# CHAPTER III: AIR FORCE

## Contract Management

### 3.1 Avoidable expenditure on procurement of test equipment

**IAF incurred an avoidable expenditure of ₹11 crore on procurement of test equipment.**

Missile System 'M' is a quick reaction surface-to-air missile system, required for providing an effective Air Defence.

Ministry of Defence (Ministry) concluded (September 2008) a contract with M/s Rafael, Israel (OEM[1]) for procurement of three squadrons of missile systems 'M' alongwith associated equipment at a total cost of MUSD 260.05 (₹1,161.77 crore[2]). The associated equipment included special test equipment (STE), ground support equipment (GSE) and tools costing USD 6,863,000 (₹32 crore) procured for Base Repair Depot (BRD) for setting up the base repair facilities. Under the contract, the initial training on the system was to be provided by the OEM for which the Indian Air Force (IAF) had paid MUSD 3.96 (₹17.69 crore). Of the three squadrons, two were to be installed in Air Command 'A' and one in Air Command 'B'. Although as per the terms of the contract, both the system and associated equipment were to be received by May 2012, it was observed in Audit that neither the system nor associated equipment had been received despite delay of 18 months (November 2013).

In addition to the above, the contract concluded in September 2008 provided for an option clause to procure additional squadron of missile system within three years at the same price, terms and conditions. Under the option clause, IAF initiated (October 2009) a case for procurement of additional five squadrons of missile system 'M' along with associated equipment. The

[1] Original Equipment Manufacturer
[2] 1 USD = ₹44.675

Defence Acquisition Council, however, accorded (April 2010) approval for procurement of one squadron of missile system along with associated equipment. Accordingly, a supplementary contract was concluded (December 2010) with the OEM at a cost of MUSD 86.87 (₹407.86 crore[3]) for procurement of one additional squadron of missile system along with STE and GSE for base repair level costing USD 2,288,000 (₹11 crore). The additional squadron of missile system under option clause was scheduled to be delivered by October 2013 for installation at Air Command 'B'.

Our examination of the documents in Audit relating to the procurement of associated equipment under option clause revealed (December 2012) that the Air Headquarters (Air HQ) had projected the requirement of STE and GSE for the base repair level to cater to the increased work load of additional squadron. We observed (December 2012) that the procurement of associated equipments (GSE/STE for base repair level) in the supplementary contract (December 2010) was avoidable as the associated equipment for setting up the base repair level facility had already been provided in the initial contract of September 2008.

In reply to our Audit observation, Air HQ stated (January 2013) that the test equipment contracted in December 2010 under option clause would be utilized for providing on the job maintenance and operational training to IAF personnel.

We do not however, agree with the Air HQ's reply as the associated test equipment was procured for missile repair and testing at BRD and not for operational training.

The Ministry, in their reply stated (May 2013) that with the induction of additional squadron of missile system, there would be an increase in the work load of the BRD which would warrant additional testing, repair and calibration of equipment. The Ministry further added that the equipment procured under the initial contract did not cater for any dedicated equipment for training.

[3] 1 USD = ₹46.95

Ministry's reply is, however, not consistent as the Air HQ in its reply to an Audit query (April 2013) whether the procurement of test equipment for base repair level was governed by any scale, stated (April 2013) that the procurement of test equipment for base repair level was not governed by any scales in IAF. Further, in response to another audit query (December 2012) on the annual repair capacity of BRD, the IAF stated (January 2013) that the facility at BRD would cater to the base line repair for all the four squadrons.

Thus, the contract for procurement of additional test equipment for base repair level under option clause resulted in an avoidable expenditure of ₹11 crore.

## 3.2 Delay in commissioning of testers

**Failure on the part of IAF to include commissioning clause in the contracts for procurement of testers worth ₹5.47 crore resulted in their non utilization for the last four years. Contract for repair and commissioning was yet to be concluded.**

To ensure complete exploitation of the equipment for intended purpose, the procured equipment is required to be put into operational readiness (commissioned) at the IAF's premises. With the objective of safeguarding this requirement, Article 14.1(b) of Defence Procurement Procedure (DPP) 2006 (Standard Contract Document) provides for the complete functional check of the equipment as per specification in the contract. We observed (January and September 2012), however, that non inclusion of commissioning clause in the contracts concluded for procurement of testers worth ₹5.47 crore resulted in their non utilization for the last four years as discussed below:

Intermediate (I) level testers SIGMA-95 BM-II (BM-II) are used to check the serviceability and harmonization of Laser Internal Navigation System (LINS) which is the main navigation equipment of SU-30 aircraft. Flight Data Recorder (FDR) tester is used to carry out testing of components like Data Acquisition Unit (DAU) and Crash Survival Unit of FDR whenever their serviceability is suspected.

Air Headquarters (Air HQ) concluded (15 March 2007) a contract with M/s Hindustan Aeronautics Limited (HAL) for supply of one BM-II at a cost of ₹2.46 crore and one FDR at a cost of ₹0.53 crore along with certain additional equipment. HAL in turn procured these testers from Original Equipment Manufacturer (OEMs) *i.e.* M/s SAGEM, France and M/s SAAB, South Africa respectively. These testers, which had a warranty of 12 months from the date of delivery, were received at 25 Equipment Depots (ED) in February-March 2009. These were issued to 11 Wing, AF in September 2009 and brought on charge of 11 Wing AF in February 2010.

As on date (November 2013), these testers at 11 Wing, AF could not be commissioned due to absence of commissioning clause in the contract and had since been rendered unserviceable. In the meantime, as the warranty of these testers had expired (February-March 2010), the OEMs also declined to repair and maintain the testers free of cost.

Further, Air HQ concluded another contract (30 March 2007) with M/s HAL for supply of additional SU-30 aircraft and associated equipment which included one BM-II costing ₹2.48 crore. The equipment was received at 25 ED in March 2009 and issued to 11 Wing, AF in September 2009 and was subsequently issued to 14 Wing, AF in September 2011 on the directives (May 2011) of HQ Eastern Air Command. We noticed (September 2012) that again due to non inclusion of commissioning clause in the contract, the BM-II was lying unutilized at 14 Wing, AF since its receipt (September 2011) and had become unserviceable.

We observed (January and November 2012) that during the period 2010-12, there was a failure of 27 navigation equipment and 26 Data Acquisition Unit of SU-30 aircraft at 11 Wing and 14 Wing and these equipment had to be sent to HAL for testing and repair due to non-commissioning of procured BM-II and FDR testers at these units.

In response to an Audit query (January 2012) as to why these testers were not commissioned, 11 Wing, AF stated (January 2012) that these testers were supplied to them under SU-30 block-II contract which did not include commissioning of the test benches. To ascertain the reasons for non inclusion of commissioning clause, we took up (June 2012) the matter with Air HQ. Air HQ stated (July 2012) that these testers (i.e. BM-II and FDR) for SU-30 aircraft had been procured in four blocks. Block I/II were the first two contracts for procurement of aircraft and associated equipment. The commissioning of these testers was not foreseen at that point of time. Subsequently, by virtue of experience gained, the commissioning clause was included in Block III/IV contracts and the contract concluded for procurement of 40 additional SU-30 aircraft. Air HQ further stated (August 2012) that the contract for commissioning of FDR was yet to be signed and commercial proposal for repair of FDR and BM-II was under process.

The reason given by Air HQ for non inclusion of commissioning clause in the first two contracts (Block I and II) is, however, not acceptable as this was not the first contract entered into by Air HQ and the inclusion of a commissioning clause is a standard prescribed procedure to be adopted in any contract for procurement of aircraft and equipment.

Thus, by not including the commissioning clause in these contracts, IAF failed to comply with Article 14.1(b) of the DPP-2006 provision which provides for complete functional check of the equipment as per the specification in the contract. As a result, the equipment procured at a cost of ₹5.47 crore could not be commissioned for over four years of their procurement and were lying in an unserviceable condition. In addition, the defects in the equipment could neither be identified nor reported to the OEM during the warranty period.

The draft paragraph was issued to the Ministry in June 2013; their reply was awaited (December 2013).

## Procurement

## 3.3 Directorate of Mechanical Transport, Air Headquarters

### 3.3.1 Role and Mandate of the Directorate

Directorate of Mechanical Transport (DMT) at Air Headquarters (Air HQ) is headed by Principal Director (PD) and is responsible for planning, forecasting, provisioning and budgeting in respect of ranges of vehicles[4] and their associated equipment. The range of vehicles broadly comprise Aircraft Support Vehicles (ASVs) and Common User Vehicles (CUVs) to meet administrative, technical and operational needs of Air Force. The DMT is also responsible for formulating policies and ensuring implementation in respect of operation, accounting and maintenance of vehicles. The DMT is further responsible for disposal of accident cases, obtaining sanctions for hiring of civil vehicles, payment of decretal amount and revision of mechanical transport establishment.

### 3.3.2 Organisational Structure

PD DMT at Air HQ reports to Air Officer Maintenance (AOM) through the Assistant Chief of Air Staff (Logistics) and is assisted by Director/Joint Director/Dy Director level officers posted in his Directorate. The DMT implements its plans through Air Commands under Air HQ. Mechanical Transport (MT) squadrons of operating units function under the Air Commands through the local commander. Aircraft operating units of Air Force are dependent on DMT for timely provisioning and release of ASVs and CUVs. Procurement action is, however, the responsibility of the Directorate of Procurement (DOP) and payment responsibility lies with the Controller of Defence Accounts (CDA) (AF) RK Puram, New Delhi. Organisational chart of the DMT is shown below:

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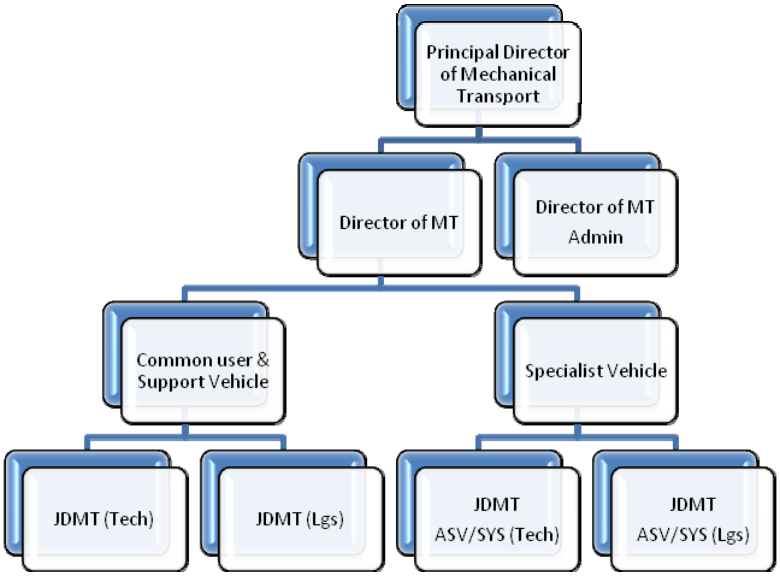
[4] Common User Vehicles - Lorry 3Ton/ 4Ton/ 6.5 Utility van (DCPT), Lorry RCC, Medium Recovery Vehicle, Water Tender, Car ¾ Seaters, Car 5CWT (Gypsy & MM Jeep) AL&SR, LMR, Station Wagon (TATA SUMO), Coach Passenger, Motor Cycle, Truck 1 Ton, Ambulance, Aircrew Van. Airfield Support Vehicles- CFT, DFT and FTPs, MRS Refuellers, Cranes, Tractors and Fork lifters Aircraft Specialist Vehicles- APPA/IGSA, UPEGA/EGU, AKS-8M, Nitrogen Air Charger, GPU, Ni-Cd, SAT-300, Air/N2/O2 Trollies, Oxygen Charger and Bheema Trollies System Specialist Vehicles- KRAZ, URAL, ZIL, GAZ, MAZ, YAZ, BTR and TATTRA etc.

## ORGANISATIONAL CHART




### 3.3.3 Audit Objectives

The audit was conducted in order to ascertain:-

- Whether ASVs and CUVs were procured in accordance with the existing policy.
- Whether ASVs were made available to operational locations and other airbases as per authorization and in time.
- Whether Indian Air Force (IAF) was holding adequate number of ASVs and CUVs.
- Whether procurement and servicing of these vehicles was done with due care and economy and as per rules.

### 3.3.4 Audit Scope

A test check of the records for the period 2009-10 to 2011-12 was carried out at DMT Air HQ, Western Air Command (WAC), Wings under WAC and

CDA (AF) RK Puram, New Delhi during the period from April 2012 to September 2012.

