

**Report of the  
Comptroller and Auditor General of India**

**for the year ended March 2011**

**Union Government  
(Defence Services) Army and Ordnance Factories  
Report No. 16 of the year 2012-13  
(Compliance Audit)**

## CONTENTS

<b>Paragraph</b>		<b>Page</b>
	Preface	v
	Overview	vii
<b>CHAPTER I – INTRODUCTION</b>		
1.1	Foreword	1
1.2	Audited entity profile	1
1.3	Integrated Financial Advice and Control	2
1.4	Authority for audit	2
1.5	Planning and conduct of audit	3
1.6	Significant audit observations	3
1.7	Persistent irregularities in Defence Estates management	5
1.8	Response of the Ministry/ Department to Draft Audit Paragraphs	5
1.9	Action Taken on earlier Audit Paragraphs	5
1.10	Financial Aspects/ Budgetary Management	6
1.11	Analysis of Revenue Expenditure of Army (Voted)	7
1.12	Analysis of Revenue Expenditure of Ordnance Factories	8
1.13	Analysis of Capital Expenditure of Sub-Major Head-01-Army out of the Grant on Capital Outlay on Defence Services (Voted)	9
1.14	Capital expenditure (Voted) of Ordnance Factories and DRDO	9
1.15	Rush of expenditure in the last quarter and March of the financial year	10
<b>CHAPTER II – MINISTRY OF DEFENCE</b>		
2.1	Loss of revenue on renewal of lease of Government land	11
2.2	Illegal sale of Defence land	13
2.3	Loss due to non-levy of licence fee on vehicles entering Cantonment Board Ahmednagar	15
2.4	Excess payment on account of exchange rate variation (ERV)	16

2.5	Loss of indigenously designed/manufactured ammunition	17
2.6	Overpayment to Cantonment Board Danapur	19
2.7	Unauthorised construction of hotels on Old Grant sites/leased Defence land	20
<b>CHAPTER III – ARMY</b>		
3.1	Unauthorised use of defence assets and manpower for the benefit of Army Welfare Education Society	23
3.2	Unfruitful expenditure on development of Modular Charge System for field guns	25
3.3	Failure of HQ Southern Command to safeguard Defence land from commercial exploitation	26
3.4	Overpayment of conservancy charges to Cantonment Board Pune	28
3.5	Projection of inflated requirement of ammunition	29
3.6	Extra expenditure due to non-acceptance of reasonable L1 rates	31
3.7	Recoveries, savings and adjustment in accounts at the instance of Audit	34
<b>CHAPTER IV – WORKS AND MILITARY ENGINEER SERVICES</b>		
4.1	Overpayment of water charges by the Garrison Engineer Kamptee	36
4.2	Excess payment of water charges by Garrison Engineer Hisar	37
4.3	Construction of sub-standard bunkers	38
4.4	Extra payment to a Contractor	40
<b>CHAPTER V – BORDER ROADS ORGANISATION</b>		
5.1	Avoidable extra expenditure due to non-acceptance of lowest tenders	42
5.2	Undue benefit to a supplier	44
<b>CHAPTER VI: DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION</b>		
6.1	Avoidable extra expenditure in procurement of stores	46
6.2	Unfruitful investment by Defence Research and Development Organisation	47

6.3	Irregularities in sanction of Defence Research Development Organisation projects	48
<b>CHAPTER VII – PROJECT MANAGEMENT IN RESEARCH AND DEVELOPMENT ESTABLISHMENT (ENGINEERS)</b>		
7	Project Management in Research and Development Establishment (Engineers)	54
<b>CHAPTER VIII – ORDNANCE FACTORY ORGANISATION</b>		
8.1	General performance of Ordnance Factory Organisation	68
8.2	Delay in production and issue of rockets for Pinaka Rocket Launcher System by Ordnance Factories	80
8.3	Production of new generation vehicles in Vehicle Factory Jabalpur	90
	<b>Procurement of Machinery</b>	
8.4	Non-commissioning of a costly machine	96
8.5	Defective manufacture leading to unserviceability of ammunition	97
8.6	Loss due to manufacture of detonators with vintage components	99
	<b>Miscellaneous</b>	
8.7	Issue of rejected items to the indentors by Ordnance Factories	101
8.8	Recovery/savings at the instance of Audit	102
	<b>Annexure-IA</b>	105
	<b>Annexure-IB</b>	111
	<b>Annexure-IC</b>	112
	<b>Annexure-II</b>	113
	<b>Annexure-III</b>	114
	<b>Annexure-IV</b>	115
	<b>Annexure-V</b>	116

## **PREFACE**

This Report for the year ended March 2011 has been prepared for submission to the President of India under Article 151 of the Constitution for being tabled in Parliament. It relates to matters arising from the test audit of the financial transactions of Ministry of Defence pertaining to Army, Ordnance Factories, Department of Defence, Department of Defence Production, Defence Research and Development Organisation, Border Roads Organisation and Military Engineer Services. The matters arising from the Finance and Appropriation Accounts of the Defence Services for 2010-11 have been included in Audit Report No. 1 of the year 2011-12.

The Report includes 32 Paragraphs, reporting important audit observations as discussed from Chapter II onwards.

The cases mentioned in this Report are among those which came to notice in the course of audit for the period 2010-11. Matters relating to earlier years which could not be included in the previous Reports and matters relating to the period subsequent to 2010-11, wherever considered necessary have also been included.

## OVERVIEW

### **Loss of indigenously designed/manufactured ammunition**

Large quantity of indigenously designed and manufactured ammunition valuing ₹ 408.06 crore was declared unserviceable without thorough investigation and analysis to determine the causes of failure. This resulted in import of ammunition costing ₹ 278.88 crore.

*(Paragraph 2.5)*

### **Irregularities in sanction of Defence Research Development Organisation projects**

Audit scrutiny of Project sanctions issued by the Defence Research and Development Organisation revealed procedural irregularities relating to non-communication of sanctions to Audit, non-maintenance of database of sanctions issued, misleading nomenclature of sanction issuing authority, splitting of sanctions to bring them within the delegated powers, etc. leading to lack of transparency and objectivity in functioning of the organisation.

*(Paragraph 6.3)*

### **Project Management in Research and Development Establishment (Engineers)**

Scrutiny of staff projects undertaken by R&DE(E) during the last 15 years revealed that out of 19 closed staff projects, only 3 underwent production, 2 partly achieved the project requirement and the remaining were not accepted by the users. Many of the projects failed as these were taken up without firming up General Staff Qualitative Requirement. Time overrun, development of improper deliverables, etc contributed to project failures.

*(Chapter 7)*

### **Projection of inflated requirement of ammunition**

Despite holding surplus stock, the Ministry of Defence based on the requirements projected by Director General Ordnance Services placed indent on Ordnance Factory Board for supply of ammunition besides 'in principle' approval for their import. Timely intervention by Audit led to cancellation of orders resulting in a saving of ₹ 168.75 crore.

*(Paragraph 3.5)*

### **Illegal sale of Defence land**

Army authorities relinquished the land measuring 5166 sq m and valuing ₹ 5.94 crore under their active occupation since 1942 to a private company based on an irregular NOC issued by DEO Mumbai. The Central Ordnance Depot, Mumbai failed to get the land transferred in its favour from the State Government authorities. Army HQ, instead of investigating and defending its case, allowed the company to go ahead with the development work in the vicinity of military establishments thus compromising with defence security.

*(Paragraph 2.2)*

### **Loss due to non-levy of licence fee on vehicles entering Cantonment Board Ahmednagar**

The injudicious decision of the Principal Director Defence Estates, Pune to withhold the proposal of the Cantonment Board, Ahmednagar for obtaining Government sanction for levy of licence fee in lieu of vehicle entry tax on vehicles entering the Cantonment resulted in a revenue loss of ₹ 4.72 crore.

*(Paragraph 2.3)*

### **Excess payment on account of exchange rate variation**

In a clear departure from the Defence Procurement Procedure 2006, the Ministry adopted incorrect base rate for computing exchange rate variation. This led to extra payment of ₹ 1.47 crore to a Defence Public Sector Undertaking in procurement of an equipment having import content for the Army.

*(Paragraph 2.4)*

### **Unauthorised construction of hotels on Old Grant sites/leased Defence land**

24 Holders of Occupancy Rights and 12 leaseholders converted old grant/lease hold sites granted for residential/shop purposes into hotels at Panchmarhi without prior sanction of the Government. The Defence Estates Officer/Cantonment Board failed to stop such unauthorised use. Similar cases were noticed at Barrackpore Cantonment.

*(Paragraph 2.7)*

### **Unauthorised use of defence assets and manpower for the benefit of Army Welfare Education Society**

In clear non-compliance of orders of October 2000 and October 2001 of the Ministry of Defence, the Army authorities in Pune allowed unauthorised use of Defence buildings by Army Public School and spent ₹ 83.52 lakh on their repairs/renovation. Besides, nine Army officers were irregularly posted to run

professional institutes of the Army Welfare Education Society without recovering an amount of ₹ 1.56 crore relating to their pay and allowances for the period from December 2005 to January 2012 from the Society.

(Paragraph 3.1)

### **Unfruitful expenditure on development of Modular Charge System for field guns**

Defence Research and Development Organisation undertook a Technology Development project for development of modular charge system for 105 mm and 130 mm guns based on projection made by Director General Artillery. However, on completion of the project the DG Artillery expressed disinterest in the technology due to the likely de-induction of these guns from the service leading to unfruitful expenditure of ₹ 13.48 crore incurred on the development of the system.

(Paragraph 3.2)

### **Failure of HQ Southern Command to safeguard Defence land from commercial exploitation**

HQ Southern Command allowed a private builder to divert Defence land for commercial use in violation of Cantonment Land Administrative Rules, the original terms of lease and the Court Orders for reserving the land for married accommodation project by accepting an inferior property in lieu thus compromising the interests of the Army.

(Paragraph 3.3)

### **Extra expenditure due to non-acceptance of reasonable L1 rates**

The imprudent action of the GOC-in-C Western Command to reject reasonable L1 rates for purchase of fresh rations for the troops led to delay in conclusion of contracts involving extra expenditure of ₹ 4.57 crore.

(Paragraph 3.6)

### **Recoveries, savings and adjustment in account at the instance of Audit**

In pursuance of Audit Observations the audited entities recovered overpayments pertaining to pay and allowances, electricity, octroi and sundry charges, cancelled works sanctions and amended annual accounts, having a net effect of ₹ 16.80 crore.

(Paragraph 3.7)

### **Overpayment of water charges by the Garrison Engineer Kamptee**

The Garrison Engineer Kamptee failed to repair/replace defective water meter and paid the bills on the basis of water pumping hours instead of average consumption as laid down in the agreement resulting in overpayment of ₹ 4.70 crore to the Nagpur Municipal Corporation.

*(Paragraph 4.1)*

### **Excess payment of water charges by Garrison Engineer Hisar**

Military Engineer Services paid excess amount of ₹ 12.92 crore to the Haryana Government for drawal of water for Military Station Hisar as it failed to pursue the matter diligently with the State Government for proper categorisation as prevalent in other stations of the state.

*(Paragraph 4.2)*

### **Construction of sub-standard bunkers**

The hasty issue of a satisfactory completion certificate by the Garrison Engineer despite defects repeatedly pointed out by the users and lack of proper supervision by the inspecting officers of the Military Engineer Services resulted in construction of sub-standard bunkers at Sunderbani at a cost of ₹ 7.61 crore. The bunkers continued to remain defective even after three years of their completion.

*(Paragraph 4.3)*

### **Extra payment to a Contractor**

The Chief Engineer Kolkata Zone allowed a contractor to use admixture in concrete, on additional payment basis though the contract had already catered to this requirement, in a work for construction of ammunition sheds resulting in extra contractual payment of ₹ 1.25 crore to the contractor.

*(Paragraph 4.4)*

### **Avoidable extra expenditure due to non-acceptance of lowest tenders**

Border Roads Organisation took an unduly long time in processing two cases for finalising tenders within the validity period of the tenders resulting in retendering and acceptance of higher rates involving additional expenditure of ₹ 3.01 crore on works relating to surfacing/pavement of roads in the Northern Command.

*(Paragraph 5.1)*

### **Undue benefit to a supplier**

The Director General Border Roads waived and refunded liquidated damages imposed on a supplier in violation of Defence Procurement Manual without the approval of the Competent Financial Authority, thereby giving undue benefit of ₹ 2.28 crore to the supplier.

(Paragraph 5.2)

### **Avoidable extra expenditure in procurement of stores**

Defence Metallurgical Research Laboratory Hyderabad refloated tenders for procurement of die blocks and die stack parts even as there was enough scope to finalise the L-1 offer within the validity period. This led to an avoidable extra expenditure of ₹ 4.56 crore.

(Paragraph 6.1)

### **Unfruitful investment by Defence Research and Development Organisation**

The injudicious decision of Defence Research and Development Organisation to invest ₹ 3.25 crore in a Central Research Institute at Kolkata for establishing a facility to manufacture and supply the item to achieve self reliance failed to yield the desired results due to non-operation of the plant. However, the entire requirement of the organisation could have been met by spending just 44 *per cent* (₹ 1.43 crore) of the sum (₹ 3.25 crore) actually spent. The expenditure proved unfruitful for the organisation.

(Paragraph 6.2)

### **Performance of Ordnance Factory Organisation**

The Ordnance Factory Organisation comprising of 39 Ordnance Factories with manpower of 98,914 is engaged in production of arms, ammunition, equipment, clothing *etc.* primarily for the Armed Forces of the country. The value of production aggregated to ₹ 14012.11 crore in 2010-11 which was 18.57 *per cent* higher than the value of production of ₹ 11817.89 crore in 2009-10. During 2010-11, however, there was a shortfall of 35 *per cent* (223 items) in achieving the target.

The total revenue expenditure of Ordnance Factory Organisation has increased from ₹ 10812.10 crore in 2009-10 to ₹ 10903.21 crore during 2010-11. Against the allotment of ₹ 600 crore under the Head "Transfer to Renewal/Replacement Fund", Ordnance Factory Board (OFB) drew only ₹ 207.94 crore from the fund to procure plant and machinery.

The OFB reported an increase of total receipts of ₹ 2414.68 crore (26.60 *per cent*) during 2010-11 over the previous year. However, the total receipt had been inflated by ₹ 2210.48 crore due to incorrect practice of debiting Armed Forces and other indentors for issues without actual physical issue of the items till 31 March 2011. This had enabled OFB to show a surplus of ₹ 587.56 crore during 2010-11. After adjusting the inflated issues of ₹ 2210.48 crore, the actual growth achieved by OFB stood at 2.25 *per cent* as against 29 *per cent* claimed by OFB during 2010-11.

(Paragraph 8.1)

### **Delay in production and issue of rockets for Pinaka Rocket Launcher System by Ordnance Factories**

The project for production of rockets for Pinaka multi-barrel rocket launcher system is way behind the schedule. The quality related problems in a production process resulted in a loss of 407 rockets valuing ₹ 44.51 crore and propellant valuing ₹ 4.25 crore. Repeated failures and stoppage of production of the rockets for a certain period, led to overall delay in operationalisation of the Army units as per induction plan.

(Paragraph 8.2)

### **Production of new generation vehicles in Vehicle Factory Jabalpur**

Vehicle Factory Jabalpur which undertook manufacture of two new generation vehicles based on transfer of technology from M/s Ashok Leyland Ltd. (*Stallion*) and M/s Tata Motors Ltd (LPTA) could achieve in-house manufacture of components/assemblies to the extent of only a meagre 17.46 *per cent* (*Stallion*) and 16.63 *per cent* (LPTA), as against the objective of achieving in-house production target of 59.04 *per cent* (*Stallion*) and 51.58 *per cent* (LPTA). Gross under-utilisation of plant and machinery resulted in trade procurement of components and assemblies aggregating ₹ 498.86 crore during 2008-11.

(Paragraph 8.3)

### **Non-commissioning of a costly machine**

Failure of Heavy Vehicle Factory Avadi to incorporate a specific time schedule for erection and commissioning of a machine imported from Italy, resulted in its non-commissioning, non-accrual of expected annual savings of ₹ 2.96 crore and idle investment of ₹ 20.01 crore.

(Paragraph 8.4)

### **Defective manufacture leading to unserviceability of ammunition**

Ammunition valuing ₹ 6.04 crore manufactured by the Ordnance Factory Khamaria and supplied to the Army during March 2007–November 2008 was declared unserviceable as it caused accidents at the Army Depots/Unit during normal handling.

*(Paragraph 8.5)*

### **Loss due to manufacture of detonators with vintage components**

Ordnance Factory Khamaria manufactured detonators using vintage components supplied by Ammunition Factory Khadki and barium chromate procured from trade, with deviated specifications. It resulted in rejection of detonators costing ₹ 4.64 crore manufactured during January 2008-October 2009.

*(Paragraph 8.6)*

### **Issue of rejected items to the indentors by Ordnance Factories**

Five Ordnance Factories issued sub-standard ammunition valuing ₹ 180.67 crore to the Ministry of Home Affairs, State Police Forces and Central Police Organisations under their self certification in violation of standing instructions meant for ensuring quality controls.

*(Paragraph 8.7)*

## CHAPTER I : INTRODUCTION

### 1.1 Foreword

This Report relates to matters arising from the compliance audit of the financial transactions of the Ministry of Defence and its following organisations:

- Army;
- Inter Service Organisations;
- Defence Research and Development Organisation and its laboratories dedicated primarily to Army and Ordnance Factories;
- Defence Accounts Department; and
- Ordnance Factories.

The report also contains the results of compliance audit of the transactions of the Border Roads Organisation under the Ministry of Road Transport and Highways.

Compliance audit refers to examination of the transactions relating to expenditure, receipts, assets and liabilities of the audited entities to ascertain whether the provisions of the Constitution of India, applicable laws, rules, regulations and various orders and instructions issued by the competent authorities are being complied with.

The primary purpose of the report is to bring to the notice of the legislature important results of audit. Auditing standards require that the materiality level for reporting should be commensurate with the volume and magnitude of transactions. The findings of Audit are expected to enable the Executive to take corrective actions as also frame policies and directives that will lead to improved financial management of the organisations, thus contributing to better governance and improved operational preparedness.

This chapter, in addition to explaining the planning and extent of audit, provides a synopsis of the significant audit observations, followed by a brief analysis of the expenditure of the above organisations. Subsequent chapters present detailed findings and observations arising out of the compliance audit of the Ministry and the aforementioned organisations.

### 1.2 Audited entity profile

Ministry of Defence, at the apex level, frames policies on all defence related matters. It is divided into four departments, namely, Department of Defence, Department of Defence Production, Department of Research and Development and Department of Ex-Servicemen Welfare. Each department is headed by a Secretary. The Defence Secretary who is the Head of the Department of Defence also coordinates the activities of other departments.

Army is primarily responsible for the defence of the country against external aggression and safeguarding the territorial integrity of the nation. It also

renders aid to the civil authorities at the time of natural calamities and internal disturbances. It is, therefore, incumbent upon the Army to suitably equip, modernize and train itself to meet these challenges.

DRDO, through its chain of laboratories, is engaged in research and development, primarily to promote self-reliance in Indian defence sector. It undertakes research and development in areas like aeronautics, armaments, combat vehicles, electronics, instrumentation, engineering systems, missiles, materials, naval systems, advanced computing, simulation and life sciences.

The Inter Service Organisations such as Armed Forces Medical Services, Military Engineer Services (MES), Defence Estates, Quality Assurance, etc. serve the defence forces in the three wings of the Army, Navy and Air Force. They are responsible for development and maintenance of common resources for optimising cost-effective services. They function directly under Ministry of Defence.

Ordnance Factory Board (OFB) functions under the administrative control of the Department of Defence Production and is headed by Director General, Ordnance Factories. 39 factories are responsible for production and supply of ordnance stores to the armed forces.

### **1.3 Integrated Financial Advice and control**

Ministry of Defence and the Services have a full-fledged internal financial control system in place. With fully integrated Finance Division in the Ministry of Defence, the Secretary (Defence Finance) and his/her officers scrutinize all proposals involving expenditure from the Public Fund. Secretary (Defence Finance) is responsible for providing financial advisory services to Ministry of Defence and the Services at all levels, and for treasury control of the defence expenditure.

Being Chief Accounting Officer of the Defence Services, Secretary (Defence Finance) is also responsible for the internal audit and accounting of Defence expenditure. This responsibility is discharged through the Defence Accounts Department with the Controller General of Defence Accounts as its head.

### **1.4 Authority for audit**

The authority for our audit is derived from Articles 149 and 151 of the Constitution of India and the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1971. We conduct audit of Ministries/Departments of the Government of India under Section 13<sup>1</sup> of the CAG's (DPC) Act. Major Cantonment Boards are audited under Section 14<sup>2</sup> of the said Act. Principles and methodology of compliance audit are prescribed in the "Regulations of Audit and Accounts, 2007".

---

<sup>1</sup> Audit of (i) all expenditure from the Consolidated Fund of India (ii) all transactions relating to Contingency Funds and Public Accounts and (iii) all trading, manufacturing, profit & loss accounts & balance-sheet & other subsidiary accounts.

<sup>2</sup> Audit of receipt and expenditure of bodies or authorities substantially financed by grants or loans from the Consolidated Fund of India or of any State or of any Union Territory.

## **1.5 Planning and conduct of audit**

Our audit process starts with the risk assessment of the organisation as a whole and of each unit based on expenditure incurred, criticality and complexity of activities, level of delegated financial powers, assessment of overall internal controls and concerns of stakeholders. Previous audit findings are also considered in this exercise. Based on this risk assessment, the frequency and extent of audit are decided. An annual audit plan is formulated to conduct audit on the basis of such risk assessment.

After completion of audit of each unit, Local Test Audit Reports (LTARs) containing audit findings are issued to the Head of the unit. The units are requested to furnish replies to the audit findings within a month of receipt of the LTARs. Whenever the replies are received, audit findings are either settled or further action for compliance is advised. Important audit observations arising out of these LTARs are processed for inclusion in the audit reports which are submitted to the President of India under Article 151 of the Constitution of India. During 2010-11, audit of 647<sup>3</sup> units/formations was carried out by employing 14784<sup>4</sup> party days. Our audit plan ensured that most significant units/entities, which are vulnerable to risks, were covered within the available manpower resources.

## **1.6 Significant audit observations**

Capital and Revenue procurements made by the Ministry of Defence and the Service Organisations form the critical area as far as the audit of Defence Sector is concerned. We have been pointing out deficiencies in the procurement process in the previous Audit Reports and the Ministry of Defence has taken several measures to improve the procedures involved. Periodical revisions of the Defence Procurement Procedure (DPP) and Defence Procurement Manual (DPM) are significant steps to evolve better practices.

The present Report highlights cases which assume importance in the light of their impact on operational preparedness and having substantial cost overrun. The Report also brings out issues regarding poor management of contract, inaccuracy in assessment of requirement, excess payments, improper inspection of execution of work etc which require immediate redressal.

The failure of the Principal Director Defence Estates Southern Command to obtain Government sanction by processing the case for levy of licence fee on the vehicles entering the Cantonment resulted in revenue loss of ₹ 4.72 crore (Paragraph 2.3).

An extra payment of ₹ 1.47 crore was made to the supplier due to adoption of incorrect base rate for computing exchange rate variation (Paragraph 2.4).

---

<sup>3</sup> - Number of units/formations audited by O/o DGADS, New Delhi and O/o PDA(OF) Kolkata

<sup>4</sup> - Number of Party days employed during the financial year 2010-11 by the o/o DGADS New Delhi and o/o the PDA(OF) Kolkata

The failure of the GE Kamptee to repair/replace defective water meter and incorrect categorisation of Military Engineer Services at Hisar led to excess payment of ₹ 4.70 crore and ₹ 12.92 crore on account of water charges at Kamptee Cantonment and Hisar Military Station respectively (Paragraphs 4.1 & 4.2).

A Technology Development Project was undertaken by Defence Research and Development Organisation for development of modular charge system for 105 mm and 130 mm guns on the request of the Director General of Artillery. On completion of the project, the DG Artillery expressed lack of interest in the technology due to the likely de-induction of the guns from service resulting in unfruitful expenditure of ₹ 13.48 crore (Paragraph 3.2).

The irregular issue of NOC by the DEO Mumbai to a private party deprived the Army authorities of land valuing ₹ 5.94 crore which was in their possession since 1942, thus compromising with defence security (Paragraph 2.2).

Improper supervision by the officers of the Military Engineer Services resulted in construction of sub-standard bunkers at Sunderbani at a cost of ₹ 7.61 crore (Paragraph 4.3).

The failure of Station HQ Pune in complying with Ministry's instructions to maintain and verify the nominal rolls of conservancy staff who actually reported for duty led to overpayment of ₹ 94 lakh to the Cantonment Board on account of conservancy charges (Paragraph 3.4).

The incorrect decision of the Chief Engineer to allow the contractor to use plasticizer in the work, on payment as an additional item, resulted in an extra payment of ₹ 1.25 crore to the contractor while constructing an Ammunition Depot (Paragraph 4.4).

The Director General Border Roads in violation of Defence Procurement Manual 2006 granted undue benefit of ₹ 2.28 crore to a supplier by waiving liquidated damages and payment of enhanced statutory duties during the extended delivery period (Paragraph 5.2).

In case of Ordnance Factories, we have commented upon delayed production and issue of Pinaka rockets by Ordnance Factories and rejection of rockets and propellants aggregating ₹ 48.76 crore, production of new generation vehicles in Vehicle Factory Jabalpur, non-commissioning of a costly machine, defective manufacture leading to un-serviceability of ammunition, loss due to manufacture of detonators with vintage components, issue of rejected items to the indentors by Ordnance Factories and recovery/savings at the instance of Audit. In addition, comments on general performance on the functioning of the Ordnance Factory Organisation for the financial year 2010-11 has also been included.

### **1.7 Persistent irregularities in Defence Estates management**

Cases of poor management of defence land have been highlighted in various Reports of the Comptroller and Auditor General of India on Defence Services, the latest of which is the Performance Audit Report No 35 of 2010-11 on Defence Estates Management. The cases relating to misuse/exploitation of defence land and building for commercial and other unapproved purposes, unauthorised use of land and building for educational institutions run by the Army Welfare Education Society (AWES), delay in renewal of leases, irregular sub-leasing by the lessees, misuse of old grant sites/ bungalows, etc. continued to persist as reported in Paragraphs 2.1, 2.2, 2.7, 3.1 and 3.3. Corrective steps need to be taken urgently in this regard.

### **1.8 Response of the Ministry/Department to Draft Audit Paragraphs**

On the recommendations of the Public Accounts Committee, Ministry of Finance (Department of Expenditure) issued directions to all Ministries in June 1960 to send their response to the Draft Audit Paragraphs proposed for inclusion in the Report of the Comptroller and Auditor General of India within six weeks.

The Draft Paragraphs are forwarded to the Secretaries of the Ministry/departments concerned drawing their attention to the audit findings and requesting them to send their response within six weeks. It is brought to their personal attention that in view of likely inclusion of such Paragraphs in the Audit Reports of the Comptroller and Auditor General of India, which are placed before Parliament, it would be desirable to include their comments in the matter.

Draft paragraphs proposed for inclusion in this Report were forwarded to the Secretaries concerned between January 2012 and June 2012 through letters addressed to them personally.

The Ministry of Defence did not send replies to 16 Paragraphs out of 24 Paragraphs featured in Chapters II to VII. Ministry of Defence did not send reply to any of paragraphs (July 2012) included in Chapter VIII of this Report. However, the response of Ordnance Factory Board, wherever received, had been suitably incorporated in the paragraphs included in Chapter VIII.

### **1.9 Action taken on earlier Audit Paragraphs**

With a view to enforcing accountability of the Executive in respect of all issues dealt with in various Audit Reports, the Public Accounts Committee desired that Action Taken Notes (ATNs) on all paragraphs pertaining to the Audit Reports for the year ended 31 March 1996 onwards be submitted to

them duly vetted by Audit within four months from the date of laying of the Reports in Parliament.

Review of ATNs relating to the Army as of July 2012 indicated that ATNs on 90 paragraphs included in the Audit Reports up to and for the year ended March 2010 remain outstanding, of which the Ministry had not submitted even the initial ATNs in respect of 35 Paragraphs as shown in **Annexure-IA**, and 28 ATNs are outstanding for more than 10 years. With regard to Ordnance Factory Board, as of July 2012, Ministry of Defence had not submitted ATNs in respect of three Paragraphs included in the Audit Reports for the year ended March 2003 to March 2010 even for the first time as per **Annexure-IB**. Further, we could not vet ATN in respect of other two Audit Paragraphs, as per the details given in the **Annexure-IC**, for want of revised ATN based on our observations.

### 1.10 Financial aspects/ Budgetary management

What is commonly known as Defence Expenditure comprises expenditure under six Grants. Grant No. 22 authorizes expenditure on Army, Inter Service Organisations and others viz. Inspection Organisation, NCC, Rashtriya Rifles and includes Stores and Transportation etc. Grant Nos. 23 and 24 relate to Navy and Air Force, Grant No. 25 authorises expenditure on Ordnance Factories, Grant No. 26 relates to expenditure for Defence Research and Development Organisation and Grant No. 27 authorises Capital Outlay on all the Services.

Defence Outlays can broadly be categorised into Revenue and Capital. Revenue Outlays cover pay and allowances, stores, transportation etc. Capital Outlays cover expenditure on acquisition of new weapons and ammunitions and replenishment of obsolete stores with their modern versions. Much of the modernisation of the Services takes place under Capital expenditure.

A detailed analysis of the budgetary provision (Voted portion) on Defence Services showing Revenue and Capital, respectively is as follows:

(₹ in crore)

Sl. No.	Budget provision on Defence Services(Voted) for the year 2008-09	Budget provision on Defence Services(Voted) for the year 2009-10	Budget provision on Defence Services(Voted) for the year 2010-11	Increase in Provision (in terms of <i>per cent</i> ) from 2008-09 to 2010-11
1.	125358.64	148359.74	155992.08	24
2.	Revenue Budget provision (Voted) 2008-09	Revenue Budget provision (Voted) 2009-10	Revenue Budget provision (Voted) 2010-11	Increase in <i>per cent</i> (2008-09 to 2010-11)
	77382.54	93580.12	95215.87	23
3.	Capital Budget Provision (Voted) for 2008-09	Capital Budget Provision (Voted) for 2009-10	Capital Budget Provision (Voted) for 2010-11	Increase in <i>per cent</i> (2008-09 to 2010-11)
	47976.10	54779.62	60776.21	27
4.	Actual Revenue Expenditure (Voted) 2008-09	Actual Revenue expenditure (Voted) 2009-10	Actual Revenue expenditure (Voted) 2010-11	Increase in <i>per cent</i> (2008-09 to 2010-11)
	77074.06	94645.46	96625.32	25
5.	Actual Capital Expenditure (Voted) 2008-09	Actual Capital Expenditure (Voted) 2009-10	Actual Capital Expenditure (Voted) 2010-11	Increase in <i>per cent</i> (2008-09 to 2010-11)

	40894.97	51019.42	62011.53	52
6.	<b>Unspent provision Under Capital Expenditure (Voted) 2008-09</b>	<b>Unspent provision Under Capital Expenditure (Voted) 2009-10</b>	<b>Excess under Capital Expenditure (Voted) 2010-11</b>	<b>Increase/decrease in per cent of unspent provision of Capital expenditure (2008-09 to 2009-10 and 2009-10 to 2010-11)</b>
7.	(-) 7081.13	(-) 3760.20	(+) 1235.32	2008-09 to 2009-10 - 47 (decrease) 2009-10 to 2010-11 -133 (decrease)

The increase on the Revenue side (Voted segment) was primarily due to revision of pay of defence forces on the recommendations of Sixth Central Pay Commission. The increase on the capital side was mainly due to modernisation of services/additional requirement/outgo for new schemes, etc. From the above table, it would also be evident that the increase in the *percentage* of unspent provision under capital segment indicated a declining trend during the period 2008-09 to 2009-10 but during 2010-11, the trend reversed to excess expenditure of ₹ 1235.32 crore.

