay in setting up of WAN and purchase of hardware. This was mainly due to the failure of the Department to undertake pre-project preparatory work determining the scope of the system to be developed and working out specific user requirements. The slippages in implementation of the project delayed the development of the software by six and a half years with resultant cost over run of Rs 48.35 crore besides denying operational benefits to the users and the envisaged saving of Rs 100 crore by way of reduced administrative costs for the delayed period.

The case was referred to the Ministry in November 2007; their reply was awaited as of December 2007.

**(R.B.SINHA)**
**Principal Director of Audit**
**Air Force and Navy**

**New Delhi**
**Dated:** 25 February 2008

**Countersigned**

**(VINOD RAI)**
**Comptroller and Auditor General of India**

**New Delhi**
**Dated:** 25 February 2008

# Annexure-I

**Procurement of spares for the three Offshore Patrol Vessels**

**(Refer to Para No. 5.2)**

| Sl. No. | Spares required for ship | Date of supply order and amount | Name of the firm | Types of spares and item ordered | Date of delivery of this spares. |
|---|---|---|---|---|---|
| 1. | Vijaya | 18.11.2003 for Rs 17.27 lakh | M/s Kirloskar Oil Engines Limited, Nasik | Control 23 items | July 2004 to June 2005 |
| 2. | Vikram and Veera | 1.03.2005 for Rs 69.27 lakh | -do- | Control 24 items | July 2005 to November 2005 |
| 3. | Vijaya, Vikram and Veera | 1.03.2005 for Rs 961.95 lakh | -do- | Engg. Spares 303 | March 2005 to November 2006 |
| 4. | Vijaya | 4.12.2003 for Rs 17.29 lakh | M/s Krishndeve Consultancy Service, Delhi | 15 control spares | June 2004 |
| 5. | Vikram and Veera | 1.03.2005 for Rs 79.17 lakh | -do- | Control 18 items | July 2005 |

# ANNEXURE-II

**(Refer to Para No.2.10)**

**List of Action Taken Notes not received as of 31st January 2008**

| Sl. No. | Report No. and Year | Chapter of the Report | Para No. | Pertains to | Brief Subject |
|---|---|---|---|---|---|
| 1. | 5 of 2006 | III | 3.2 | Air force | Unauthorised construction of Officer's institute |
| 2. | 5 of 2006 | IV | 4.1 | Navy | Procurement of one extra Fast Attack Craft |
| 3. | 4 of 2006 (P.A.) | III | -- | Navy | Project Management in Navy |
| 4. | 5 of 2007 (P.A.) | II | -- | Air force | Provisioning and procurement activities at HQ Maintenance Command, Base Repair Depots and Equipment Depots |
| 5. | 5 of 2007 (P.A.) | III | -- | Navy | Management of Equipment in Naval Dockyards, Mumbai and Visakhapatnam |
| 6. | 5 of 2007 | I | 1 | MOD | Financial Aspects |
| 7. | 5 of 2007 | II | 2.2 | MOD | Refurbishment and modernization of an aircraft |
| 8. | 5 of 2007 | II | 2.7 | MOD | Follow up on Audit Reports |
| 9. | 5 of 2007 | III | 3.1 | Air Force | Extra expenditure on irregular grant of an allowance |
| 10. | 5 of 2007 | III | 3.2 | Air Force | Avoidable extra expenditure in procurement of spare aero-engines |
| 11. | 5 of 2007 | III | 3.6 | Air Force | Extra expenditure in conclusion of repair contract |
| 12. | 5 of 2007 | IV | 4.1 | Navy | Procurement of spares for seaking helicopter |

| | | | | | |
|---|---|---|---|---|---|
| 13. | 5 of 2007 | IV | 4.3 | Navy | Non-utilization of XBT Probes |
| 14. | 5 of 2007 | IV | 4.4 | Navy | Delay in procurement action leading to avoidable expenditure |
| 15. | 5 of 2007 | VI | 6.1 | Air Force | IT Audit of Air Force Central Accounts Office, New Delhi |
| 16 | 5 of 2007 | VI | 6.2 | Navy | Audit of Integrated Pay Accounting and Disbursement System (IPADS) in Naval Pay Office, Mumbai |