### 3.3.5 Sources of Audit Criteria

The Audit Criteria used for benchmarking the audit findings were:

- General Financial Rules (2005), Defence Procurement Manuals, Public Procurement Bill 2012.
- Indian Air Force Equipment Regulations (IAP-1501), Air Force Instructions (AFIs), Air Force Orders (AFOs), Mechanical Transport Staff Instructions (MTSIs), Manual of Operations for Integrated Financial Advisors (IFAs) in Air Force.
- Government Rules, Orders, Guidelines and instructions issued from time to time by the Central Government and the Controller General of Defence Accounts (CGDA).

### 3.3.6 Audit Methodology

DMT, HQ WAC, IAF and Units under it and the CDA (AF) R.K Puram were selected for detailed audit. Audit findings as discussed in the succeeding paragraphs are based on an analysis of records, data, information and replies given to the questionnaire/audit memoranda issued to these units. Audit findings were issued (July 2013) in the form of draft paragraph to the Ministry of Defence (Ministry) /Air HQ. While Ministry's reply to the draft paragraph has not been received, the reply of Air HQ sent to the Ministry (September 2013) and copy endorsed to Audit has been appropriately incorporated in the report.

### 3.3.7 Audit findings

#### 3.3.7.1 Financial Management

The DMT operates both Capital and Revenue Major Heads for procurement of vehicles. Year wise Allotment and Expenditure under these heads during the period from 2009-10 to 2011-12 are tabulated below:-

**(₹ in lakh)**

| Major Head | Code Head | Particulars of charges compilable under the Head | Item | Year | | | Total Savings/Excess |
|---|---|---|---|---|---|---|---|
| | | | | 2009-10 | 2010-11 | 2011-12 | |
| **2078 (Revenue)** | 742/29 | Special vehicle mounted aviation stores - sources other than HAL (Maintenance) | Allotment | 799.76 | 1100.00 | 1369.44 | |
| | | | Expenditure | 680.79 | 989.73 | 1325.66 | |
| | | | **Saving** | **118.97** | **110.27** | **43.78** | **273.02** |
| | | | **Excess** | 0.00 | 0.00 | 0.00 | Nil |
| **2078 (Revenue)** | 743/02 | All renewals/ replacements, maintenance/ upkeep irrespective of cost and life | Allotment | 3820.31 | 1983.00 | 2510.00 | |
| | | | Expenditure | 3471.79 | 1891.00 | 1137.69 | |
| | | | **Saving** | **348.52** | **92.00** | **1372.31** | **1812.83** |
| | | | **Excess** | 0.00 | 0.00 | 0.00 | Nil |
| **4076 (Capital)** | 919/34 | Procurement of heavy and medium vehicles of value ₹10 lakh or more and life 7 years or more | Allotment | 0.00 | 0.00 | 0.00 | |
| | | | Expenditure | 2232.00 | 2292.00 | 3894.00 | |
| | | | **Saving** | 0.00 | 0.00 | 0.00 | Nil |
| | | | **Excess** | **2232.00** | **2292.00** | **3894.00** | **8418** |
| **4076 (Capital)** | 919/36 | Procurement of items of equipment (other than heavy and medium vehicles) of value ₹10 lakh or more and life 7 years or more | Allotment | 4257.00 | 2482.78 | 1545.00 | |
| | | | Expenditure | 4257.00 | 2482.78 | 1545.00 | |
| | | | **Saving** | 0.00 | 0.00 | 0.00 | Nil |
| | | | **Excess** | 0.00 | 0.00 | 0.00 | Nil |

We observed (February 2013) following irregularities in the booking of expenditure: -

(i) During the period 2009-2012 an expenditure of ₹84.18 crore was booked to Capital Code Head-919/34 (Heavy and Medium Vehicles) without any allotment. At the same time the DMT was unable to fully spend the appropriations under Revenue Code Heads 742/29 and 743/02 during all the three years.

The DMT stated (September 2013) that expenditure under Code Head 919/34 had been inccurred on confirmation of availability of fund against orders placed. However, their reply was silent on non-allotment of fund under this Code Head and DMT's inability to fully spend the appropriations under Revenue Code Head 742/29 and 743/02.

(ii) Capital Code Head- 919/34 (Heavy and Medium Vehicles) read with Sub Major-Head-01 – Army Minor Head 102 (a) provides for booking of expenditure on procurement of vehicles of all types irrespective of their cost and life.

However, we observed (February 2013) that expenditure on procurement of various ASVs was booked irregularly to Capital Code Head-919/36 (Other Equipment: Trade) and expenditure on procurement of other vehicles was booked to Revenue Code Head-743/02 (MT Stores) in all these years and not to the correct Code Head- 919/34 (Heavy and Medium Vehicles).

The DMT stated (September 2013) that expenditure on procurement of ASVs was booked to Code Head 919/36 considering that ASVs were not Heavy and Medium vehicles. As regards other vehicles, the DMT stated that earlier as per the Classification Hand Book, the procurement was being undertaken under Code Head 743/02 and now capital procurement following Revenue Procedure of heavy and medium vehicle is being undertaken from Code Head 919/34.

Their reply is not acceptable as even earlier the expenditure was required to be booked to Capital Code Head 919/34 (Heavy and Medium Vehicles) which also includes ASVs.

(iii) CGDA in June 2010 had recommended that expenditure on outsourcing be booked to the Contingent/Miscellaneous Expenditure Head of the respective Services till a final decision was taken on opening of a separate head for each outsourcing activity. Notwithstanding the above position, expenditure on Annual Maintenance Contracts (AMCs) of ASVs was booked to other Revenue Code Head 742/29 operated by DMT for maintenance stores.

The DMT stated (September 2013) that till now no separate Code Head had been earmarked for expenditure on outsourcing, and also that this expenditure was against AMC.

The reply is not acceptable as outsourcing includes AMC and, therefore, pending opening of a separate Code Head, expenditure on AMC should have been booked to contingent/miscellaneous expenditure head as recommended by the CGDA.

(iv) The powers to sanction indents, contracts and purchases in respect of central procurement of maintenance stores on Proprietary Article Certificate (PAC) basis have been laid down in Schedule XII (L1) to Delegation of Financial Powers 2006 (DFP) and under this schedule, AOM is empowered to approve purchase of proprietary indigenous items from PSUs up to ₹10 crore.

We, however, observed (February 2013) that for purchase of maintenance store (Nitrogen Generating Storage and Distribution Station) from Hindustan Aeronautical Limited (HAL) Nasik Division (ND) on PAC basis, the DMT had irregularly obtained Acceptance of Necessity (AoN) of AOM for ₹12.39 crore under Schedule XII (A) where AOM's powers are up to ₹30.00 crore.

In reply to the audit observation, the DMT stated (April 2013) that procurement was approved under Schedule XII (A) as purchases were made from Defence Public Sector Undertaking (PSU).

The reply is not acceptable since financial power of AOM for procurement of maintenance store under PAC is under Schedule XII (L1) (Powers to approve proprietary purchase from necessity and expenditure angle-Indigenous PSUs) and is for ₹10.00 crore only.

Thus, the above procurement of Nitrogen Generating Storage and Distribution Station at a cost of ₹12.39 crore in excess of AOM's powers of ₹10.00 crore is irregular.

### 3.3.7.2 Planning and Management

The DMT is a centralized agency for planning, provisioning, indenting and release of ASVs and CUVs for all the Directorates and Establishments of IAF. We observed (February 2013) that cases for procurement of vehicles were processed by different Directorates without involving the DMT. We further

observed cases of financial irregularity, besides irregular procurement of vehicles and post procurement management/maintenance problems, as discussed subsequently in the Report.

As per Annual Plan, the DMT had been following a system of Annual Motor Transport Procurement Plan (MTPP) both for ASVs and CUVs which was being forwarded to MOD for Acceptance of Necessity (AoN) approval. In October 2007, MOD dispensed with the requirement of obtaining AoN of MOD for procurement of ASVs in order to bring down the lead time so as to ensure timely procurement of ASVs which had a vital role in operational preparedness.

Despite the above, we, however, observed (February 2013) shortage in all types of ASVs ranging from 25 to 100 *per cent*. We also observed (February 2013) that the DMT did not procure 408 ASVs which were planned in the backdrop of Ops Parakaram with the approval (May 2004) of Ministry for permanent positioning at earmarked operational locations (Ops locations). As a result, IAF was forced to operate with the same limitations as existed at the time of Ops Parakaram. Details of these cases are discussed below:

## (A) Aircraft Support Vehicles (ASVs)

## I. Unit Establishment and Strength

ASVs are specific to type, specialist equipment that are utilized on various aircraft for starting and servicing activities and, therefore, play a direct and vital role in the operational preparedness. It is, therefore, imperative that not only are all ASVs maintained in the highest serviceable state but also the shortfalls against authorization/Unit Establishment (UE) are addressed at the earliest.

As on March 2012, IAF had an inventory of 18 types of ASVs. We observed (February 2013) that actual holding of all types of ASVs was far less than their authorization as per Annexure 'I' to this Report. Shortfalls in eight types of ASVs ranged between 47.83 *per cent* and 100 *per cent*, in respect of another seven types between 25 *per cent* and 36.92 *per cent* and for the balance three types below 25 *per cent*.

In response to the audit observation, the DMT stated (April 2013) that the deficiency pointed out by Audit was mainly with reference to the authorized reserves and as all ASVs had since been indigenized, maintaining depot reserve and maintenance reserve was not required. The DMT further stated (September 2013) that presently shortfall in respect of three types of ASVs ranged between 0.20 *per cent* and 11.68 *per cent* and in respect of another eight types there was no deficiency.

The reply is factually incorrect as MoD had not dispensed with the authorised reserves but had only reduced the maintenance reserve from 12.5 *per cent* to 10 *per cent* in view of indigenisation. Further, Air HQ had also been including Maintenance Reserve in their Annual Procurement Plans for arriving at 'Deficiency/Net Requirement'[5] of ASVs. Further, even though ASVs were indigenized they were not available off the shelf. The reply was also silent on shortfall of the remaining seven types of ASVs. The deficiency in holding of ASVs had a direct bearing on operational preparedness of IAF.

## II. Gross inadequacy of ASVs at Operational locations

During Operation Parakaram[6], ASVs at Ops locations were found by IAF to be grossly inadequate and did not match with the requirement of the detachments[7]. Keeping this in view as also the bottlenecks in transportation/movement of the ASVs from the parent bases, it was felt that it would be essential to make permanent positioning of specialist vehicles at the Ops locations. Accordingly, Ministry agreed in May 2004 for procurement of additional ASVs for pre-positioning at Ops locations. After protracted deliberations at Air HQ and in consultation with all Commands HQs as to the requirement of ASVs at each Ops location, 'In Principle' approval for procurement of 408 additional ASVs costing ₹132.09 crore was accorded by the Chief of the Air Staff (CAS) in October 2007.

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5 Procurement are initiated annually only for deficiencies against authorized scales. Accordingly, the net requirements is calculated as Unit Establishment (UE) (i.e. authorization) plus Reserve minus Assets.

6 Operation Parakaram, the 11-month-long border stand-off, took place soon after the December 13,2001 terror attack on Parliament.

7 Detachment means deployment of Combat aircraft/Helicopters Units and supporting fleets of IAF to another air base/Ops location for special duty/missions.

We observed (February 2013) that procurement of these additional 408 ASVs was not processed beyond the 'In Principle' approval of the CAS in October 2007 despite the requirement of the ASVs in the wake of Ops Parakaram. We further observed (February 2013) that in order to tide over the deficiency, HQ WAC, IAF had made (February 2012) a temporary arrangement for pre-positioning of ASVs at Ops locations in a phased manner - Phase-I for WAC forces and Phase-II for 'Out of Command' forces by way of temporary allotment of these ASVs on loan from the units within the Command for duration not exceeding one year. The objective was to support quick mobilization of forces at designated Ops locations, which would reduce dependability on airlifts or civil hired trucks and take care of the bottlenecks in transportation/movement of the ASVs from the parent bases to Ops locations.

In Phase-I, 67 ASVs comprising nine types were to be positioned immediately at forward locations for Western Air Command forces but we observed (February 2013) that against 67, 46 ASVs (69 *per cent*) of Phase-I and entire quantity under Phase-II were yet (June 2012) to be placed at the Ops locations of WAC.

The DMT stated (April 2013) that it was decided at a later stage not to procure ASVs against reserve.

As no documentary evidence including the decision and the reasons for non procurement was furnished by the DMT in support of their reply, we specifically enquired (September 2013) the reasons for not processing the case further; when it was decided not to procure the additional 408 ASVs; who approved this proposal; and whether the Ministry was informed of the decision of not processing the case further.