### 1.11 Analysis of Revenue Expenditure of Army (Voted)

For the year 2010-11, the Voted portion of the Grant of Revenue Expenditure for the Army was ₹ 62138 crore. As against this, the expenditure recorded was ₹ 65002 crore which translated to an excess expenditure of ₹ 2864 crore. In the earlier financial year of 2009-10, the excess expenditure was ₹ 2464 crore.

Pay and allowances for the Army constituted 53 *per cent* (₹ 34683 crore) of the total Revenue expenditure of ₹ 65002 crore in 2010-11. If pay and allowances for Civilians (₹ 3051 crore) and Auxiliary Forces (₹ 763 crore) are added, the Pay and Allowances component would constitute 59 *per cent* of the total Revenue expenditure. Stores (₹ 12144 crore; 19 *per cent*), transportation (₹ 1871 crore; 3 *per cent*) and works (₹ 5308 crore; 8 *per cent*) were other significant components of expenditure.

Within the Grant, significant excess expenditure took place in almost all the heads, especially the ones involving pay and allowances of Army (₹ 2261 crore), Rashtriya Rifles (₹ 15 crore), stores (₹ 247 crore), transportation (₹ 340 crore), pay and allowances of Auxiliary Forces (₹ 170 crore), Civilians (₹ 175 crore), and Military Farms (₹ 21 crore). Savings occurred in works (₹ 8 crore), National Cadet Corps (₹ 234 crore), other expenditure (₹ 143 crore) and Ex-Servicemen Contributory Health Scheme (₹ 6 crore).

The savings in Minor Head 113-NCC and 800-‘Other Expenditure’ were due to non-materialisation of contracted supplies, expected claims and miscellaneous payments.

The excess amount and savings indicated above were arrived at by considering only the Budget provision (i.e. Original /Supplementary grant excluding any re-appropriations with the actual expenditure).

The Army revenue budget during 2011-12 showed a marginal increase at ₹ 64251.55 crore in comparison to ₹ 57326.99 crore in 2010-11. As against the budget estimates of ₹ 34543.67 crore for 2011-12 for Pay and Allowances for Army, the revised estimates stand at ₹ 40114.45 crore. The budget estimates for 2012-13 for these are at ₹ 45027 crore.

### 1.12 Analysis of Revenue expenditure of Ordnance Factories

The bulk of expenditure of Ordnance Factories is met by “Deduct recoveries” for supplies to Army, Navy and Air Force. In addition, Ordnance Factories also do Civil Trade and sell stores to para military forces and to the public. These are booked as Receipts into the Consolidated Fund of India. The following table gives the picture:

(₹ in crore)

Year	Expenditure (as furnished by the Ordnance Factory Board)	Recoveries from supply to Armed Forces	Receipt on supply of surplus stores <sup>5</sup>	Total receipts	Net receipt
1	2	3	4	5(3+4)	6(5-2)
2006-07	6191.89	5147.77	1384.52	6532.29	340.40
2007-08	7125.63	5850.65	1464.12	7314.77	189.14
2008-09	9081.28	6123.38	1474.54	7597.92	(-)1483.36
2009-10	10812.10	7531.08	1545.01	9076.09	(-)1736.01
2010-11	10903.21	9824.99	1665.78	11490.77	587.56

Unlike the previous two years, Ordnance Factory Organisation generated surplus of receipts over expenditure. During 2010-11, the total receipts had registered an increase of ₹ 2414.68 crore as compared to the deficit of ₹ 1736.01 crore of 2009-10. There was an ultimate surplus of receipts amounting to ₹ 587.56 crore i.e. 5.38 per cent. However, our examination revealed that the total receipts were overstated by ₹ 2210.48 crore in 2010-11 due to incorrect practice of debiting the Armed Forces and other indentors for issues without actual physical issue of the items during the year ended 31 March 2011. This had consequently inflated the surplus amount for the year to the same extent.

In the revised estimates for 2011-12, net budgetary support from the Consolidated Fund of India after adjustment of Deduct Recoveries and Revenue Receipts has been pegged at ₹ 356.59 crore. For the year 2012-13, the net budgetary support has been estimated at ₹ (-) 535.09 crore, which is a surplus in accounting parlance.

While, till 2007-08, the Ordnance Factories had been able to maintain negative charge to the Consolidated Fund of India, supplies to the Services have never been able to match the budget provision indicating less supply than anticipated. Against the budgeted supply of ₹ 9875 crore in 2010-11, the supplies booked

<sup>5</sup> Other receipts and recoveries includes receipt on account of transfer of RR funds, sale of surplus/obsolete stores, issues to MHA including Police, Central and State Governments, Civil trade including Public Sector Undertaking, export and other miscellaneous receipts.

were at ₹ 9825 crore registering a shortfall of ₹ 50 crore. In 2009-10, the shortfall was of ₹ 862 crore and in 2008-09 it amounted to ₹ 474 crore.

Review of the pattern of expenditure during 2010-11 revealed that the expenditure on Stores and Manufacture had decreased by ₹ 260 crore (4 per cent) and ₹ 66 crore (2 per cent) respectively in 2010-11 over that of 2009-10, while the same had increased on account of Other Expenditure by ₹ 75.92 crore (15 per cent), Works by ₹ 7 crore (15 per cent) and Research and Development by ₹ 8 crore (25 per cent) during the same period. During 2010-11, there was an opening balance of ₹ 98 crore at the beginning of the year under Renewal and Reserve Fund in the Public Account of India. The receipt/allocation was ₹ 600 crore and payment made was ₹ 208 crore (Minor Head 106 under Major Head 2079) and thus closing balance as on 31.3.2011 i.e. unspent balance in RR Fund was ₹ 490 crore.

During 2010-11, in 21 cases, the issue prices were higher than the actual cost of production (COP), while in 12 other cases, the same were less than actual COP. These factors had direct impact on the quantum of receipts of Ordnance Factories and consequently the budgetary support. Ordnance Factory Board (OFB) needs to review the item-wise issue prices with reference to the actual COP so as to avoid situations of abnormal profits or huge deficits with consequential budgetary support. The budget provision of ₹ 11213 crore for such supplies in the year 2012-13, therefore, may prove to be very ambitious, unless prices of such supplies are revised sharply upwards.

Overall performance of Ordnance factories for the year 2010-11 has been analysed in this report at Chapter VIII.

### **1.13 Analysis of Capital Expenditure of Sub-Major Head-01-Army out of the Grant on Capital Outlay on Defence Services (Voted)**

In 2009-10, Army spent ₹ 14796 crore against a Capital Outlay of ₹ 14562\* crore leading to an excess expenditure of ₹ 234<sup>6</sup> crore. In 2010-11, it spent ₹ 15788 crore against an allocation of ₹ 14868 crore resulting in excess expenditure of ₹ 920<sup>7</sup> crore. Detailed analysis indicated that ₹ 3611.68 crore was mainly in the nature of advance payments for Akash missiles, Tatra Vehicles, Radars Schilka upgrade and two other Projects SAMVAHAK and SANJAY PH-II.

### **1.14 Capital expenditure (Voted) of Ordnance Factories and DRDO**

The capital expenditure of Ordnance Factories during 2010-11 was ₹ 454 crore. Normally, expenditure on renewal and replacement in the ordnance factories are met from the Renewal and Replacement Fund created

\*The figure adopted involves only Voted expenditure and differs from last year's report.

<sup>6</sup> Excess was calculated with reference to Budget estimates (i.e. Original Provision + Supplementary)-Actual Expenditure

<sup>7</sup> Excess was calculated with reference to Budget estimates (i.e. Original Provision + Supplementary)-Actual Expenditure

out of the revenue expenditure. During the year 2010-11, the amount transferred to the Renewal and Replacement Fund was ₹ 600 crore and the expenditure incurred from it was ₹ 208 crore only.

In the case of DRDO, the capital expenditure during 2010-11 was ₹ 4961 crore against a revenue expenditure of ₹ 5231 crore. The capital expenditure on DRDO was thus less by ₹ 270 crore (5.20%) than that of the revenue expenditure.

#### **1.15 Rush of expenditure in the last quarter and March of the financial year**

The Ministry of Defence (Finance/Budget) has, from time to time, issued instructions to maintain an even pace of expenditure throughout the year. Such instructions had, however, little effect on the pace of expenditure. The ratio of annual capital expenditure to the budget estimates for all the Services and Defence Research and Development Organisation (DRDO) was recorded at 44 and 38 *per cent*, respectively during the last quarter of 2010-11 against prescribed 33 *per cent*. 32 *per cent* of the expenditure to Budget estimates relating to Capital Outlay on Defence Services for all the services and 25 *per cent* under DRDO organisation took place in the month of March, at the fag end of the year, against the stipulated 15 *per cent*. Under Air Force and Ordnance Factory Grants, 18 *per cent* of the expenditure to Budget estimates was spent in the month of March.

## CHAPTER II : MINISTRY OF DEFENCE

### 2.1 Loss of revenue on renewal of lease of Government land

**Irregular renewal of lease for a period of 30 years in December 2006 for a rent and premium at old rates prevalent since 1996 resulted in loss of revenue.**

Vacant or unused land owned by the Defence is leased out to public or private users on rent and premium for a fixed term subject to renewal at enhanced rent as per terms and conditions that may be incorporated in the lease agreement. As per the standard terms of a lease, any addition or alteration to the existing structure in the leased premises requires prior consent of the lessor. The lessee is, however, entitled to sub-lease the premises and, in such cases, the details thereof are to be communicated to the Defence Estates Officer concerned within a month. The rent recoverable for commercial use of the leased land should be four times the rent recoverable in respect of residential premises.

Smt Usha Sathe, the lessee of Defence land, who had executed a lease agreement with DEO in respect of Sy. No. 30/4, admeasuring 0.725 acre, at an annual rent of ₹ 1/-, for a period of 10 years<sup>8</sup>, applied for permission to construct five dwelling units on the said land. To facilitate the construction of new dwelling units, the Ministry of Defence, in May 1996, allowed execution of fresh lease for a period of 30 years on payment of an annual rent of ₹ 1,22,054 and a premium of ₹ 12,20,540, as also concomitant surrender of the existing lease. The DEO conveyed the orders of the Ministry (July 1996) to the lessee, based on which the latter paid (August 1996) premium of ₹ 12,20,540.

Our scrutiny of records revealed that between the period June 1992 and January 1998 a parallel correspondence had been going on between the General Officer Commanding-in-Chief, Southern Command and the Army HQ for revocation of the lease on the plea that the land was required by the Army. Notwithstanding their reluctance to permit further leasing of the land, HQ Southern Command, taking the plea that the Army HQ had not responded to the proposal for revocation of the lease and the Ministry had granted approval (May 1996) for construction of new dwelling units, approved, in January 2006, construction of five bungalow blocks on the said land.

<sup>8</sup> Leased land was part of a plot of land that had been originally leased to a private user for residential purpose over a period of 30 years. The lease was transferred in July 1963 in the name of three different persons. Based on the request of the three co-owners, one of whom was Smt. Usha Sathe, to issue separate leaseholds, the Director General Defence Estates (April 1993) divided the land measuring 2.90 acres equally into four parts measuring 0.725 acre and each part was given new survey No. as 30/1, 30/2, 30/3 and 30/4. Of the divided pieces of land, one piece each was to be leased individually to the three owners. The fourth piece was collectively/jointly leased to all the three.

As the Local Army Authorities were keen to resume the land, execution of the fresh lease deed, as sanctioned in May 1996, was delayed. Consequently the revised annual rent of ₹ 1,22,054 was not recovered from the lessee. After the HQ Southern Command approved the construction in January 2006, the DEO signed the lease deed in March 2006 with the lessee, through her power of attorney, for a period of 30 years effective from 01 December 2003 at an annual rent and premium as fixed in 1996, instead of re-assessing the rent and premium as applicable from December 2003, i.e., the date of expiry of the earlier lease. The action of the DEO to lease the land to the lessee in 2006 effective from December 2003 to June 2012 at the rates determined in 1996 led to under-recovery of premium and rent of ₹ 15.40 lakh.

In the meantime, the original lessee, Mrs Usha Sathe, in March 2003 transferred her rights under the lease to M/s Vishwamitra & Rathi, a registered partnership firm, through her constituted attorney, for a consideration of ₹ 2.50 lakh. Thus, soon after execution of the lease agreement (March 2006), the attorney of the lessee, i.e., M/s Vishwamitra & Rathi transferred (September 2006) the lease to a builder for a consideration of ₹ 1.65 crore. This would indicate that the economic value of the land in question was even higher than the current premium and rent that the DEO could have recovered in the case and underlines the fact that current method of assessing value of Defence land is out of sync with the market conditions.

HQ Southern Command stated (November 2010) that as Army HQ did not respond to repeated requests for revocation of lease and the Ministry had, in the meantime, approved the construction of bungalows on the said land for which premium was deposited, the stay on their construction imposed by them was vacated. The manner in which the HQ Southern Command reversed their decision when the lessee was clearly intending to commercially exploit the leased land raises doubt about the sincerity of efforts made by the local military authorities to get possession of the land. While HQs SC accorded NOC considering the non-response of Army HQs for their proposal for acquiring the bungalow, Army HQs in May 2006 had closed the case of acquiring the bungalow as HQs SC had accorded NOC in January 2006.

Thus, failure of various Defence authorities to process the case for acquisition of leased land and protect Government interest resulted in prime defence land, located in the heart of the city and carrying high economic value, being transferred to a private builder at a low premium and annual rent. This resulted in a revenue loss of ₹ 15.40 lakh towards rent and premium. It also illustrated lack of transparency and weakness of internal controls in Ministry of Defence in safeguarding a highly scarce resource.

We are also of the opinion that the Lease Agreement Terms and Conditions, whereby a sub-lease of a Defence land can be transferred by the lessee to a third person, without express permission of the owner of the land, i.e. Ministry of Defence merely by informing the Defence authorities, as was done in the instant case, calls for a review of the existing procedure on the subject.

The matter was referred to the Ministry in February 2012; their reply was awaited as of July 2012.

## 2.2 Illegal sale of Defence land

**Hired land admeasuring 5166 Sq. m. in the possession of Central Ordnance Depot (COD) at Kandivli Mumbai, which was in the possession of the Army since 1942 was relinquished to a private company for residential purposes based on an irregular NOC issued by the DEO Mumbai. Though certain fraudulent activities regarding the land had come to their notice, COD Mumbai did not get the land demarcated in its favour from the State Government authorities. This facilitated the usurpation of the land from the Army.**

In the C&AG's Performance Audit Report on 'Defence Estates Management' (Report No. 35 of 2010-11) it had been pointed out that there were large scale discrepancies in land records of the Defence Estates Officers (DEO) and that large part of acquired land was awaiting mutation for years together (Para 2.3 & 2.5). The Defence authorities had mismanaged leases of defence land (Para 4.1) and lines of responsibilities and accountability on many aspects of Defence Estates Management had been allowed to blur.

During audit of the DEO Mumbai (April 2011), we came across yet another case relating to issue of "no objection for sale of land" conveyed by the Defence Estates authorities to a private company in respect of land that had been in the possession of Ministry of Defence since decades as elaborated below:

State Government land measuring 13.28 acre was under the occupation of Central Ordnance Depot (COD), Mumbai. Some portion of the land lay within the boundary wall of COD while the remaining portion, including Military Nullah which was under active occupation of the Army and being used for patrolling purposes, lay outside it. Rent for the hired land was being paid by DEO, Mumbai up to December 1981. Thereafter, no such payment was made for want of bills from the State Government. (Map shown at Annexure-V)

The Collector Bombay Suburban (Collector), while intimating the COD (June 1994) that a Private Limited Company (Company) had applied for Government land for residential purpose, sought their views with regard to any objection to the grant of land to the Company. The COD conveyed (August 1994) strong objection against construction of any multistoried building in the vicinity of sensitive defence installations and apprised the DEO about this case in detail. However, on being approached by a representative of the company, the DEO intimated the Collector (23 August 1994) that there was no objection to the allotment of the land to the Company provided that no multistoried construction should be allowed in the vicinity of the COD and issued an NOC. Although DEO informed the COD simultaneously, COD failed to react and did not take any action to reaffirm their tenancy of the land or for getting the boundary land clearly demarcated in its favour.

In June 2007, almost after thirteen years, a representative of a private builder who was given the rights to develop the land by the State Government, approached the COD with copies of two letters issued by the Collector ( 22

October 2001 and 26 July 2004) addressed to one 'Major Biswas, Armed Forces of India' and 'Major, Armed Forces of India' respectively, wherein the Collector had sought a 'No Objection Certificate (NOC)' for grant of government land to the Company indicating that if no reply was received within 15-20 days it would be presumed that the Department did not require the land and action would be initiated to allot the land to the applicant Company. The COD (30 June 2007) refuted the authenticity of the letters on the ground that the addresses of these two letters were fictitious and informed the Collector that correspondence made on fictitious addresses was of no consequence. COD also informed the DEO of this development. With unusual speed, within the same month, the Collector issued an order (26 June 2007) for sale of land admeasuring 5166.50 Sq.m. to the Company at market price of ₹ 5.94 crore and the land was handed over to the Company on 9 July 2007. The DEO requested the Collector (July 2007) to cancel/withdraw the order of sale of the land on the ground that it was not correct to order for sale of land to anybody without getting the same de-hired from the Ministry of Defence (MoD). Refuting the claim of the DEO, the Collector intimated that on request from the Company to the then Revenue Minister the status of the land was verified and after it had been confirmed that the land belonged to the State Government the same was allotted to the Company. In September 2007, the company intimated the DEO that their claim had been accepted by the Collector and that they would start the development work.

As the COD obstructed the development work by placing sentries, the Company lodged a complaint with the Raksha Utpadhan Rajya Mantri (RURM), whereby the Minister's Personal Secretary wrote to the Army Chief's Secretariat (15 November 2007) to put up the note to the Chief of Army Staff for 'appropriate' action. The next day the then Chief of Army Staff forwarded the file to the Quarter Master General's Branch (QMG) for processing the case. The QMG intimated (10 December 2007) the Personal Secretary of RURM that the actions of the local military authorities (LMA) appeared to be a result of misunderstanding and communication gap between them and the Defence Estates Authorities. It further stated that the LMA had been instructed to remove all obstructions forthwith and to let the legal owner go ahead with its planned development. Based on the directions from Mumbai Sub Area, the COD removed the guards and boards, paving way for the construction. The Collector informed the DEO Mumbai (November 2007) to carry out a survey of the land under possession of the COD. The COD's request for funds for the survey (₹ 10.02 lakh) was pending (April 2011).

Thus the land comprising 5166 Sq.m. which was in custody of the Army since decades and under active use of the Army for patrolling purposes and of the value of ₹ 5.94 crore was relinquished without any serious effort to contest or withdraw the NOC issued by DEO way back in August 1994 even while issue of NOC by the Collector in June 2007 had been contested by the COD. Army HQ instead of investigating and defending its case allowed the Company to go ahead with development work in the vicinity of military establishment thus compromising with defence security. COD also failed to pursue the matter with the State Government to resolve the issue during the long period between 1994 and 2007. Further delay in getting the land demarcated and transferred in

their name in the record of land rights with the Collector's office, would result in a few similar cases of disputable land transfers leaving the defence authorities with the risk of losing some more land around COD Mumbai, which has been in their possession all these years. On our pointing out the case the HQ Southern Command informed (November 2011) that the case had been forwarded to the CBI for investigation.

The investigation needs to establish how NOC was issued by DEO to a private party when COD had already objected for any multistoried to be constructed in the vicinity of defence land/installations.

The case was referred to the Ministry in March 2012; their reply was awaited as of July 2012.

### **2.3 Loss due to non-levy of licence fee on vehicles entering Cantonment Board Ahmednagar**

**The proposal of the Cantonment Board Ahmednagar to obtain Government sanction for levy of Licence Fee on vehicles entering the cantonment was not processed by the Principal Director Defence Estates Southern Command, resulting in revenue loss of about ₹ 4.72 crore.**

The Cantonment Act 2006 that came into effect from December 2006 empowered a cantonment board to charge licence fee (LF) on the vehicles entering the cantonment. The Cantonment Board Ahmednagar (Board) had been collecting vehicle entry tax (VET) on vehicles entering and passing through the limits of the cantonment under the provisions of the Cantonment Act 1924. VET and LF cannot be levied simultaneously. Taking note of the advantages of LF over the existing VET, the Board passed a resolution in February 2007 for levy of LF by abolishing VET. Since it required prior sanction of Government of India, the Board forwarded a proposal, in March 2007, to the Principal Director Defence Estates, Pune (PDDE) to process the case for levying LF under Section 67 (e) of the Cantonments Act 2006 by repealing levy of VET from the year 2007-08.

In the meantime, the Board had invited tenders for collection of both LF and VET for the year 2007-08 and received highest bid of ₹ 4.16 crore for LF and ₹ 3.03 crore for VET. Since no response was received from the PDDE, the bid of ₹ 4.16 crore received for LF could not be accepted and the contract for collection of VET was concluded as usual. The Board again took up the case with PDDE in February 2009 and October 2009. However, no response was received and the Board continued to collect VET at the rates fixed in 2001.

The PDDE, in response to an audit enquiry, stated (June 2011) that the case for levy of LF was not processed as levy of LF is linked to provision of services rendered and since the Board was not rendering any service to the vehicles entering the cantonment, LF could not have been levied. The contention of PDDE is untenable since Section 67 (e) of the Cantonment Act

2006 allows levy of LF on entry of vehicles and the Kirkee Cantonment Board had started charging LF on buses, trucks and light commercial vehicles.

Thus, the decision of PDDE to withhold the proposal of the Board resulted in revenue loss of about ₹ 4.72 crore to the Board during 2007-11. During the said period, the Ministry of Defence had paid ₹ 9.93 crore towards grant-in-aid to the Board, which could have been suitably reduced, if the Board had been able to generate larger resources on its own by collecting LF as it was authorized to do under the Cantonment Act 2006.

The case was referred to the Ministry in March 2012; their reply was awaited as of July 2012.

#### **2.4 Excess payment on account of exchange rate variation (ERV)**

**Adoption of incorrect base rate for computing exchange rate variation, in violation of the procurement procedure, resulted in extra payment of ₹ 1.47 crore to a Defence Public Sector Undertaking in procurement of an equipment having import content for the Army.**

The Defence Procurement Procedure 2006 (DPP) provides for inclusion of a clause in any purchase contract with Defence Public Sector Undertaking (PSU) for adjustment of exchange rate variation (ERV) if it involves import content. In such cases, the Base Exchange rate of the State Bank of India, Parliament Street, New Delhi on the date of opening of the commercial bids will be adopted for each of the major currencies.

We observed that a departure from the above procedure in a contract concluded by the Ministry of Defence in July 2008 with a Defence PSU – the supplier – for procurement of equipment ‘X’ for the Army, at a total cost of ₹ 48.50 crore (including foreign currency component of USD 315,490 and Euro 55,55,025), resulted in extra payment of ₹ 1.47 crore to the supplier, as explained hereafter.

In the contract, the Ministry adopted the Base Exchange rate as ₹ 39.86 per USD and ₹ 56.02 per Euro, as claimed by the supplier during negotiations, instead of the rates as applicable at the time of negotiations (November 2007), which were ₹ 40.03 for USD and ₹ 59.14 for Euro. On being pointed out by us that the adoption of the base rates as dictated by the supplier had caused extra payment of ₹ 1.47 crore to the supplier, the Ministry admitted (April 2012) the error and stated that a case was being initiated for recovery of the excess amount.

While efforts to make recovery of the excess payment is welcome, we suggest that all CFAs in the Ministry may be sensitised to the need for adhering to the provisions in the applicable procurement procedure (DPP) framed and stipulated by the Ministry themselves.

## 2.5 Loss of indigenously designed/manufactured ammunition

**Indigenously designed and manufactured ammunition of value of ₹ 408.06 crore (1,02,014 rounds within shelf) were declared unserviceable without an internal investigation. The unresolved problems in the indigenous ammunition led to import of ammunition costing ₹ 278.88 crore to meet the demands of the Army.**

The Indian Army sources various types of ammunition either through import or from indigenous production facilities like Ordnance Factories. While the ammunition produced by Ordnance Factories undergoes in-process quality testing, the finished product is finally tested and cleared by the Director General of Quality Assurance (DGQA), an arm of the Ministry of Defence, Department of Defence Production, on behalf of the Army before such equipment is accepted and despatched for use or storage during its prescribed shelf life. The manufacturer also prescribes various norms for proper handling and storage of critical ammunition to eliminate all possibilities of such ammunition becoming unserviceable owing to rigorous climatic conditions like extreme temperatures, humidity etc. Since all ammunition accepted by the Army after appropriate quality assurance tests is expected to be failure-proof, any defect noticed during periodic test firing or otherwise during storage, is required to be thoroughly investigated, responsibility fixed and loss statements prepared for writing off the value of defective ammunition.

The Army in 1997 accepted an improved version of existing tank-fired ammunition already being produced by the Ordnance Factory Board (OFB) on the basis of design developed by ARDE and HEMRL, both functioning under Defence Research and Development Organisation (DRDO). Since then and up to 2005, 3.5 lakh rounds of this ammunition approximately valuing ₹ 1400 crore produced by OFB were accepted by the Army, after appropriate quality assurance tests by the DGQA.

Our scrutiny (April 2010) revealed that on the basis of inspection of the ammunition holding depots in 2009-10 by the Southern Command, the Integrated Headquarters of Ministry of Defence (Army) (IHQ of MoD Army) had declared 1,35,608 rounds of ammunition as unserviceable, of which a large number (1,02,014 rounds) valuing ₹ 408.06 crore had not completed the prescribed shelf life of 10 years. The defects noticed, viz. flimsy propellant material, cracks in combustible cartridge case, sticking of cartridge case in packing container, etc., were considered to be critical, rendering the ammunition unsafe for firing.

While the Army attributed the defects to insufficient quality control during manufacture, the OFB attributed these to design deficiencies. DRDO, which had designed the ammunition, however, argued that if the ammunition had suffered from design defects then the entire quality of ammunition manufactured and supplied during 1997-2005 ought to have manifested defects similar to those noticed by the Southern Command during 2009-10.

The possibility of returning the ammunition to the Ordnance Factories for suitable repairs and rectification had been explored by a Task Force comprising representatives of the OFB, the Master General of Ordnance (MGO), DGQA and DRDO that was constituted earlier in January 2010 for investigating the defects pointed out in a lot of 54,455 rounds of the ammunition. The Task Force, however, recommended that the ammunition was beyond repairs. The recommendation was based on its assessment that (a) the repair methodology was hazardous and unsafe (b) a complete process carrying out repairs would be time consuming and costly, and (c) the quality and reliability of the repaired ammunition could not be guaranteed. A month later (February 2010) the IHQ of MoD Army decided to declare the entire ammunition (1,35,608 rounds, inclusive of the 54,455 rounds) of the above category held in store as unserviceable and directed it to be disposed off.

Contrary to the prescribed procedure, no serious investigation was concluded to ascertain the reasons for defects in the ammunition and to fix responsibility for such failure during the last two years. Even though similar defects noticed in the same ammunition in the previous years had resulted in segregation of ammunition valuing ₹ 607.43 crore (inclusive of a hybrid version of the ammunition valuing ₹ 352 crore), there was lack of proper investigation of the defects, as highlighted in three different Reports of the Comptroller and Auditor General of India in 2003, 2005 and 2010-11<sup>9</sup> (Incidentally, the Ministry of Defence, in April 2011, informed the Public Accounts Committee in its Action Taken Note on Para No. 2.3 of the Audit Report No. 12 of 2010-11 that the entire ammunition held in segregated condition had since been repaired).

Considering the following factors the decision of the Army to declare the entire ammunition (1,35,608 rounds) the large part (1,02,014 rounds valuing ₹ 408.06 crore) of which was still within its shelf life raises doubt about the degree of thoroughness and objectivity with which defects attributed to the ammunition have been investigated:

- (a) Army had accepted the ammunition as far back as 1997, after undertaking all the prescribed quality assurance procedures and continued to hold it till 2005, without facing any need to declare it unserviceable after routine test firing;
- (b) A large quantity of similar ammunition found defective at one stage and valuing ₹ 607.43 crore and held under segregated condition for a long time was ultimately accepted by the Army after being repaired by the ordnance factory concerned; and
- (c) There was no clear agreement amongst the DRDO, OFB and Army about the nature and source of defects noticed in the ammunition.

---

<sup>9</sup> Under paragraph 160 of the Financial Regulations, Part-I, the losses have to be written off with the approval of the competent financial authority. After declaring the ammunition unserviceable (February 2010) no write off proposal had been moved by the MGO to the Ministry of Defence (May 2012).

The failure of the Ministry to resolve the difference of perception about the nature and source of defects that rendered the entire ammunition unserviceable in an authentic and decisive manner is not only curious but also underscores lack of synergy amongst various segments of Defence establishment, viz. Army, OFB and DRDO in the critical area of ensuring availability of high quality ammunition.

On this being pointed out by us, the Ministry, belatedly in June 2012 directed the Chairman OFB to constitute a Committee comprising representatives of the OFB, MGO, DRDO and DGQA to further investigate the matter and fix responsibility. In the meantime, as a result of a large quantity of ammunition being declared unserviceable, the Ministry had to import 16,000 rounds of ammunition at a cost of ₹ 278.88 crore (US\$ 61,360,000) under a contract with M/s Rosoboronexport Russia to overcome critical shortages of ammunition highlighted by Director General Mechanised Forces.

The matter was referred to the Ministry in April 2012; their reply was awaited as of July 2012.

## **2.6 Overpayment to Cantonment Board Danapur**

**The Controller of Defence Accounts (CDA) Patna did not call for and verify statements of actual expenditure on conservancy charges, leading to an overpayment of ₹ 65.79 lakh to the Cantonment Board Danapur.**

A case of overpayment to Cantonment Board (CB) Ambala due to failure of the Principal Controller of Defence Accounts (PCDA) Chandigarh to verify the actual expenditure incurred on conservancy charges was reported in paragraph 2.9 of the Report No CA No. 17 of 2008-09 of the Comptroller and Auditor General of India. The Ministry, in its Action Taken Note, stated that instructions had been issued in September 2009 to all the PCsDA/CsDA to consult statements of actual expenditure before making payment of conservancy charges to CBs and to adjust outstanding amount of the previous year before making first payment for the current year. However, the revised format of agreement enabling monthly adjustment based on actual expenditure of the previous month was awaiting approval of the Ministry (July 2012).