The DMT did not furnish the requisite clarifications/evidence sought by us and only stated (September 2013) that it was decided not to procure ASVs against reserve due to austerity measures and limited availability of funds. Further, no reply was given to the position obtaining as on September 2013 with regard to prepositioning of remaining ASVs under Phase-I and Phase-II and extension of the loan period.

Thus, the reply of the DMT is not acceptable, as the fact remains that IAF was forced to operate with the same limitations with respect to the availability of ASVs as existed at the time of Ops Parakaram.

## III. Overhaul backlog/un-serviceability

First overhaul of ASVs falls due after completion of *eight* years of induction and *second* overhaul after completion of *four* years from the *first* overhaul or after 12 years of induction.

We observed (February 2013) that as of June 2012 overhaul facility did not exist for indigenous ASVs except for one type of ASV at 8 BRD. As a result, out of 663 ASVs held by the various units under HQ WAC, 113 ASVs were due to be overhauled as of May 2012. These 113 ASVs were inducted between 1993 and 2003 and were due for first overhaul between 2001 and 2011 but were not overhauled as of May 2012 due to non-availability of the overhaul facility. We also observed (July 2013) that 52 ASVs held by the various units under HQ WAC had remained (April 2013) unserviceable for longer periods ranging from 11 months to 81 months.

In response, the DMT stated (April 2013) that the overhaul policy of ASVs was changed by Air HQ in July 2012 and instead a life cycle concept had been introduced. Accordingly, all the ASVs were being maintained for 15 years of life through Annual Maintenance Contract (AMC). The DMT also stated (April 2013) that out of the 52 ASVs pointed out by Audit, 40 ASVs were unserviceable as AMCs were not in place. While accepting the fact about prolonged unserviceability of 52 ASVs/non-availability of AMCs for all ASVs, the DMT further stated (September 2013) that earlier these 52 ASVs were being maintained through local resources, resulting in increased unserviceability and that as on date most of the ASVs were covered under AMC and the serviceability state was 95 *per cent*.

The reply of the DMT is not acceptable as neither any documentary evidence in support of their reply, nor position obtaining regarding serviceability status of the 113 ASVs due for overhaul as of May 2012 and 52 unserviceable ASVs has been furnished.

Thus, however, while overhaul facilities for ASVs were not created after the introduction of a life cycle concept which resulted in AMC for the ASVs for maintenance during their useful life, the AMC for all the ASVs were also not entered into by the DMT, resulting in non-overhaul of 113 ASVs and prolonged unserviceability of 52 ASVs.

## IV. Procurement of unsuitable Bheema Trolleys

Priority Procurement Plan (PPP[8]) for ASVs (2007-08) approved in October 2007 included purchase of 37 self-propelled Bheema[9] Trolleys for three SU-30 aircraft operating Air Force units. Accordingly, Directorate of Procurement (DOP) placed (March 2009) a supply order on M/s TPS Infrastructure Ltd for supply of 37 trolleys at a cost of ₹6.63 crore, which was subsequently amended (December 2010) by earmarking 12 trolleys for three SU-30 aircraft operating Air Force units and the balance 25 trolleys for non SU-30 units.

In response to an audit query (June 2012) regarding change in the requirement of Bheema Trolleys for SU-30 units, the DMT stated (October 2012) that during field trials, it was observed that the Bheema trolleys procured were not suitable for SU-30 aircraft; the consignees were changed (December 2010); and further procurement of 32 trolleys against the procurement plans of subsequent years from the same supplier for SU-30 units was also not processed.

In reply to our further observation (February 2013) regarding diversion of trolleys to non SU-30 operating units, the DMT stated (April 2013) that these trolleys were found suitable and effective for use by units other than the SU-30 units and that a conscious decision was taken by Air HQ to divert the same to other units where it could be used. We also observed (July 2013) excess holding (April 2013) of 51 trolleys and made a specific query (September 2013) regarding the justification for allotting 12 trolleys to SU-30 units, despite the fact that these were not found suitable for these units. The DMT, however, did not offer (September 2013) any comments.

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[8] MoD's orders (2006) on delegation of financial powers (Revenue) prescribe drawing up of a Revenue Prioritised Procurement Plan for centralized procurement by Air HQ

[9] Self Propelled Aircraft Weapon Loader Trolley (AWL-1000)

Thus, the fact remains that the entire procurement of 37 trolleys valuing ₹6.63 crore did not serve the intended purpose as the same were found unsuitable for SU-30 units. More importantly, SU-30 units were deprived of a suitable ASV which has a vital role in the operational preparedness.

## V. Irregular procurement of Ground Power Units of MiG Bison aircraft

Department of Defence Production & Supplies (DDP&S) had stipulated (October 1999) that indigenization of a defence store would not be complete until at least two sources were fully developed which would ensure not only competition but also reduce Government's dependence on any single source. The DDP&S had also issued (October 1999), *inter alia*, the following procedure for strict compliance with a view to speeding up the development of additional indigenous sources:

- Where there is only a single developed source or where there is a felt need for development of more than two sources, 20 *per cent* only of the first indent should be earmarked for placement as an educational order on the new source to be developed. The percentage could however be modified to ensure that the quantity covered is viable for economic production. This order should be placed by inviting tenders as per the normal procedure.

- The balance quantity of the indent is to be procured from the source(s) already developed as per the normal procedure.

Accordingly, while initiating (December 2005) the case for development and procurement of 70 Bison trailer-mounted Ground Power Units (GPUs) at a total cost of ₹12.95 crore as per approved Annual Procurement Plan for the year 2005-06, Air HQ proposed (December 2005) to procure 47 GPUs from M/s MAK Controls (M/s MAK), the only developed indigenous source at that time, at a total cost of ₹9.40 crore and decided that the remaining 23 GPUs should be procured from other sources. In case no other firm was able to develop a suitable prototype, the remaining 23 GPUs were also to be procured from M/s MAK under the 'Option Clause'. Integrated Financial Adviser

(IFA), however, advised (April 2006) that the other two firms i.e. M/s Statcon Power Controls and M/s Avish Aviation (through HAL Nasik) were also in line of development of subject GPUs, Air HQ could consider 50 *per cent* quantity from the already developed source and balance quantity could be covered under option/repeat order clause of M/s MAK in case of failure to develop the GPU by the two firms. Accepting the advice of the IFA, the proposal was revised (April 2006) by Air HQ for procurement of 35 GPUs i.e. 50 *per cent* from M/s MAK at a total cost of ₹7.00 crore and the same was approved (May 2006) by the AOM.

We, however, observed that Air HQ did not initiate the procurement process and instead initiated (December 2006) a fresh case for procurement of 70 self-propelled GPUs at an estimated cost of ₹17.62 crore. Directorate of Mechanical Transport, subsequently placed (December 2006) an indent on the Directorate of Procurement which placed (January 2008) the supply order on M/s HAL (ND) for supply of 70 GPUs (Self-propelled) at a cost of ₹14.92 crore. No AoN for this proposal was obtained from the CFA. The GPUs were delivered between December 2009 and April 2010.

We noticed (February 2013) the following irregularities in the above procurement:

- As against the approval of MoD for procurement of 70 Bison trailer-mounted GPUs at a cost of ₹12.95 crore, Air HQ procured 'self-propelled' GPUs from M/s HAL (ND) at a cost of ₹14.92 crore without apprising Ministry of the changed requirement/cost and without Ministry's approval.

- Concurrence of IFA and 'In Principal Approval' of AOM in May 2006 was for procurement of only 35 GPUs at a cost of ₹7.00 crore from M/s MAK, whereas an Indent for 70 GPUs at a cost of ₹17.62 crore was raised in December 2006 and Supply Order for the same at a cost of ₹14.92 crore was placed on M/s HAL (ND) in January 2008. We did not find the approval of IFA/CFA for the revised proposal.

In response to the above audit observation (February 2013), the DMT stated (April 2013 and September 2013) that subsequently (December 2006) Bison GPUs developed by the above two vendors were cleared and RFP was floated wherein M/s HAL emerged as L1; accordingly, supply order was placed on M/s HAL; and that the revised approval of the Ministry was not required since there was no change in the quantity and requirement.

The contention of DMT is incorrect since there were changes in the specification from trailer mounted to self-propelled as also total cost from ₹12.95 crore to ₹14.92 crore. Air HQ, also did not furnish the approval of the IFA/CFA for the revised proposal.

## (B) Common User Vehicles (CUVs)

## I. Irregular procurement of Critical Care Ambulances

The DMT is responsible for planning, forecasting, provisioning and budgeting in respect of Common User Vehicles (CUVs) which include Ambulances - both heavy and light. For this purpose, DMT forwards a consolidated Annual Motor Transport Procurement Plan (MTPP) to MOD for AoN approval.

We observed (February 2013) that contrary to the above procedure, 25 Critical Care Ambulances (CCAs) at a cost of ₹9.24 crore were procured (January 2010) by Directorate General Medical Services (DGMS) instead of the DMT, a designated and specialist Directorate for the purpose. Besides the procurement was made under Capital Code Head 919/36 meant for 'Other Equipment' from Trade instead of Capital Code Head 919/34 meant for 'Heavy and Medium Vehicles' including Specialized Medical Vehicles. We further observed (February 2013) that the procurement was made using powers of Vice-Chief of Air Staff (VCAS) in consultation with IFA under Schedule XII (J1A)[10] of the Delegation of Financial Powers stating that ambulances were neither scaled nor proposed to be scaled.

[10] Schedule-XII regarding 'Procurement of Maintenance Stores', Powers to sanction Indents, contracts and Purchases; (J1A) regarding 'Approval of expenditure for equipment not authorized/scaled; Powers of VCAS/DCAS/AOM there under are 'Nil' Without IFA consultation and ₹10.00 crore With IFA consultation.

We also observed (February 2013) that AOM had subsequently directed (January 2011) for scaling of these CCAs. Further, powers under this Schedule are limited/restricted towards procurement of "Maintenance" Stores and therefore, do not include procurement of non-scaled medical equipment.

The DMT stated (September 2013) that all the Directorates including Medical Directorate had been instructed (September 2013) by them to ensure procurement of vehicles through the DMT and that the purchase was undertaken under Code Head 919/36 (Capital Code) following the Revenue Procurement procedure as laid down in Defence Procurement Manual (2006), in terms of Ministry's orders (September 2007), and the same was in order.

Air HQ reply is not correct as the Revenue Procurement procedure adopted in terms of Ministry's orders (September 2007) was permissible only in respect of such items of Capital nature, where expenditure was earlier being booked to Revenue heads instead of Capital heads, and not for the items being procured for the first time.

## II. Abnormal delay in outsourcing of Staff Cars

While examining the proposal regarding Annual Motor Transport Procurement Plan (MTPP) 2007-08 and according approval from necessity angle, Ministry had observed (October 2007) that 'as far as outsourcing is concerned very little effort has been made by IAF whereas Navy could outsource almost the entire requirement of staff cars in a place like Delhi. Ministry also directed that IAF should explore the possibility of outsourcing of Staff Cars[11] and Car 5 CWT[12] by Air Force Station New Delhi (AFS ND) for use by officers posted at Air HQ and its lodger units as was being done by Navy. Instructions were also issued by the Ministry in November 2007 regarding return of the vehicles on loan beyond a period of four years, along with their drivers to the respective units. In view of a large quantity of Staff cars held on loan by AFS ND over and above the authorization, Air HQ directed Station authorities in December 2007 to explore hiring of the light vehicles from the civil market, after carrying out cost benefit analysis, as was being done by Army and Navy.

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[11] For transportation of entitled officers

[12] For transportation of personnel during peace and operations

Air HQ had also issued (January 2008) instructions that light vehicles should not be held on loan for more than four years as this period was considered to be adequate for the units to raise statement of cases and get their establishments (vehicles strength) revised through Air Force Staff Establishment Committee (AFSEC). Accordingly, AFS ND recommended (April 2008) outsourcing of 115 Staff cars by AFS ND for officers of the rank of Group Capt and below, envisaging an annual saving of ₹1.95 crore.

We observed (February 2013) that despite the recommendation (April 2008) of AFS ND, the Air HQ was yet to start outsourcing of staff cars. As a result, expected annual saving of expenditure of ₹1.95 crore could not be obtained all these years. We also noticed (February 2013) that against an authorisation of 156 vehicles, AFS ND had 475 vehicles as of March 2012. Out of these, 319 vehicles held on over and above the authorization were on loan from lower formations. In many cases maximum loan period of four years had also exceeded and the DMT had instead issued fresh release orders for further holding of these vehicles on loan to AFS ND. Thus, both the DMT and AFS ND had violated the orders of Ministry with respect to outsourcing of light vehicles, release of vehicles on loan and return of the loan vehicles along with the drivers.

While accepting the audit contention, the DMT attributed (September 2013) the violation of Ministry orders to non revision of the unit entitlement (UE) of vehicles of AFS ND and stated that these vehicles had to be given on loan to AFS ND as their UE could not be revised. As regards outsourcing, the DMT stated that the same was permissible against deficiency and since there was no deficiency of vehicles at AFS ND against the UE, outsourcing of vehicles was not resorted to.

The reply is not acceptable as it did not explain the reasons for non-revision of the UE. The fact remains that AFS ND continues to utilise the vehicles on loan over and above its authorisation by pooling the vehicles meant for lower formations. Besides, envisaged (April 2008) annual saving of ₹1.95 crore on outsourcing of vehicles remains to be achieved.

## III. Introduction of new type of vehicles

As per relevant orders[13], replacement of the existing maintenance scaled item with an improved version will be considered with the prior concurrence of IFA, among other things, in the following circumstances:-

a) If existing item is out of production.

b) If existing scaled item is redundant.

c) If new version is cost effective.

Further, Defence Procurement Manuals (DPMs 2006 and 2009) provides that the specifications in terms of quality, type and quantity of goods to be procured, should be clearly spelt out keeping in view the specific needs of the procuring organizations. The specifications so worked out should meet the basic needs of the organisation without including superfluous and non-essential features, which may result in unwarranted expenditure.

Ministry had also issued (May 2010) instructions that like to like replacement of the basic model should be strictly done by a basic model unless upgraded models are necessary for operational and other reasons, while the station of deployment should be the same as that where the vehicle was being condemned.

We observed (February 2013) that in contravention of the extant orders, Air HQ had introduced between 2009 and 2011 two new types of vehicles - Mahindra Scorpio (Scorpio) in place of Maruti Gypsy and Toyota Innova (Innova) in place of Material Management (MM) Van, as discussed below:-

### (i) Scorpio

During May 2009 to January 2012 Air HQ procured 100 Scorpios on PAC basis as per firm's specifications by placing supply orders at a total cost

[13] Schedule XII (J2) regarding 'Approval of purchase of Indigenous equipment:- Replacement against existing scaled item with an improved version (a) If existing item is out of production/obsolete or (b) If existing scaled item is redundant or (c) If new version is cost effective, read with relevant SOP.

of ₹7.78 crore under Schedule XII-L1[14]. We observed (February 2013) the following irregularities in the procurement of these Scorpios:

- Mahindra Scorpio was introduced (2009) under Schedule XII (J2) of the DFP in replacement of Maruti Gypsy which was neither out of production/obsolete nor redundant. By IAF's own admission (April 2007), Scorpio was costlier than the existing category of Car 5 CWT viewed from the operational and maintenance angle. We also observed (February 2013) that Scorpio did not fit into any of the above parameters and Schedule XII-J2 to the DFP was not relevant in this case as the range covered under this Schedule is 'all scaled AF stores required for Maintenance activities'.

- Procurement of Mahindra Scorpio on PAC basis was against the DPM provisions as specifications were not clearly spelt out keeping in view the specific needs of IAF but were based on firm's specification and similar vehicles offered by different firms were not evaluated either on specifications or on cost basis.

In response, the DMT stated (April 2013) that cost analysis by comparing the vehicles in the market was carried out in great detail and the vehicle was found to be cost effective in the long run but expensive initially. DMT further stated (September 2013) that the record of comparative study by technical expert was available in relevant file, which was circulated to all Senior Commanders and their recommendations obtained.

The reply is not acceptable as no documentary evidence was supplied to audit either in this regard, or in support of compliance of DPM provisions regarding spelling out the specification in terms of quality and type.

**(ii) Innova**

Field units are authorised to use MM Vans for safe transfer of costly assemblies/rotables, sensitive electronic equipment and efficient utilization of the existing inventory by faster material transfer between the stores houses and workplace. For 19 MM Vans approved by the Ministry for procurement, the make/model in use by IAF was Tata Sumo (without rear seats). However, Air

[14] Powers to approve proprietary purchase from necessity and expenditure angle

HQ initiated (September 2010) a case for procurement of 19 Toyota Innova as 'Multi-utility vehicle' under Schedule XII (J2) of the DFP and obtained (October 2010) Principal Integrated Financial Advisor's (PIFA) concurrence on the justification that the vehicle was required in place of MM Van for utilization by SU-30 squadrons (12 vehicles) and units situated at hilly-and harsh-terrain. A Supply Order (SO) was placed (November 2010) on M/s Toyota Kirloskar Motor Ltd Bangalore for 19 Toyota Innova at a total cost of ₹1.46 crore and the vehicles were delivered in February 2011.

We observed (February 2013) that there was no deficiency of MM Van in IAF and that there was an excess (February 2011) of 88 vehicles against the authorisation. We also observed (February 2013) that none of the 19 Innova vehicles was actually allotted to the units for whom these were stated (October 2010) to have been procured. These Innova vehicles were allotted (March 2012) on two years loan to other units in contravention of Ministry's orders ibid.

In response, the DMT stated (September 2013) that the procurement of vehicles was undertaken only against the deficiencies and that the specifications of Innova were compared with other vehicles, details of which were available in file.

The reply is not acceptable as Air HQ could not provide any document in support of either the deficiency of MM Vans or compliance of DPM provisions regarding spelling out the specifications in terms of quality, type etc., of MM Vans to be procured, keeping in view the specific needs of the IAF. The reply was also silent on surplus holding of 88 MM Vans and invoking of incorrect Schedule XII (J2) of the DFP.

### 3.3.8 Conclusion

The Audit brings out the shortcomings in the functioning of the DMT which is a centralized agency for planning, provisioning, indenting and release of all types of vehicles in IAF. The DMT was not able to achieve targets with regard to the procurement of ASVs which were essential for aircraft flying. There was deficiency of ASVs at operational locations necessitating continued dependency on civil trucks/airlifts for positioning ASVs from parent bases to Ops locations during hostilities/operations. This deficiency had a greater

impact as even temporary positioning from Command resources could not be achieved. The procurement of a specific ASV made for an aircraft was also found unsuitable for that aircraft.

There were several instances of incorrect booking of expenditure, irregular approval and concurrence by the CFAs and the IFA respectively. Some of the Directorates placed indents directly on the DOP instead of routing them through the DMT which is a specialized agency for the purpose. There were cases of the newly introduced CUVs being diverted to use for other than the intended purpose. Further due to delay in revision of the UE of vehicles at AFS ND, several vehicles continued to remain on loan with AFS ND for over 4 years and annual savings of ₹1.95 crore on outsourcing of staff cars could not be realized.

### 3.3.9 Recommendations

- Air HQ may issue directions to all the Directorates and lower formations to place indents for procurement of vehicles through the DMT only as per the approved Annual Motor Transport Procurement Plan.

- The DMT may consider preparing a database of the ASVs and CUVs and link the database with Annual Plan and achievements against the target.

- Since ASVs are not available off the shelf despite indigenization, catering for reserve and its actual utilization for procurement is necessary to obviate the deficiency in field formations. However, reserves against light vehicles under CUVs category may be considered to be discontinued since these vehicles are readily available in the market.

- The DMT needs to address the issue of outsourcing of staff cars at AFS ND in a time-bound manner which would result in achieving an expected saving of ₹1.95 crore *per annum* and it would also pave the way for early return of loan vehicles attached with AFS ND from field units.

- The control mechanism for financial bookings, expenditure out of designated heads, and sanction of appropriate CFA may be strengthened so as to avoid incorrect booking of expenditure and irregular sanctions.

The draft paragraph was issued to the Ministry in July 2013; their reply was awaited (December 2013).

## 3.4 Induction of Precision Approach Radar in Indian Air Force

**Inordinate delay in issuing Request for Proposal for the second batch of PAR deprived IAF of important precision approach aid during inclement weather. Due to change in induction plan of one radar, infrastructure worth ₹2.23 crore created for housing of the radars at two stations could not be utilized for the intended purpose. HAL also continued to depend on OEM for repairs due to non- availability of repair facility at HAL for these Radars.**

Precision Approach Radar (PAR) is used to facilitate landing of aircraft during poor visibility and bad weather conditions. Ministry of Defence (Ministry) concluded (March 2002) a contract with HAL, for the procurement of 17 PAR, inclusive of 13 static and four transportable radars, at a cost of ₹193.10 crore. HAL collaborated with M/s FIAR Italy (OEM) for supply of five static radars to IAF in fully furnished condition, between July 2003 and March 2004 and the remaining 12 radars were to be manufactured by HAL under transfer of technology (ToT). Out of 17 radars, 15 were meant to replace 12 existing obsolete radars and three decommissioned radars and the remaining two radars were to be used for new induction. Mention regarding the delay in replacement of obsolete and decommissioned radars was made in the Paragraph No. 2.2 of CAG's Audit Report No.CA 5 of 2008. In their Action Taken Note (August 2011), Ministry, while accepting the delays in acquisition of radars, stated that the existing decommissioned radars were being utilised to assist the aircraft for safe landing although this *adhoc* arrangement had limitations and was not as efficient as PAR. As a follow up to Ministry's response on delay in acquisition of radars, Audit scrutiny during the year 2012 revealed the following:

**I. Non-availability of repair facilities at HAL**

As part of the collaboration agreement entered into by HAL with the OEM, HAL was to avail of ToT from OEM for setting up of 'Depot'[15] level repair facility for repair of critical items of these radars. However, the repair facility could not be set up (September 2013) as no separate funds were allocated by Ministry for establishing the same at HAL. We further observed (August 2012) that HAL was dependent on OEM for repair of spares, causing inordinate delay in the repair of unserviceable items thereby adversely affecting operations.

**II. Procurement of additional PAR**

IAF had planned (August 2012) for procurement of additional 15 PAR as new induction as well as replacement for the radars which were being declared as obsolete. These additional radars were required to be supplied by HAL by 2015 in a phased manner. Even though, Acceptance of Necessity (AoN) for procurement of eight PAR was accorded by the Defence Acquisition Council (DAC) in January 2006, the Request for Proposal (RFP) to HAL had not been issued (March 2013). The reason for delay in finalising the RFP as stated by Air HQ, was due to their apprehension (August 2012) in procuring these radars again from HAL because of the problems encountered by IAF in implementation of the contract signed in 2002.

**III. Change in induction plan**

As per the approved induction plan, 17 PAR procured under contract of 2002 were to be inducted at AF bases. We observed (January 2013) that the induction plan of one PAR (static) was changed twice as discussed below:

- In January 2005, a PAR (static) meant for Air Force station 'A', was relocated to AFS 'B' due to induction of fighter aircraft at the station. With the induction (March 2006) of fighter aircraft at the base, the installation of PAR had become an urgent operational requirement as this base experiences adverse weather conditions for atleast six to seven months in a year. For installation of the radar, sanction for

[15] Depot level = Setting up of Repair/overhaul facilities at HAL

creation of infrastructure was accorded (March 2007) by the Central Air Command at an estimated cost of ₹1.86 crore. Contract for the work services was concluded (December 2007) at a cost of ₹1.74 crore. However, the work commenced in January 2008 with the PDC[16] as October 2008.

- While the work services were in progress, Air HQ decided (December 2008) to re-locate the radar to AFS 'C' due to operational reasons. Air HQ, however, decided (December 2008) that work services already commenced at AFS 'B' should continue till completion of the work. However subsequently, the work services was foreclosed in June 2011 without completion of the same due to the consideration that as and when the new PAR equipment is procured for AFS 'B', fresh work services may be initiated depending upon its type and make based on the instruction of the CFA. An expenditure of ₹1.62 crore had already been incurred on the work services. In place of the earlier PAR static version, IAF proposed a PAR transportable version for AFS 'B' to be procured under Phase-II. As a result, an expenditure of ₹1.62 crore incurred on work services, was rendered infructuous since the work services created could not be put to use because the static radar meant for AFS 'B', was shifted to AFS 'C'.

- For installation of radar at AFS 'C', Administrative Approval was accorded (October 2009) by HQ WAC at a cost of ₹0.49 crore, subsequently revised to ₹0.61 crore in October 2011 due to change in the scope of work. The radar and associated equipment were received at AFS 'C' between July 2011 and May 2012. Though the PDC for installation of radar was June 2011, the radar could be installed only in July 2012 due to late receipt of radar equipment/shelter and DG sets.