Contrary to the above instructions of the Controller General of Defence Accounts (CGDA), an overpayment of ₹ 65.79 lakh was made to the Cantonment Board Danapur during the period 2008-11 by the CDA Patna. Conservancy agreements concluded by the Station Commander Danapur with CB Danapur, with the concurrence of the CDA Patna, for the years 2008-09, 2009-10 and 2010-11 envisaged payment of conservancy charges of ₹ 1.02 crore, ₹ 1.29 crore and ₹ 1.79 crore, respectively during the years to the Board. The conservancy agreements continued to contain a clause for payment of the contracted amount in 12 equal monthly installments with provision obliging CDA to make adjustment in the claim for the month of February.

Our scrutiny indicated that the actual expenditure of the CB on conservancy services, as per the audited statements during the years 2008-09 to 2010-11

had been less than the amount paid each year. Bills for conservancy services based on actual expenditure had not been submitted for payment by the CB as required. The bills for the month of February were neither preferred by the CB, nor called for by the CDA. Even while drawing up the new Agreements, the Station Commander did not review the actual expenditure incurred in the earlier year. Thus failure on the part of the CDA authorities to call for the statements of actual expenditure on conservancy charges led to overpayment of ₹ 65.79 lakh to the CB Danapur as given in the table.

Year	Amount as per agreement (₹)	Total payment made (₹)	Actual expenditure (₹)	Over-payment (₹)
2008-09	10236105	9321601	8325826	995775
2009-10	12900852	8370927	8128399	242528
2010-11	17898599	16407050	11066250	5340800
			Total	6579103

The CDA Patna, in November 2011, replied that the matter had been taken up with the CB Danapur for regularization of the overpaid amount.

We recommend that the system of internal control by the CDA be improved/strengthened and the overpaid amount be adjusted against payments due. The agreements with the CBs need to be drawn up based on previous year's actual expenditure.

The matter was referred to Ministry in February 2012; their reply was awaited as of July 2012.

## 2.7 Unauthorised construction of hotels on Old Grant sites/leased Defence land

**Unauthorised construction and running of 36 hotels on Old Grant sites/leased land at Pachmarhi was not prevented by the Defence Estates/ Cantonment Board authorities even though such conversion/commercial exploitation dated back to periods ranging from 1993-94. Similarly at Barrackpore Cantonment, two Old Grant sites were unauthorisedly used as restaurants, shops, etc, and no action was taken by the Cantonment Board/ Local Military authorities to resume the land though there was shortage of land for military use.**

As per the land policy laid down by the Ministry of Defence in 1995, to ensure appropriate return by way of premium and rent, Old Grant (OG) sites which are in the nature of licences could be converted into leaseholds with Government sanction, unless these were desired to be resumed. No activity like change of purpose, any sub-divisions by way of construction or otherwise, construction of additional storey/storeys, addition to existing plinth area or floor area, demolition of existing construction or putting up of a new construction on a vacant site in OG sites could be sanctioned unless the proposals to that effect were submitted to Government and approved by it.

Irregularities in the management of OG sites and dismal state of management of leases of Defence land were broadly commented upon in Report No 35 of 2010-11 of the Comptroller and Auditor General of India on Defence Estates Management. Our continued audit showed that at Pachmarhi, there was large scale misuse of the OG/ leasehold sites by the Holder of Occupancy Rights (HOR)/ leaseholders by converting 24 OG sites and 12 leasehold sites granted for residential/shop purposes into hotels. Even though such conversions were made without the mandatory prior sanction of the Government and in periods dating back to 1993-94, the Defence Estates Officer/ Cantonment Board had not taken any discernible and proactive action to stop such unauthorised use. Additionally, at Barrackpore Cantonment, we observed, similar instances of misuse. The cases are narrated below:

### **I Pachmarhi Cantonment**

Cantonment Board Pachmarhi had granted land in Sadar Bazar of the Cantonment to different HORs/ leaseholders on Old Grant/lease for residential/shop purposes. However, 24 HORs and 12 leaseholders had converted the Old Grant/ lease sites into hotels during the years 1993-94 to 2008-09, without the sanction of the competent authority i.e. Government of India. This had resulted in unauthorized construction as well as change of use of defence land valuing ₹ 2.30 crore. Cantonment Board Pachmarhi stated in June 2012 that prior to November 2003, 22 HORs had applied for change of purpose and conversion into freehold as hotels, but their applications could not be considered due to ban imposed on such conversions by Hon'ble High Court, Jabalpur in November 2003.

In reply to our audit observation, the Cantonment Board had earlier (November 2011) intimated that:

- (i) notices were issued to all defaulting HORs/lessees as and when unauthorized construction was carried out;
- (ii) the appeals of HORs/ lessees were pending with Principal Director Defence Estates/ GOC-in-C Central Command Lucknow;
- (iii) property tax, water and electric charges were being recovered at commercial rates since the use of sites as hotels;
- (iv) the rent and premium were being recovered for residential purpose; and
- (v) higher rent and premium for land used for hotel purposes would be recovered only when the sanction for change of purpose was accorded by the competent authority.

The reply of the Cantonment Board is tangential to the vital issue as to how such massive constructions were allowed to mushroom when it was being done in total violation of the terms of the grant/lease. Since the reported ban was imposed only in November 2003, the delay in sorting out the issues that had arisen since 1993-94 was inexplicable. Evidently there was lack of oversight by the Cantonment Board as well as passivity at the local level in pursuing the cases to their finality, thus tacitly allowing the continuing misuse of the OG/ leased sites. As per Government Orders of March 1974, the rent and premium at commercial rates were chargeable at 4 times and 40 times the

residential rent respectively, which worked out to ₹ 22.98 lakh on account of annual rent and ₹ 3.93 crore as premium.

Cantonment Board further stated that the power of sealing the defaulting premises had been given to the Chief Executive Officer but no rule for the same had been framed by the Government of India.

The case reveals that HORs of OG sites/leases by making unauthorized construction for commercial exploitation of the defence land that was actually given for residential/shop purposes had flouted the terms & conditions of the licence/lease agreement. The passivity of the Cantonment Board Office had effectually resulted in contravention of Government policy on the subject which not only failed in cancellation of licences/leases to resume the land but also could not prevent unauthorized constructions by invoking the provisions under the Public Premises (Eviction of Unauthorized Occupants) Act 1971.

## **II Barrackpore Cantonment**

We observed two cases of commercial exploitation of the OG sites at Barrackpore Cantonment that were allowed to be used as restaurant, marriage hall, etc from the year 1965 onwards. In spite of the commercial exploitation of Defence land/properties, the Local Military Authorities (LMA) had not taken effective steps to resume these Old Grant properties although as per Zonal Plan of Barrackpore Cantonment, the land at Barrackpore Cantonment was deficient to the extent of 418 acres for military use. The cases are as under:

### **(i) Bungalow No. 72, Sadar Bazar Road**

The bungalow measuring 1.32 acres of land and valuing ₹ 3.92 crore was an old Grant site. Shri Swapan Kumar Das was the holder of occupancy right (HOR) of the bungalow. The HOR had converted the bungalow into commercial premises for various social/religious functions, especially marriages. The Defence Estates Officer, Kolkata (DEO), in August 2010, requested the LMA to resume the bungalow. Action taken by the LMA was awaited as of July 2012.

### **(ii) Bungalow No. 89, GT Road**

The bungalow occupying 1.32 acres of land valuing ₹ 3.92 crore was with the Barrackpore Club Ltd (HOR) and was being used as Golf Club. The club became defunct in 1965 and the property was unauthorisedly sold to late Shri Sailendra Nath Das. The premises were thereafter occupied by Shri Pinaki Ranjan Das who had constructed various shops and rooms on it and was running hotel/restaurant unauthorisedly. Notice for demolition of the unauthorized construction had been served under PPE Act, 1971 by the DEO in May 2011. No action had been initiated to resume the said property as of July 2012.

The cases were reported to the Ministry in January 2012/ April 2012; their reply was awaited as of July 2012.

## CHAPTER III: ARMY

### 3.1 Unauthorised use of defence assets and manpower for the benefit of Army Welfare Education Society

**Despite repeated instructions by the Ministry of Defence to stop misuse of Government buildings for non-governmental purposes, the Army authorities in Pune allowed un-authorised use of Defence buildings by Army Public School and spent ₹ 83.52 lakh for their repairs/renovation. Further, the Military Secretary's Branch of the Integrated HQ of the MoD (Army) irregularly posted nine Army Officers to run professional institutes of the Army Welfare Education Society (AWES), a private society.**

The Scales of Accommodation for Defence Services do not permit provision of Government owned buildings for running educational institutes by private agencies. The use of defence land/buildings for running of public schools/ educational institutions, etc of non-governmental agencies like the Army Welfare Education Society (AWES) require prior approval of the Government. Taking note of the re-appropriation of Defence buildings by local commanders for use of such institutes, the Ministry issued instructions in October 2000 and October 2001 making it clear that misuse of delegated powers would attract disciplinary action and that the Military Engineer Services (MES) should not incur any expenditure from public funds on Defence buildings occupied by the Army Public Schools (APS) and other educational institutions run by the AWES. The deployment of service personnel for non *bona fide* duties of running such institutes was also not allowed.

#### *I Unauthorised works*

Our test check of sanctions revealed continued non-compliance to the Ministry's orders by the Army Officers. The General Officer Commanding-in-Chief (GOC-in-C) HQ Southern Command Pune, issued sanctions in January 2008 and March 2008 for undertaking special repairs to eight defence buildings by the MES and got it executed at a cost of ₹ 83.52 lakh. The sanction did not mention that the buildings were in use by the APS. We observed that these buildings were being used by the APS since April 1997 under a sanction issued in 1999 by the Station Commander Pune for temporary re-appropriation of five buildings, which was later extended by three years in respect of three buildings. In clear non-compliance with the Ministry's orders of 2000/2001, the use of the buildings for the school continued and proposal was not submitted for approval of the Ministry by the local authorities. Thus the occupancy of the school building by the APS/ AWES continued to remain unauthorised. Sanction and execution of special repairs to these buildings were also irregular.

## **II Irregular deployment of service personnel**

Further, with effect from December 2005, nine officers of the Army were posted by the Military Secretary's (MS) Branch of the Integrated HQ of the Ministry (Army) to AWES-run professional institutes like Army Institute of Technology Pune, Army College of Medical Sciences, New Delhi and Army Institute of Law, Mohali. The pay and allowances paid to the officers posted to AWES between December 2005 and January 2012 worked out to ₹ 1.56 crore, which along with leave salary/pension contribution should have been recovered from AWES. The Principal Controller of Defence Accounts (Officers) Pune in reply to our observation stated in June 2011 that the MS Branch of the Integrated HQ of the Ministry (Army) had clarified that posting of officers was purely of administrative nature and it was well within the realm of responsibilities of the MS Branch. This argument of the MS Branch is untenable as posting of these officers to AWES was not for *bona fide* Defence duties and charging their salaries to Defence Services Estimates was in contravention of the Ministry's orders and was therefore irregular. The irregular disbursement of pay and allowances along with the leave salary/pension contribution needs to be recovered from the AWES.

It can thus be seen that though the Ministry had issued orders strictly advising Army authorities against allowing Government buildings to be used for educational purposes by AWES, it has not been able to ensure that their orders are being complied with. Further, the Defence (Finance) have also concurred with decisions of Army Commanders to sanction building works expenditure and pay and allowances relating to service personnel deployed with AWES in clear violation of Ministry's orders.

We are of the opinion that the current state of affairs in this regard which has been repeatedly brought out in our Reports (Para 3.5 of Report No CA 17 2008-09, Para 3.8 of Report No CA 4 of 2008, Para 2.4.10 of Performance Audit Report No. 4 of 2007, Para 3.3 of Report No 4 of 2007, Para 3.5 of Report No 6 of 2005 and Para 27 of Report 7 of 2001) erodes the credibility of established command structure in the country's Defence Establishment. Either the Ministry of Defence should validate the actions of the Army Commanders at various levels by according ex post-facto sanctions wherever sought and issue general orders delegating powers to Army Commanders to allow use of land, buildings and personnel for welfare activities for the benefit of serving/retired defence personnel with appropriate safeguards in consultation with Defence (Finance) or enforce orders issued by it on the subject. Allowing the status quo to continue not only typifies bad governance but also is fraught with the risk of corroding financial discipline within the Defence Establishment as a whole.

The cases were referred to the Ministry in April 2012; their reply was awaited as of July 2012.

### 3.2 Unfruitful expenditure on development of Modular Charge System for field guns

**Defence Research and Development Organisation undertook a Technology Development project for development of modular charge system for 105 mm and 130 mm guns based on a request by the Director General of Artillery. However, on successful completion of the project the Artillery expressed lack of interest in the technology, resulting in unfruitful expenditure of ₹ 13.48 crore.**

Defence Research and Development Organisation (DRDO) undertakes competence build up projects known as Technology Demonstration (TD)/ Research & Development (R&D)/Science and Technology (S&T)/ Infrastructure Development Projects in a given area of research or to solve specific problems arising out of Staff projects, taken up to meet specified requirements of the Armed Forces. TD Projects are planned to establish technologies which would find application in Staff projects in future.

In the field of artillery guns, modular charge system was considered desirable over the existing bagged charge system in view the advantages such as automation, less wear and tear of barrel, etc. DRDO took up an S&T project in 2002 to develop competence in the field of modular charge system for 155 mm gun. However, it was only after completion of the development work in November 2006 that the DRDO informed of the project to the Director General of Artillery, the eventual beneficiary. When the issue was discussed in a meeting held in the same month under the chairmanship of the Defence Secretary it was decided to close the S&T project and to undertake a TD project for development of modular charge system for 105 mm and 130 mm guns. The overriding consideration for this was that the technology for production of the charge system for 155 mm guns had already been imported by the Ordnance Factory Board.

Pursuant to the above decision, in December 2007, the Ministry of Defence D(R&D) sanctioned the TD Project for completion by December 2010. DRDO assigned the project to High Energy Materials Research Laboratory (HEMRL), which in 2002, had taken up the S&T project for competence build up for the modular charge system for 155 mm guns and completed the same in November 2006.

After 15 months of the sanction of the project at the behest of the DG Artillery, the School of Artillery carried out a feasibility study in March 2009, in regard to TD Project, and found that it would not be cost effective to change over to modular charge system in view of the planned phasing out of 105/130 mm guns in less than two decades. However, HEMRL was allowed to continue with the TD project on hand.

HEMRL developed the systems by spending ₹ 13.48 crore and after successful technical trials offered both the systems (105/130 mm) in September 2010 to the users for user trials. However, at that stage DG Artillery showed disinterest in the system since the field guns were nearing the end of their life cycle and

were likely to be de-inducted from service over next 7 to 10 years. This had rendered the entire efforts and expenditure of ₹ 13.48 crore unfruitful.

In reply to audit observation, the DG Artillery stated (May 2012) that DRDO had been asked to undertake the project at no cost implication to the Army and the systems were not accepted as the DRDO did not adhere to the timeline of January 2009 for offering the systems for user trials. On the contrary, the DRDO HQ stated (July 2012) that the Army had been associated at each stage of development and informed of the progress. The argument of the DG Artillery for not accepting the systems and attributing it to the delay of about 20 months in offering modular charge system for trials lacks conviction. As the 105/130 mm guns were already planned to be phased out, this delay alone could not have contributed to their decision to not switch over to modular charge system. Clearly, the DG Artillery did not make a serious effort to assess the likely benefits of the TD Projects before asking the DRDO to undertake the TD project.

The necessity of DRDO undertaking an S&T project in December 2002 for development of the modular charge system for 155 mm guns when such competence had already been acquired by OFB is also questionable.

The finger pointing by two organisations both under the Ministry of Defence, DRDO which is responsible for indigenisation and Army which is expected to put such indigenous weapons system to use, indicates that both the organisations within the same Ministry have been operating in silos. The unfruitful expenditure of ₹ 13.48 crore only highlights the need for the Ministry to take urgent drastic measures to ensure synergy between DRDO and the Defence Services so that each Rupee spent on the country's defence gives the optimum return.

The case was referred to the Ministry in March 2012; their reply was awaited as of July 2012.

### **3.3 Failure of HQ Southern Command to safeguard Defence land from commercial exploitation**

**Local military authorities at Pune allowed a private builder to divert Defence land for commercial use, in violation of the Court orders for reserving the land for married accommodation project.**

The Defence owned land that is vacant or unused is leased out to private/public agencies for specified period as per the terms and conditions governing such lease, which *inter alia* provided that the lessee was not authorized to make any alteration in the plan or elevation of the said building without consent of the lessor. Further, neither the Cantonment Land Administration rules nor the terms of the lease permitted swapping of land or owner's right in it for any other property.

Bungalow No. 8-A Lothian Road on 0.96 acres of Defence land in Pune Cantonment was leased out to Mr. Rustom Merwanji Master and Mrs Baimai

Rustom Master in 1946 by the then Governor General in Council for 30 years, on renewable terms up to 90 years, with effect from August that year for use as dwelling house and shops. The lessee had submitted (1945) a plan for commercial exploitation of the land over which the bungalow stood whereby 56 *per cent* of land was to be used for commercial purpose and the rest for the residential purpose. The lease was last renewed by the Defence Estates Officer, Pune (DEO) for 30 years from August 2006.

The original lessees sold their rights to M/s Kalpataru Builders in March 1988, who sought (August 1988) approval of Pune Cantonment Board to construct 67 shops and a small residential apartment on the site. The Cantonment Board referred the case to the DEO who refused permission on the ground that the proposal involved more intensive commercial exploitation of the land which was against the terms of original lease.

The Director of Defence Estates Southern Command Pune, the Appellate authority, to whom the builder appealed against the decision of the DEO upheld (June 1991) the latter's decision and directed the builder to submit a revised plan adhering to the plan submitted by the original lessees in 1945. HQ Southern Command Pune objected to the commercial exploitation of the land on the grounds of security as commercial activity would result in influx of civilians, unsocial and anti-national elements into the area. It moved (November 1996) Army HQ to take over the land for construction of married accommodation as the property already fell in the Zonal Plan for married accommodation.

The builder, in the meanwhile, filed a writ petition in the Bombay High Court challenging the rejection of its proposal to construct building. The Court dismissed the petition (September 2005), but gave the builder an option to apply to the General Officer Commanding-in-Chief (GOC-in-C) for permission to construct as per plan of the original lessees, thereby retaining the area of 44 *per cent* for construction of married accommodation for Army Officers.

Based on the revised application of the builder and after obtaining approval of the GOC-in-C, the Cantonment Board permitted the builder (January 2006) to construct the building with the condition that 44 *per cent* of land would be offered for married officers' accommodation. The builder's petition in the Supreme Court challenging this condition was dismissed in September 2006.

Since the builder was unwilling to accept the condition imposed by the GOC-in-C, the Station Commander, HQ Pune Sub Area and ex-officio President of the Cantonment Board in July 2008 recommended the GOC-in-C for initiation of action to revoke the approval given in January 2006 to the building plan submitted by the builder. However, in December 2008, HQ Pune Sub Area completely reversed its own recommendation to the HQ Southern Command and suggested that if an amicable 'out of court' settlement could be arrived at the condition of reservation of 44 *per cent* area for married accommodation should be withdrawn. The GOC-in-C accepted the suggestion and agreed (December 2008) to withdraw *ibid* condition in lieu of accepting three flats, each of minimum area of 1200 sq ft, in close proximity to Pune Cantonment to

be leased in favour of Army for a period of three years extendable by two years. The Station Commander, in January 2009, signed an agreement accepting three flats located in a remote locality at Magarpatta city, Pune 7.9 km from where the bungalow is located, on payment of lease rent, equal to the house rent allowance to which the occupant of the flats are eligible. These three flats were taken over by the Army in April 2009. HQ Southern Command, by authorizing this deal, had not only operated outside the framework of CLA Rules, the original terms of lease and the intent of the Court's direction but also seriously compromised the interests of Army by accepting an inferior property for an incredibly short period in lieu of right to exploit a highly valuable piece of land in the prime area of Pune with virtually no limitations of usage.

HQ Southern Command stated (June 2012) that the case had been referred to the Central Bureau of Investigation and declined to provide any further comments to explain the specific consideration that prompted the local military authorities to make a volte-face in December 2008/ January 2009 and added that the information available with them may undergo changes consequent to the investigation that was under way. The relevant files on which such a decision was taken were therefore not produced for audit scrutiny. This is a case similar to the one reported in the Report No. 11 of 2011-12 of the Comptroller and Auditor General of India on the Adarsh Co-operative Housing Society demonstrating a pattern whereby the persons holding fiduciary responsibility in the Ministry of Defence have betrayed it. The Ministry needs to take serious view of such transgressions by the local military authorities and take effective corrective action.

The case was referred to the Ministry in January 2012; their reply was awaited as of July 2012.

### **3.4 Overpayment of conservancy charges to Cantonment Board Pune**

**Station HQ Pune did not verify the nominal rolls of conservancy staff actually reported for duty leading to overpayment of ₹ 94 lakh to the Cantonment Board Pune on account of conservancy charges.**

In paragraph 53 of the Report of the Comptroller & Auditor General of India for the year ended 31 March 1997 the inability of Audit to verify the genuineness of the payments made by a Cantonment Board (Board) for want of nominal rolls/details of employees deployed for conservancy services by the Board was pointed out. Consequently the Ministry of Defence instructed (July 2003) all concerned to incorporate the following provision in the Conservancy Agreement Form:

“The Cantonment Board shall furnish to Station Commander the total number of conservancy staff (Category-wise) to be employed under this agreement. They shall also route the bills through the Station Commander duly supported with a nominal roll of conservancy staff so employed in a particular month under the agreement. The nominal rolls and details of employees actually

deployed for conservancy services by Cantonment Board (s) shall be maintained by Station Commander for production to Test Audit on requirement, as an auditable document to ensure correctness and effective control over expenditure”.

We observed (January 2010) that despite the instructions issued by the Ministry, the conservancy agreements concluded by Station HQ Pune for the years 2006-07 to 2009-10 at an aggregate value of ₹ 4.37 crore, with the concurrence of the Principal Controller of Defence Accounts, Southern Command Pune (PCDA), did not include above provision to ensure maintenance of nominal rolls and details of employees actually deployed. Our scrutiny of records revealed that there were large variations in the number of conservancy staff deployed by the Cantonment Board and those who actually reported for duty at Station HQ and the Station Health Organisation Pune (SHO). Station HQ Pune routinely forwarded the conservancy bills received from the Board to the PCDA for payment without checking the correctness of the bills with reference to their own records. This resulted in overpayment of about ₹ 94 lakh during the period from April 2006 to September 2010. The overpayment was reckoned by considering the average pay of the drivers/cleaners/fillers who did not actually report for duties, but in respect of whom payment had been made to Board.

Station HQ Pune admitted (January 2010) the above facts and stated (December 2011) that attendance register had been maintained since December 2010 after it had been pointed out by us.

The failure of the Station HQ in complying with the Ministry’s instructions of July 2003 about maintenance of proper records of nominal rolls of actual attendance of conservancy staff had resulted in overpayment of ₹ 94 lakh to the Board. The mistake had remained undetected by the PCDA both at disbursement stage as well as during local audit.

We recommend recovery of the overpayment from pending/ future payments to the Cantonment Board.

The matter was referred to Ministry in February 2012; their reply was awaited as of July 2012.

### **3.5 Projection of inflated requirement of ammunition**

**Based on projection of requirements by Directorate General Ordnance Services the Ministry of Defence placed indent on Ordnance Factory Board *inter alia* for supply of two types of ammunition and also granted "in principle" approval for their import, despite holding surplus quantities in stock. Audit intervention led to cancellation of indents on Ordnance Factory Board as also stopped further action on import, leading to a saving of about ₹ 168.75 crore.**

The Director General Ordnance Services (DGOS) of the Master General of Ordnance (MGO) Branch in the Integrated Headquarters of the Ministry of

Defence (Army) is responsible for conducting annual provisioning review of the ammunition based on past wastage pattern, existing stock, dues-in and expected liabilities. We noticed (December 2008 and July 2010) instances of over-projection of requirement of two types of ammunition by the DGOS. Despite holding surplus ammunition, based on a proposal of the MGO, the Ministry of Defence in January 2010 placed a consolidated indent on the Ordnance Factory Board (OFB) for supply of additional quantities, over five years from 2009-10 to 2013-14. The MGO also obtained "in principle" approval of the Ministry in January 2010 to import additional quantity of ammunition to build up ammunition stocks to minimum acceptable risk level (MARL), stating that the capabilities of the ordnance factories had restraining factor to the required build up.

After we pointed out (December 2008 and July 2010) the surplus holding of the ammunition, the DGOS cancelled (September 2010) the indent that had been placed on the OFB and also did not proceed further with the proposed import, thereby saving ₹ 168.75 crore that would have been spent unnecessarily, besides warranting associated expenditure on handling and storage of unwanted ammunition. Specific features of each of the case are as under:

Sl No.	Name of ammunition	Surplus stock	Quantities approved for procurement	Audit comment
		Month of Stock holding	Period	
1.	5.56mm Blank INSAS	48.09 lakh ----- July 2009	480.00 lakh rounds (indigenous) ----- January 2010	Reasons ascertained for ordering additional quantity when there was surplus stock of 48.09 lakh rounds.
			148.64 lakh (import) ----- January 2010	
2.	Cartg.SA .22 Rim Fire Tracer	62.33 lakh ----- December 2008	50 lakh rounds (indigenous) January 2010 ----- 169.44 lakh (import) ( January 2010)	Reasons ascertained for ordering/ demanding additional quantity when the existing stock of 62.33 lakh rounds were sufficient to meet the normal requirement of indenting units for the next 19 years.

The above two cases reveal that but for the Audit intervention an avoidable procurement of ammunition for ₹ 168.75 crore would have been made. The entire episode of placing of indent on OFB and obtaining approval for import of additional quantity when surplus stock of ammunition existed reveals deficiencies in monitoring inventory levels at Ammunition Depots. We recommend appropriate strengthening of internal controls in the Ministry to ensure that procurement decisions/ approvals are made based on available stock positions.

The case was referred to the Ministry in May 2012; their reply was awaited as of July 2012.

### **3.6 Extra expenditure due to non-acceptance of reasonable L1 rates**

**Misconceived intervention by Army Commander Western Command, in three separate procurement processes relative to supply of fresh rations for troops during 2009-10, led to delay in conclusion of contracts and an extra expenditure of ₹ 4.57 crore.**

The procedure governing procurement of fresh ration supplied through Army Service Corps (ASC) to the troops stipulates that purchases are to be made from registered contractors by concluding annual contracts duly following the process of inviting tenders. The Central Vigilance Commission (CVC)'s guidelines governing the process of tendering further stipulate that all factors relating to the evaluation criteria should be specified in unambiguous terms upfront, i.e., before inviting the tender. In case of fresh rations, the composition/ variety of items to be procured is invariably to be worked out by the Station Commander and included in the tender documents. The change of varieties after receipt of tendered rates is not in order.

The procedure was streamlined by the Ministry of Defence in September 2006 to facilitate conclusion of contract in time, as delays and consequential non-conclusion of contracts results in retendering, which apart from postponing procurement action becomes detrimental to the interest of the Government. This is so because pending conclusion of procurement action, consequential local purchases is fraught with risk of (a) the cost of items purchased becoming high, (b) arbitrariness in decisions and (c) unhealthy trend of higher rates in future contracts.

In Western Army Command we observed that during the period 2009-10, in three cases, as discussed below, the Army Commander, acting contrary to the recommendations of the Staff Officers and the financial advice, recommended to the CFA (a) variation in the proportion of the items in supply of fresh rations after the tenders were opened, (b) rejection of an L1 tender in favour of L2 tender on grounds of L2 having perceived edge in terms of quality, delivery chain, etc all factors that had already been reckoned both in the tender documents and the deliberations of the Board of Officers and should, in any case, not have been brought up at post tender stage and (c) intervention in a tender for supply of fresh dressed chicken/ meat on grounds of ascertaining in the midst of annual procurement action the preference of troops, something that could have done independently for the benefit of next annual procurement. Such post-facto interventions, apart from being misconceived, violated a basic principle of public procurement which is not to vary the scope of the tender at a post-facto stage. These imprudent actions of the GOC-in-C led to delay in conclusion of contracts for purchase of fresh rations for the troops and extra expenditure of ₹ 4.57 crore.

**Case I**

<b>Item</b>	Vegetables and fruits
<b>Period of contract</b>	October 2009- September 2010
<b>Date of opening of tenders</b>	25 June 2009
<b>L1 tender recommended by the Panel of officers for acceptance</b>	Average rate of ₹ 5.36 per kg for vegetables and ₹ 12.49 per kg for fruits.
<b>Audit comments</b>	
<p>Although the panel of officers had recommended the acceptance of the L1 tenders, the General Officer Commanding-in-Chief (GOC-in-C), Western Command (CFA) observed that the rates were ridiculously low to ensure good quality supply. The feasibility of making changes to the variety-cum-percentage of fruits was then considered. Although the L1 firm was requested to give willingness for the change of varieties, the firm did not respond. The GOC-in-C, in September 2009, referred the case to the next higher CFA, i.e. Quarter Master General (QMG), and recommended retendering. The Revenue Procurement Board (RPB) headed by the QMG did not accept the proposal as the L-1 rates were within 20 per cent of Reasonable Rates and asked HQ Western Command in October 2009 to reconsider its stand.</p> <p>Meanwhile, the validity of L-1 tender expired. In the second call, L-1 rates were considered high. Finally, in the third call, the GOC-in-C accepted the L-1 rates of ₹ 10.45 per kg for vegetables and ₹ 20.02 per kg for fruits and, in April 2010, concluded a contract for the period April to September 2010, at an extra cost of ₹ 81.88 lakh, as compared to the L1 rates obtained in the first call.</p> <p>In the intervening period, Supply Depot had made local purchases at higher rates ranging between ₹ 11.47 and ₹ 12.45 per kg in respect of vegetables and ₹ 22.98 to ₹ 30.70 per kg in respect of fruits, resulting in an extra expenditure of ₹ 1.42 crore in comparison to the L-1 rate received in the first quote.</p> <p>The recommendation of the GOC-in-C to retender on the plea that the rates received were ridiculously low was not based on any market analysis. Further, it went against the procedure prescribed by the Ministry wherein a panel of officers was made responsible for studying the rate pattern and determination of reasonable rates based on market analysis. Since the panel had affirmed the reasonableness of the rates quoted by the L1 tenderers and recommended their acceptance the action of the GOC-in-C was arbitrary in nature.</p>	

**Case-II**

<b>Item</b>	Milk and butter fresh
<b>Period of contract</b>	October 2009- September 2010
<b>Date of opening of tenders</b>	07 August 2009
<b>L1 tender recommended by the Panel of officers for acceptance</b>	L1 rate of ₹ 23.05 per litre for milk quoted by a private dairy and ₹ 189 per kg of butter of 100 gm pack and ₹ 183 per kg of 500 gm pack quoted by a Co-Operative Milk Federation.

**Audit comments**

Although the Panel of Officers had recommended acceptance of the L1 rates, recommendation of the GOC-in-C to the QMG was to accept the second lowest tender (L2), of the Mother Dairy (higher by ₹ 1.10 per litre of milk) on grounds of better quality, acceptability and preference of troops as well as its efficient distribution networks. Clearly, these parameters for an acceptable supplier had already featured in the specifications of the supplies indicated in the tender documents. The QMG did not agree to the proposal as it was contrary to rules and not substantiated by facts and figures. It advised HQ Western Command in January 2010 to conclude the contract immediately to avoid extra expenditure on local purchase at higher rates.