[16] PDC = Probable date of completion

We observed (July 2012) that even though there was no fighter squadron available at AFS 'C' (since December 2011), it was proposed (December 2009) by Air HQ to install a radar which involved creation of civil assets worth ₹0.61 crore. We further observed (August 2012) that due to non-availability of the fighter squadron at AFS 'C', the radar along with associated civil assets could not be put to use (August 2012).

On being pointed out by Audit (January 2013) regarding changes in induction plan, Air HQ stated (March 2013) that the induction plan was changed in view of the degraded serviceability status of the existing PAR at AFS 'C'. Air HQ further added that preference was given to replace the existing vintage radars at strategically important airfields rather than induction at *de-novo* locations. In response to further query (December 2013), Air HQ stated (December 2013) that fighter squadron has not been inducted at the AFS 'C' (November 2013).

The reply furnished by Air HQ is not acceptable as AFS 'B' was also considered (January 2005) strategically important at the time of re-locating the radar from AFS 'A' keeping in view the existence of fighter squadron at AFS "B' and adverse weather conditions at the station for at least six to seven months in a year. The absence of precision approach landing aid adversely affects the operational capability of the base during the inclement weather.

Thus, acquisition of critical Precision Approach Radar has been inordinately delayed. In addition, due to change in location of one PAR, infrastructure worth ₹2.23 crore (₹1.62 crore + ₹0.61 crore) created for housing the radar at two stations could not be utilised for the intended purpose. Besides, HAL continued to depend on OEM for repairs due to non availability of repair facility at HAL for these Radars.

The draft paragraph was issued to the Ministry in July 2013; their reply was awaited (December 2013).

## Works Services

## 3.5 Availability of airfield infrastructure/runways in Indian Air Force

### 3.5.1 Introduction

Airfield is an area of land comprising runway, taxi-tracks, dispersals, blast pens and entire zone of safety surrounding the area which is used for the operation of the aircraft. Runways are paved surfaces intended for takeoff and landing of aircraft. The number and orientation of runways at an aerodrome will depend upon the volume of traffic, runway occupancy time and climatological data on surface winds. The runway surface should provide good braking action and co-efficient of friction under all surface conditions. The runway should be able to withstand the aero planes it is intended to serve. Blast pens are used for housing aircraft and protecting them against enemy attack.

### 3.5.2 Organisational set-up

Directorate of Air Force Works headed by Assistant Chief of Air Staff (Air Force Works) is responsible for co-ordination and formulation of all works services, related policy matters and to oversee planning, prioritization, processing, sanctioning and execution of work services in the Air Force. As regards runway resurfacing projects, the Directorate is required to obtain in-principle approval of Ministry of Defence (Ministry) as per the rolling plan. These works are sanctioned as special projects over and above Annual Maintenance Work Programme. Processing of individual runway resurfacing projects is to be done as per the provisions laid down in Defence Works Procedure (DWP). SEMT[17] Pune, is the specialized agency on recommendations for projects from technical angle for consideration by the

[17] Soil Engineering and Material Testing Wing under College of Military Engineering Pune

Board of Officers convened for assessing the requirement of work services for runway resurfacing.

### 3.5.3 Audit Objectives

Audit was conducted with a view to ascertain:-

1) Whether supporting infrastructure for smooth operations of runways had been made available at the right place and at the appropriate time.
2) Whether work done by MES authorities was properly planned, executed and made available to the user in time and as per the operational requirement.
3) Whether works executed by MES were without time and cost overruns.

### 3.5.4 Audit Criteria

Sources of audit criteria adopted were:

- Manual of Air Force Works, Land and Quartering.
- Engineer-in-Chief's (E-in-C) technical instructions for siting and lay out of new airfields.
- Provisions of the relevant Defence Work Procedure.
- Time schedule for post administrative planning and execution of works issued by Ministry in April 1986.

### 3.5.5 Scope and Methodology

Resurfacing of runways is being undertaken as a special project work since 2008 with at least five runways required to be taken up in each year for resurfacing with an aim to ensure availability of requisite standard of runway and associated surfaces for smooth operations. As of November 2011, resurfacing on ten runways was under progress. Audit scrutinized records pertaining to all the ten runway resurfacing projects (value ₹693.39 crore). In addition, records pertaining to one Airfield Lighting System (₹6.61 crore), one

Airfield Drainage System (₹4.45 crore) and two Blast Pen works (value ₹26.39 crore) were also scrutinised. A test check of the Statement of Case, Board of Officers (BOO) proceedings, Administrative Approval (AA) Registers, Contract files, Paid vouchers and Progress Report of the works as well as Expenditure for the period 2009 to 2012 was carried out in the selected Air Force Wings and MES units/formations in Western, Central, Southern, South Western and HQ Training Commands during the period from April 2012 to February 2013. Audit Methodology adopted involved issuing questionnaires, audit memos and scrutinizing cases at Command/Wing/MES formations, scrutiny of Statement of Case indicating the user requirements, scrutiny of AA issued by MoD/Air HQ for creation of infrastructure and scrutiny of quarterly/monthly progress reports of the works with regard to achieving the target date and cost of the project.

## 3.5.6 Audit Findings

We observed (April 2012 to February 2013) that there were delays in sanctioning of works for runway resurfacing and blast pens, changes in design after sanctioning of works involving time and cost overruns, poor or sub-standard quality of civil work executed by MES at many places, leading to rectification/ repair of defects at additional costs besides delay in availability of infrastructure to the users which ultimately had an impact on their operational preparedness. Details are discussed below:-

### 3.5.6.1 Runway resurfacing works

### (A) Delay in sanction of works

After examination and approval of the Statement of Case put up by the users for demand for planning of new works the Competent Financial Authority (CFA) is required to convene a Board to examine the various features as given of the new works proposal and the need, if any, for compressing the normal timeframe of carrying out the works. Appendix 'F' read with Para 31 (e) of DWP, further lays down that any work should be sanctioned within 28 weeks from the date of completion of the Board Proceeding relating to the work.

We observed during audit scrutiny (February 2013) that MoD took 65 and 45 weeks in according AA (Administrative Approval) in two AF Stations (Nal and Leh) as against the laid down timeframe of 28 weeks from the date of completion of the Board Proceedings.

The delay with regard to the runway at AFS Leh which was last resurfaced in 1990, is noteworthy as this is the highest operational airfield in the world and the land routes to this region are blocked during winter months. Therefore, the runway forms the backbone for the entire region for operations, winter stocking and air maintenance. The runway is also used by civil aircrafts.

The issue regarding delay in work sanctions was referred (February 2013) to Air HQ. However, no reply was received (December 2013).

## (B) Delay in Execution

### AFS Leh

Leh is a notified operational area and as per operational works procedure[18] read with the Directive on management of operational works issued by the Air Headquarters in June 1999, the Commander in the operational area is competent to order execution of operational work warranted by military situation. As the existing runway at Leh was prone to flash floods due to melting of snow during the summer months, the runway was not fit for fighter operations. Accordingly, in July 2006 a Board of Officers (BOO) recommended provision of an airfield drainage system at the earliest for prevention of flash floods in view of the operational and strategic importance of this airfield. Air Officer Commanding-in-Chief (AOC-in-C), Western Air Command therefore, invoked operational works procedure (September 2006) and sanctioned ₹4.45 crore, for a drainage system to arrest this problem. Chief Engineer (AF) Udhampur concluded a contract in April 2007 at a total cost of

[18] Operational Works procedure authorizes sanctioning of works actually required for execution of operations in areas declared "Op Work Area" by the Government of India and are restricted to: Construction and improvement of Airfields, ALGs, Helipad roads and bridges, Field water supply, Ancillary buildings to tented camps and hospitals, Shelters (but not huts) as substitute for tentage, Operational and technical accommodation and Field Defences whereas Defence Works Procedure is applicable to all other works not covered under operational works procedure.

₹3.27 crore with PDC[19] as April 2008. However, the contractor did not undertake the work with due diligence and despite extension of the PDC up to September 2010, the work had progressed up to 43 *per cent* only till July 2010. Due to cloud burst and flash floods on the night of 5/6 August 2010, the runway was covered with mud and stones and the under construction portion of Airfield drainage was also partially damaged. An amount of ₹1.43 crore had been paid to the contractor till then and the department initiated a case for foreclosing the work as the contractor was reluctant to proceed with the work.

We observed (February 2013) that the non-completion of the operational work even after a lapse of six years of sanction had defeated the very purpose of sanctioning the work.

CE (AF) Udhampur stated (March 2013) that due to flash floods the work already executed was partly damaged and, therefore, it required a change in design under the original contract. Hence the work could not be completed within the original PDC.

The fact, however, remains that the air field drainage system which was conceived as an operational necessity in September 2006 was yet (March 2013) to come up at the Station.

## AFS Nal

The main runway at the Station was last resurfaced in 1991. SEMT Pune, had recommended resurfacing of runway in March 2009 stating that all the facilities in the airfield were structurally inadequate. The findings of SEMT were also confirmed by a BOO assembled at AFS Nal in April 2009, which recommended resurfacing of the entire aircraft movement area and other associated/additional works. Ministry sanctioned the work for resurfacing of runway and aircraft operating areas at AFS Nal in May 2011 for ₹110.96 crore. Thereafter, CE (AF) WAC concluded a contract in October 2011 for ₹99.43 crore with PDC as February 2013.

We noticed (February 2013) that despite bad condition of the runway as well as other aircraft operating areas brought out by SEMT in March 2009 and

[19] PDC= Probable date of completion

confirmed by the BOO assembled in April 2009, the execution of the resurfacing work was delayed by over two years due to delay in finalization of Board proceedings at the Station level, issue of AA by the sanctioning authorities and slow execution of work. This resulted in non availability of the infrastructure for smooth operation of aircraft.

The issue regarding delay in execution of the work was referred (February 2013) to Air HQ. However, no reply was received (December 2013). In response to follow up (November 2013) by audit, CE (AF) WAC, however, stated (December 2013) that the work was completed in April 2013.

The runway and associated structures at the base thus, continued to remain (up to April 2013) unfit and structurally inadequate thereby impacting operational preparedness.

### (C) Non compliance of technical requirement in works

Directorate of Pavement at E-in-C's Branch is responsible to advise the Station and Zonal Chief Engineer (CE) with regard to the scope of work and proposed design. PCN Evaluation[20] report from SEMT is mandatory before taking up any work pertaining to resurfacing of runway. Responsibility for PCN[21] evaluation rests with SEMT. PCN helps to ensure that the airport/ runway ramp is not subjected to excessive wear and tear, thus prolonging its life.

At two AF Stations (Tambaram and Pune), Audit found that compliance of technical parameters viz. soil testing, pre-technical check by the pavement specialist agency and adherence to other prescribed procedures had not been made. This led to laying of premature resurfacing, and execution of additional works for repair. Details are given below:

### AFS Tambaram

[20] PCN evaluation - Evaluation of the bearing strength of the pavement and soil with reference to load of the aircraft.

[21] PCN - Pavement Classification Number ( A number expressing the bearing strength of a pavement for unrestricted operations)

To cope with variations in daily and seasonal temperature of the runway pavements, which tend to become soft in summers and brittle in winters, Indian Road Congress (IRC) in their special publication of 2002 had issued extensive guidelines for use of modified bitumen to enhance the road life. Accordingly Directorate of Works (Design) E-in-C's branch issued guidelines (August 2002) for use of Crumb Rubber Modified Bitumen (CRMB) in place of Polymer Modified Bitumen. While using CRMB it was also essential to provide a good and efficient surface and subsurface drainage for a long lasting and strong pavement.

Runway resurfacing work at AFS Tambaram was sanctioned by Ministry in March 2002 at an estimated cost of ₹7.75 crore later reduced to ₹6.63crore (January 2003) as the cost of accepted contract was below 15 *per cent* of AA amount due to use of CRMB in lieu of Polymer Modified Bitumen. The work was completed in 2003 at a cost of ₹5.72 crore. Although the work was executed by using CRMB as per E-in-C's guidelines, yet a good sub-surface drainage system was not provided as observed in the study reports by the College of Military Engineering in 2007 and 2008. In order to rectify the defective work, Ministry sanctioned work services in July 2010 for ₹81.43 crore which *inter alia* included ₹28.90 crore for resurfacing work and ₹21.23 crore for area drainage. The work was due for completion in July 2013.

We observed (December 2010) that the full stretch of runway would not be available for operations and training purpose, till completion of the resurfacing work and the issue of non provision of sub-surface drainage system despite extant instructions, had also not been investigated.

In response to audit query (December 2010) on non-adherence to the E-in-Cs instructions of providing a good and efficient surface and sub-surface drainage, GE (AF) Tambaram stated (December 2010) that as the runway had a one sided transverse slope, drainage was considered on one side of one end of the runway and that there was no observations to infer presence of subsoil water. GE (AF) further stated (December 2010) that during later years water

from beneath the runway had surfaced through the cracks, thus establishing presence of sub-soil water.