The contracts could not be concluded as the validity of the L-1 tender had, in the meanwhile, expired. In response to the second call, the GOC-in-C recommended and QMG (CFA), in April 2010, accepted the tender for supply of milk at ₹ 24.15 per litre submitted by the same private dairy and ₹ 239 per kg for 100 gm pack and ₹ 233 per kg for 500 gm pack of butter quoted by the same Co-Operative Milk Federation, during the remaining period from 30 April 2010 to 30 September 2010. This involved an extra cost of ₹ 31.74 lakh in comparison to the L1 rates received in the first call. In the intervening period, the Supply Depot made local purchases at higher rates ranging between ₹ 23.95 and ₹ 26 per litre of milk and ₹ 202 to ₹ 232 per kg of butter in comparison to the L-1 tender resulting in an extra expenditure of ₹ 46.40 lakh. Till the regular contract was concluded in April 2010, milk at higher rates was purchased from the same private firm.

Consequently, milk products procured through local purchase as well as from subsequent L1 tender involved an extra expenditure of ₹ 78.14 lakh.

The recommendation of the GOC-in-C to accept the L2 offer on the grounds of better quality, acceptability and preference of troops as well as its efficient distribution network was subjective since the choice of the troops was never ascertained nor was the milk distributed by the Mother Dairy ever purchased and supplied through the Supply Depot.

**Case-III**

<b>Item</b>	Meat dressed and chicken dressed
<b>Period of contract</b>	April 2009- March 2010
<b>Date of opening of tenders</b>	27 February 2009
<b>L1 tender recommended by the Panel of officers for acceptance</b>	₹ 93.50 per kg for "meat dressed" and ₹ 72.50 per kg for "chicken dressed" quoted by a private firm at New Delhi

**Audit comments**

The GOC-in-C recommended the tender for "chicken dressed" at ₹ 72.50 per kg for acceptance by the QMG (CFA) and retendering for "meat dressed" after ascertaining ratio of choice of troops for goat and sheep meat. Apart from the irregularity of changing the conditions after opening of the tenders, the HQ Western Command, for no recorded reasons, delayed the forwarding of the case to the QMG by 82 days from the date of recommendation of the panel. Even as the quote received in February 2009 was valid only up to 30 June 2009, the case was sent to the QMG as late as 6 June 2009, thus delaying procurement action to the detriment of the Government interest.

The RPB constituted under the chairmanship of the QMG forwarded the case to the Ministry on 29 June 2009, i.e. one day before expiry of the validity of L1 offer, for acceptance of "chicken dressed". The Ministry returned the documents on 30 September 2009 with certain observations but without any decision. The contract could not be concluded as by then the validity of the tender had expired.

HQ Western Command re-invited tenders twice in November and December 2009 with no response. Subsequently, i.e. after obtaining sanction of the Ministry in May 2010 to conclude contracts for "meat dressed" in accordance with the preference of troops, HQ Western Command initiated action to ascertain preference of troops to decide ratio of goat and sheep meat so as to indicate it in tender schedule. The first tender enquiry made in July 2010, clearly showing the preferred percentage, did not materialize into a contract owing to the rates being exorbitant.

In the meantime, i.e. from 08 June 2009 to 31 March 2010, the Supply Depot procured "meat dressed" and "chicken dressed" locally at rates that were higher by 6 to 22 *per cent* for "meat dressed" and 19 to 38 *per cent* for "chicken dressed" as compared to L1 rates received *ab initio*, thus resulting in extra expenditure of ₹ 1.55 crore.

The delaying of the contract action by the GOC-in-C to factor in the preference of the troops for goat or sheep meat in the midst of annual procurement action was contrary to the procedure prescribed by the Ministry and the general guidelines of the CVC that all factors relating to the evaluation criteria should be specified in unambiguous terms upfront, i.e., before inviting the tender. The intervention of the Army Commander to factor in preference of troops in the procurement of meat in the midst of procurement process that had progressed to the bid evaluation though well meant was imprudent and should have been made only for the benefit of the next annual procurement action.

The case needs to be investigated to fix responsibility for non-compliance with the standard procurement procedures, varying procurement conditions after the opening of tenders and pecuniary loss to the Government.

The case was referred to the Ministry in March 2012; their reply was awaited as of July 2012.

### **3.7 Recoveries, savings and adjustment in accounts at the instance of Audit**

**Based on our observations the audited entities had recovered overpaid pay and allowances, sundry charges and recovered electricity & octroi charges, cancelled irregular works sanctions and amended annual accounts, having a net effect of ₹ 16.80 crore.**

During the course of audit, we observed several instances of irregular payments, under/non-recovery of charges, issue of irregular sanctions and accounting errors. Acting on the audit observations, the audited entities took corrective action, the net effect of which is summarised below:

### **Recoveries**

The check of records of Defence Research and Development Organisation, Principal Controllers of Defence Accounts, Military Engineer Services (MES), Pay and Accounts Offices, Canteen Stores Department (CSD) HQ and Border Roads Organisation revealed instances of irregular payment of pay and allowances, sundry charges, non-recovery of fixed charges of electricity from Personnel Below Officers Rank (PBORs) and rent and allied charges, etc amounting to ₹ 2.77 crore. On being pointed out, the entities concerned recovered/agreed to recover the irregular payments.

### **Savings**

Various sanctioning authorities such as the Ministry of Defence, Area/Sub-Area HQ of the Army, Station HQ, Corps HQ, etc cancelled irregular administrative approvals to works. Some of the MES officers reduced the administrative approval amount by issue of reduction statements in respect of works under execution by them. The net result of these actions was a saving of a total of ₹ 6.80 crore.

### **Amendment of annual accounts**

When we pointed out instances of irregular accounting such as overvaluation of closing stock, inadequate provision towards liabilities and under reporting of amounts due from State Governments, etc, the CSD HQ corrected the annual accounts. But for these corrections, profit would have been inflated and sundry debtors underreported. The net effect of these corrections was ₹ 7.23 crore.

## CHAPTER IV : WORKS AND MILITARY ENGINEER SERVICES

### 4.1 Overpayment of water charges by the Garrison Engineer Kamptee

**The failure of the GE Kamptee to repair/replace defective water meter and to regulate payment of bills on the basis of past average consumption as provided in the agreement, resulted in overpayment of about ₹ 4.70 crore to the Nagpur Municipal Corporation.**

The terms and conditions for bulk supply of water to Kamptee Cantonment by the Nagpur Municipal Corporation (NMC) is regulated by an agreement made between the Military Engineer Services (MES) and the NMC, as provided in the Regulations for the MES. As per terms and conditions of the agreement, the NMC would bill the MES [represented by the Garrison Engineer (GE), Kamptee] for the quantity of water supplied, as measured through an electromagnetic flow meter installed at the takeover point by the supplier at the cost of the consumer. The ownership and maintenance liability of the meter was that of the GE. In the event of the meter being found dysfunctional, the quantum of water to be billed was to be based on the assessed average consumption during the period of similar duration in the preceding year.

We observed (January 2010) that as the water meter in Kamptee Cantonment has been dysfunctional from September 2004, the GE has been making payment for supply of water for quantities ranging from 2,13,225 and 2,68,375 units per month (one unit equals 1000 litre), as billed by the NMC on the basis of water pumping hours, instead of regulating payment on the basis of average consumption. The average monthly supply during the preceding year from September 2003 to August 2004 was 2,06,466 units. After the installation of the new meter in January 2011 the quantity of water supplied has been found to be even lesser than this average, thus clearly substantiating excess billing by NMC.

The GE did not get the meter repaired/replaced during the long period from September 2004 to January 2011, even as the repair/maintenance of the meter was his responsibility. The Assistant Accounts Officer of the Defence Accounts Department attached to the GE to function as accountant, primary auditor and financial assistant had also failed to point out the irregular billing for over six years. The overpayment to the NMC during the period from September 2004 to March 2011 on account of non-regulation of payment as per the agreement was about ₹ 4.70 crore.

Thus, failure of the GE to repair/replace defective water meter and to regulate payment of bills on the basis of past average consumption, had resulted in overpayment of about ₹ 4.70 crore to the NMC.

The case was referred to the Ministry in February 2012; their reply was awaited as of July 2012.

#### 4.2 Excess payment of water charges by Garrison Engineer Hisar

**Due to incorrect categorization of the Military Engineer Services (MES) by the State Government, an excess payment of ₹ 12.92 crore was made by MES at Hisar on account of water charges levied by Haryana Government Irrigation Department.**

The Garrison Engineer, Hisar (GE) draws water for drinking and washing purposes from the Haryana Government Irrigation Department for distribution at the Hisar Military Station among the troops and their families. In accordance with the Schedule of Water Rates given in the Haryana Canal and Drainage Rules 1976, as amended from time to time, the water supplied in bulk to municipalities, notified areas and public bodies for drinking and washing purposes was chargeable at the rate of ₹ 3 per 6000 cubic feet. However, the GE paid bills raised by the Haryana Irrigation Department at a rate of ₹ 5 per 2500 cubic feet which was the rate meant for the category 'Other Bulk Supplies'.

In July 2000, the Haryana Government revised the water rates to ₹ 10 per 2500 cubic feet for drinking purposes to public bodies and ₹ 40 per 2500 cubic feet for water drawn for 'Other Bulk Supplies'. The GE paid bills at the revised rate of ₹ 40 per 2500 cubic feet as billed by the Irrigation Department. In October 2007, the Haryana Government again revised the rates for 'Other Bulk Supplies' from ₹ 40 to ₹ 250 per 2500 cubic feet, while retaining the rate of ₹ 10 for the water for drinking purposes. In January 2008, the GE, for the first time, sought clarifications from the Superintendent Engineer, Irrigation Department, Hisar as to whether the rate of ₹ 250 was applicable to Defence as the water consumption was for drinking purposes and not for industrial purposes. In response the Irrigation Department communicated that the rate of ₹ 250 was applicable for bulk consumers. The GE continued to pay the bills at higher rates without taking up the matter at higher levels. Even as the Ambala Cantonment had been paying the applicable rate of ₹ 10 per 2500 cubic feet for the water drawn for drinking purposes, the GE had not ascertained the status from the other Military Stations located in Haryana.

We noticed (December 2010) that the GE was paying water bills at rates meant for industrial and other bulk users, although water was being drawn only for drinking and washing purposes, whereas the civil departments and the Military Engineer Service (MES) formations at other stations in Haryana were paying ₹ 10 per 2500 cubic feet as water for "drinking purposes". Although the Commander Works Engineer Hisar of the MES informed (May 2011) that the matter had been taken up with the State Irrigation Department, it is obvious that the matter has not been effectively pursued with the State Government. Even the Assistant Accounts Officer of the Defence Accounts Department attached to the GE for scrutiny of bills before payment and to act as a primary auditor and financial assistant to the GE had failed to caution the

GE against the imprudence of paying charges at a rate that was not applicable in this case. This resulted in excess payment of ₹ 12.92 crore to the Haryana Government, during the period September 2004 to January 2012.

The Ministry stated in May 2012 that the Haryana Irrigation Department had considered only 6 of the 26 categories of consumers in the Hisar Military Station as those falling in the "drinking purpose category" while others were treated as the "other bulk suppliers category". It added that the Chief Engineer Jaipur Zone had, in October 2011, approached the Haryana Irrigation Department justifying that all the 26 categories of water consumption in Hisar were for drinking purpose only, and the matter was also raised in the Civil Military Liaison Conference Haryana for further discussion with the Chief Minister, which was yet to be held (May 2012). The GE continued to pay for water at the billed tariff to avoid interruption of water supply to troops.

The fact that the case was taken up by the Chief Engineer with higher levels of authority in the State Government, only after we pointed out the matter, reinforces our comment that the matter had not been effectively pursued with the State Government, even though there was glaring disparity in the billing when compared to another Cantonment in the State of Haryana. The Ministry may get the matter vigorously pursued with the State Government to apply the appropriate rate of water charges to the Hisar Military Station, to avoid continued drain of funds from the allocation made for the Defence Services.

#### 4.3 Construction of sub-standard bunkers

**Inadequate soil investigation and lack of proper supervision by the executing engineers and inspecting officers of the Military Engineer Services resulted in construction of substandard bunkers at a cost of ₹ 7.61 crore, which remained unfit for safe storage of ammunition. The bunkers continued to remain defective even after three years of their completion.**

Paragraph 366 of the Regulations for the Military Engineer Services (RMES) stipulates that the Garrison Engineer (GE) should inspect the works in progress under his division as often as possible and, in particular, before these are taken over from the contractor. Similarly, paragraph 367 stipulates that the Chief Engineer (CE) and Commander Works Engineer (CWE) should inspect the works in progress from time to time to ensure execution of works in accordance with the approved plans, use of quality materials, workmanship, etc.

We noticed a case involving construction of 10 'above ground bunkers', an 'ammunition shed' and allied infrastructure at Sunderbani, which manifested lack of proper supervision by the concerned engineering authorities and hasty issue of completion certificate by the GE while clearly ignoring the defects which had been repeatedly pointed out by the user unit.

The construction, which had been sanctioned by the Army HQ, was awarded by the CE Udhampur Zone (CEUZ) in October 2006 to a private firm for

execution by May 2009 at a cost of ₹ 6.72 crore. The GE (North), under whose supervision the work was executed issued (May 2009) a satisfactory completion certificate to the contractor, even though the user Ordnance unit had been repeatedly pointing out various defects in construction. The user's continued reminders to the GE for rectification of defects yielded no tangible results even as the front retaining wall of one of the bunkers collapsed in August 2010.

A Technical Board of Officers which assembled (September 2010) to investigate the case attributed the reasons for the defects and collapse of the retaining wall to improper soil investigation, less foundation depth, foundation resting on filled-up soil, inadequate drainage and improper water proofing etc. and held the executing engineers and inspecting officers responsible for these lapses. It also observed that the contractor had not complied with the site orders given by the representatives of the MES during the period from December 2007 to September 2008. Since the GE had issued satisfactory completion certificate of the work in May 2009, the defect liability period of the contract had already expired in May 2010. The Board, therefore, recommended demolition of the damaged retaining wall and its reconstruction, after thorough soil investigation and redesigning. As of March 2011, the GE had booked ₹ 7.61 crore to the job. The cost of rectification of the damaged portion of retaining wall and associated works, water proofing/ drainage around the bunkers which was estimated (August 2011) at ₹ 4.95 crore, was yet to be sanctioned (May 2012).

The Ministry admitted (May 2012) that improper soil investigation, less foundation depth, improper water proofing, etc. led to defects/ collapse of structures and added that the loss as assessed by a Court of Inquiry (COI) was ₹ 1.77 crore. It also confirmed that the COI had pinpointed the responsibility on the officers concerned and disciplinary action was being initiated.

The case underscores the ineffectiveness of internal controls in the Military Engineer Services. That checks to be exercised at multiple levels within the MES had proved to be ineffective in preventing sub-standard construction of a facility as critical as a bunker in a forward area, despite users raising red flags throughout the construction period, is a matter of deep concern and warrants exemplary action against those guilty of wilfully neglecting their duties.

We recommend (i) speedy implementation of disciplinary action against the delinquent officers for having issued satisfactory completion certificate despite complaints on the quality of the work and (ii) early rectification of defects to enable the user units to take over the bunkers for safe storage of ammunition.

#### 4.4 Extra payment to a Contractor

**Incorrect decision of Contract Accepting Officer for use of admixture in the concrete on additional payment basis, provision for which already existed in the contract, led to an extra payment of ₹ 1.25 crore to the contractor for works relating to an Ammunition Depot.**

Ministry of Defence sanctioned a job (March 2004) for construction of ammunition sheds and allied works for an Ammunition Depot (AD) at an estimated cost of ₹ 58.84 crore. Chief Engineer (CE) Kolkata Zone concluded a contract with a firm (July 2005) for ₹ 44.79 crore for the execution of work. The dates of commencement and completion of the work were 06 October 2005 and 05 January 2008 respectively. The work was actually completed on 05 March 2011.

Our scrutiny (August 2009) showed that the contract provided for mixing and consolidation of cement concrete according to IS-456:2000 with a batching plant to be located outside AD area for incorporation in the works within 20 minutes from the time of discharge from the mixer. Clause 10.3.3 of IS-456:2000 prescribes the use of admixture (retarders/plasticizers/super plasticizers) in the concrete mixing.

The contractor informed the Engineers (04 October 2005) about use of Cement Concrete Pump for pumping the cement concrete within specified time. Simultaneously, they sought approval for use of admixture in the concrete on additional payment basis. Although the Commander Works Engineer (CWE) opined (25 October 2005) that use of admixture in the concrete was not necessary and recommended use of concrete pump only, yet the CE accorded his approval for use of plasticizer<sup>10</sup> as admixture in all the concrete mixes (26 October 2005). The Garrison Engineer (GE) immediately (27 October 2005) conveyed the decision of the accepting officer to the contractor to use the plasticizer in all concrete mixes. The suggestions made by the CWE (03 November 2005) that use of plasticizer was not advantageous technically/functionally and would result in huge infructuous expenditure were again turned down by the CE (16 November 2005) and initiation of draft Deviation Order (DO) was ordered by the CE along with approval in principle (AIP) proforma and draft Star Rates to pay for use of plasticizer in the concrete mixes. Accordingly, the CWE submitted a plus D.O. for ₹ 1.37 crore along with draft Star Rates duly accepted by the contractor to the CE (February 2006) for approval.

After the DO was initiated, the CE who had replaced the earlier CE, rejected the admissibility of plus DO and reversed the decision of previous incumbent on the ground that by virtue of specifications (IS-456:2000) already mentioned in the notice inviting tender against which the contractor had tendered his bid, provision of plasticizer wherever required was deemed to be included in the rate quoted by the contractor and specified in the contract (August 2006). The

---

<sup>10</sup> Plasticizer is a chemical admixture that can be added to concrete mixtures to improve workability. It is usually not intended to affect the properties of the final product after it hardens.

contractor protested against this decision and sought for interim Arbitration for extra payment for the work (September 2006). Engineer-in-Chief (E-in-C), Army Headquarters appointed Arbitrator (November 2008), who gave his award (August 2009) in favour of the contractor stating that the contractor was entitled to extra payment for cost of plasticizer along with simple interest at the annual rate of nine *per cent* in terms of approval accorded by the accepting officer in November/December 2005.

Since it was the responsibility of the contractor to increase the slump of the concrete either by increasing the quantity of water and cement or to use plasticizer to achieve the desired specifications, the incorrect decision (November 2005) of the CE as Contract Accepting Officer regarding use of plasticizer in the work with payment as an additional item resulted in extra payment of ₹1.25 crore to the contractor and weakened the Military Engineer Services case in the arbitration proceedings. The resultant extra expenditure on the work was ₹ 1.25 crore (inclusive of interest of ₹ 13.46 lakh).

The Ministry stated (June 2012) that the expenditure could not be termed infructuous since plasticizer increases workability without affecting properties of final product. The reply is unsustainable since the contractor was bound to execute the work at the agreed contract rate by adhering to the prescribed contractual specification. The CE, by agreeing to pay for the addition of plasticizer through a deviation order had committed to pay an avoidable extra contractual payment to the contractor. The culpability of the CE in committing an unwarranted additional liability of ₹ 1.25 crore to the exchequer is a matter of concern and warrants investigation.

## CHAPTER V: BORDER ROADS ORGANISATION

### 5.1 Avoidable extra expenditure due to non-acceptance of lowest tenders

**Failure of the Border Roads Organisation to finalise tenders within the validity period of the quotes led to retendering and acceptance of higher rates resulting in additional expenditure of ₹ 3.01 crore on two works.**

The Border Roads Regulations, as amended in December 2004, empowered the Director General Border Roads (DGBR) to approve execution of works through contracts in consultation with Integrated Financial Adviser Border Roads (IFA/BR), where the estimated cost of the work is beyond ₹ 5 crore. As per the standard operating procedure (SOP) issued by the Ministry of Road Transport and Highways for execution of such works, the contracts for the works would be concluded by the Project HQ and the Chief Engineer (CE) of the Project concerned should issue tender documents containing the exact specifications/working procedures as sanctioned by the DGBR with concurrence of the IFA/BR. The SOP, however, did not prescribe any time frame for adherence to by all agencies concerned to ensure conclusion of contract action within the validity period of the tenders.

We observed two cases of delay leading to failure in finalising of the L1 tender within validity period and the resultant extra expenditure of ₹ 3.01 crore in execution of works, as narrated in the succeeding paragraphs:

#### Case-I

The DGBR accorded administrative approval and expenditure sanction in August 2009 for provision of surfacing works on the Zojila-Kargil-Leh Road (NH 1D) to NHDL specifications from km 268 to km 278 at an estimated cost of ₹ 9.37 crore. The CE of the Project Himank received five tenders (September 2009) in response to tender invitation for execution of the above work. After opening the bids (03 October 2009), the CE recommended (06 October 2009) to the DGBR to approve acceptance of the lowest offer of ₹ 6.36 crore quoted by Firm 'X'. DGBR forwarded the case to IFA/BR on 16 October 2009 for concurrence. The IFA returned the case (05 November 2009) for page numbering of file and calling for legible copies of newspaper cuttings of the notice inviting tender and its amendment, attested copies of quotation, vetted comparative statement of tenders, details of validity of acceptance of tender, etc. While the case was pending with the DGBR, the CE informed (10 November 2009) both the DGBR and the IFA that the validity of the tender would expire on 29 November 2009 and that the tenderer might not extend its validity. Though the DGBR resubmitted the case (13 November 2009), the IFA again returned it (30 November 2009) calling for report of Board of Officers on evaluation of unpriced bids and the validity of bids. On 02 December 2009, the L1 tenderer informed the CE about his unwillingness to

extend the validity at the quoted rates. Consequently, the CE had to retender the work and the lowest rate of ₹ 8.39 crore quoted by another firm was approved by the DGBR with concurrence of the IFA (October 2010) and contract signed on 20 October 2010. Thus, due to delay in acceptance of the earlier L1 tender largely attributable to piece meal examination of tender by the IFA, resulted in excess expenditure of ₹ 2.03 crore, an increase of 32 *per cent*, in one year.

### **Case-II**

Director General of Border Roads (DGBR) issued sanction in May 2008 for provision of pavement works on a patch of 11 km road between 30 km and 40 km on NH ID at an estimated cost of ₹ 8.72 crore out of which the work valuing ₹ 7.37 crore was to be carried out through contract. The CE Project Beacon invited tenders on 16 April 2009. On opening of the bids on 23 July 2009 the offer of Firm 'Y' quoting ₹ 8.02 crore was found L-I. The CE sent the case to DGBR on 30 July 2009 for approval in consultation with IFA/BR. The IFA concurred with the case on 7 October 2009. The case was received in DGBR on 8 October 2009, he conveyed his approval to its acceptance by the CE on 11 November 2009. As the validity of the tender was up to 20 October 2009 and the tenderer refused to extend the validity the contract could not be concluded.

In re-tendering the lowest quote of another firm quoting ₹ 9.00 crore had to be accepted. The contract that was concluded in July 2010 involved an extra expenditure of ₹ 0.98 crore.

Lately, in May 2011, DGBR, informed all the CEs to get validity of quotes for a minimum of 120 days from the date of opening and prescribed a time frame allocating the time slots for each of the activity to ensure conclusion of contracts within the validity period.

Regarding the Case-I, the DGBR stated (August 2011) that the delay was due to time taken for scrutiny and correspondence on the case, and the expectation that as per past experience, the contractors would extend the validity period. In respect of Case-II, the DGBR stated (January 2011) that they had certain doubts about the L1 rates. Both these replies are untenable as the DGBR and IFA/BR were housed in the same premises and the Government's interest could have been protected by speeding up the case by keeping the validity of the tender in mind, especially when the CE had alerted both the DGBR and the IFA of the unlikelihood getting the validity of the offer extended (Case-I).

Thus, the delay in finalising the tenders in both the cases within the validity period of the financial quotes received, resulted in an avoidable extra expenditure of ₹ 3.01 crore. The cases merit investigation to fix responsibility on all concerned officials.

The cases were referred to the Ministry of Defence in January 2012; their reply was awaited as of July 2012.

## 5.2 Undue benefit to a supplier

**Director General Border Roads, in violation of Defence Procurement Manual 2006, the terms of the supply order and without obtaining approval of the competent financial authority, granted undue benefit of ₹ 2.28 crore to a supplier by waiving liquidated damages and payment of enhanced statutory duties during the extended delivery period.**

The Defence Procurement Manual 2006 (DPM-2006) provides that only in cases where the delay in deliveries was due to reasons not within the control of the supplier or when the supplier cannot be held responsible for delay in delivery, the competent financial authority (CFA) may consider waiving off the liquidated damages (LD) with the concurrence of the Integrated Financial Adviser. The reasons to justify the waiver have to be adequately recorded. The purchaser may also grant extension of delivery dates with levy of LD as per the general conditions of contract.

We came across an instance where the Director General Border Roads (DGBR) waived and refunded liquidated damages imposed on a supplier, in violation of the relevant provisions of DPM-2006 as well as the terms of supply order. DGBR had placed two supply orders in February 2007 on 'X' company for supply of 55 and 31 Tandem Vibratory Road Rollers (TVRRs) at a total cost of ₹ 14.40 crore. The supplies were to be received in two lots i.e. the first lot of 60 by 31 March 2007 and the second lot of 26 by 31 May 2007.

The supplier could not deliver the TVRRs by the stipulated dates. DGBR extended the delivery period repeatedly with a condition to levy LD for the period of delay. The last extension was given up to 10 March 2008. DGBR recovered ₹ 1.24 crore on account of LD from the bills payable to the supplier. In July 2008, the DGBR, however, reversed the decision to levy LD and refunded the entire amount of LD on the plea of the supplier that the delay was on account of reasons beyond his control and was attributable to delay in receipt of materials from the overseas vendors. DGBR did not obtain the approval of the CFA, required under Paragraph 7.9 of DPM 2006 before deciding to relax the terms of the supply order in clear deviation of the DPM 2006. This was irregular, because even in the case of force majeure conditions, the supplier was bound to intimate such circumstances not later than 10 days of their happenings. In the instant case, the supplier had requested for the waiver of LD only in May 2008, i.e., after a lapse of 14 months, from the scheduled date of delivery and completion of the supplies in March 2008.

Further, the supply order, including the extensions given, had clearly stipulated that increase in price on account of any statutory increase or due to fresh imposition of customs duty, excise duty, sales tax or on account of any other tax or duty, in respect of stores after the date of delivery period stipulated in acceptance of tender, would not be admissible if such part of the supplies are delivered after due date of delivery. Contravening these terms, the

DGBR, on 5 March 2008, issued an amendment to the supply order, without approval of the CFA and paid to the supplier excise duty and CST/VAT at the enhanced rates amounting to ₹ 1.04 crore. The payment of increased statutory duties at enhanced rates was in violation of the supply order conditions and the provisions of DPM 2006.

HQ DGBR admitted (August 2010) that the extension of delivery period without LD had been given due to oversight. The specific considerations that prompted the DGBR to overlook the provisions contained in the procurement manual and the terms of contract need to be investigated to fix responsibility and appropriate action taken against those responsible for causing the extra burden of ₹ 2.28 crore on the exchequer.

We have referred the case to the Ministry in March 2012; their reply was awaited as of July 2012.

## CHAPTER VI: DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION

### 6.1 Avoidable extra expenditure in procurement of stores

**Incorrect decision by the Tender Purchase Committee to re-float tender when there was enough scope to finalise the L-1 offer within the validity period resulted in an avoidable extra expenditure of ₹ 4.56 crore.**

Based on the requirement projected by the Defence Metallurgical Research Laboratory (DMRL), Hyderabad, the Defence Research & Development Organisation (DRDO) HQ approved (May 2005) procurement of die blocks and die stack parts for development of High Pressure Compressor Discs, at an estimated cost of ₹ 1.70 crore. DMRL issued a global tender (June 2005), inviting quotations under the two-bid system i.e. the technical bid and the commercial bid. The Technical Evaluation Committee (TEC) after evaluating all the technical specifications, including mechanical properties, testing, inspection warranty, etc. recommended (October 2005) two firms 'X' and 'Y'.

On opening of the price bids (November 2005), the offer of firm 'X' was found the lowest (L1) at \$ 153,080 (₹ 70.29 lakh) against firm 'Y's offer of Euro 565,013 (₹ 3.05 crore). Despite 'X' being the L1 offer, the TPC headed by the Director DMRL, without recording any reasons/ justification, recommended that the L1 firm be advised to send its final "best offer".

DMRL accordingly asked (December 2005) firm 'X' to send its final 'best lowest offer' stating that their "price was slightly higher than the budgetary estimates". In response, firm 'X' revised (January 2006) the rate to \$ 718,600 (₹ 3.30 crore), which was higher than the offer of ₹ 3.05 crore quoted by the L-2 firm 'Y'. The TPC recommended re-float of the tender as upward revision in prices was unacceptable.

After obtaining approval from DRDO HQ (May 2006), DMRL re-floated the tenders (June 2006). Of the three quotes, the TEC accepted the technical bid of firm 'Y' only. DMRL, with the approval of DRDO HQ, placed (June 2007) an order on firm 'Y' for supply of the items at a cost of Euro<sup>11</sup> 907,992 (₹ 5.26 crore) and received the items (September 2009) at a final cost of ₹ 6.04 crore.

The decision of the TPC to call for "best lowest offer" from L1 bidder even though the price quoted was way below the approved estimated cost and much lower than the second higher offer was unjustified. Eventually the items were finally procured from the L2 firm at a much higher cost.

The Ministry of Defence stated (June 2012) that the TPC had followed the prevailing guidelines and collectively decided to seek the "best offer" presuming that the L1 firm had not fully understood the requirements and the

<sup>11</sup> 1 Euro = ₹ 57.91

technical specifications of the item keeping in view the wide variations in the prices quoted by L1 and L2 firms. The contention of the Ministry was not tenable as the TPC had recommended the firms 'X' and 'Y' as having met all technical specifications after due evaluation. Furthermore, while seeking the 'Final Best Offer' from the L1 bidder the TPC had not recorded any justification in support of its decision. Hence the averment of the Ministry "on the presumptions made by the TPC" is at best an afterthought and, therefore, unacceptable.

Thus an imprudent decision of the TPC resulted in the procurement at an avoidable extra expenditure of ₹ 4.56 crore, besides delaying the availability of the items to the user.

## **6.2 Unfruitful investment by Defence Research and Development Organisation**

**An investment of ₹ 3.25 crore by Defence Research and Development Organisation (DRDO) in May 2001 for creation of facilities in Central Glass and Ceramic Research Institute, Kolkata for production of a critical material remained idle for over six years. DRDO could not obtain any benefit from the investment.**

The Defence Research and Development Organisation (DRDO), through a Society, procured 200 each of low thermal expansion glass blocks from a local supplier in Hyderabad during May 2007 and February 2008 at a cost of ₹ 6370 per unit to meet its research and development requirement. As an earlier initiative by DRDO by making an investment ₹ 3.25 crore had borne no result the matter was examined by us in 2009. The investment had been channeled to the Central Glass and Ceramic Research Institute, Kolkata (CGCRI) through Society for manufacture and supplies of the required number of this item from 2003 onwards.