Thus, had the guidelines for providing good sub-surface drainage, issued in August 2002, been adhered to during the currency of the contract, presence of sub-soil water could have been avoided.

### AFS Pune

Re-surfacing of certain manoeuvering area[22] at AFS Pune at an estimated cost of ₹9 crore was recommended (October 2010) by the BOO with the justification of induction of third squadron, change in role of the existing squadron (Conversion Training) and phenomenal growth of civil aviation with adequate connectivity only through this area.

We observed (January 2013) that without first getting the runway evaluated for PCN from SEMT, Air HQ accepted the necessity and accorded AA in February 2011 for the work at an estimated cost of ₹7.47 crore with a PDC of 56 weeks. For execution of work, CE (AF) Gandhinagar concluded (February 2011) a contract with M/s Mohanlal Mathrani Constructions Private Limited at a cost of ₹5.94 crore. The work was completed by the contractor in August 2012 at a cost of ₹6.53 crore.

In response to the Audit observation (January 2013) on PCN evaluation, GE (P) Lohegaon stated (January 2013) that no PCN evaluation was carried out before undertaking work for execution and PCN value was designed by the E-in-C's branch.

The reply is, however, not justifiable as the mandatory requirement of PCN evaluation was not fulfilled prior to sanction and execution of the additional work.

## (D) Poor quality of work

[22] The part of an aerodrome to be used for the take-off and landing of aircraft and for the movement of aircraft associated with take-off and landing.

As per the Airfield Pavement Management system issued by Engineer-in-Chief's Branch, Army Headquarters, the existing design analysis caters for a structural usability pavement life of 20 years.

Out of ten runway resurfacing projects examined in audit (April 2012 to February 2013) the runway resurfacing work at four stations had prematurely failed, which led to additional expenditure on repairs besides non-availability of runways for operational and training purposes as discussed in subsequent paragraphs.

## AFS Leh

The work on runway resurfacing was sanctioned by Ministry in March 2009 at an estimated cost of ₹29.39 crore with PDC of three working seasons[23]. Subsequently change in design was sought by GE (I) AF/CE (AF) from E-in-C's Branch and a contract for execution of the work was accepted (March 2010) by CE at a cost of ₹33.59 crore after obtaining revised sanction in March 2010 for ₹34.45 crore. The work was completed in October 2011 at a cost of ₹36.12 crore. After completion of the work; it was noticed by the users (AFS Leh) that the runway suffered continuous degradation due to surface wear and tear. Temporary repairs were carried out in March 2012 by the contractor at no extra cost. On completion of the repair work, the runway surface was checked by the users in April 2012 after landings of a few fixed wing aircraft. It was found that the runway had suffered abrasions to surface due to tyre friction and the runway was adjudged unfit for fighter operations by the users. The affected portion of the runway was repaired by the contractor in September 2012 within the defect liability period.

We observed (February 2013) that degradations were noticed again in December 2012. Joint inspection at Station level carried out in January 2013 in association with General Reserve Engineer Force (GREF) revealed that to enhance the life of runway, additional cost of ₹3.22 crore would be required for temporary restoration and ₹10.21 crore for permanent measures.

In response to the audit query (February 2013) regarding reasons for the defective work, CE stated (March 2013) that the surface was damaged due to

[23] Leh is an extreme cold climate area and the working season remains there for six months (April- May to September-October) in a year.

unconventional method under which salt and other chemicals were used by General Reserve Engineer Force (GREF) for removal of accumulated snow from the surface. Final decision on whether temporary restoration or permanent measure to repair the runway to be adopted was pending (March 2013) with AFS authorities.

The reply given by the CE is not acceptable since the resurfaced runway at the station had shown degradation of surface immediately after completion of the resurfacing work. The subsequent change in the design involving an additional expenditure of ₹5.06 crore also did not prove effective and the degraded runway was yet (March 2013) to be made good.

## AFS Bareilly

Resurfacing of the runway at AFS Bareilly was carried out in March 2007 under Para 11 of DWP-1986[24] at a cost of ₹35.94 crore. Two squadrons of 'X' aircraft existed at the station but the deteriorating runway surface was a risk for operating these Foreign Object Damage (FOD)[25] aircraft. The runway surface started showing deterioration within three years of resurfacing. This was observed (April 2010) by the Staff authorities as indicative of deviation from the design gradation at the time of execution of the work. A BOO, recommended (September 2011) work services for provision of Dense Asphalt Concrete (DAC) on existing surface at a cost of ₹8 crore.

We observed (May 2012) from the report on runway at AFS Bareilly submitted (August 2011) by CE (AF) Allahabad that the resurfaced runway surface had deteriorated prematurely and the runway surface was a risk for operating the aircraft of the two squadrons.

In reply to our audit observation (May 2012) regarding premature deterioration of the runway, AFS Bareilly stated (July 2012) that the Bareilly

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[24] Para 11 of DWP – 1986 – Any local Commander may order the commencement of works in unexpected circumstances arising from unforeseen operational necessity or urgent medical grounds, natural disasters which make it imperative to short-circuit normal procedure and when reference to appropriate CFA would entail dangerous delay.

[25] Foreign object damage (FOD) is any damage attributed to a foreign object. FOD is an acronym often used in aviation to describe the damage done to aircraft by foreign objects.

Station is situated at the foot hills of the Himalayas in Western UP and the climatic condition like heavy rainfall and hot weather condition could have resulted in deterioration of runway before its prescribed life.

The reply is, however, not acceptable as the runway had shown degradation within three years of resurfacing executed at site as was observed by the staff/engineer authorities. Further in view of the stated climatic condition, adequate safeguards should have been provided in the contract with regard to quality of work and maintenance thereof.

In response to further audit follow up (September 2013), the AFS Bareilly stated (November 2013) that work services for provision of DAC layer over the existing runway sanctioned (October 2012) at a cost of ₹14.88 crore was released by Air HQ and the work had commenced in October 2013.

Thus, the runway would also be unavailable for the normal sorties during the period of repair.

## AFS Halwara

Based on the recommendations of a BOO (September 2008), Ministry accorded (March 2010) AA for extension of runway at an estimated cost of ₹98.78 crore. The work was due for completion in March 2012. The CE (AF) concluded two contracts (August 2010 and September 2011) for Runway resurfacing and construction of underground Air Traffic Controller and Runway Controller huts at a cost of ₹89.72 crore and ₹1.96 crore respectively. While the work was in progress, the resurfacing work failed prematurely (March 2011) due to deviations from the design prescribed by the E-in-C's branch in May 2009. The defective work was inspected in July 2011 by E-in-C's branch who directed the CE to adopt either the revised design of July 2011 or the original design of May 2009. Garrison Engineer (GE), however, recommended (August 2011) adoption of design of May 2009 with additional financial implication of ₹1.02 crore.

We observed (October 2012) from the observations made after inspection of the runway resurfacing work by GE (I) P (AF) Halwara (14$^{th}$ September 2011), that the average thickness of flexible portion was 168 mm as against the desired thickness of 205 mm and that of Dry Lean Concrete (DLC) was

120 mm against the desirable 150 mm resulting in loss of ₹3.74 crore. The report, however, was withdrawn on 26th September 2011 at the behest of CE (AF) Palam (16th September 2011) stating that the inspecting officer's role was advisory in nature and no executive powers were vested under CE orders (August 2011). Thereafter, CE, Western Command, Chandimandir ordered (March 2012) to convene a Technical Board to investigate all matters related to quality of work, thickness of various portions of runway. Complete checking of the runway work was also carried out by SEMT in September 2012.

In reply to the audit observation (October 2012), Chief Engineer (WAC) Palam stated (November 2012) that most of the defects have been rectified by the contractor and the rectification was being done at contractor's cost. CE further stated that the reports of the Technical Board as well as SEMT were awaited (November 2012).

The reply is, however, not acceptable as it is silent on our observation relating to poor workmanship and on the recommendation of investigations carried out by SEMT and Technical Board and action taken thereof.

The fact remains that the required thickness of runway resurfacing was deficient and the design prescribed by E-in-C's Branch in May 2009 was not adopted immediately on commencement of work in December 2010 and was adopted only in August 2011 by the GE, which not only resulted in loss of ₹3.74 crore but also rendered the runway unavailable for flying.

## AFS Bamrauli

The necessity for resurfacing of runway and aircraft operating surface/pavement at AF Station Bamrauli was accepted by Ministry and work was sanctioned (March 2010) for ₹61.12 crore to be completed in 24 months. CE (AF) Allahabad concluded a contract (September 2010) for execution of the work at a cost of ₹48.01 crore with PDC as October 2011.

We observed (August 2012) from the Tour Notes (February 2012) of visit by the Additional Director General Technical Examination (ADGTE) (Engineer-in-Chief's Branch) to AFS Bamrauli that the work was sublet by the contractor and the quality of the resurfacing work on the runway and taxi tracks was

found to be defective since the Pavement Quality Concrete (PQC) was not as per the contract specifications.

In reply to the audit observation (August 2012), CE (AF) Allahabad stated (June 2013) that the matter regarding subletting of the contract was under examination and that the defect rectification work was in progress.

The reply is however not acceptable as the stated corrective action in itself is indicative of the fact that there was negligence in supervision of the work by the MES in view of deviations from the contract specifications and subletting of the contract.

### 3.5.6.2 Construction of Blast pens

Blast Pens are required for housing aircraft and protecting them against enemy attack. We observed (September 2012) that while the suitable blast pens for 'X' aircraft were not available at AFS Bareilly, the blast pens were constructed at AFS Nal under Para 11 of DWP to meet the operational requirement. The blast pens so constructed at Nal could not be operationalised due to defects in construction. Details are given below:-

**AFS Nal**

Four Standard Size 'X' aircraft Blast pens and connecting loop Taxi Track[26] at AF Station Nal were sanctioned by the Station Commander, AFS Nal under Para 11 of DWP-1986 in February 2003 for ₹24 crore. The work was completed (September 2005) at a cost of ₹16.55 crore, by Military Engineer Authorities but immediately thereafter defects were noticed by the BOO in the connecting dragon loop[27] and lance tarmac[28] constructed simultaneously under this contract. The matter was taken up by AFS Nal with MES in October 2005 following which the CE Palam (CE) directed the GE (AF) Nal for early rectification of the defects. In response, 55 slabs were recast/ repaired in December 2005. CE deputed (November 2005) an inspecting officer to carry out inspection of the newly constructed blast pens and connecting services.

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[26] Taxi track (taxi way) is a path on an airport connecting runways with ramps, hangars, terminals and other facilities.

[27] Connecting the Aircraft Parking Area with the Blast Pens

[28] Parking Area of Aircraft

Based on the report (December 2005) of the inspecting officer, CE had opined (December 2005) that the cracks were limited to relatively small number of slabs and rectification work was already being attended to by the concerned executives and would be completed by January 2006. The pavement was accordingly declared (December 2005) fit for use and the surface was taken over for operational use then.

We observed (September 2012) that in August 2008, HQ Western Air Command (WAC) had ordered a Court of Inquiry (COI) at AFS Nal to inquire into the circumstances under which deterioration of recently constructed dragon loop and lance tarmac took place. COI assembled in February 2009, had confirmed the faults. Subsequently, COI reassembled in April 2010 and opined that the inspecting officer be questioned with regard to the basis on which the inspecting officer had declared (December 2005) the pavement fit for use. Even though COI was yet (September 2012) to be finalized, HQ WAC directed (April 2011) CE (AF) WAC Palam to take suitable action against Military Engineering Services (MES) personnel and rectify the defective work at the cost of the defaulting contractor. However, we observed (September 2012) from the proceedings of BOO (April 2009) that the resurfacing of dragon loop and lance tarmac was projected in the work subsequently sanctioned (May 2011) for resurfacing of runway and aircraft operating areas at AFS Nal.

In response to our audit observation (September 2012) regarding deterioration of dragon loop and lance tarmac, AFS Nal stated (September 2012) that the deteriorated portion as observed during handing/ taking over stage (December 2005) were rectified by the contractor at his own cost.

The reply is, however, not correct as subsequent to handing and taking over (December 2005) of assets between MES and AFS Nal, based on the investigations carried out (February 2009 and April 2010) by COI, HQ WAC had ordered (April 2011) rectification of defects at risk and cost of the defaulting contractor.

In response to further follow up (November 2013) by audit, CE (AF) WAC Palam stated (December 2013) that work relating to provision of resurfacing

of runway and aircraft operating areas at AF station Nal had been completed (April 2013).

The fact remains that blast pens constructed in 2005 at a cost of ₹16.55 crore could not be operationalised as the connecting dragon loop to these blast pens constructed simultaneously were not functional due to being defective till the repair work got completed in April 2013.

## AFS Bareilly

The existing 35 blast pens at AF Station Bareilly were smaller in size and were thus unsuitable for undertaking special operations of 'X' aircraft. Therefore, it was proposed by AFS Bareilly to construct two RCC double entry blast pens with allied facilities and external services at the station. Accordingly, Air HQ accorded (October 2008) AA for construction of double entry blast pens at an estimated cost of ₹9.84 crore with PDC as October 2010. The work was not taken up for execution as the rates adopted in the AEs by MES were on lower side which were prepared keeping in view the basic plinth area rate for the blast pen which could not adequately cover the realistic cost of pens. CE AF Allahabad submitted (October 2010) a Statement of Case for revision of the sanction to ₹18.53 crore due to anticipated upward revision of cost estimate beyond tolerance limit without change in the scope of work.

We observed (July 2011) that MES had failed to prepare the estimates for construction of two double entry blast pens correctly which resulted in delay in execution of the work and non-availability of blast pens for parking of the aircraft.

In response to our audit observation (July 2011) regarding non-execution of the work services against the sanction of October 2008 and as to where the aircraft were being parked, AFS Bareilly stated (July 2011) that the blast pens were being constructed for safety of aircraft during war and emergency and the aircraft of both the squadrons were being parked in hangers.

During further follow up by audit (November 2012) AFS Bareilly stated (November 2012) that the work services for New Generation Hardened Aircraft Shelter (NGHAS) had been finalised and directions had been issued to Command HQ to project their requirement for the NGHAS and hence issue of administrative approval for the work relating to the two double entry blast pens was not required. AFS Bareilly also intimated that the work with respect to double entry blast pens was foreclosed (May 2012) on the instructions of Air HQ. In response to further audit query (September 2013) on the status of work services for NGHAS, AFS Bareilly stated (November 2013) that the work had been approved by Air HQ in the Annual Major Works Plan (AMWP) 2013-14.

The reply in itself is indicative of the fact that due to non availability of blast pens at the base, aircraft continued to be parked in hangars with less protection (November 2013).

### 3.5.6.3 Airfield Lighting System

Airfield Lighting System (AFLS) is an important operational and flight safety requirement for any aerodrome where flying is imperative at night as well as during poor visibility conditions. AFS Leh undertakes dawn to dusk air maintenance operations by medium and heavy transport aircraft apart from helicopters. Night operations were being carried out by 'Z' and 'W' aircraft in this airfield during moon phase and fighter aircraft were also used from Leh Airfield during activations. In absence of the AFLS, the runway lighting was being achieved by using solar goose neck flares which was time consuming and involved great effort. In view of the continuous requirement of night flying at the base, installation of AFLS was conceived (December 1999) as an operational and flight safety necessity.

Our scrutiny (June 2010) and further follow up (August 2012) at AFS Leh revealed that the BOO for the AFLS was initiated in December 1999 and finalized in June 2003 at a cost of ₹4.39 crore but the sanction for the work was issued only in January 2008 at a cost of ₹6.61 crore. The work was not released (upto August 2012) for execution though AFLS stores worth ₹0.89 crore required for the project were allotted in 2003 and received at AFS Leh in May 2006.

AFS Leh stated (June 2010) that the work was not released for execution and the issuance of fresh AA for the work was pending with Air HQ. It further stated (August 2012) that the project had been closed and included in the project for Modern Air Field Infrastructure (MAFI)[29] Phase II which would be taken up for sanction after work on 30 airfields in Phase-I was completed. The stores costing ₹0.89 crore received for the project were therefore allotted (September 2009 to January 2010) to other Air Force units and no expenditure had been incurred on the project.

However, the fact remains that despite a lapse of 13 years since initiation of requirement for the work, AFS Leh was yet (August 2012) to be equipped with a proper lighting system which had imposed limitations on night flying thereby impacting operational preparedness of the base.

### 3.5.6.4 Conclusion

We observed that there were delays in sanctioning of works at two stations. Runways at three stations were not fit for operation of fighter aircrafts. Runway at one Station was also prone to damage due to floods during summer for which a proper drainage system although sanctioned as an operational work has not come up at the station despite delay of seven years. At another station, operation of aircraft was risky due to FOD problems and non-availability of Blast Pens for parking of aircrafts. There were cases of delays in sanction and execution of works especially due to change of design sought after sanction for works. In most of the cases, the work executed by the contractors was of substandard quality while supervision done by MES was also poor. The Blast pens constructed in 2005 at a station could not be operationalised due to defective construction of connecting dragon loop.

### 3.5.6.5 Recommendations

- In order to avoid time and cost overruns, user requirements should be spelt out clearly prior to convening of BOO to avoid frequent changes in design after sanction and during execution of works.

[29] MAFI is a project under which various facilities including new generation Air field Lighting System are to be installed at the various airfields.

- Effective and technical supervision and onsite monitoring of runway resurfacing projects may be ensured by E-in-C's branch for timely completion and execution of quality work.

- E-in-C's Branch should ensure that the designs for runway resurfacing are varied as per the geographical location of the Station. The designs made by them should contain a certificate to this effect.

- Sanctioning authority should ensure that time frame prescribed in rules/manuals is observed for effective planning, co-ordination and execution of the projects.

- IAF may also carry out timely impact evaluation of the existing airfield infrastructure to ensure that operational preparedness is not adversely affected.

The draft paragraph was issued to the Ministry in July 2013; their reply was awaited (December 2013).

## 3.6 Blocking of funds due to improper planning and execution of work

**Deficient planning and execution of work delayed the re-routing of electrical lines. As a result, the work was no longer required by Air Force which led to blocking of funds of ₹6.14 crore.**

Military Engineer Services (MES) Regulation stipulates that when the necessity for a project has been accepted, a siting board will be convened to draw up a detailed lay out plan and prepare an approximate estimate of the cost. If the proposed site encroaches or in any way affects the civil department roads, lands or interests, the sanctioning authority should obtain the consent of the authority concerned. The concurrence of all departments will be obtained during all stages of the proposal and will be eventually recorded in writing upon the final layout plan. In contravention of these provisions, Air Headquarters (Air HQ) sanctioned (April 2005) a work without obtaining

necessary consent from other entities[30] that led to blocking of funds amounting to ₹6.14 crore with a State Electricity Board as discussed below:

Air Force Station, Thanjavur started functioning from March 1990. Two concrete runways of 1942 vintage exist at this airfield. A survey was carried out around the airfield in 2003 with an objective to stage combat aircraft squadron operations at the station and to improve aerial connectivity of this area. The survey indicated that three EHT/HT/LT[31] lines were passing through the approach of runway which were considered as an obstruction to the safe operations of the aircraft. In September 2003, a Board of Officers (Board) recommended re-routing the overhead EHT/HT/LT lines on priority at an estimated cost of ₹3.67 crore as furnished by the Tamilnadu Electricity Board (TNEB).

The Board proceedings were sent to Air HQ by HQ Southern Air Command (SAC) in November 2003. As per the Board proceedings, the RDO[32] and the Tahsildar, Thanjavur had committed to the TNEB authorities that they would obtain a No Objection Certificate (NOC) from the land owners and would also ensure that the villagers would not take legal option and that as and when required, TNEB would apply its conditions and file required caveats. Assurance was also given as per the stated Board Proceedings by Tahsildar, Thanjavur to the TNEB that the Tahsildar and the RDO would sort out disputes, if any.

We observed (July 2009) in Audit that Air Headquarters (Air HQ) accorded an Administrative Approval (AA) in April 2005 at a total cost of ₹3.67 crore after a lapse of 17 months. IAF authorities attributed the delay in according AA to various agencies who were involved in finalizing the work. As a result of delay in according AA, TNEB revised (August 2005) the estimates to ₹4.37 crore based on 2005-06 rates. Accordingly, the revised AA of ₹4.37 crore was issued (June 2006) by Air HQ and the work was released for execution (June 2006) to TNEB as a Deposit Work. Although an advance payment of ₹0.43 crore to TNEB was released (January 2006), TNEB,

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30 Other entities : TNEB, State Government (RDO and Tahsildar)
31 High Tension Poles and Cables
32 RDO – Revenue Divisional Officer

however, did not commence the work and insisted for release of the full amount and accordingly full amount of ₹4.37 crore was deposited by MES in October 2006. Subsequently, the AA was further revised (February 2008) by Air HQ to ₹6.14 crore based on 2007-08 rates (May 2007) and the balance amount was paid by the MES to TNEB (March 2008). TNEB commenced the work in March 2008. However, it was noticed that the work did not progress due to litigation between land owners and the TNEB as the local villagers resisted laying of the pilons on their land and thereafter obtained a stay order from the court.

On the matter regarding inordinate delay in completion of the project being pointed out in Audit (March 2013), HQ SAC stated (June 2013) that Command Works Officer, HQ SAC had requested (November 2012) Chief Engineer (AF) Bangalore to study the contract agreement with the TNEB for the cancellation of work on the ground of inordinate delay and intimate the legal action for taking up the refund of the deposited amount. HQ SAC further added that the CE AF had asked (January 2013) the GE Thanjavur to forward the details of work executed by the TNEB along with details of expenditure incurred item wise.

We further observed (May 2013) that the final decision on closure of work had not been taken (May 2013) resulting in blocking of funds amounting to ₹6.14 crore with TNEB since March 2008.

HQ SAC in its reply stated (June 2013) that the TNEB had not filed any appeal to get the stay vacated despite instructions by the District Collector to pursue the case for early vacation of the stay order.

The reply lacks justification as it is silent on compliance of terms of the MES Regulation, whereby IAF/MES being the sanctioning authority are required to obtain the consent of the District Revenue Authorities in respect of obtaining the NOC by them from the land owners and record the same in writing on the final layout plan. Further, IAF/MES also failed to ascertain before release of funds to the TNEB whether the requisite NOC had been obtained by the District Revenue Authorities from the land owners.

We also noticed (June 2013) that as per the conditions stipulated in the AA of April 2005, an agreement was to be signed between the TNEB and MES besides signing of an "Indemnity Bond" by the TNEB. However, the TNEB had refused (December 2006) to sign either the Indemnity Bond or the agreement on the ground that normally only an undertaking is obtained from all the Government organizations/Private/Public Sectors whenever works are carried out on DCW[33] basis. The reasons given by the TNEB were accepted by the IAF/MES even though non-signing of the agreement/non-execution of Indemnity Bond was in contravention of the provisions in the AA.

Thus, deficient planning and execution of work on the part of IAF/MES resulted in blocking of funds amounting to ₹6.14 crore from the year 2008.

The draft paragraph was issued to the Ministry in June 2013; their reply was awaited (December 2013).

## Miscellaneous

### 3.7 Avoidable payment of Income Tax

**Failure to obtain income tax exemption certificate/notification resulted in avoidable payment of income tax of ₹69.40 crore.**

Ministry concluded (July 2010) a contract with HAL for manufacture and supply of 40 additional AJT aircraft for Indian Air Force (IAF) under licence agreement at a cost of ₹6460 crore with a delivery schedule of 72 months (i.e. up to July 2016). The contract with M/s Hindustan Aeronautics Limited (HAL) stipulated that all statutory taxes, duties or levies, if payable, shall be paid as per actual by the buyer. However, the buyer can produce necessary exemption certificate to avail concessional duties.

[33] Deposit Contribution Works

During scrutiny of contract, we observed (December 2012) that non compliance of the provision of the contract resulted in avoidable payment of income tax of ₹69.40 crore as discussed below:

For the manufacture of the additional aircraft, the respective OEMs[34] of aircraft and aero-engine charged licence fee and royalty amounting to ₹231.30 crore. HAL in turn charged licence fee and royalty from IAF amounting to ₹300.70 crore which was inclusive of 30 *per cent* (₹69.40 crore) towards income tax liability. Out of ₹69.40 crore paid to HAL towards income tax liability of OEMs, HAL charged ₹55 crore and ₹14.4 crore as income tax on account of licence fee and royalty respectively.

We observed (December 2012) that the IAF/ Ministry had deliberated the aspect of waiving off the income tax on licence fee and royalty for manufacture of additional aircraft in its internal CNC[35] meeting held in November 2008. However, the issue of availing of income tax exemption was neither raised by the Ministry/IAF during negotiation with HAL held on 30 April 2009 nor was such income tax exemption sought by IAF from the Ministry of Finance (MoF) despite existence of such a provision in the contract specifying that the buyer could produce exemption certificate to avail concessional duties on statutory taxes.