CGCRI had established the facility by commissioning a plant in November/December 2003, using funds provided by DRDO. As per the terms of the Memorandum of Understanding (MOU) signed (May 2001) between Society and CGCRI, the latter was required to supply 225 pieces of the glass blocks per annum for a period of 10 years to DRDO. However, after supplying merely 10 pieces up to May 2004, CGCRI stopped operating the plant due to failure of different units on different occasions. After its commissioning a total of four trial runs were carried out and the plant produced 16 units out of which 10 having achieved the desired specifications were found to be acceptable to DRDO. Despite this, the DRDO (Research Centre Imarat, the associated DRDO laboratory) declared that the 'preparation of the material as per the specification had been achieved' and indicated that CGCRI will fulfill the contractual obligation of supplying 225 units per year for 10 years.

In November 2006, the plant became completely non-operational. Although the MOU had clearly spelt out that the DRDO's liability would be limited to ₹ 3.25 crore, yet CGCRI, in December 2009, sought additional financial

assistance of ₹ 5.25 crore from DRDO to make the plant operational in addition to a commitment to pay ₹ 0.80 crore at a later date. DRDO declined (June 2012) to pay any more funds to CGCRI.

Our scrutiny indicated that DRDO had, in 2001, justified the investment of ₹ 3.25 crore stating that item was being imported at a unit rate of ₹ 25,000 and that creation of a national facility would make the country self reliant in this field. Subsequent sourcing of the item from local suppliers, however, make it apparent that even if DRDO had purchased its entire requirement of 2250 units of the item from local suppliers, the expenditure would have been only about ₹ 1.43 crore, which was just a fraction (44 *per cent*) of the investment of ₹ 3.25 crore made by it. Thus the investment decision of DRDO was flawed *ab initio* and betrayed lack of due diligence in committing public funding for a venture of doubtful merit.

The Ministry, in reply to our audit observation, stated in June 2012 that the purpose of investment was not solely the purchase of 2250 units, but to establish a national facility to achieve self-reliance in area of strategic missions and the failure was purely accidental. While the objective of achieving self reliance in critical aspects is laudable, DRDO had neither made a realistic assessment of the techno-economic feasibility of the venture nor ensured its successful execution by the partner institute. Resultantly, investment of ₹ 3.25 crore made during 2001 had become unfruitful and the objective of achieving self-reliance remained a distant possibility.

The case underscores the need for the Department of Defence Research and Development to be more diligent in making investment decisions in other organisations.

### **6.3 Irregularities in sanction of Defence Research Development Organisation projects**

**Audit scrutiny of project sanctions issued by the Defence Research and Development Organisation revealed procedural irregularities relating to misleading nomenclature of sanction issuing authorities, absence of data base of sanctions, splitting of sanctions etc.**

Expenditure out of public funds is regulated by the provisions of General Financial Rules. Such expenditure is invariably authorised through specific sanctions issued by the competent authorities at various levels in the government, in accordance with financial powers delegated to each level. Since each such sanction authorises spending of public money for public purposes these are invariably endorsed, *inter-alia* to the designated principal audit office for scrutiny and validation. For proper accountability each sanction must indicate clearly the name of the authority issuing the sanction, purpose of expenditure, conditions subject to which such expenditure can be incurred, the head of account under which it must be classified and the reference under which the concurrence of the Ministry of Finance or the relevant associated or integrated finance division has been secured.

The Ministry of Defence, in July 2010 sharply enhanced the delegated financial powers, which were already revised in April 2010, within the Department of Defence Research and Development [DD(R&D)] across the board, as indicated below:

Item of expenditure	CFA	Financial powers prior to April 2010	Financial powers as revised in April 2010	Extent of financial powers delegated in July 2010	Concurrence levels, as per the delegation of July 2010
Sanction for undertaking a new project	Chief Controller R&D (CCR&D)	₹ 10 lakh	₹ 8 crore with approval of Defence Research Council	Above ₹ 5 crore and up to ₹ 25 crore	Integrated Financial Adviser (IFA)
	Director General Defence Research and Development Organisation (DG DRDO)	₹ 50 lakh	₹ 12 crore	Above ₹ 25 crore and up to ₹ 50 crore	IFA
	Secretary, Defence R&D	₹ 15 crore	₹ 15 crore	Above ₹ 50 crore and up to ₹ 60 crore	JS and Additional FA
				Above ₹ 60 crore and up to ₹ 75 crore	Financial Adviser Defence Services (FADS)/ Secretary (Defence-Finance)

Between April 2010 and July 2011, a total of 72 sanctions were issued by the Secretary DD(R&D) in his capacity as head of DD(R&D) or as Director General Defence Research and Development Organisation (DG DRDO), authorising expenditure on new projects, which included 43 sanctions issued under the enhanced financial powers devolved in July 2010. Of the 72 sanctions, we identified 33 sanctions for our examination. Of these, we audited 32 sanctions during October-December 2011. The main objectives of audit were to ascertain whether these sanctions conformed to General Financial Rules, 2005 in ensuring proper accountability in financial decision making and whether the sanctions were amenable to reasonable internal controls. Files relating to one sanction issued in 2010 and involving an expenditure of ₹ 18.10 crore were not produced to us for our scrutiny.

Our audit of the sanctions revealed non-adherence with established norms and procedures for issue, circulation and recording of sanctions authorising expenditure out of public funds for various purposes. These deficiencies noticed by us were as follows:

#### 1. Non-communication of sanctions to Audit

Rule 29 of the General Financial Rules, 2005 (GFR) stipulates that all financial sanctions issued by a competent authority shall be communicated to

Audit. As per Regulation 50 of the Regulations on Audit and Accounts, Heads of Department shall also send to the audit office quarterly statements on the 15<sup>th</sup> day of each of the months of July, October, January and April, of all sanctions issued in respect of their department during the preceding quarter. However, we did not receive such quarterly statements for audit from the DD (R&D) and DRDO HQ and as such we could not get an assurance as to whether copies of all the sanctions issued by the DD(R&D) and DG DRDO were being received by us. Our audit in DRDO HQ confirmed that all the copies of sanctions issued were not being sent to us as required under the GFR.

## **2. Non-maintenance of database of sanctions issued**

DRDO HQ did not maintain a control register of sanctions issued and there existed no mechanism to track the number and total amount of sanctions issued in a year. Even the Technical Directorates at DRDO HQ were not maintaining database/registers of sanctions issued for projects. In the absence of the above mentioned minimum control records, the possibility of sanctions being issued in excess of funds, splitting of sanctions, issue of multiple sanctions for the same objective, etc. could neither be ruled out nor noticed in the normal course.

## **3. Misleading nomenclature of sanction issuing authority**

In some of the sanctions issued by DRDO HQ, due to incorrect mention of sanctioning authority, it appeared as if the sanction had been issued by the Ministry of Defence, DD (R&D). Such a practice equates DRDO HQ, which is a subordinate organisation, to DD(R&D), a department of the Ministry. Clearly, this obfuscation of financial powers delegated at different levels of authority has been caused by in built duality of the position of Secretary DD (R&D)-cum-DG, DRDO. As the sanctions of the Ministry of Defence are to be issued only with the financial concurrence of the Defence (Finance), such wrong nomenclature in the sanctions was misleading as to the level of the CFA issuing the sanction. After our pointing out, the Secretary DD(R&D) has however, mitigated the position by issuing directives, in August 2011, to review the sanction orders issued since July 2010 and rectify the errors.

## **4. Splitting of sanctions to keep sanctioned amount within delegated powers**

We observed that after the enhanced delegation of financial powers in July 2010, the sanctions were split up to bring them within the delegated financial powers of the DG R&D, i.e. up to ₹ 50 crore in consultation with the IFA. Since the same person holds the position of Secretary DD(R&D) and DG, DRDO such splitting up of sanctions is tantamount to pre-selecting the financial advisor which clearly erodes the integrity and independence of financial scrutiny of expenditure proposals. In four cases narrated below we observed that similar projects were undertaken for the identical technologies earlier. Instead of obtaining revised sanction for existing projects by approaching the appropriate Competent Financial Authority (CFA) at the next higher level, fresh projects were sanctioned. Even in the fresh sanctions issued

we observed that the project cost was kept low, by reducing scope of the work so as to bring them within the delegated financial powers of DG DRDO.

### **Case I**

While the development of Aerostat Platform (Project AKASHDEEP) sanctioned by the Ministry (March 2005) at a cost of ₹ 13.85 crore was in progress, DG DRDO sanctioned (July 2011) another project NAKSHATRA also for development of the same item at a cost of ₹ 48.8 crore.

Procurement of “Aerial Access Platform” which was originally a component of Project NAKSHATRA was deleted and was procured from Project AKASHDEEP. Similarly a sub-activity ‘Electro-Optical Payload System for Aerostat’ was also delinked from NAKSHATRA and sanctioned (January 2011) under another project ‘Design and Development of Electro-Optical Sensors for Air-borne Platforms’ at a cost of ₹ 49.82 crore. We further observed that the project proposal for ‘Design and Development of Electro-Optical sensors for Air-borne Platforms’ was submitted by the lab (Aerial Delivery Research Development Establishment) in January 2010 at a cost of ₹ 68.40 crore. However, the cost of the project was brought down to ₹ 49.82 crore by reducing the number of deliverables and curtailing its scope enabling the DG DRDO to issue the sanction within his delegated powers. Clearly projects were being split to keep the sanction below ₹ 50 crore.

The DRDO (November 2011) stated that AKASHDEEP was taken up under Technology Demonstration (TD) mode for limited payload while NAKSHATRA was taken up based on draft Joint Staff Qualitative Requirement for higher pay load, also under TD with new technologies. This, however, does not address our concern that the technical specifications of both the projects were similar and should have been brought under a single project by obtaining approval of the appropriate CFA.

### **Case II**

The Ministry had sanctioned (June 2003) the project ADITYA for development of Vehicles Mounted High Power Laser Directed Energy System at a cost of ₹ 97.40 crore for completion by June 2010. The DG DRDO sanctioned (October 2010) another Project for creation of ‘Electro Optical System Testing’ at a cost of ₹ 35 crore for completion within 24 months despite the fact that the scope of the project ADITYA initially included creation of such a test facility. This led to splitting up of sanction- one for the main project and another for testing facility.

DRDO stated (November 2011) that test range was planned to be pursued separately in view of different requirements for testing of various system and the issues related to land acquisition for test range. The reply is unacceptable as the components of the projects were required to be sanctioned as a whole. DRDO could well have pursued the creation of the test range separately, this, however, was related to managing the project and not necessarily related to its sanction.

### **Case III**

The Ministry sanctioned (August 2007) a project titled Development of Fixed Wing Micro Air Vehicle for completion in three years at a cost of ₹ 13.68 crore. To meet some additional requirements, i.e. to develop 2 kg class mini UAV, CCR&D sanctioned (July 2010) a new project at a cost of ₹ 7.48 crore instead of issuing corrigendum and increasing the scope of the original project.

The DRDO stated (January 2012) that 2 kg class mini UAVs were technically found more appropriate and hence separate sanction was accorded. This is not tenable because if a more appropriate technology is found during project execution stage, enhancement should have been included by way of corrigendum and approvals of the sanctioning authority taken.

### **Case IV**

One of the laboratories of DRDO proposed a project (April 2010) to develop two sets of radars of three types (i) Ground Penetrating Radar (GPR) for detection of buried and hazardous objects, (ii) Through Wall Imaging Radar (TWIR) for detection of humans behind thick wall and (iii) Portable Ground Based Foliage Penetration Radar (GB-FPR) for detection of moving objects behind foliage. The initial proposal for sanction of the project at a cost of ₹ 48 crore excluded ₹ 5 crore for testing charges.

The DG DRDO sanctioned (January 2011) the project at a cost of ₹ 48 crore including the cost of testing but with scope reduced to develop only two types of radars i.e., GPR and TWIR. Thus the scope of the project was reduced to develop only two types of radars to keep it within the limit of ₹ 50 crore.

The DRDO HQ stated (December 2011) that the scope of the project was reduced by deleting development of one of the three radars since it was decided that with the limited manpower of the lab it would not be able to complete all the three development works within the tight time frame. The cost of development was reduced by ₹ 6 crore and the cost of testing of ₹ 5 crore was added to the project. Thus by excluding the third type of radar with cost implication of ₹ 6 crore from the scope of the project the testing facilities were included in the project scope enabling the DGDRDO to keep the overall cost of the project within ₹ 50 crore and to sanction it within his delegated powers.

## **5. Sanctioning of projects without establishing viability**

As per the procedure for 'Project Formulation and Management' in DRDO, to independently determine the viability of projects costing more than ₹ 2 crore these have to be peer reviewed by an expert committee chaired by an eminent person preferably from outside the DRDO. The Committee is to be appointed by the competent authority, i.e., Lab Director in consultation with Technical Director for projects costing ₹ 2 crore and above but less than ₹ 5 crore; Chief Controller concerned for projects costing ₹ 5 crore and above but less than ₹ 15 crore; and Scientific Adviser to the RM for those of ₹ 15 crore and above.

However two projects, one for development of 'Mine Protected Vehicle (MPV)-KAVACH' at a cost of ₹ 8 crore and another for 'Development of Vehicle Mounted Laser Dazzler' for crowd control applications at a cost of ₹ 5 crore, were sanctioned in February 2011 and April 2011 respectively, by CC (R&D) (MS & LIC) without getting these peer-reviewed as envisaged. The concurrence granted to the project by IFA was, therefore, irregular and reflected insufficient scrutiny of the proposals.

The DRDO HQ stated (January 2012) that the necessity of the Peer review was not felt as these projects had already been reviewed by a senior officer from the Directorate of DRDO and G-Fast. The reply is not tenable because the Projects are to be peer reviewed by eminent persons outside DRDO i.e. academicians and industry experts which was not done in the above cases.

#### **6. Inadequate control of sanctions by the IFA R&D**

The Ministry of Finance, in June 2006, introduced a new scheme of IFA. The aim of the scheme was to make the role of IFA akin to the role of the Chief Financial Officer in a corporate structure with specific responsibilities for ensuring fiscal prudence and sound financial management by involving him in budget formulation. However, in contravention of the Ministry's orders it was seen that IFA R&D was not maintaining the requisite documents such as serially numbered sanctions register, details of budget, actual expenditure on projects, committed liability etc. While furnishing reply in December 2011 to audit observation, the IFA (R&D) has not clearly explained how in the absence of requisite appropriate records due control was being exercised by him over the sanctioning process. However, the IFA stated that the implementation of IFA system was yet to fully take off and that in the years to come when the Financial Advisers are posted in DRDO laboratories across the country, the system of internal control would become more effective. The reply is not specific because budgetary control in DRDO is not necessarily dependant on the positioning of IFAs in all the laboratories in the country, and could have been achieved within the existing set up.

#### **7. Conclusion**

We are of the opinion that the enhancement of delegated financial powers and introduction of IFA system in DRDO had in its immediate aftermath actually resulted in concentration of financial powers with DRDO HQ through the IFA R&D owing to a tendency to split the projects to avoid reference to higher CFAs. Neither the CFAs nor the IFA were maintaining a control register to watch the sanctions issued by them nor were they ensuring mandatory submission of copies of the sanctions to Audit. The above audit findings underscore that the efforts of the Ministry to bring in transparency and objectivity in the functioning of its departments remain unachieved as of now.

The matter was referred to the Ministry in May 2012; their reply was awaited as of July 2012.

## CHAPTER VII : PROJECT MANAGEMENT IN RESEARCH AND DEVELOPMENT ESTABLISHMENT (ENGINEERS)

### 7. Project Management in Research and Development Establishment (Engineers)

**Staff Projects taken up for delivery of products required by Defence Services during the last 15 years achieved minimal success. Out of 19 closed Staff Projects only 3 underwent production, 2 partly achieved the project requirement and remaining 14 could not achieve success in terms of acceptance by the users. Projects were initiated without firm Staff Qualitative Requirement (SQR). Excess time overrun, failure of the laboratory to develop the desired deliverables and mismanagement in post development activities contributed to projects' failure.**

#### 7.1 Introduction

The Research & Development Establishment (Engineers) [R&DE (E)] Dighi is a laboratory set up at Pune in 1962 under Defence Research and Development Organisation (DRDO) with the primary role of development of mobility and counter mobility equipments for the Corps of Engineers. Over the years, the establishment has also diversified into development of ground system engineering for missile and other weapon systems. Amongst its major achievements are the Bridge Laying Tank on T-72 chassis, Mechanically Launched Assault Bridge (SARVATRA 15 m), Integrated Field Shelters for operation in NBC environment, Mine Field Marking Equipment, etc.

R&DE (E), like any other DRDO lab, takes up two kinds of projects viz (i) Staff Projects and (ii) Technology Demonstration. Staff Projects are taken up against firm demands placed by the user Services and are based on well-defined requirements projected in the Staff Qualitative Requirement (SQR). Such Projects are expected to result in deliverables within a specified time-frame for eventual induction into service. The second category of projects variously termed as Technology Demonstration /Research & Development (R&D) / Science &Technology(S&T) Projects are taken up for capability building in a given area of research or to solve specific problems arising out of or having a bearing on Staff Projects. These projects are planned to establish futuristic technologies for application in user based Staff Projects. R&D/TD Projects are also taken up to bring critical technologies to the level of maturity that is required for system development and are to that extent precursors to system development projects. Such projects usually involve moderate investment and have moderate success rates.

#### 7.2 Scope of audit

We examined (2011) the projects undertaken by R&DE (E) during the past 15 years covering the period from 1995 to 2010, to make an independent evaluation of the success rate of its R&D endeavour, fully aware of the fact that R&D efforts need not meet with 100 *per cent* success.

We scrutinised 50 projects that included 24 Staff and 26 R&D/TD Projects, out of which 39 projects (19 Staff and 20 R&D/TD Projects) had been already closed after incurring an expenditure of ₹178.66 crore. Balance five Staff Projects and six R&D/TD Projects were still in progress as of February 2011. Out of 39 closed projects, seven Staff and six R&D/TD Projects amounting to ₹10.51 crore and ₹ 34.49 crore, respectively, were sub-projects undertaken on behalf of other DRDO labs.

### 7.3 Criteria to determine success of projects

Staff Projects can be considered successful if the deliverable in terms of equipments or systems is accepted by the users after satisfactory user trials for induction into Services. As R&D/TD Projects are planned to establish futuristic technologies for application in Staff Projects, such projects can be considered successful on utilization of the developed technology in a Staff Project.

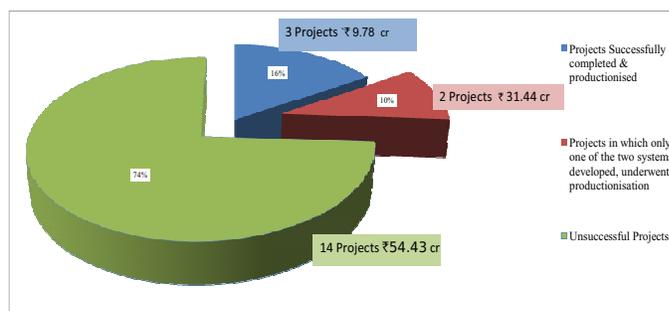
The Ministry stated (May 2012) that once the objectives of R&D/TD Projects are achieved, it should be termed as successful as a strong technological base of critical technologies has been established. The Ministry's reply should be viewed in the context that the main purpose of these projects is to establish successful technologies resulting in deliverables for end use in Staff Projects, or at least, in creation of intellectual property, verifiable with reference to registered patents, and in the absence of that the claim of success would appear to be only theoretical.

### 7.4 Staff Projects

#### 7.4.1 High failure rate of Staff Projects

We noted that of the 19 closed projects, completed at a cost of ₹ 95.65 crore, only three projects<sup>12</sup> involving an expenditure of ₹ 9.78 crore (16 per cent) had graduated into production, as indicated in the chart below.

**Status of Staff Projects: Total number of closed projects = 19**



<sup>12</sup> Incidentally of the three successful projects, two projects completed at a cumulative cost of ₹ 3.14 crore, were sub-projects of the Main projects taken up by other DRDO Labs viz. CAIR Bangalore and VRDE Ahmednagar,

Another two projects, viz. Project SARVATRA and Project for Development of Short Span Bridging System, completed at a cost of ₹ 31.44 crore, were only partially successful. Under project SARVATRA, a 15 m and a 20 m bridging system were required to be developed out of which the former went into production. In the project for Development of Short Span Bridging System, 10 m and 5 m bridging systems were required to be developed out of which only the latter was considered for production. The products of the remaining 14 Staff Projects, which constituted 74 per cent of the closed Staff Projects on which a sum of ₹54.43 crore was spent, were not accepted by the users for a variety of reasons.

The Ministry stated that a project successfully realized but not accepted by the user cannot be termed as 'failure' in an R&D scenario as DRDO was not involved in productionisation. The Ministry's reply sidesteps the truism that the ultimate test of success in a Staff Project is productionisation of the developed system and its introduction into Services, even as it may be justifiably arguable in certain cases that part of the responsibility for failure of Staff Project would also lie with the users.

#### **7.4.2 Reasons for low success rate of Staff Projects**

Our analysis of closed Staff Projects, where the deliverables were unacceptable to the users, pointed to the following reasons for their failure to meet the demands of the user:

- > Taking up projects before finalisation of SQR (1 project);
- > Excessive time overrun often making the developed technology obsolete (3 projects);
- > Failure of the laboratory to develop the desired deliverables (3 projects);
- > Partial achievement of project requirement (2 projects); and
- > Mismanagement in Post Development Activities (3 projects).

The Ministry stated that the success rates of Staff Projects had been relatively low due to infirm General Staff Qualitative Requirement (GSQR), changing user requirements, lack of industrial base to support the transfer of technology (ToT) and bulk production, time overruns, etc. These issues were examined in audit and our findings are discussed as under:

#### **7.4.3 Taking up projects before finalisation of the GSQR**

DRDO undertakes the development of equipments/systems under a Staff Project in accordance with the time frame and functional and operational characteristics projected in SQR formulated by the users. SQR defines in precise terms the deliverables to be achieved. Formulation of an SQR is therefore of prime importance for undertaking a Staff Project. Taking up Staff Projects before finalisation of the SQR by the user carries the risk of the system developed not meeting the users' requirement. A case in point is the user's rejection of the Counter Mine Flail (CMF) on T-72 Tank, developed at a

cost of ₹ 7.94 crore, against the sanction of December 2002. The project had been taken up based on draft GSQR. The flailing requirements of CMF as reflected in the draft GSQR mentioned a vehicle safe lane of 4 metre and flailing depth of 25 cm, whereas as per the final GSQR the required vehicle safe lane and flailing depth was 4.5 metre and 30 cm respectively. Consequently, the equipment developed based on draft GSQR failed to meet the user requirement. A new project was, therefore, sanctioned by DRDO in February 2011 to develop an improved CMF at an additional cost of ₹ 49.85 crore. The project is scheduled for completion by February 2014.

The Ministry, while admitting that taking up projects based on draft SQR might sometimes result in non-acceptance of the systems, contended (May 2012) that waiting for a finalised GSQR to commence development activities would result in unproductive delays since the process of finalizing GSQR is long-drawn and time consuming. This contention is not tenable because if project had been taken up after receiving a firm SQR the risk of delay would have been counterbalanced by higher probability of acceptance of the end result by the user.

#### 7.4.4 Excessive time overrun in Staff Projects

Efficacy of project management is measured by the delivery of project output within the given time frame and cost. However, we observed that time overrun was the norm rather than an exception in Staff Projects undertaken by R&DE (E). Of the 19 closed Staff Projects reviewed in audit, 13 Projects (68 per cent) did not adhere to the original time schedule. The number of extensions granted beyond the probable date of completion (PDC) to each of these 13 Projects ranged between one and four and the time overrun ranged between 7 and 96 months, thus allowing the projects to drag on for years together. However, even repeated PDC extensions could not ensure success of the projects as indicated in the table below:

**Table showing unsuccessful projects involving frequent PDC extensions**

Sl. No	Project No	Original PDC	Actual time taken	Number of PDC extensions	Status of the projects after closure
1	ADE-176.05	3 years 6 months	11 years 5months	03	Not accepted by users
2	RDE-392	4 years	7 years 2 months	03	Not accepted by users
3	RDE-394	3years	6 years	03	Not accepted by users
4	RDE-365	3years	9 years 2 months	04	Not accepted by users
5	RDE-350	4years	8 years 8 months	03	Not accepted by users

In two of the six Staff Projects closed within the original time frame, project activities continued even after closure of the projects with the approval of the competent financial authority (CFA), which made the fact of closure, a control feature, irrelevant.

The Ministry stated that PDC extensions had been sought due to 'techno-managerial reasons' beyond the control of project team. It further stated that in respect of closed projects, activities such as user trials, etc. continued even after their closure within the PDC since time frames for these activities were not in the control of the project team. The Ministry's contention was not

acceptable since successful development or otherwise of the project could be assessed only on the basis of user trial evaluation and closure of the project without a system having been trial evaluated precluded such assessment. Further, though certain technological problems were inherent in any development project, yet inordinate delays in development carry the risk of the technology under development being overtaken by improved technology in market and users addressing the gaps in capability/requirements by resorting to procurement from other sources.

This is illustrated by the fact that the inability of the lab to develop the system/equipment within the stipulated time frame, resulted in user looking for other alternatives, leading to closure of three Staff Projects notching up a cost of ₹12.88 crore without achieving their objectives as given below:-

**Table showing project closed without achieving objectives**

Name of the project and objective	Sanctioned cost/Date of sanction	Revised sanction/ completion cost	PDC	Status	Audit comment
Canal Embankment Assault System Equipment	₹ 12.72 crore/ April 1989	₹ 12.20 crore	April 1993	Closed in December 1997	Since the tanks on which the system had been developed became obsolescent, the user decided to opt for Sarvatra bridge, separately under development by the lab.
Development of Hypalon Coated Fabric & Fabrication of Water Tanks.	₹ 0.41 crore/ October 1988	₹ 0.38 crore	September 1991	Closed in December 1997	The Army, right from the start, had been insisting that the acceptance of the water tanks would be subject to clearance of potability and carcinogenicity test to be carried out by DRDO. However, R&DE contended that the test was not mandatory. Since Army was not ready to accept the tanks without subjecting them to these tests and there also being delay in development Army decided to procure the item off the shelf and proposed the foreclosure of the project.
Development of Hydraulic Operated Stanchion System for Arrestor Barrier for SU-30 Aircraft (two sub projects)	₹ 0.27 crore/ 0.06 crore July 2003/ July 2004	₹0.30 crore	September 2004	Closed in September 2004	The project was a sub-project of main project held by ADRDE, Agra for development of Arrestor Barrier for SU-30 Aircraft. ADRDE, Agra followed two parallel approaches for development of Stanchion for the Arrestor Barriers i.e one hydraulically operated stanchion to be developed by R&DE(E) and the other winch operated stanchion to be developed by ADRDE, Agra. Though the prototype of the hydraulic stanchion had been successfully developed by R&DE (E) it was not incorporated in the main project due to delay in development and the main project was completed by the main lab (ADRDE) with Electric Winch design.

Since liberal extensions of Staff Projects directly impact the users, proposals for approval of extensions to PDC should specify its likely impact on the user requirement and user's consent to such extensions should invariably be obtained to determine continuance or otherwise of the projects. The Ministry contended that though there was some delay in developing the Canal Embankment Assault System Equipment (CEASE), yet the system had been successfully developed and technology established. The user, however, felt that they could exploit equipment "SARVATRA" for this role. Hence CEASE did not get inducted. It added that the Army had backed out from placing bulk orders for water tanks. Regarding Stanchion system, it contended that development cost should not be considered as infructuous as based on the

R&D efforts already made the development cost had been saved in another project for Aircraft Arrestor Gear.

In all these cases, the long delays in completion of the projects were the main causes of the disinterest of the users in the products developed by the lab. It is, therefore, essential for DRDO to assess and commit a realistic time schedule, besides sticking to such schedules if only to retain the users' interest in the products.

#### 7.4.5 Failure to develop the expected deliverables

Our empirical experience has shown that user requirement for development of indigenous systems is guided by availability of latest technologies in the world market but not accessible to them for a variety of reasons. However, taking up R&D projects to acquire capability in such technologies, without adequately addressing the complexities, often leads DRDO labs to overstate their existing capabilities. As a consequence, an expectation gap is created whereby, at the one end the lab is unable to develop the system as per the user requirement even during extended time frame; on the other end the users are reluctant to scale down their requirement to realistic levels which finally results in the closure of the projects. In the following three Staff Projects which entailed an expenditure of ₹ 8.34 crore, the desired systems could not be developed even during the extended time frames, due to certain technical problems in design/development of the systems.

**Table showing failure to develop desired deliverables**

Name of the project and objective	Sanctioned cost/Date of sanction	Revised sanction/ completion cost	PDC	Status	Audit comment
Development of two mobile Hydro- Pneumatic Launcher (HPL) for Mini Remotely Piloted Vehicle (RPV) FALCON	₹ 3.51 crore/ November 1991	₹ 6.13 crore	March 1995	Closed in March 2003	Two prototypes of HPL were to be developed under the project. The first prototype: HPL-I developed was condemned by the user and the second prototype HPL-II did not meet the User's requirements of cross country, road, rail and air mobility and transportability. To meet the User's requirement a new project had to be got sanctioned in January 2002 to develop the third HPL at a cost of ₹4.18 crore, thus resulting in infructuous expenditure of ₹ 6.13 crore on the development of the first two HPLs.
Development of Self Propelled Mine Burrier	₹ 2.75 crore/ January 2003	₹ 2.15 crore	July 2005	Closed in July 2005.	The project developed two separate systems as against a single but twin capability system as per GSQR and was closed without the equipment being trial evaluated by the user. During subsequent evaluation by the user in December 2009, it was observed that the system required some major improvements to make it more rugged and reliable. The system is still undergoing modifications and an expenditure of ₹ 1.50 crore has been incurred on these modifications since the closure of the project as of March 2012.
Light Weight Assault Boat (LWAB)	₹ 0.07 crore/ September 1998	₹ 0.06 crore	February 1999	Closed in June 2000.	The LWAB was developed in Fibre Reinforced Plastic and weighed 72 kg. Consequently though the boat generally met all the GSQR requirements the user did not recommend the boat for introduction in service due to increase in weight from the desired 60 kg.

The Ministry stated that it cannot be said that R&DE(E) did not provide HPL for project FALCON since prototype-I was in use from 1996 to 1998 and prototype II was in use from 1998 to 2002 (for trials). However, mobility performance of the delivered systems was not up to the mark due to the eccentric loading of the launcher rails. It further stated that technological expertise and experience gained during the development led to successful development and delivery of some other system. Thus, expenditure of ₹ 6.13 crore cannot be termed as infructuous. The reply is not tenable since this was not a TD Project, but a Staff Project where deliverables were expected to match the user requirements.

Regarding Self Propelled Mine Barrier, the Ministry agreed that user trials were not planned to be conducted within the project PDC and modifications were being conducted to improve product performance based on users renewed requirements. The Ministry's contention is not agreed to as the system developed was not as per the User's requirement as spelt out in the GSQR and there was no renewed requirement from their end. The Ministry claimed that the Light Weight Assault Boats that had been developed generally met all GSQR parameters except the marginal increase in weight. It did not explain as to why there was an increase of 20 *per cent* in weight and why the lab did not limit the weight to the desired level of 60 kg, which was unacceptable to the Army.