On the issue of non-availing of income tax concessional duties being pointed out by Audit (December 2012), Air HQ stated (January 2013) that since HAL had intimated that the contract price of licence fee and royalty was inclusive of income tax, the exemption of income tax was not sought by HAL.

Reply furnished by Air HQ is not acceptable as the responsibility for obtaining income tax exemption certificate rests with the IAF/Ministry as per the provision of the contract of 2010 and not with HAL. Reply given by Air HQ is not acceptable since IAF had obtained on earlier occasion (October 2009) income tax exemption certificates in similar cases from the MoF Central

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[34] Original Equipment Manufacturers (OEMs) = M/s. British Aerospace (aircraft) and M/s Rolls Royce(aero-engine)

[35] Contract Negotiation Committee

Board of Direct Taxes (CBDT) for payment of licence fee and royalty towards direct supplies contracts concluded in March 2004 and in a contract (February 2005) dealing with the licence production of 42 AJT and 51 aero-engines in September 2005.

Thus, failure to avail of income tax exemption notification/certificate by Ministry/IAF resulted in avoidable payment of ₹69.40 crore to HAL on account of income tax on payment of licence fee and royalty to the OEM.

The draft paragraph was issued to the Ministry in June 2013; their reply was awaited (December 2013).

## 3.8 Allotment of office space to a private organisation

**Allotment of office space to a private organization in DRDO premises without charging licence fee led to a revenue loss of ₹5.67 crore to the state.**

Centre for Study of Science, Technology and Policy (CSTEP) is a private organization recognized by DSIR[36] as Scientific & Industrial Research Organization. CSTEP made a request to the Defence Research and Development Organization (DRDO) HQ for allotment of office space at CAIR Old Tech building of DRDO at Bangalore. Based on their request, Estate Management Unit (EMU), DRDO Bangalore recommended (July 2009) to DRDO HQ for allotment of ground floor office space (10,825 sq. feet) to CSTEP for a period of three years *w.e.f.* 01 September 2009 without charging licence fee as the CSTEP had worked with the DRDO laboratories on several projects of strategic nature. DRDO HQ accepted the recommendation and accorded sanction (July 2009) for allotment of office space to CSTEP for a period of three years (i.e. up to August 2012) without charging any licence fee for carrying out scientific and industrial research activities in association with DRDO. Even though the allotment was till August 2012, CSTEP has not vacated the office space so far (November 2013).

[36] DSIR= Department of Scientific and Industrial Research

We observed that CSTEP had been occupying the office space from October 2007 even before the formal request was made. We further observed that there was no extant rule which permitted allotment of Government accommodation to a private organization without levy of any licence fee and we worked out an amount of ₹3.56 crore as rental value based on the rate prevailing in the area on account of licence fee (i.e. from October 2007 to December 2011). On being pointed out (June 2012) by Audit, DRDO HQ initially approached (July 2012) CSTEP for payment of licence fee of ₹3.56 crore as worked out by audit. However, DRDO HQ subsequently defended (February 2013) their action on the ground that the CSTEP had worked with the DRDO laboratories on several projects of strategic nature and of national importance for the benefit of DRDO.

The reply of DRDO (HQ) is, however, not acceptable as DRDO itself had approached (July 2012) the CSTEP for payment of licence fee. We also noticed (November 2013) that the action initiated by the DRDO in January/August 2013 for vacation of the office space and clearance of outstanding dues from the CSTEP itself indicated that the allotment without charging of licence fee was not in order.

We referred (June 2013) the matter to the Ministry, *inter alia*, updating the revenue loss to the State due to irregular occupation to ₹5 crore since occupation of the premises by the CSTEP till May 2013.

Accepting the facts, the Ministry stated (November 2013) that CSTEP had represented to the Raksha Mantri (RM) for allowing the licence fee free accommodation and exemption/waiver from the payment of licence fee on the ground that it is a wholly charitable institution and working in research activities in close liaison with the DRDO. The Ministry further added that the RM had called for a report/comments from the DRDO HQ on the representation given by the CSTEP and the same is yet to be finalized as information is being ascertained by the DRDO from the DGDE for such other Societies having their offices on defence land and paying lease rent/licence fee.

Ministry's reply is however silent on the regularity of allotment of licence fee free premises. Further an amount of ₹5.67 crore was still to be recovered from CSTEP due to irregular occupation till date (December 2013).

## 3.9 Loss due to less recovery of interest

**Lapse on the part of CDA, Air Force resulted in loss of interest to the Government of ₹0.95 crore.**

The Controller of Defence Accounts, Air Force (CDA AF), New Delhi is responsible for the release of 'on account payments' on time to different organizations and is required to watch their utilization and remittance of unspent balances and interest earned thereon by the latter.

Ministry of Defence (Ministry) accorded (31 March 2008) a sanction for 'on account payment' of ₹104.44 crore to M/s. Bharat Electronics Limited (BEL), Ghaziabad against committed liabilities of ongoing schemes for 2008-09, which was to be adjusted against stage payments due, as per physically achieved milestones, against contracts signed till March 2008. Thereafter, BEL was to submit a statement of interest due to the Government at the actual rate of interest earned by them on the investment for the year 2008-09 to CDA AF for rendition of Audit Report of CDA AF New Delhi. On approval of the Audit Report, the amount was to be deposited as Government receipt.

The entire payment of ₹104.44 crore made to BEL in March 2008 was adjusted against stage payments by 18 September 2008. BEL submitted the interest calculation statement to CDA AF in September 2009 after a delay of one year for vetting and confirmation which showed interest earned @9.55 *per cent* amounting to ₹3.55 crore on the investment from 31 March 2008 to 18 September 2008. However, no confirmation regarding interest so calculated, was received from CDA AF despite reminders by BEL. Pending confirmation, BEL deposited (26 May 2011) the sum of ₹3.55 crore into Government account, which was encashed by the CDA AF on 28 June 2011.

We pointed out during Audit scrutiny (December 2011) the delay in depositing of interest due upto May 2011 to CDA AF, as also the recovery due

amounting to ₹0.95 crore from BEL on account of delayed payment of interest. CDA AF stated in reply (February 2012) that BEL had been requested to calculate the interest upto June 2011 and recovery thereof would be intimated to Audit.

Thereafter, CDA AF requested (July 2012) the Air HQ to take up the matter with BEL for depositing ₹0.95 crore on account of delayed payment of interest. However, the Air HQ intimated (August 2012) the CDA AF that the delay in the remittance of interest by BEL was because the CDA AF did not provide timely confirmation and that during the intervening period, BEL had kept the amount in its current account, earning no interest thereon. Hence, it would not be in order to impose further interest on BEL.

The matter was referred to the Ministry in February 2013. In their reply (August 2013), the Ministry acknowledged the loss of interest to the Government of ₹0.95 crore and attributed the loss to lack of communication between the agencies involved which according to the Ministry should necessarily be avoided. The Ministry thus added that to avoid any recurrence of such communication gap in future, necessary directions would be issued to CDAs.

Ministry's reply is however silent on fixing of responsibility for the lapse. Further, relevant instructions from Ministry were awaited (December 2013).

## 3.10 Recoveries at the instance of Audit

**Recoveries to the tune of ₹0.70 crore were effected at the instance of Audit.**

During the course of audit, instances of financial irregularities were noticed in different units and establishment. Acting upon the advice of audit, the auditee initiated necessary action resulting in recovery of ₹0.70 crore in three cases. Each case is discussed below:

### Case I: Recovery of irregular payment of Compensatory Field Area Allowance

Ministry of Defence (Ministry) Orders of January 1994 stipulate that personnel serving in field area and modified field area are eligible for the grant of Compensatory Field Area Allowance (CFAA) and Compensatory Modified Field Area Allowance (CMFAA) respectively on the conditions specified in the Order. As per the Orders, personnel of Defence Security Corps (DSC) employed with Air Force units, are entitled for these allowances only if the Air Force personnel of these units are eligible for grant of these allowances.

We, however, noticed (September 2010) that DSC personnel employed with 46 Wing, Air Force had been authorized payment of CMFAA since 1 August 2007 although Air Force personnel posted at the Wing were not eligible for grant of these concessions. This resulted in irregular payment of ₹33 lakh between August 2007 and March 2011. On being pointed out in Audit, the PAO DSC recovered an amount of ₹29.50 lakh (October 2013) and informed (November 2013) us that the remaining amount would also be recovered.

**Case II: Recovery on account of irregular grant of City Compensatory Allowance**

In accordance with the rules prescribed for the grant of City Compensatory Allowance (CCA), the Government of India, Ministry of Defence in May 2005 authorised payment of CCA to Defence Civilians posted at 24 Equipment Depot (ED), Manauri located within 8 Kms. from the periphery of Municipal limits of Allahabad at the rates applicable to those working at Allahabad, for a period of three years with effect from 1 January, 2005. As per the CCA rules, the staff concerned have to reside within the qualified city out of necessity, that is, for want of accommodation nearer to their place of duty.

We, however, noticed (November 2007) that IAF sanctioned the payment of CCA to Air Force officers/Personnel Below Officer Ranks (PBORs) posted at 24 ED on the authority of above Government sanction applicable to Defence Civilians even though these officers and PBORs did not reside in the city and were provided accommodation at the ED.

On being pointed out in Audit (August 2008) about the irregular payment of ₹18.85 lakh to Air Force officers /PBORs during the period from 2005 to 2008, Ministry, while accepting the irregularity stated (April 2010) that the instructions were being issued to Air Headquarters (Air HQ) for recovery of irregularly paid amount. However, Air HQ took up the case with the Ministry (Pay/Service) in April 2011 for consideration of the case and impressed upon the Ministry of Finance (MoF), Department of Expenditure to admit the irregular payments and drop the draft para. The MoF and the Ministry had ruled (March 2012) the admissibility of CCA to Air Warrior of 24 ED as unauthorized and insisted for immediate recovery. Accordingly, Air Force Central Account Office (AFCAO) informed (July 2012) Audit that an amount of ₹1.02 lakh was recovered from the serving officers in June 2012 and an amount of ₹0.21 lakh was noted for recovery from NE[37] Officers to whom the same had been paid irregularly between January 2005 and August 2008. The AFCAO further added that recovery of an amount of ₹28.27 lakh paid during the same period to the airmen would be initiated on receipt of the authority from Air HQ.

In consultation with the MoF (Department of Expenditure), the Ministry, in August 2013, again instructed Air HQ to recover the irregular payment of CCA made to Air Warrior.

Thus, the total recovery of ₹29.50 lakh has been admitted by AF authorities for recovery at the instance of audit.

### Case III: Recovery of liquidated damages

Headquarters Western Air Command (HQ WAC) placed (April 2008) a Supply Order (SO) for the development of an Air Operation System (AOS) on M/s NIIT Technologies Ltd, New Delhi (NIIT) at a cost of ₹1.48 crore. As per terms and conditions of supply order if the supplier fails to complete the AOS development and implementation within 10 months, the supplier shall pay to the customer Liquidated Damages (LD) at the rate of 0.5 *per cent* of the value of SO for each complete week or part thereof for delay upto a maximum of 10 p*er cent* of the value of the supply order.

[37] NE = Non effective personnel

Development of AOS software could not be completed in time despite extension of time granted thrice upto October 2010. Thus, an amount of ₹14.83 lakh (10 per cent of ₹1.48 crore) was to be recovered from NIIT on account of LD at the time of release of payment by the HQ WAC. However, IFA WAC recommended (August 2010) to HQ WAC for recovery of LD upto a maximum of 5 *per cent (*₹7.41 lakh) instead of 10 *per cent* while concurring release of second phase payment on the plea that the DPM 2006 was in force at the time of placement of SO in April 2008. Accordingly, while releasing payment against Phase II and III, an amount of ₹3.71 lakh (i.e. 5 *per cent*) was recovered by HQ WAC.

On being pointed out in audit (September 2011) that SO stipulated LD upto a maximum of 10 *per cent,* HQ WAC intimated audit (December 2011) that the development of AOS had been completed and deduction of LD upto a maximum of 10 *per cent* was concurred by the IFA and approved by the CFA. Finally, the balance amount of LD amounting to ₹11.12 lakh[38] was recovered from the payment made to the firm in March 2012. Thus, out of a total amount of ₹14.83 lakh recovered from the firm on account of LD, ₹7.41 lakh was recovered at the instance of Audit.

The draft paragraph was issued to the Ministry in May 2013; their reply was awaited (December 2013).

[38] ₹11.12 lakh = (₹14.83 Lakh - ₹3.71 lakh)