#### 7.4.6 Part achievement of project requirement

When the user envisages development of two systems under a project, to be used in conjunction with each other or with some other system, for enhancing the capability of the systems as a whole, successful development of only one of the two systems results in capability imbalance, thereby defeating the purpose of undertaking the project, as evident from the cases discussed the table below:

**Table showing project with partial achievement**

Name of the project and objective	Sanctioned cost/Date of sanction	Revised sanction/completion cost	PDC	Status	Audit comment
Development of 'Bridge Assault Mechanically Launched SARVATRA	₹ 17.58 crore/ December 1992	December 1997/ ₹ 22.33 crore	December 1999	Closed in December 2000	The Army's requirement was of a five span bridge comprising 15 m and 20m bridging systems complementary to each other and to be used in conjunction with each other as on to bridge gaps from 15m to 100m within a time frame of 150 minutes. Based on this requirement the project was undertaken by R&DE (E). However only 15m Bridging system was successfully developed and accepted by the User as the 20m Bridging System had limitations while negotiating sand dunes in deserts and was not accepted by the users. As such the bridging system offered to Army was capable of bridging a gap of 75 m only (15m X 5 spans) whereas the requirement of the Army as well as the project was of bridging gaps upto 100m (20m X 5 span).
Development of Short Span Bridging System	₹11.30 crore/ November 2005	May 2009/ ₹ 9.11 crore	November 2007	Closed in May 2009	The project envisaged development of 5m and 10m bridging system to be compatible with the SARVATRA. Only the 5m system was accepted for induction into service. 10m system was still (June 2011) undergoing trials, though the project has been closed in May 2009.

The Ministry stated (May 2012) that two variants of 15 m and 20 m bridging system were developed against the project and both underwent user trials during which 15 m system was recommended for production. It added that solution to the shortcomings of 20 m had been worked out. The Ministry, however, glossed over the fact that the 20 m bridging system had unacceptable limitations forcing the Army to reject the same, though the Army was keen to have both 15 m and 20 m systems as these are complementary to each other. Regarding the ongoing trials of the short span 10 m bridging system, the Ministry stated that user trials were not linked to the project PDC, since the time frames could not predicted or controlled by the project team. Since user trails are integral to a Staff Project to establish acceptability of the product developed, the claim that it was not necessary to complete user trials within the PDC lacked justification.

#### ***7.4.7 Mismanagement of Post Development Activities***

##### **Delay in completion of LSP orders even after successful completion of projects**

Prototypes accepted for introduction into service by users are expected to be promptly followed by transfer of technology to the production agencies for their bulk production. Where the accepted prototypes are stipulated to undergo further modifications, the post development activities follow the route of Limited Series Production (LSP) before entering into the phase of Series Production (Bulk Production) for delivery to the Services. Mismanagement and/or delay in the LSP by the designer not only nullifies the efforts of the lab in developing the system but also results in non availability of the system to the users.

Two LSP orders issued by the Ministry in March 1999 and January 2002 at a total cost of ₹ 32.66 crore suffered inordinate delays during development/modifications of the system as per the users requirement. Consequently, the LSP units were yet (June 2011) to be accepted by the users thereby delaying their induction into the Services. In one of the cases, delay in completion of the LSP order by the lab resulted in import of the system by the user to meet its immediate requirement as shown in the table below:

Table showing delay in completion of LSP Order

Name of the project and objective	Sanctioned cost/Date of sanction	Revised sanction/ completion cost	Status	Audit comment
Development of Engineer System for Armoured Amphibious Dozer (AAD)	₹0.12 crore/ March 1990	₹0.12 crore	Developed and the system accepted for induction into service in December 1995. MoD issued sanction in January 2002 for LSP of six armoured amphibious dozer at a cost of ₹ 26.94 crore for issue to the Army.	Since proper operation of Rocket Propelled Anchor (RPA) was critical to the operational deployment of the AAD, R&DE (E) was required to improve the metallurgy/reinforce the shank so that it does not bend on falling. The trial evaluation of the dozer with improved RPA developed by the R&DE (E) did not meet the user requirement necessitating further improvements. Even so, the dozer did not pass the confirmatory trials. Cracks were noticed in the RPA during firing. During confirmatory trials held in June 2008,. The Army eventually went in for import of the dozers to meet immediate requirement.
Overhauling of Mast Mobile Aerial – 18.6 m	₹5.72 crore/ March 1999	January; 2000 ₹5.39 crore	System is yet to be taken over by the users	In March 1999 the Ministry accorded sanction for development and supply of two sets of 18.6 m Hydraulic Masts at a cost of ₹ 4.10 crore, subsequently revised to ₹ 5.72 crore. The two systems manufactured at a cost of ₹ 5.39 crore underwent trials between November 2000 and October 2006. However, due to various deficiencies observed during these trials, the Air Force did not accept the masts. In October/November 2006 R&DE (E) asked Air HQ to release the balance fund (5% of total cost held back by Air HQs in accordance with the contract agreement) at the earliest as the system being six years old needed overhauling. However, in January 2009, Air HQ intimated its inability to release the funds for overhaul of the masts as they were not on the IAF inventory but offered to take over the two masts provided that both were made fully serviceable and field trials were conducted to check and clear various observations raised during trials. In January 2009 the lab decided to undertake refurbishment and operationalisation of Mast Mobile Aerial 18.6 m at a cost of ₹ 3.00 crore out of DRDO funds, by December 2011. Even after successful completion of the project in 1990, the masts were yet to be accepted by the user.

The Ministry stated that the lab had successfully completed the sub project for AAD and handed over all specifications and drawings to VRDE Ahmednagar. The Ministry remained silent on the fact that during confirmatory trials held in June 2008, cracks were noticed in the Rocket Propelled Anchor due to which further improvement of the dozers had been recommended.

The Ministry further stated that the lab had successfully developed the 18.6 m Hydraulic Masts but it was not taken over by the user for reasons not known to them. This argument is factually incorrect, since the mast was not taken over by the user because of the various deficiencies observed during trials carried out between November 2000 and October 2006.

### 7.5 Cost overrun in Staff Projects

Four out of the 19 Staff Projects suffered cost escalation ranging upto 74.80 per cent. Analysis of these projects revealed that in one project the cost escalation was very minimal whereas in the other project, completed at a cost escalation of 27 per cent, the cost was revised due to change in the scope of the project by the users. Initially the project requirement was for development of the 20 m SARVATRA Bridging System as a technology demonstrator but

subsequently Users asked the lab to develop it as a full fledged prototype. The balance two projects were sub-projects undertaken on behalf of other labs and reasons for cost escalation could not be ascertained from R&DE (E).

Our analysis revealed that only one of these four projects, completed at 24 *per cent* cost escalation, was successful and underwent productionisation. The project proposal should indicate a realistic cost estimate for development with proper analysis of the complexities of technologies involved to avoid cost overruns.

## **7.6 Research & Development and Technology Demonstration Projects**

### **7.6.1 Time and cost overruns in R&D/TD Projects**

During the period April 1995 to December 2010, R&DE (E) undertook 26 R&D/TD Projects out of which 20 were closed after booking an expenditure of ₹ 83.01 crore. Six R&D/TD Projects were ongoing at the time of completion of audit. Our scrutiny revealed that as compared to Staff Projects, the percentage of time and cost overrun in R&D and TD Projects was even higher. Out of the 20 closed projects, 16, constituting 80 *per cent* of the total closed projects, showed time overrun ranging between 5 *per cent* and 189 *per cent* and 5, constituting 25 *per cent* of the closed R&D/TD Projects, involved cost overruns. The development process undergoes changes during various stages of design, fabrication or even while conducting in-house technical trials. The development team, on the basis of discussions with various project review committees and institutions many a times opt for better concept/ techniques to develop the system/ technology.

However, the Ministry while justifying time overrun in Staff Projects had cited delay in user trials as the main reason for not adhering to PDC. As no user trials are required for R&D/TD Projects, the reasons for delay in such projects are fully within the ambit of DRDO and have a better chance of being completed within schedule.

### **7.6.2 Degree of success achieved in R&D/TD Projects**

R&D and TD Projects are expected to eventually find application in Staff Projects. Even where this does not happen such projects, if taken up purposefully, have the potential of creating a certain extent of intellectual property that is patentable or otherwise valuable. Our scrutiny revealed that as many as 13 projects, comprising 65 *per cent* of the 20 closed R&D/TD Projects, did not find any application in Staff Projects. Nor were any patents filed nationally or internationally on the basis of work done under these projects. The Ministry did not give any specific details of intellectual value created through such projects. The expenditure on these projects aggregated ₹ 57.25 crore. Apparently, the projects were taken up without considering specifically the possibility of these projects' deliverables eventually getting dovetailed to any of the ongoing or anticipated Staff Projects.

The Ministry's contention that such projects are undertaken to equip itself with future technologies is understandable. However, contrary to that, we noticed

during the course of our examination of these projects, that often the justification given for initiating an R&D/TD Project was the user's requirement. Yet, R&DE (E) had not consulted the users before or during the course of project execution. Consequently the systems developed were either not required by the user *ab initio* or the user evinced no interest in the system, even after its successful development. A few such cases are tabulated below:-

**Table showing successful TD/R&D Projects with no end use**

Name of the project and objective	Sanctioned cost/ Date of sanction	Revised sanction/c completion cost	PDC	Status	Audit comment
Bridge Laying System Arjun Based Sliding Type	January 1999, ₹ 17.15 crore	₹ 8.42 crore	January 2003	Closed in March 2004	The objective was to develop single span bridge layer sliding type on MBT Arjun Chassis, on static simulator and a 26 m MLC-70 bridge super structure in composite. The user did not evince any interest in the system developed.
Development of incinerators and compactors for waste management in cold region	September 2004, ₹ 1.25 crore	₹ 0.55 crore	March 2008	Closed in July 2008	The sub-project of Defence Research and Development Establishment (DRDE) was completed and the incinerator/compactor developed was put to operation at HQ of Corps in August 2009. However, the system became non-operational within six months. No follow up Staff Project was sanctioned for the eventual utilisation of the technology nor was the defective systems rectified and put to use.
Development of Blast Proof Gates for Blast Pen	December 1991. ₹ 0.98 crore.	₹ 0.51 crore	October 1995	Closed in May 1999	The design of the gate system was successfully evolved. However, it was required to fabricate a gate panel of size 9.67 x 4.05 m and test it before going for fabrication of full scale prototype. Since the cost of full scale prototype fabrication along with supporting structure was estimated to be exorbitantly high, the project was short closed. No Staff Project was taken up indicating lack of user interest.
Technology Base Creation for Structural Health Monitoring	December 1992 ₹ 6.32 crore	₹ 6.28 crore	December 2008	Closed in December 2009	Even after successful completion of the project no Staff Project based on the technology developed for SHM in composite structures was sanctioned. Moreover, the technology developed was still not mature enough for taking up a Staff Project. There was no user requirement for the item.
Development of structural sections and fabrication techniques using advanced composite for military bridges and structures.	October 1987 ₹ 1.97 crore	₹ 1.89 crore	October 1990	Closed in October 1995	The objective was to establish techniques for analysis, design and development of advanced Fibre Re-imposed Polymers composites/hybrid structures for weight saving and improved mobility. However, even after a lapse of 15 years since successful completion of the project, no Staff Project has been taken up for development of composite military bridges and structures indicating lack of user need.

The Ministry claimed that the Arjun Based Sliding Type Bridge Laying System had been successfully executed and added that if and when required the system can be inducted. Paradoxically, it admitted that user did not show any interest. The Ministry's reply was identical in the case of incinerators and compactors for waste management in cold region. The Ministry contended that the expenditure in the case of Blast Proof Gates for Blast Pen was not infructuous as technology and design had been established. In respect of the Technology Base Creation for Structural Health Monitoring, the Ministry's claim was that the technology had been developed and could be offered to the users. Regarding project for development of structural sections and fabrication using advanced composite for military bridges, the ministry added that the technology though had been developed, but due to the decision of the Navy to change the top deck with a composite deck and to get the work done by a foreign shipbuilder, the work had to be short-closed.

The above replies of the Ministry's prove the audit contention that R&D/ TD Projects were taken up without any degree of consultation with the users *ab initio*. A system needs to be put in place to avoid R&D efforts turning unfruitful for want of user's interest.

### 7.7 Absence of a mechanism to correlate success or failure of projects with personnel deputed

In R&DE (E) there was no mechanism in place to relate the success or failure of projects with personnel deputed on them. Moreover it did not even have a reliable database of the projects undertaken by the lab in the past years. The non-maintenance of such a knowledge base by R&DE (E) precludes expertise based deployment of the personnel on project undertaken by it, which could in turn, result in projects not coming to fruition or being inordinately delayed.

The Ministry contended that success/failure of projects are to be viewed in an R&D scenario. Not all projects can be successful or lead to productionisation for many reasons. Also, in spite of meticulously progressing projects, time and cost overruns are sometimes inevitable due to reasons beyond control of the project team. Further, most of the team members work on many projects simultaneously so as to tap expertise and experience optimally. While we agree with this contention, it is also clear from reply that there was no mechanism in place in R&DE (E) to assess the output of the human resources deployed by it precluded assessment of accountability of personnel towards success or failure of the projects.

### 7.8 Understatement of project cost due to exclusion of manpower cost

An order issued in February 1977 by the Ministry's specified that the pay and allowances of the staff specially recruited for a project should be taken in to account for computation of cost of a project. However, it did not specify inclusion of the cost of pay and allowances of regular establishment, though a substantial portion of the overall budget allocation is spent on pay & allowances of the regular establishment. R&DE (E) deploys about 771 Scientists and other personnel and the expenditure on their salary amounted to ₹110.56 crore during 2005-06 to 2009-2010.

Expenditure on pay & allowances of regular establishment of R&DE (E) ranged between 21 *per cent* and 40 *per cent* when compared to the overall expenditure of the R&DE (E) as indicated below:

**Table: Percentage of Pay & Allowances to total expenditure**

Year	Total Expenditure (₹ in crore)	Expenditure on Pay & Allowances (₹ in crore)	Percentage w.r.t total expenditure
2005-06	45.49	12.62	27.74
2006-07	56.59	15.61	27.58
2007-08	70.04	14.99	21.40
2008-09	70.23	24.58	34.99
2009-10	107.61	42.76	39.73
Total	349.96	110.56	31.59

The Ministry replied that no separate manpower was recruited exclusively for project activities and added that but for the implementation of sixth pay commission recommendations the manpower cost would have remained static. There was no increase in manpower since 2001. Project work was carried out by the manpower deployed from existing regular establishment (RE) sanctioned to the lab by the DRDO Headquarters and their pay and allowances are booked under general allocation made to R&DE (E) under pay head.

As the core function of the lab are the research/development projects and the manpower cost of RE forms significant portion of the expenditure of a lab, exclusion of manpower cost of RE results in understating the project cost.

## **7.9 Conclusion**

The Staff Projects taken up by R&DE (E) for delivery of products required by the Defence Forces witnessed very low rates of success in induction of systems into the Services. Many of these failed mainly because of taking up projects before firming up the user requirement, being rendered irrelevant due to excessive delay in development of systems, failure to develop the desired deliverables, and mismanagement in the post development activities.

The main reason for the technologies developed under R&D/TD Projects not leading to exploitation of these technologies in Staff Projects was lack of proper assessment of the user requirement *ab initio*. Time and cost overruns were significantly high in almost all the projects, which is an indication of underestimation of cost and time or overestimation of capabilities.

Non-maintenance of any data regarding the Scientists and Technical Officers deployed on various projects by the lab and their output in terms of success or failure of the projects may, in the long run, result in failure to tap the expertise built up in the earlier projects or repeating the same mistake of deploying the same Scientists/Technical Officers who could not contribute much in the field of activities in which they were deployed earlier. Not booking pay and allowances of the manpower deployed on project activities, even though significant, has resulted in understating the project cost.

### ***Recommendations:***

- a) All Staff Projects need to be sanctioned /undertaken by DRDO on the basis of approved SQRs received from the users. The Ministry should ensure that items which meet essential SQR parameters are accepted into service to enable further improvement;***
- b) Frequent revision of the user requirement should be avoided, particularly when a project is in advanced stage of completion;***
- c) The project proposal should indicate a realistic time frame for development without overstating the capabilities available or understating the complexities of technologies involved. The duration required for user trials should also be factored into the PDC;***

- d) *Sanctions for approval of extension of PDC should specify its likely impact on user requirement in respect of Staff Project and user's consent to extension should be obtained to determine continuance of the projects;*
- e) *Staff Projects, which envisage development of more than one system in accordance with the user's requirement, should be closed only after carrying out the user evaluation of all the systems developed under the projects;*
- f) *The closure report should correctly reflect the user's assessment of the systems developed;*
- g) *As delay in completion of LSP orders results in delayed production affecting the user requirement, the development activity of LSP order should not lag far behind the time frame specified in project proposal;*
- h) *High value R&D and TD Projects need to be undertaken after due consultation with the users to appropriately assess user requirement, so that technologies developed under these projects by the DRDO lead to their useful assimilation in Staff Projects; and*
- i) *A suitable method of apportioning manpower cost needs to be devised for computation of the actual cost of a project.*

## CHAPTER VIII : ORDNANCE FACTORY ORGANISATION

### 8.1 General performance of Ordnance Factory Organisation

#### 8.1.1 Introduction

The Ordnance Factory Board (OFB) functioning under the administrative control of the Department of Defence Production, Ministry of Defence, is headed by the Director General Ordnance Factories. There are 39 factories divided into five products based Operating Groups<sup>13</sup> as given below:

Sl. No.	Name of Group	Number of Factories
(i)	Ammunition & Explosives	10
(ii)	Weapons, Vehicles and Equipment	10
(iii)	Materials and Components	8
(iv)	Armoured Vehicles	6
(v)	Ordnance Equipment (Clothing & General Stores)	5

Two more factories *viz.* Ordnance Factory Nalanda and Ordnance Factory Korwa are under project stage for which ₹ 920.57 crore and ₹ 69.01 crore, respectively, had been spent up to March 2011 against the original sanctioned cost of ₹ 941.14 crore (revised subsequently to ₹ 2160.51 crore in February 2009) and ₹ 408.01 crore, respectively. The Ordnance Factory Nalanda - earmarked to manufacture two lakh Bimodular Mass Charge System *per annum* and Ordnance Factory Korwa - being set up to manufacture 45,000 carbines *per annum* were scheduled to be completed by November 2005 (revised to August 2011) and October 2010 (revised to March 2011) respectively. But they were yet to start regular production so far (July 2012).

#### 8.1.2 Core activity

Ordnance Factories were basically set up to cater to the requirement of Indian Armed Forces. The core activity of Ordnance Factories is to produce and supply arms, ammunition, armoured vehicles, ordnance stores, *etc.* based on the requirements projected by Indian Armed Forces during the Annual Target Fixation meeting held every year. These requirements are later on confirmed by Indian Armed Forces in the form of Indents.

<sup>13</sup> On a functional basis, the factories are grouped into Metallurgical (5 factories), Engineering (13 factories), Armoured Vehicles (6 factories), Filling (5 factories), Chemical (4 factories), Equipment and clothing (6 factories)

However, to utilise spare capacity, the Ordnance Factories also supply arms and ammunition to Paramilitary Forces of the Ministry of Home Affairs (MHA), State Police, and Other Government Departments and also for Civil Indentors including export.

During 2010-11, Ordnance Factories manufactured 938 principal items against 881 items during 2009-10. The above items include anti tank guns, anti-aircraft guns, field guns, mortars, small arms, sporting arms including their ammunitions, bombs, rockets, projectiles, grenades, mines, demolition charges, depth charge, pyrotechnic stores, transport vehicles, optical and fire control instruments, bridges, assault boats, clothing and leather items, parachutes *etc.* These product ranges collectively constitute nearly 84 *per cent* of the gross value of production of the all the Ordnance Factories.

### 8.1.3 Manpower

The employees of the Ordnance Factories are classified as (i) “Officers” of senior supervisory level, (ii) “Non-Gazetted” (NGO) or “Non-Industrial” (NIEs) employees who are of junior supervisory level and the clerical establishment and (iii) “Industrial Employees” (IEs), who are engaged in the production and maintenance operations. The number of employees of various categories during the last five years is given in the table below:

Category of employees	2006-07	2007-08	2008-09	2009-10	2010-11
Gazetted Officers	3877	4036	3947	3481	8306
Percentage of gazetted officers to total manpower	3.47	3.77	3.84	3.50	8.40
NGO/NIEs	33783	32359	31105	30482	25302
Percentage of NGOs/NIEs to total manpower	30.20	30.22	30.27	30.67	25.58
IEs	74181	70666	67717	65411	65306
Percentage of IEs to total manpower	66.33	66.01	65.89	65.82	66.02
<b>Total</b>	<b>111841</b>	<b>107061</b>	<b>102769</b>	<b>99374</b>	<b>98914</b>

As evident from the foregoing table, there had been a steady decline in the manpower of Ordnance Factory organisation. When compared to 2006-07, the manpower strength decreased by 12 *per cent* in 2010-11. The decline in IEs and NGOs/NIEs was 12 *per cent* and 25 *per cent* respectively in 2010-11, as compared to 2006-07. The number of Gazetted Officers (comprising Group ‘A’ and Group ‘B’ officers) increased sharply by 4825 (139 *per cent*) in 2010-11.

## 8.1.4 Analysis of the performance of OFB

### 8.1.4.1 Revenue expenditure

The revenue expenditure<sup>14</sup> of the OFB, from 2006-07 to 2010-11 is given in the table below:

(₹ in crore)

Year	Total expenditure incurred by Ordnance Factories	Receipts against products supplied to Armed Forces	Other receipts and recoveries <sup>15</sup>	Total receipts	Net surplus of Ordnance Factories (5-2)
1	2	3	4	5	6
2006-07	6191.89	5147.77	1384.52	6532.29	340.40
2007-08	7125.63	5850.65	1464.12	7314.77	189.14
2008-09	9081.28	6123.38	1474.54	7597.92	(-) 1483.36
2009-10	10812.10	7531.08	1545.01	9076.09	(-) 1736.01
2010-11	10903.21	9824.99	1665.78	11490.77	587.56

The expenditure for the year 2010-11 increased negligibly (0.76 per cent) over that of 2009-10. The total receipts against issue of supplies to the Armed Forces, other indentors and miscellaneous, however, increased by 26.60 per cent from ₹ 9076.09 crore in 2009-10 to ₹ 11490.77 crore in 2010-11.

We observed that the Accounts Officers of the 13 Ordnance Factories, in violation of the instruction issued by the Chief Controller of Defence Accounts in October 2007, accepted advance issue vouchers submitted to them by the factories on the last day of financial year viz. 31 March 2011 and debited the Armed Forces/other establishment ₹ 2210.48 crore towards issue of stores to them despite the fact that these items were physically issued to them between April 2011 and August 2011 (See details in **Annexure-II**). Repeated Audit observations on the issue were overlooked. Further, Ordnance Factory Badmal prepared advance issue vouchers as of 31 March 2011 evidencing issue of stores valuing ₹ 388.54 crore to the Army. However, stores valuing ₹ 53.32 crore were not issued to the Army physically even up to 12 December 2011. Materials valuing ₹ 8.45 crore and labour valuing ₹ 1.77 crore, on the other hand, were not booked as expenditure for the year 2010-11 owing to non receipt of raw materials as of December 2011. Persistent deficiency in accounting the issues to different indentors had thus inflated the total receipts by ₹ 2210.48 crore enabling OFB to show a surplus during 2010-11. Incidentally, OFB claimed to have achieved a growth of 29 per cent in 2010-11 with reference to 2009-10. Considering the inflated issues of ₹ 2210.48 crore during 2010-11 the actual growth stood at 2.25 per cent.

<sup>14</sup> Source-Appropriation Accounts

<sup>15</sup> Other receipts and recoveries includes receipt on account of transfer of RR funds, sale of surplus/obsolete stores, issues to MHA including Police, Central and State Governments, Civil trade including Public Sector Undertaking, export and other miscellaneous receipts.

**8.1.4.2 Trend of revenue expenditure**

The trend of revenue expenditure during 2009-10 and 2010-11 was as indicated in the table below:

(₹ in crore)

Sl No	Revenue Head of Expenditure	Expenditure		Increase (+) /Decrease (-)	
		2009-10	2010-11	Total	Per cent
1	Direction and Administration	77.76	74.36	(-) 3.40	(-) 4.37
2	Research	32.08	39.95	(+) 7.87	(+) 24.53
3	Maintenance	19.79	20.86	(+) 1.07	(+) 5.41
4	Manufacture	3566.13	3502.60	(-) 63.53	(-) 1.78
5	Transportation	85.13	110.73	(+) 25.60	(+) 30.07
6	Stores	5965.16	5706.32	(-)258.84	(-) 4.34
7	Works	50.36	57.81	(+) 7.45	(+) 14.79
8	Renewal and Replacement	228.24	207.82	(-) 20.42	(-) 8.95
9	Transfer of Renewal and Replacement (RR) Fund	280	600	(+) 320	(+) 114.29
10	Other Expenditure	507.45	582.76	(+) 75.31	(+) 14.84
	<b>Grand Total</b>	<b>10811.77</b>	<b>10903.21</b>	<b>(+) 91.44</b>	<b>(+) 0.85</b>

As can be seen from the table above that –

- The total revenue expenditure during 2010-11 increased negligibly by ₹ 91.44 crore (0.85 per cent) over 2009-10. Analysis of trend of element-wise expenditure revealed that in 2010-11 expenditure on stores, manufacture and renewal/replacement had decreased by 4.34 per cent, 1.78 per cent and 8.95 per cent respectively as compared to 2009-10, while there was increase under the Head “Transfer to Renewal/Replacement Fund” (114.29 per cent) and “Other Expenditure” (14.84 per cent).
- At the beginning of the year, based on the budget estimate, certain sum of money is earmarked for parking in the “Renewal and Replacement Fund” under Minor Head No 797 (Transfer to RR Fund) of the Major Head 2079. When plant and machinery are procured, booking is made by making a credit to Minor Head No 797 of Major Head 2079 viz. Transfer from RR Fund with corresponding debit to Minor Head 106 of Major Head 2079 viz. Renewal and Replacement. We noticed that though a sum of ₹ 600 crore was allotted under the Head “Transfer to RR Fund”, OFB drew only ₹ 207.94 crore from the fund to procure plant and machinery and the remaining ₹ 392.06 crore was parked in the Public Fund Account under Minor Head 102 of Major Head 8226 instead of crediting it back to the Consolidated Fund of India. As a result, the expenditure of OFB was overstated by ₹ 392.06 crore in the Appropriation Accounts for the year 2010-11. Justifying the excess transfer of funds, the OFB stated that the requirement of funds for modernization in coming years would be higher as, in line with the Ministry’s directions, a major stride of modernization was on the anvil. This is not a valid argument since by OFB’s own admission the amount to be transferred annually to the RR Fund should have been equal to the annual depreciation of plant and machinery and rough expenditure for annual replacement. Creation of outsized reserve

fund did not solve the basic problem of setting aside funds that match the lost economic value of the plant and machinery.

As per the instructions, Ordnance Factories are required to recover from Armed Forces the actual cost of issues. We noted 12 cases where three factories viz. Ordnance Factory Khamaria, Ordnance Factory Chanda and Ordnance Factory Badmal had under-recovered ₹ 55.30 crore due to acceptance of issue prices lower than the estimated cost. In 21 other cases, involving supply to the Armed Forces/other Government organisations the factories fixed issue price abnormally higher than the estimated cost resulting in earning an abnormal profit of ₹ 449.35 crore.

After considering the excess booking of issues of ₹ 2210.48 crore, excess transfer of ₹ 392.06 crore due to parking of funds in the Public Accounts of India and as well as abnormal profit of ₹ 394.05 crore earned due to faulty pricing mechanism, the total expenditure and total recoveries under various heads for the year 2010-11 worked out to ₹ 10511.15 crore and ₹ 8886.24 crore, respectively, instead of ₹ 10903.21 crore and ₹ 11490.77 crore as shown by OFB in the Appropriation Accounts for the year. Thus, while the OFB had obtained budgetary support of ₹ 1624.91 crore from the Government of India, it had reflected a contribution of ₹ 587.56 crore to the Consolidated Fund of India in their Appropriation Accounts (2010-11).

### 8.1.5 Cost of production

The following table indicates the group-wise/element-wise analysis of cost incurred as well as the percentages of various elements of cost to the total cost of production, during 2010-11.

Sl No	Group of factories	Cost of production	Direct Store	Direct Expense	Direct Labour	Overhead Charges		
						Fixed Overhead	Variable Overhead	Total Overhead
1	Material & Components (M&C)	1838.25	822.18 (44.72)	71.70 (3.90)	221.26 (12.04)	488.59 (26.58)	234.52 (12.76)	723.11 (39.34)
2	Weapons, Vehicles and Equipment (WV&E)	3261.97	1795.48 (55.04)	20.92 (0.64)	352.97 (10.82)	783.80 (24.03)	308.80 (9.47)	1092.60 (33.50)
3	Ammunition and Explosive (A&E)	4907.29	3402.55 (69.34)	28.26 (0.58)	348.09 (7.09)	778.45 (15.86)	349.95 (7.13)	1128.40 (22.99)
4	Armoured Vehicles (AV)	3149.52	2351.50 (74.66)	15.06 (0.48)	158.84 (5.04)	487.28 (15.48)	136.84 (4.34)	624.12 (19.82)
5	Ordnance Equipment (OE)	855.08	338.15 (39.55)	0.36 (0.04)	237.25 (27.75)	210.57 (24.62)	68.75 (8.04)	279.32 (32.67)
	<b>Total</b>	14012.11	8709.85 (62.16)	136.30 (0.97)	1318.41 (9.41)	2748.69 (19.62)	1098.86 (7.84)	3847.55 (27.46)

Note: Figures in the bracket represent the percentage of particular element of cost to total cost of production

As can be seen from the table above, amongst all the five group of factories A&E group of factories registered the highest cost of production of ₹ 4907.29 crore. The OE group of factories, on the other hand, registered the lowest cost of production of ₹ 855.08 crore. The average overhead charge of OFB across all groups was 27.46 *per cent* of cost of production. The M&C, WV&E and OE group of factories had exceeded the average overhead cost, while in the A&E and AV group of factories it was below the average.

### 8.1.6 High Supervision and Indirect Labour Charges

The details of direct/indirect labour charges, supervision charges and percentage of indirect labour to direct labour as well as percentage of supervision charges to direct labour charges are given in the **Annexure -III**.

It can be seen that in all groups, except for OE Group, the supervision charges as a percentage of the direct labour charges during 2010-11 were quite high. For every ₹ 1.00 spent on direct labour, the supervision charges ranged between ₹ 1.18 and ₹ 1.40. Since the number of Group A and B officers whose remuneration forms a major element of supervision charges were only 8306 and as the Industrial Employees whose remuneration forms a significant factor of direct labour were 65,306 in number, the correlation of supervision charges to direct labour cost was out of pattern. In any case, the supervision charges to the direct labour charges as a percentage need to be brought down to a reasonable level.

### 8.1.7 Production profile

The production programme for ammunition, weapons and vehicles, materials and components and armoured vehicles was fixed for one year, which in the case of equipment items has been fixed for four years. The details of demand, targets fixed and shortfall in achievement of the targets during the last five years are shown in the table below:

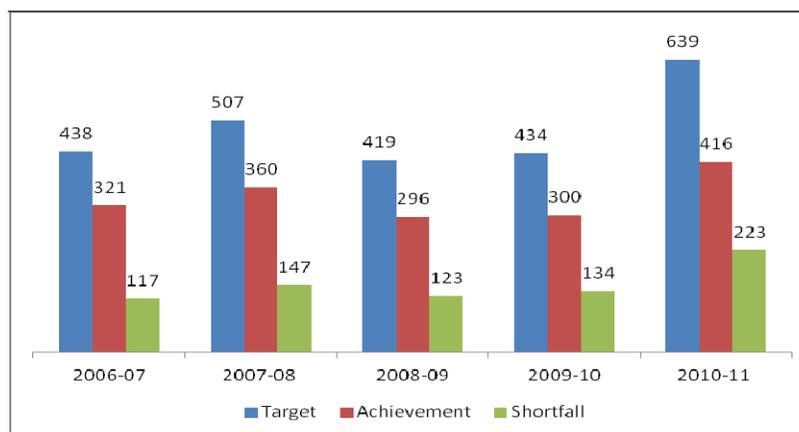
Year	Number of items for which demands existed	Number of items for which target fixed	Number of items manufactured as per target	Number of items for which target were not achieved	Percentage of shortfall with reference to target fixed
2006-07	552	438	321	117	26.71
2007-08	628	507	360	147	28.99
2008-09	419	419	296	123	29.36
2009-10	605	434	300	134	30.88
2010-11	1016	639	416	223	34.90

The table above indicates that Ordnance Factories did not meet their target in any of these five years. During 2010-11, demand for items had increased by 68 *per cent* to 1016 items over the previous year. However, targets were fixed

mutually only in respect of 639 items. Even so, there was a shortfall of 35 per cent in achieving the target.

Failure of OFB to achieve the targets on all the items for which the demand existed foreclosed the possibility of offloading fixed cost burden to these items as well as escalated the cost of other produced items due to excessive apportionment of overheads.

### Shortfall in production



### 8.1.8 Capacity utilisation

The table below indicates the extent of utilization of the machine hour capacity during the last five years.

#### (Capacity utilization in terms of Machine Hours)

(Unit in lakh hours)

Year	Machine hours available	Machine hours utilized	Percentage of Capacity utilization
2006-07	1472	1120	76.08
2007-08	1351	1147	84.90
2008-09	1696	1294	76.30
2009-10	1839	1261	68.57
2010-11	1830	1311	71.64
<b>Total</b>	<b>8188</b>	<b>6133</b>	<b>74.90</b>

The percentage of utilization of machine by the Ordnance Factories had improved to 71.64 in 2010-11 as compared to 68.57 during 2009-10. The capacity utilization, however, did not reach the higher water mark of 84.90 per cent achieved during 2007-08. Necessary action may be initiated by OFB to ensure optimum utilization of machine hours available at the Ordnance Factories.

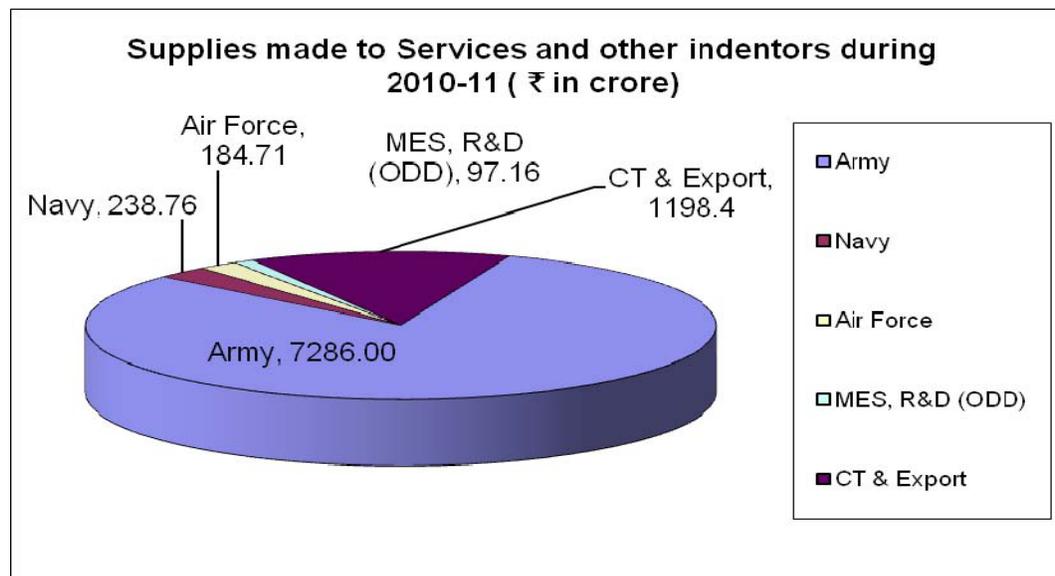
### 8.1.9 Issue to users (Indentors)

The indentor-wise value of issues during the last five years, was as under:

(₹ in crore)

Name of Indentors	2006-07	2007-08	2008-09	2009-10	2010-11	Issues in 2010-11 excl. Spill over
Army	4535.43	5252.15	5557.66	7054.12	9225.15	7286.00
Navy	130.76	119.39	179.41	124.40	243.98	238.76
Air Force	208.09	239.53	221.02	208.20	219.58	184.71
MES, Research and Development (Other Defence Department - ODD)	143.08	145.63	124.67	116.40	169.04	97.16
<b>Total Defence</b>	<b>5017.36</b>	<b>5756.70</b>	<b>6082.76</b>	<b>7503.13</b>	<b>9857.20</b>	<b>7806.63</b>
Civil Trade and Export	1179.98	1181.11	1146.55	1212.13	1357.76	1198.40
<b>Total issues</b>	<b>6197.34</b>	<b>6937.81</b>	<b>7229.31</b>	<b>8715.25</b>	<b>11214.96</b>	<b>9005.03</b>

Though the total value of issues (₹11214.96 crore) during 2010-11 increased by 26.67 per cent as compared to the previous year, the actual physical issues to these indentors during 2010-11 (₹ 9005.03 crore) increased by a mere 3.32 per cent. Nevertheless, the Army continued to remain the major recipient of the products of the Ordnance Factories, accounting for nearly 80.91 per cent of the total issues during the year 2010-11, as evident from the chart below.



**8.1.10 Civil trade**

With the objective of optimal utilization of spare capacities and to lessen dependence on budgetary support, the Ordnance Factories commenced civil trade since July 1986. The turn-over from civil trade (excluding supplies to the MHA and State Police Departments) during 2006-2011 was as under:

(₹ in crore)

Year	Number of factories involved	Target	Achievement	Percentage of achievement
2006-07	33	279.16	298.56	106.95
2007-08	32	335.01	359.56	107.33
2008-09	39	351.12	329.30	93.79
2009-10	27	374.23	425.18	113.61
2010-11	27	464.50	466.86	100.50

Though the value of issues to the civil trade increased from ₹ 425.18 crore in 2009-10 to ₹ 466.86 crore in 2010-11, the achievement was lower by 13.11 *per cent* in 2010-11 over 2009-10.

**8.1.11 Export**

The following table shows the achievement with reference to target in export from 2006-07 to 2010-11:

(₹ in crore)

Year	Factories involved	Target	Achievement	Shortfall (-) / Excess (+)	Percentage of shortfall (-) / Excess (+) w.r.t. target
2006-07	13	25.00	15.12	(-) 9.88	(-) 39.52
2007-08	10	30.00	27.44	(-) 2.56	(-) 8.53
2008-09	11	35.00	41.07	(+) 6.07	(+) 17.34
2009-10	13	41.30	12.30	(-) 29.00	(-) 70.22
2010-11	8	44.00	35.70	(-) 8.30	(-) 18.86

Though the export marginally increased during 2010-11 over the previous year, it was still short of the target by 18.86 *per cent*. The OFB attributed (November 2011) the shortfall mainly to non-dispatch of ammunition valuing ₹ 6.68 crore to a foreign country due to non-availability of vessel. As on 31 March 2011, amount due to be realized from the Ministry of External Affairs against supplies to Foreign Government was ₹ 5.93 crore. Expeditious action needs to be taken by the OFB to recover the amount.

### 8.1.12 Inventory management

The position of total inventory holdings at the Ordnance Factories as a whole during 2006-07 to 2010-11 was as under:

(₹ in crore)							
Sl. No.	Particulars	2006-07	2007-08	2008-09	2009-10	2010-11	Percentage of increase /decrease during 2010-11 in comparison to previous year
1.	Working stock						
a.	Active	1734.00	2160.00	2354.00	2732.00	4093.00	49.82
b.	Non-moving	256.00	333.00	322.00	297.00	346.00	16.50
c.	Slow moving	194.00	211.00	287.00	507.00	574.00	13.21
	<b>Total Working Stock</b>	<b>2184.00</b>	<b>2704.00</b>	<b>2963.00</b>	<b>3536.00</b>	<b>5013.00</b>	<b>41.77</b>
2.	Waste & Obsolete	14.00	14.00	26.00	39.00	20.00	(-)-48.72
3.	Surplus/ Scrap	80.00	81.00	68.00	64.00	68.00	6.25
4.	Maintenance stores	87.00	79.00	73.00	73.00	76.00	4.11
	<b>Total</b>	<b>2365.00</b>	<b>2878.00</b>	<b>3130.00</b>	<b>3712.00</b>	<b>5177.00</b>	<b>39.47</b>
5.	Average holdings in terms of number of days' consumption	169	160	149	177	199	12.43
6.	Percentage of total slow-moving and non-moving stock to total working stock	20.60	20.12	20.55	22.74	18.35	(-) 19.30

Average inventory holding in terms of days' consumption had increased by 12.43 *per cent* in 2010-11 as compared to 2009-10. This was attributed to OFB's decision to initiate procurement action for input material against indents for three years' requirement (two years plus 50 *per cent* option clause) with price variation clause and staggered delivery schedule conforming to budget allotment and shelf life of the stores. However, the staggered delivery mechanism was not properly implemented by at least five factories (Opto Electronic Factory Dehra Dun, Heavy Vehicles Factory Avadi, Ordnance Factory Dehra Dun, Ordnance Factory Kanpur, Machine Tool Prototype Factory Ambarnath) leading to excess stock holding in these factories as of 31 March 2011 as detailed in **Annexure IV**. The factories need to review the excess stock holding and strengthen inventory management to avoid blocking up of funds.

#### 8.1.12.1 Finished Stock-holding

Position of Finished stock-holding (completed articles and components) during the last five years as extracted from the Review of Annual Accounts of the Ordnance Factory Organisation for the year 2010-11 as prepared by the Principal Controller of Accounts (Fys) Kolkata was as under:

(₹ in crore)

Particulars	2006-07	2007-08	2008-09	2009-10	2010-11
Holding of Finished articles	125.11	79.00	506.00	166.59	112.62
Total cost of production	7957.53	9312.61	10610.40	11817.89	14012.12
Holding of finished stock in terms of number of days' issue	5	3	17	5	3
Holding in terms of percentage of total cost of production	1.57	0.85	4.77	1.41	0.80
Finished component holding	465.45	617.00	458.00	1015.04	1101.73
Holding of finished components in terms of number of days' consumption	52	44	38	85	65
Holding of finished components in terms of percentage of total cost of production	5.85	6.63	4.32	8.59	7.86

Though as on 31 March 2011 there was decrease in the value of finished (completed) articles by 32.40 *per cent*, the value of finished components in hand increased by 8.54 *per cent* in 2010-11 when compared with 2009-10. Immediate action needs to be taken for early utilization of huge finished components. We observed that actual cost of finished components consumed by the Ordnance Factories during the year 2010-11 had not been reflected in the accounts. Only a footnote under the Annual Production Account for the year 2010-11 indicated that the cost of finished components consumed in production was ₹ 6346.38 crore. We recommend that OFB should put in place a system to reflect the cost of finished components consumed in production in their Consolidated Annual Accounts.

### 8.1.13 Work-in-progress

The General Manager of an Ordnance Factory authorizes a production shop to manufacture an item of requisite quantity by issue of a warrant whose normal life is six months. Unfinished items pertaining to different warrants lying at the shop floor constituted the work-in-progress. The value of the work-in-progress during the last five years was as under:

(₹ in crore)

As on 31 March	Value of work-in-progress
2007	1179.31
2008	1265.00
2009	1961.82
2010	2121.75
2011	2297.06

The total value of work-in-progress as on 31 March 2011 increased by 8.26 *per cent* in comparison to 2009-10. As on 31 March 2011, a total of 27525 warrants were outstanding, of which 21957 warrants pertained to 2010-11 and the balance 5568 pertained to the year prior to 2010-11, the oldest being of 1993-94. The position of outstanding warrants was predominant in Heavy

Vehicles Factory Avadi (4115 warrants valuing ₹ 502.92 crore), Ordnance Factory Trichy (3661 warrants valuing ₹ 19.20 crore), Ordnance Factory Medak (3042 warrants valuing ₹ 255.33 crore), Opto Electronic Factory Dehra Dun (2865 warrants valuing ₹ 80.69 crore) and Ordnance Factory Dehra Dun (1965 warrants valuing ₹ 16.34 crore). Necessary action needs to be taken by OFB for closure of warrants outstanding for more than six months particularly those pertaining to the period 1993-94 to 2007-08.

#### 8.1.14 Losses

The table below depicts losses written off during the last five years ending 31 March 2011:

(₹ in lakh)						
Sl. No	Particulars	2006-07	2007-08	2008-09	2009-10	2010-11
1	Overpayment of pay & allowances and claims abandoned	1.21	Nil	0.22	Nil	Nil
2	Losses due to theft, fraud or neglect	0.55	29.11	0.28	0.17	4.97
3	Losses due to deficiencies in actual balance not caused by theft, fraud or neglect	4.65	Nil	Nil	Nil	Nil
4	Losses in transit	Nil	0.16	6.46	16.85	21.38
5	Other causes (e.g. conditioning of stores not caused by defective storage, stores scrapped due to obsolescence, etc.)	0.34	19.58	180.41	1.07	122.64
6	Defective storage loss	0.45	Nil	Nil	Nil	Nil
7	Losses not pertaining to stock	883.70	333.90	73.75	233.19	518.20
	<b>Total</b>	<b>890.90</b>	<b>382.75</b>	<b>261.12</b>	<b>251.28</b>	<b>667.19</b>

During 2010-11 the losses written off had increased by ₹ 415.91 lakh (166 per cent) compared to the previous year.

As of June 2011, 247 cases of losses amounting to ₹ 110.43 crore were awaiting regularization by the Ministry of Defence and the oldest items pertain to the year 1964-65. Effective steps need to be taken by OFB and the Ministry to regularize the losses at the earliest besides taking effective remedial action to avoid such losses.

The case was referred to the Ministry of Defence in June 2012; their reply was awaited as of July 2012.

*NOTE : The figures incorporated in this paragraph are mainly based on the figures of the Consolidated Annual Accounts of Ordnance and Ordnance Equipment Factories in India finalised by Principal Controller of Accounts (Fys.), Kolkata for the year 2010-11, documents maintained and information supplied by Principal Controller of Accounts (Fys.), Kolkata as well as Ordnance Factory Board, Kolkata*

## **8.2 Delay in production and issue of rockets for Pinaka Rocket Launcher System by Ordnance Factories**

**The project for production of rockets for Pinaka multi-barrel rocket launcher system is way behind the schedule. The quality related problems in a production process resulted in a loss of 407 rockets valuing ₹ 44.51 crore and propellant valuing ₹ 4.25 crore. Repeated failures and stoppage of production of the rockets for a certain period, led to overall delay in operationalisation of the Army units as per induction plan.**

### **8.2.1 Introduction**

Pinaka is a multi-barrel rocket launcher system developed for the Indian Army by Defence Research and Development Organisation (DRDO). The main laboratories involved in its development were Armament Research and Development Establishment (ARDE) and High Energy Materials Research Laboratory (HEMRL). The delay in development of Pinaka, which was sanctioned by the Ministry in 1986 with the objective of inducting it into the Army, in a phased manner from 1994 onwards, and the ramifications of the delay were commented upon in Report No. 7 of 1999 (Paragraph 23) of the Comptroller and Auditor General of India. The Ministry of Defence, in March 2006, *i.e.* 20 years after the project was sanctioned, finally entrusted the production of various components of the system to different production agencies that included two private sector firms<sup>16</sup> (rocket launchers), Bharat Earth Movers Limited, a public sector undertaking (chassis for support vehicles), and the Ordnance Factory Board (OFB) for rockets.

The order on OFB was placed by the Army, in November that year, who were required to supply 4752 rockets at a total cost of ₹ 767.28 crore during the period 2007-12. OFB, in turn, assigned the task of producing the rockets to nine<sup>17</sup> Ordnance Factories (OF).

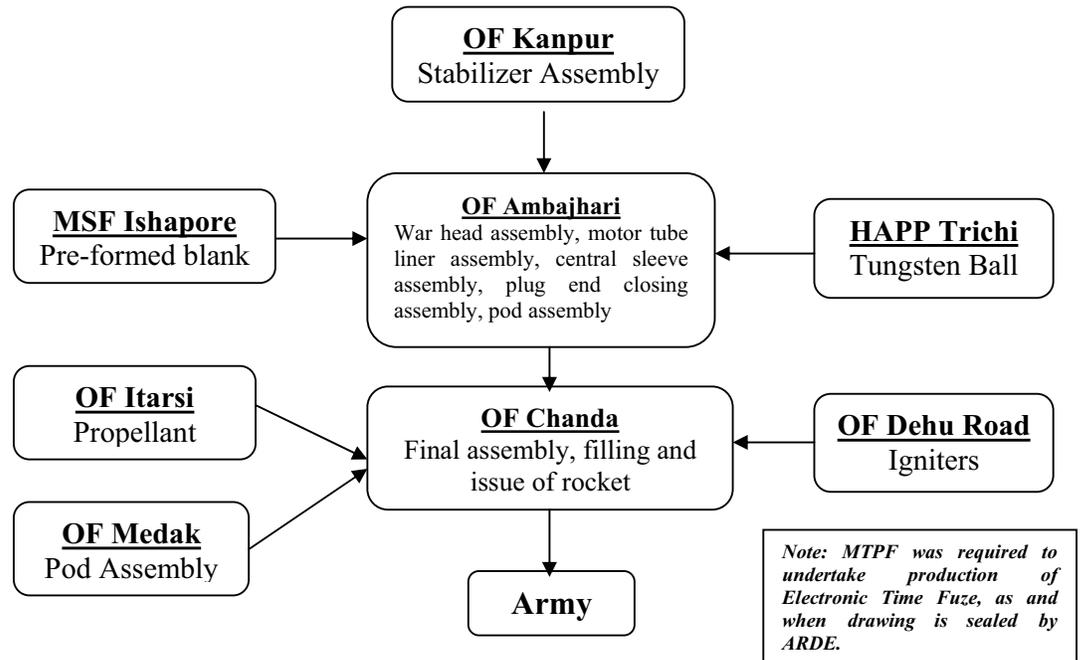
As per the scope of the project, OF Ambajhari was required to manufacture various rocket components/sub-assemblies and issue the empty hardware of the rocket to OF Chanda. OF Kanpur was tasked to manufacture stabilizer assembly for its issue to OF Ambajhari, while OF Medak was assigned manufacture and issue of pod assembly to OF Chanda. Other designated sister factories were also required to supply components to facilitate the manufacture and issue of the rockets.

---

<sup>16</sup> M/s Larsen and Toubro Limited, M/s Tata Power Company Limited

<sup>17</sup> Heavy Alloy Penetrator Project (HAPP) Trichi, OF Kanpur, Metal and Steel Factory (MSF) Ishapore, OF Ambajhari, Machine Tool Prototype Factory(MTPF) Ambarnath, OF Itarsi, OF Medak, OF Dehu Road and OF Chanda

**Flow chart of inter-factory supplies of components/assemblies and final issue of rockets**



The factories were required to commence production in the existing facilities, although facilities at three factories, viz. OF Ambajhari, OF Kanpur and OF Medak required to be augmented.

Our audit, during April-July 2011, of the production and issue of rockets by OF Chanda and sourcing the components and assemblies from the designated sister factories, showed that the progress had not been commensurate with the targets. Consequently, training of troops and ability of the Army to maintain war wastage reserve had been adversely impacted.

## 8.2.2 Execution of the project

### 8.2.2.1 Project sanction

OFB, based on an anticipatory directive (November 2003) of the Ministry, submitted, in January 2006, a detailed project report (DPR) for augmentation of facilities in three Ordnance Factories viz. OF Ambajhari, OF Kanpur and OF Medak for manufacture of 1000 rockets *per annum*. The Ministry approved, in May 2007, the DPR and conveyed the sanction for creation of various facilities in the three factories at a cost of ₹ 106.59 crore. Though the DPR had stipulated completion of the project by May 2010, the sanction did not stipulate any timeframe for completion of the project.

OFB attributed (July 2012) prolonged time of more than three years taken in preparing the project report to the efforts needed for identifying the requirements, locating the sources for raw materials and translating the

manufacturing process in terms of plants and machinery. However, considering the commitment of OFB to supply 4752 rockets to the Army during the period 2007-12, the time taken by the Ministry for according approval to the project was also long.

#### **8.2.2.2 Delay in execution of civil works**

As planned in DPR, the civil works<sup>18</sup> to create production and service facilities at OF Ambajhari, were to be completed by May 2009. However, the administrative approval (AA) for the works issued by OFB only in March 2009 stipulated their completion by March 2012. As of July 2012, the buildings work under execution by the Military Engineer Services, had progressed to 90 *per cent*. The delay in sanction and execution of civil works was due to revision in the scope of works by the factory which was neither envisaged in the DPR nor provided for in the Government sanction. Consequently, the AA required to be issued by OFB was delayed. This would indicate that despite taking an inordinately long time in preparing the DPR, the scope of civil works had not been outlined adequately.

OFB stated that OF Ambajhari had ventured in the field of manufacturing rockets of this size with composite material for the first time and, therefore, requirements that had initially been projected based on the available information and experience had to be modified in due course of time. It added that about 90 *per cent* work had been completed till February 2012 and the balance work would be completed by March 2012. While recognizing that the Ordnance Factories faced a steep learning curve, the OFB's assertion about the possibility of works being completed soon is not factually correct. As per its own Half-yearly Progress Report of April 2012, the revised schedule for completion of balance works was the second quarter of 2012-13.

#### **8.2.2.3 Delays in procurement of plant and machinery**

The DPR envisaged procurement and commissioning of machinery in the three factories by February 2010. OFB stated (July 2012) that four machines for OF Ambajhari and three machines for OF Kanpur were still under advanced stage of procurement. The procurement and commissioning of the required machines was thus behind the schedule by over two years.

The delay in procurement of required machines prompted OF Ambajhari, OF Kanpur and OF Medak to source the items and services, such as empty RHE<sup>19</sup> warhead, conversion of Tungsten Alloy to PF<sup>20</sup> warhead, conversion of preformed blank into motor tube, direct motor tube, motor tube liner assembly, plug end closing assembly, centre sleeve assembly, nozzle rear moulding, launcher tube assembly, wire harnessing of pod, *etc.* from trade as discussed in paragraph 8.2.3.2 below. This could have been avoided by timely procurement/ commissioning of the machines.

---

<sup>18</sup> Composite, Tube manufacturing, Precision manufacturing and Assembly shops and Service facilities like Air-conditioning, Cold storage, Crane, Water tank, Fire hydrant.

<sup>19</sup> Reduced High Explosive

<sup>20</sup> Pre Fragmented

#### **8.2.2.4 Belated issue of sanction for ancillary facilities**

OFB had originally planned that propellant would be manufactured at OF Itarsi and filling/assembly and issue of the rockets would be done in the existing facilities at OF Chanda. However, during the production stage, OFB and the factories were faced with non-availability of a special chemical viz. Ammonium Perchlorate needed for propellant as also lack of adequate storage facilities for the rockets at OF Chanda. In order to overcome these problems, OFB, in December 2010 and July 2011, approved two proposals, one for procurement of the chemical plant costing ₹ 26.48 crore and its commissioning at High Explosive Factory (HEF) Kirkee; and another for construction of storage shed at a cost of ₹ 4.60 crore at OF Chanda. However, while construction of a storage shed was expected to be completed by December 2012, the chemical plant was ordered only in April 2012.

OFB stated that the creation of in-house facility for production of Ammonium Perchlorate was necessary owing to non-materialisation of source development. It added that additional storage facility was needed at OF Chanda for uninterrupted production of the rockets.

The reply indicates that the project formulation was deficient to the extent that the possibilities of sourcing Ammonium Perchlorate from the market had not been properly assessed. Similarly, the extent of space requirement for storage of rockets should have been properly assessed upfront. Deficient planning thus not only caused delay in completion of the project but also hampered smooth flow of production of propellant and storage of finished rockets as discussed in subsequent paragraphs.

#### **8.2.3 Production of rockets**

After it received Army's order (November 2006) for 4752 rockets (4080 PF and 672 RHE), OFB tasked (February 2007) OF Chanda, which was responsible for filling and final assembly of rockets to supply rockets to the Army, in batches from 2007-08 to 2011-12. Simultaneously, OFB allotted year-wise production targets for all the major components and assemblies to the factories concerned. We noticed several bottlenecks in production and despatch of components and assemblies which disrupted inter-factory supply chain and resulted in slippages in production and consequential delay in issue of the rockets by OF Chanda, as discussed below:

##### **8.2.3.1 Production and issue of rockets to Army**

The table below indicates the target and issue of RHE and PF rockets to Army by OF Chanda during 2007-08 to 2010-11.

**Table showing achievements in issue of targeted supply of rockets**

Year	Rockets RHE		Rockets PF	
	Target	Issue	Target	Issue
2007-08	240	306	762	Nil
2008-09	204	Nil	816	101
2009-10	162	160	864	84
2010-11	100	204	900	706
<b>Total</b>	<b>706</b>	<b>670</b>	<b>3342</b>	<b>891</b>

The table above shows that the planned annual production of 1000 rockets was yet to be achieved. OF Chanda could not supply a single PF rocket in 2007-08 and RHE rocket in 2008-09. This was primarily due to the short receipt of hardware of PF rocket from OF Ambajhari, igniters from OF Dehu Road and propellants from OF Itarsi along with quality problems. While accepting the facts, OFB attributed (July 2012) the shortfall in issue of the rockets to change of design by ARDE (for 2008-09 and 2009-10) and non-receipt of required hardware empties from sister factories for 2010-11.

### 8.2.3.2 Production and issue of components and assemblies

The following table indicates the details of major components and assemblies supplied by different Ordnance Factories during 2007-08 to 2010-11 and reasons for short supplies by the feeder factories.

**Table showing shortfall in supplies by sister factories  
(Quantity in numbers, except where otherwise mentioned)**

Name of item and Factory involved	Consignee	Target	Issue	Reasons for short supplies
<b>A. Feeder factories under the project</b>				
Stabilizer assembly (OF Kanpur)	OF Ambajhari	3546	2024	Delayed receipt and commissioning of machines and stoppage of production in 2009-10 as per directive of OFB.
Rocket PF (OF Ambajhari)	OF Chanda	2808	1314	Delayed and short supply of stabilizer assembly and pre-formed blank from OF Kanpur and MSF Ishapore.
Pod assembly (OF Ambajhari)	OF Chanda	359	269	Non-availability of launching tube and suspension of production by OFB in 2009-10.
Pod assembly (OF Medak)	OF Chanda	185	147	Slippages in delivery (2007-08) and non-supply in 2009-10. Supply was put on hold in June 2010 due to non-availability of space at OF Chanda.
<b>B. Other feeder factories</b>				
Pre-formed blank (MSF Ishapore)	OF Ambajhari	4088	3342	Limitation in existing capacity for pre-formed blank and short-closure/ cancellation of Inter-Factory Demands (IFD) by OF Ambajhari due to deviation from the specified hardness of the item.
Tungsten balls (HAPP Trichi)	OF Ambajhari	1,87,859 kg	82,708 kg	Inadequacy in existing infrastructure, delayed delivery against two IFDs and issues restricted as per delivery period of third IFD of OF Ambajhari.
Igniters (OF Dehu Road)	OF Chanda	4702	2346	Delayed and short supply of main components viz. squib from AF Kirkee and cup and lid from trade arising out of frequent modifications in the design.
Propellant (OF Itarsi)	OF Chanda	2736 sets	1776 sets	Non-availability and quality problems relating to one essential ingredient of propellant viz. Mat-O-Bond.

The shortfall in supplies of important components and assemblies by the feeder factories (OF Kanpur, MSF Ishapore and HAPP Trichi) adversely impacted production and issue of the rockets' hardware at OF Ambajhari. Apart from this, short supply of propellant, igniters and pod assemblies by other feeder factories (OF Itarsi, OF Dehu Road and OF Medak/OF Ambajhari) led to shortfall in production and issue of the rockets by OF Chanda to Army, as brought out in the above table.

Owing to delayed implementation of the project, faulty production planning for inter-factory issue of items and quality problems of the products supplied by other feeder factories, OF Ambajhari, OF Kanpur and OF Medak were constrained to procure major components and assemblies valuing ₹ 89.24 crore during April 2008 to June 2011 from trade to sustain manufacture of the hardware of the rocket.

OFB, in July 2012, stated that only 60 *per cent* of the production of composite material items and flow formed tubes was planned to be produced in-house in OF Ambajhari and, therefore, dependence on trade was unavoidable. It added that since manufacturing process was contingent on completion of various infrastructure under the sanctioned project, production could not be started till all the facilities were available. Though OF Ambajhari had placed most of the supply orders for the plant and machinery but due to certain reasons some of the plant and machinery could not be positioned as, after receiving of the supply orders most of firms were unable to execute the orders. This ultimately forced OF Ambajhari to initiate re-tendering for many actions. OFB averred that full in-house production would be started at OF Ambajhari once all facilities are created.

Regarding the bottlenecks in inter-factory supplies and outsourcing of components, OFB stated that:

- non-availability of specified graphite rod indigenously had hampered the production of stabilizer assembly at OF Kanpur;
- establishment of manufacturing process of tungsten ball was a big challenge and the same had been overcome through trial and error at HAPP Trichi;
- the problem of hardness of pre-formed blank had been overcome after its modification by ARDE, consequently, the productivity at MSF Ishapore had increased manifold;
- frequent changes in design of cup and lid by ARDE had a bearing on the supply from trade which in turn restricted supply of igniters by OF Dehu Road to OF Chanda.

The OFB's reply confirms that delayed implementation of the project coupled with frequent changes of design had given a setback to early in-house production of the required components and assemblies and forced the Ordnance Factories to remain dependent on trade.

#### **8.2.4 Quality problems**

The Ordnance Factories encountered problems in the production of the components and assemblies ending up in rejection of the components produced, which was attributed mainly to the design deficiencies, as mentioned below:

##### **8.2.4.1 Quality problems in warhead, motor tube and propulsion unit**

OF Chanda, in 2008-09, encountered problems like lower weight and unbalanced empty warheads (RHE) supplied by OF Ambajhari. Besides, 50 motor tube and 45 propulsion unit (valuing ₹ 3.69 crore) supplied by OF Ambajhari were kept aside/rejected by Senior Quality Assurance Establishment (SQA) Chanda during 2010-11, on account of rusting, corrosion/black spots resulting in non-achievement of production target of PF rocket.

OFB stated (July 2012) that the problem of RHE warhead had been sorted out and added that the problems of the propulsion unit were not due to manufacturing defects, but due to design problem that was under investigation by ARDE.

##### **8.2.4.2 Quality problems in propellant**

OF Itarsi manufactured 240 sets of the propellant during 2008-09 and supplied 108 sets to OF Chanda. Twelve sets were expended in proof testing. After firing, the pressure versus time profile relating to the burning rate as well as the pressure of the propellant, were not found as per expected pattern. This low mechanical property was attributed to use of a chemical called Methyl Aziridinyl Phosphine Oxide (MAPO) with inferior properties, particularly in regard to purity. Hence, HEMRL suggested discontinuance of further processing of the propellant. Subsequently, from 2009-10 onwards OF Itarsi manufactured and issued the propellant using 'MAPO' of specified purity. As of June 2012, 120 sets of propellant of inferior quality valuing ₹ 4.25 crore were lying at OF Itarsi since March 2009, without any prospect of their utilisation in production of the rocket.

While accepting the above facts, OFB stated that after taking many improvement measures, including design and process changes, the production of the propellant had since (July 2012) been stabilised. The reply was silent on the circumstances in which OF Itarsi had produced propellants with MAPO of inferior quality.

##### **8.2.4.3 Quality problems in igniters**

OF Dehu Road, during 2008-09, encountered quality related problems like detachment of phenolic moulding portion from the cups, lower hardness, etc. in manufacture of igniters. Based on the recommendation of the Deviation Management Board, 110 igniters were accepted under deviation, while the

Board advised OF Dehu Road to propose a new design of igniters for approval of HEMRL. As per the proposed new design, the factory expected to salvage 835 empty igniters and rectify 158 rejected igniters, which were manufactured as per the earlier design.

OFB stated (July 2012) that the quality problems were encountered due to design deficiency and that design modification was inherent in the process of establishment of a new product, based on its performance during end use.

Evidently, the production process has not stabilised even after lapse of five years since the commencement of production in May 2007.

### **8.2.5 Consignee end rejection**

OF Chanda, due to limited storage facility, supplied to the Army 306 RHE rockets in 2007-08 and 101 PF rockets in 2008-09, at an aggregate cost of ₹ 61.01 crore on Red Card issue basis *i.e.* in anticipation of proof clearance. However, in December 2008, an accident occurred during proof firing of the rocket launcher system at Pokhran Field Firing Range (PFFR). The accident led to damage of rocket launcher, pods and navigation system.

The Failure Analysis Board (FAB) constituted by DRDO attributed (April 2009) the following factors to the accident:

- low mechanical properties of propellant along with the existence of cracks, voids and petal damage;
- inadequate inspection and quality assurance permitting rockets with poor quality of propellant to reach Army depot;
- insufficient infrastructure at OF Itarsi for manufacture and static testing of propellant and inadequate storage conditions of propellant grains; and
- unreliability and variation in raw material quality used in propellant.

The FAB declared all the 407 rockets unfit for use and recommended change of propellant for both type of rockets as well as replacement of the entire propulsion unit for RHE rocket. The components of RHE rockets were under retrieval as of September 2011. Another lot of 84 PF rockets issued to Army on 'Red card'<sup>21</sup> during 2009-10 suffered a setback as one rocket ranged short by 5.5 km during the dynamic proof testing in December 2009. Hence, further production of PF rocket was suspended in 2009-10. OF Chanda received back 342 rockets (258 RHE and 84 PF) from the Army. Of these 65 PF rockets were re-issued to the Army after rectification.

OFB stated that these lots of rockets had been supplied to the Army after satisfactory proof at PFFR and after a clear inspection note issued by ARDE.

The reply must be seen in the light of the fact that the FAB had attributed the accident to propulsion system as also inadequate inspection and quality

---

<sup>21</sup> Red card issue is made in anticipation of proof testing

assurance coverage. OF Chanda had, clearly, failed to ensure adequate inspection of the inputs received from the sister factories before assembling the rockets. Also OF Itarsi, which supplied the propellants, had committed lapses by using MAPO which was not of specified purity, in the manufacture of the propellant. Though HEMRL had frozen MAPO specification to include 'Imine' content of 92 *per cent* (minimum) during development, OF Itarsi had procured the chemical without ensuring the minimum 92 *per cent* 'Imine' content and used it in the production of propellant during 2007-08 and 2008-09.

OFB stated that each mix sample had been tested for specified requirement and all the lots issued in 2007-08 and 2008-09 had passed in mechanical properties and met the specification requirement. It asserted that at no stage deviated material had been used in the manufacturing process and that the representative of the Director General of Quality Assurance had been associated with OF Itarsi during the production of the propellant. Also propellants were issued after acceptance testing by HEMRL. However, suitable action to ensure the minimum 92 *per cent* Imine content in MAPO was taken only after January 2009. This admission of the OFB, confirms the failure of OF Itarsi in the earlier periods to ensure minimum 92 *per cent* Imine content in MAPO, which had contributed to the low mechanical properties of the propellant that resulted in the accident at PFFR.

#### **8.2.6 Loss due to rejection of rockets**

Considering OF Chanda's assessment of a possible saving of ₹ 16.50 crore in retrieval of the components of the unserviceable rockets, net loss in the production of the rockets worked out to at least ₹ 44.51 crore. Besides, failure of OF Itarsi to manufacture propellant with specified quality of chemicals led to rejection of 120 sets propellant valuing ₹ 4.25 crore during 2008-09.

#### **8.2.7 Operational impact**

The Integrated HQ of the Ministry of Defence (Army) stated in May 2012 that the delay in delivery of the rockets at the desired rate of supply had affected the training of troops and that the war wastage reserve could not be maintained. Earlier, in February 2010, Director General of Artillery, expressed concern over repeated failure and stoppage of production of Pinaka rocket leading to overall delay in operationalisation of the Army units as per induction plan. DG of Artillery also requested the Secretary, Defence Production that all checks, tests and procedures as per new Master Quality Assurance Plan prepared after the accidents, must be strictly enforced to ensure high quality production. In February 2011, Director General of Ordnance Services also requested OFB to despatch only proof-passed Pinaka rockets to ammunition depots.

OFB stated in July 2012 that Pinaka rocket is entirely a new ammunition involving various state-of-the-art technologies like composite manufacturing, flow forming, precision machining, *etc.* with which Ordnance Factories were not familiar. OFB added that ARDE had changed the design two times and considerable time had lapsed in validation of designs. It, however, added that major design changes do happen mid-course in DRDO developed designs and as a result, gestation period of design maturity-cum-bulk production became

longer. There had been major design changes in propulsion system by ARDE/HEMRL during 2008-10, which had delayed the project on which OFB had no control.

Since the project had been taken up by OFB after complete transfer/assimilation of the specifications and technology, fully aware of the fact that OFB was taking up an entirely new project, abundant caution was required in the Ordnance Factories to strictly adhere to the specifications. The acceptance of MAPO without ensuring the minimum Imine content was clearly an avoidable lapse which had led to the accident and loss. OFB was entirely responsible for this, while design changes by DRDO also could have contributed to the delays.

### **8.2.8 Conclusion**

Against the Army's indent for supply of 4752 rockets during the period 2007-12, OF Chanda had supplied only 1561 rockets till March 2011, that too without proof clearance. During proof firing of the rockets in December 2008, an accident occurred. Analysis of the reasons for the accident led to declaration of 407 rockets as unserviceable due to quality problems of the propellant, and net loss of rockets valuing ₹ 44.51 crore and propellant valuing ₹ 4.25 crore. Repeated failure and stoppage of production of Pinaka rocket for a certain period led to overall delay in operationalisation of the Army units as per induction plan. The delay in delivery of the rockets at the desired rate of supply had also affected the training of troops and the war wastage reserve could not be maintained.

Three factories had to source major components/assemblies valuing ₹ 89.24 crore from April 2008 to June 2011 from trade, due to delay in creation of facilities.

What is disquieting is that the project that was initiated about two-and-a-half decades back continues to be burdened by design deficiencies which hampered the production and supply of rockets to the Army.

The Ministry/OFB may urgently review the tardy progress in implementation of the ongoing Pinaka project and take proactive action for early completion of the project.

The matter was referred to the Ministry of Defence in December 2011; their reply was awaited as of July 2012.

### **8.3 Production of new generation vehicles in Vehicle Factory Jabalpur**

**Vehicle Factory Jabalpur which undertook manufacture of two new generation vehicles based on transfer of technology from M/s Ashok Leyland Ltd. (Stallion) and M/s Tata Motors Ltd. (LPTA) could achieve in-house manufacture of components/assemblies to the extent of only a meagre 17.46 per cent (Stallion) and 16.63 per cent (LPTA), as against the objective of achieving 59.04 per cent (Stallion) and 51.58 per cent (LPTA). Gross under-utilisation of plant and machinery resulted in trade procurement of components and assemblies aggregating ₹498.86 crore during 2008-11.**

#### **8.3.1 Introduction**

Vehicle Factory Jabalpur (VFJ) undertook manufacture of two types of new generation vehicles (Stallion and LPTA<sup>22</sup>) since 1997-98 based on transfer of technology (ToT) from M/s Ashok Leyland Ltd. and M/s Tata Motors Ltd. (erstwhile Telco).

**8.3.1.1** In Paragraph 48 of Audit Report No. 7 of 2001 of the Comptroller and Auditor General of India, a mention was made about tardy progress in implementation of the ToT and loss in manufacture and issue of these vehicles. The Ministry in the Action Taken Note (ATN) of March 2002 stated that the decision to produce Stallion and LPTA vehicles was justified in view of gainful utilisation of the available workforce and installed capacities of the factory and added (May 2003) that the VFJ had achieved break-even point in 2000-01.

**8.3.1.2** Our audit of production of the above vehicles during 2008-11 in VFJ revealed substantial delays in implementation of the ToT, poor progress in in-house manufacture of components/assemblies, heavy dependence on trade procurement of various items despite having ToT, loss in issue of the vehicles to the Army as well as high cost of production, as discussed in the succeeding paragraphs.

#### **8.3.2 ToT agreements for in-house production of vehicles**

The ToT agreements concluded by OFB in August/September 1998 with M/s Ashok Leyland Ltd. (AL) and M/s Tata Motors Ltd. (TML) for production of Stallion and LPTA vehicles respectively, were valid up to August/September 2005. Considering the Army's requirement of the vehicles for next 10 to 15 years, the validity of the agreements was extended, in October/ December 2006, up to August/September 2012. Effective from 01 October 2010 and as per the orders of the Ministry of Road Transport and Highways, issued in March 2010, the VFJ switched over to the production of BS-III<sup>23</sup> emission norms compliant vehicles.

---

<sup>22</sup> Lorry Passenger Transport All Terrain

<sup>23</sup> Bharat Stage III emission norms for vehicles

### 8.3.3 Progress of in-house manufacture of components/assemblies

The ToT agreements had envisaged phase-wise establishment of in-house manufacture of 12 assemblies with components (59.04 *per cent* in terms of cost) for Stallion and 10 assemblies with components (51.58 *per cent* in terms of cost) for LPTA vehicle by September 2001, with the progressive deletion of CKD/SKD<sup>24</sup> items supplied by the collaborators.

The OFB claimed (May 2012) to have established in-house manufacture of all the items planned except cabin. However, we observed that the factory continuously manufactured four assembly items *viz.* gear box, auxiliary gear box, front and rear axles of both the vehicles based on CKD and SKD obtained from the collaborators even during 2008-09 to 2010-11, although these were planned to be produced in-house.

We also observed that in terms of value of production, the factory could actually manufacture in-house only 17.46 *per cent* (for Stallion) and 16.63 *per cent* (for LPTA) of the assemblies, even after nine-and-a-half years from the planned period of completion, as against the planned target of 59.04 and 51.58 *per cent* respectively.

Further during 2011-12, in terms of number of items, the factory manufactured in-house only 10 to 18 *per cent* (for Stallion) and 3 to 11 *per cent* (for LPTA) of items (in number) required for the aforesaid major assemblies as detailed below:

#### Status of in-house production of items for Stallion/LPTA vehicles

Name of assembly	Stallion			LPTA		
	Number of items involved	Items procured from collaborator and trade	Items manufactured in-house (percentage)	Number of items involved	Items procured from collaborator and trade	Items manufactured in-house (percentage)
Gear box	198	179	19 (9.60)	145	132	13 (8.97)
Auxiliary Gear box	128	111	17 (13.28)	106	94	12 (11.32)
Front axle	85	70	15 (17.65)	267	256	11 (4.12)
Rear axle	47	42	5 (10.64)	234	227	7 (2.99)

OFB stated (May 2012) that in-house manufacturing as per make and buy plan was worked out based on indented quantity and availability of manpower and that delayed receipt of indents from the Army for 2008-09 and 2009-10 had compelled VFJ to procure these items from trade. OFB added that the VFJ had not procured the complete assembly in the form of CKD/SKD for BS-II compliant vehicles from collaborators during the year 2007-11. However, such shortfalls were inevitable for production of BS-III compliant vehicles as there was a complete transformation of the models to the updated version.

The reply, however, ignored the following facts:

- production targets for 2008-09 and 2009-10 were given by the Army in October 2007 and October 2008. Army also had placed indent on OFB in

<sup>24</sup> Complete Knocked Down/Semi Knocked Down

April 2008 for 98 *per cent* target of 2008-09 and in January 2009, for 74 *per cent* target of 2009-10; and

- VFJ had continued to procure gear box, auxiliary gear box and front and rear axles as CKD/SKD from collaborators even for BS-II up to 2010-11 without making credible plan and action to establish appropriate manufacturing facilities to produce these assemblies in-house and to achieve higher value addition.

Failure of the factory to manufacture the intended items based on ToT after lapse of more than nine years from the planned period led to continued procurement, during 2008-11, of major assemblies, sub-assemblies and components worth ₹ 498.86 crore (approx) for BS-II version vehicles from the collaborators and trade.

#### **8.3.3.1 Avoidable procurement of components for BS-II version vehicles**

Consequent upon the switch over to production of BS-III compliant vehicles in October 2010, certain items used for BS-II version were rendered redundant. Despite this, during May 2010 to January 2011, VFJ placed orders valuing ₹ 9.55 crore on trade for various items for BS-II version vehicles, of which items valuing ₹ 3.02 crore remained unutilised as of December 2011.

OFB stated (May 2012) that the items had been procured on urgent basis due to acute shortage/bottlenecks and that subsequent materialization of the items from regular supply might have rendered them surplus. OFB added that possibilities of utilising these items against warranty replacement and spares for maintenance would be explored. The reply indicates that VFJ had not properly assessed the redundancy of existing inventory as well as procurement process relative to BS-II compliant vehicles, despite being fully aware of the switch over to a new version.

#### **8.3.4 Low utilisation of plant and machinery**

Between January 2000 and March 2011, VFJ had procured 196 items of plant and machinery worth ₹ 97.51 crore for manufacture of the new generation vehicles, *viz.* Stallion and LPTA. Our test check of output of machine-hours of 59 machines commissioned between March 2000 and July 2008 showed that, during the period 2008-11, 33 machines were under-utilised by 35 to 70 *per cent*.

OFB attributed (May 2012) under-utilisation of machinery during 2008-09 and 2009-10 to less production load and reduction in manpower. It added that consequent on switch-over from BS-II to BS-III<sup>25</sup> compliant vehicles with effect from October 2010, VFJ had resorted to bulk procurement of CKD/SKD of major assembly/sub-assemblies from collaborators that had led to non-availment of the advantage of utilisation of in-house aggregates in the vehicles.

---

<sup>25</sup> Bharat Stage II and III emission norms for vehicles

OFB's contention does not reckon the fact that even prior to the switch over VFJ had been manufacturing LPTA and Stallion vehicles using CKD procured from the collaborators for major assemblies like gear box, auxiliary gear box, front axle, rear axle. VFJ's continued dependence on trade procurement of major assemblies/sub-assemblies/ components instead of in-house manufacturing of these items had in fact adversely affected its in-house capacity utilization and worsened this situation on switch over to BS-III compliant vehicles.

#### **8.3.4.1 Under-utilisation of hydraulic press**

Non-utilisation of a Hydraulic Press costing ₹ 3.69 crore commissioned in May 2003 for in-house manufacture of cabins of these vehicles by VFJ was commented upon in Paragraph 3.4.5 of Audit Report No. 19 of 2007 (Performance Audit). The Ministry, in its ATN of December 2009, stated that the press was being gainfully utilised to its full capacity for manufacture of various components of Stallion and LPTA. However, the claim of the Ministry was technically incorrect as the press was utilised for only 457 out of 900 working days for making bumper and other parts of the vehicles during 2008-11.

OFB stated (May 2012) that in-house manufacture of cabin was not undertaken due to economy of scale, high capital cost, uncertain product life, low volume of requirement and also that the press had been utilized during 2008-09 to 2010-11 in accordance with the requirements placed by the indentors.

The reply is silent on the action taken by OFB to ensure gainful utilisation of the press to its full capacity for manufacture of other components, as claimed by the Ministry in its ATN of December 2009.

#### **8.3.4.2 Low capacity utilisation of automated assembly line**

In order to modernise the LPTA assembly line, VFJ, in July 2005, placed an order on M/s TAL Manufacturing Solutions, Pune for supply and commissioning of an automated LPTA assembly line costing ₹8.86 crore with a projected annual savings of ₹ 58.50 lakh towards manpower cost. VFJ had accepted a higher capacity (15000 vehicles) plant as against the originally planned capacity for production of 2500 to 3000 vehicles, in view of the following:

- designing of the assembly lines for minimum 15000 vehicles *per annum* was economical;
- requirement of an annual production of 8000 to 10000 vehicles of LPTA and Stallion apart from future requirement of 6x6 vehicles; and
- war reserve contingency and future growth prospect.

We observed that the LPTA assembly line, commissioned in March 2008, was utilised only between 23 and 41 *per cent* during 2008-11 due to the following reasons:

- annual production of LPTA, Stallion, water bowser, mine protected vehicle, etc. ranged only between 3506 and 6104 against the capacity for 15000 vehicles during 2008-11;
- the same assembly line could not be simultaneously used for manufacture of both LPTA and Stallion; and
- non-receipt of firm order/production target for futuristic 6x6 vehicles from the Army.

Besides, the anticipated annual savings of ₹ 58.50 lakh towards manpower cost, could not be verified as the factory had not revised the labour estimates till December 2011.

OFB, while accepting the fact, stated (May 2012) that the production was carried out as per the orders of the Army and in view of continuous depletion of manpower due to retirement, no manpower had become surplus. It added that downward revision of labour estimates was not feasible as BS-III compliant vehicles possessed advanced features that would involve more work contents/ operations in their manufacture.

The above contention is not acceptable because OFB did not attempt to revise the labour estimates till the introduction of BS-III vehicles *i.e.* October 2010. Further, there was need to revise the labour estimates downward even for the BS-III compliant vehicles because an automated assembly line was being utilised for assembly of various components and assemblies of the LPTA vehicles.

### 8.3.5 Issue of vehicles to Army over-reported

The table below indicates the details of issue of vehicles to the Army against the target during 2008-09 to 2010-11.

**Status of target and issue of vehicles to Army**

Year	Stallion (in number)		LPTA (in number)	
	Target	Issue	Target	Issue
2008-09	2476	2475	1184	1184
2009-10	790	790	2207	2207
2010-11	3555	2843	3079	2860

Evidently, in 2010-11, issue of both the types of vehicles fell short of the target, mainly due to switch over of emission norms from BS-II to BS-III from October 2010. We observed from the production report (31 March 2011) that as against the reported issue of 2843 Stallion and 2860 LPTA, only 1894 Stallion and 1575 LPTA vehicles were received in Plant-IV of VFJ for final inspection. Of these, VFJ had actually despatched only 1281 Stallion and 961 LPTA vehicles to the Army up to March 2011. The issue of balance 1562 Stallion and 1899 LPTA vehicles valuing ₹ 567.10 crore had, in fact, spilled over to the next year, which indicated that the achievement during 2010-11 was lower than what was reported to the Ministry.

OFB attributed (May 2012) the shortfall/ over-reporting of issue of vehicles to:

- (i) less time available for completing the target after introduction of BS-III emission norms;
- (ii) the production of the vehicles being completed with CKD/SKD bought from the collaborators; and
- (iii) despatch, being delayed for want of adequate drivers by the transportation contractors.

The reply does not explain why VFJ could not have adequately geared up to meet the production of the BS-III compliant vehicles particularly, when the Government orders were issued in March 2010 itself and ensured that actual issue of vehicles did not lag behind reported issues.

### **8.3.6 Loss in issue of vehicles to the Army**

VFJ suffered a loss of ₹ 24.97 crore in 2008-09 on issue of Stallion to the Army, though later during 2009-10 it earned a profit of ₹ 5.13 crore. The loss suffered in the issue of LPTA during 2008-09 and 2009-10 was ₹ 21.08 crore. The main reason for loss in issue of Stallion in 2008-09 was 26 *per cent* increase in cost of production compared to the previous year owing to 20 and 48 *per cent* hike in material and labour cost respectively.

During 2010-11, VFJ reported an overall profit of ₹ 93.66 crore in the issue of both the vehicles. However, our analysis showed that the profit was unrealistic, since the cost of the vehicles had been under-accounted due to spill over of labour booking to next financial year.

### **8.3.7 Conclusion**

Against the planned in-house manufacture of assemblies/ components to the extent of 59.04 *per cent* of cost of Stallion and 51.58 *per cent* of cost of LPTA vehicle, the achievement was only 17.46 *per cent* (Stallion) and 16.63 *per cent* (LPTA), which is abysmally low. Consequently, major plants and machinery procured for this purpose remained grossly under-utilised. VFJ did not adequately gear up to meet the changes necessary in the production line even though switch over from BS-II to BS-III was a mandatory requirement. Instead, VFJ reverted to the collaborators for the assemblies in CKD/ SKD form for BS-III vehicles.

OFB needs to avoid the practice of over-reporting of issues to the users as this vitiates the annual production accounts of the Ordnance Factories.

The Ministry and OFB need to draw up a well thought out plan for successful establishment of in-house manufacture of all the required assemblies and components in a time bound manner and to reduce the dependence on collaborators and trade for components/assemblies.

The matter was referred to the Ministry of Defence in January 2012; their reply was awaited as of July 2012.

## Procurement of Machinery

### 8.4 Non-commissioning of a costly machine

**Failure of Heavy Vehicles Factory Avadi (HVF) to incorporate a specific time schedule for erection and commissioning of an imported machine resulted in its non-commissioning, non-accrual of expected benefits and an idle expenditure of ₹ 20.01 crore.**

Heavy Vehicles Factory Avadi (HVF) had one Schiess Machining Centre for machining Main Battle Tank (MBT) turret. In view of the inadequacy of the existing Schiess Machining Centre in machining turrets for MBT as well as Research and Development purposes, HVF felt the need to procure a bigger size vertical turret machine for replacement of condemned machines. HVF also envisaged that the use of the bigger machine would reduce the cost of production annually by ₹ 2.96 crore.

The recommendation (May 2006) of the Tender Purchase Committee Level 1 (TPC), chaired by the Chairman, OFB, for placement of order on the lowest technically acceptable tenderer (a foreign firm), for supply, erection and commissioning (including civil foundation charges) of one CNC Double Column Vertical, Turning, Boring and Milling machine at Free on Board (FOB) price of ₹ 20.40 crore was accepted by the Ministry of Defence (August 2006). As per the supply order (SO) placed (October 2006) on the firm the machine was to be delivered by April 2008 and 90 *per cent* of FOB value released soon after despatch of the shipment. The balance 10 *per cent* was to be released after successful commissioning of the machine on submission of a matching performance bank guarantee valid during the warranty period.

We observed (September 2010) that contrary to a decision made by the TPC, HVF placed the SO without specifying the time schedule for completion of erection and commissioning of the machine. Further, against the scheduled delivery of the machine by April 2008, the firm actually delivered the machine in November 2008. The delay was attributed to inordinate delay by HVF in submission of the drawings to the firm and carrying out pre-despatch inspection of the machine, which itself was attributable to delay in securing the Ministry's sanction for deputation of the factory's representative to Italy. HVF, in November 2008, paid ₹ 20.01 crore to the firm towards 90 *per cent* of the value of the SO (₹ 17.71 crore) and civil works (₹ 2.30 crore).

The firm has failed to commission the machine so far (June 2012) even though more than three and half years had lapsed since the delivery of the machine. Our examination revealed that slippages in commissioning had arisen from the delayed supply of vital items by the firm, non-receipt of fixtures for the MBT Arjun Turret in time and defects in civil works executed by the firm's representative. However, in the absence of specific time schedule for commissioning, HVF is unable to claim any liquidated damages for the delay in commissioning, even though the commissioning of machine

delivered in November 2008 is expected to be completed in as late as November 2012. This situation could have been avoided if a specific date of commissioning of machine had been clearly indicated in the supply order.

In response to our observation, OFB claimed (June 2012) that no delay in erection and commissioning of the machine had occurred due to non-supply of items by the firm and the machine was on component trials. Tacitly admitting the failure to incorporate specific time schedule for commissioning, OFB assured to incorporate specific time frame in future contracts.

The contention of OFB that there was “no delay on part of supplier”, is not acceptable as the firm supplied vital components of this machine only between June 2009 and March 2011, much later after receipt of the machine at HVF. The fixtures for Arjun turret were also not supplied on time. The latitude given to the firm in commissioning the machine has led to an idle investment of ₹ 20.01 crore as also consequential loss of anticipated saving of ₹ 2.96 crore in cost of production every year.

The case was referred to the Ministry of Defence in October 2011; their reply was awaited as of July 2012.

### **8.5 Defective manufacture leading to unserviceability of ammunition**

**Ammunition valuing ₹ 6.04 crore manufactured by the Ordnance Factory Khamaria and supplied to the Army during March 2007-November 2008 were declared unserviceable as it caused accidents at the Army Depots/Unit during normal handling.**

The Ordnance Factories and the Director General of Quality Assurance (DGQA) are jointly and severally responsible for ensuring that the Army receives quality weapons and ammunition produced in the Ordnance Factories to enhance its combat efficiency and effectiveness as a fighting force.

During audit we observed cases of accidents involving an ammunition manufactured by Ordnance Factory Khamaria (OFK) and issued to the Army after inspection by the Senior Quality Assurance Establishment (SQAE). OFK manufactured 32 lots comprising 2.50 lakh ammunition valuing ₹ 5.72 crore<sup>26</sup> and supplied it to the Central Ammunition Depot, Pulgaon (CAD) between March 2007 and November 2008. In July 2008 and February 2009, accidents occurred at CAD during handling of three lots due to bursting of cartridge case inside the packing box of the ammunition. An accident also occurred at one of the Army units to which the ammunition had been issued by the CAD.

<sup>26</sup> 18 lots comprising 1.15 lakh Armour Piercing Incendiary (API) valuing ₹ 2.58 crore and 14 lots comprising 1.35 lakh Armour Piercing Incendiary Tracer (APIT) valuing ₹ 3.14 crore.

Defect investigation of the three affected lots in CAD by the DGQA pinpointed the probable cause to loose lead tin foil/cap composition. As a result, the three affected lots were declared as unserviceable.

A joint investigation committee headed by an Additional General Manager (AGM) of OFK, formed to ascertain the causes of premature functioning of the primers as well as to suggest remedial measures, attributed the cause to defective manufacturing process at OFK. The joint committee suggested 23 remedial measures for implementation by OFK. In view of the findings of the joint committee, the Controllerate of Quality Assurance (Ammunition) Kirkee (CQA/A) declared, in January 2011, the remaining 29 lots of ammunition also as unserviceable.

OFK, after implementation of the remedial measures, manufactured and supplied (November 2008-December 2009) another 31 lots of ammunition to the CAD, of which one lot (9240 rounds valuing ₹ 0.32 crore) again met with an accident at an ammunition depot. Defect investigation by CQA/A on the affected lot found presence of Mercury Fulminate in the propellant, which in turn was attributed to spillage of Mercury Fulminate from the primer, again a case of the same manufacturing defects identified earlier in the accident.

Recurring accidents and analysis of their cause indicated defective manufacture of primers at OFK and deficient Quality Control mechanism in the factory leading to supply of ammunition with loose primers. This resulted in unserviceability of 33 lot of ammunitions valuing ₹ 6.04 crore.

The OFB stated (June 2012) that:

- (i) the accidents were not due to the manufacturing defect, *i.e.* loose lead tin foil, since the lots under reference had been found serviceable in all the specified tests including dimensional checks, visual examination, static tests as well as dynamic test during and after manufacture;
- (ii) the affected lots withstood extreme handling condition during its loading at OFK, transit from OFK to CAD Pulgaon, unloading at CAD Pulgaon and back loading to OFK without any accidents. It averred that the accident at Army unit might have been due to mishandling;
- (iii) the rejection of the ammunition and attributing the accident to the unserviceability was unacceptable to OFB because the same ammunition had passed all the stipulated specification and proof criterion. It also stated that declaring ammunition as unserviceable based on the method of disintegration was not in line with the Original Equipment Manufacturer (OEM); and
- (iv) that the production of the ammunition had stabilized and 1.42 lakh ammunition had been produced and supplied to the Army during 2011-12.

The reply of OFB does not address the core issue of the ammunition valuing ₹ 6.04 crore lying in an unusable state since January 2011. Merely by

sharing the blame with DGQA or by stating that the unserviceability is unacceptable, the OFB cannot absolve itself of the responsibility to ensure supply of ammunition that the troops can confidently use. In the instant case, since the ammunition supplied had proven defect prone and, therefore, requiring remedial action, OFB should rectify the defects, if it feels that the ammunition can be safely used. The Ministry may get the matter investigated and take urgent action to have the defects removed so that the costly ammunition is not allowed to perish in stock in the process of internal differences between the OFB, DGQA and the Army.

The matter was referred to the Ministry of Defence in January 2012; their reply was awaited as of July 2012.

### **8.6 Loss due to manufacture of detonators with vintage components**

**Ordnance Factory Khamaria manufactured detonators using vintage components supplied by Ammunition Factory Kirkee and Barium Chromate procured from trade, with deviated specifications. It resulted in rejection of detonators costing ₹ 4.64 crore manufactured during January 2008 - October 2009.**

Ordnance Factory Khamaria (OFK) embarked on manufacture of detonators of four seconds delay by manufacturing two pilot batches of 500 detonators each in October 2007 and November 2007. The Senior Quality Assurance Establishment (Armament) Khamaria (SQAE) - an organisation functioning under the control of the Controllerate of Quality Assurance Establishment (Ammunition) Kirkee (CQA/A) - was required to inspect the produce for confirmation of departmental specifications.

In March 2008, having taken into consideration the satisfactory performance of the first 10 lots, the CQA/A granted bulk production clearance for manufacturing one lakh detonators, with a condition to subject the same for integrated simulation and acceleration test (ISAT) trials. ISAT trials are required to ensure consistent performance of detonators throughout their shelf life in various environmental conditions.

Against the target of one lakh, the OFK manufactured 30,390 detonators in January/February 2008 and 1,16,176 detonators during March 2008. During quality testing in May 2008, the SQAE/CQA(A), rejected the entire quantity of 30,390 produced during January-February 2008 and 10,960 of the 1,16,176 detonators produced in March 2008 owing to their failure in tests. Subsequently, out of 2,31,321 detonators produced between July 2008 and October 2009, the SQAE again rejected 28,496 detonators. In August 2010, the end users, *i.e.*, the Army rejected 63,597 detonators, from the detonators manufactured and delivered to it during March 2008/July 2008 – August 2009 even though these had passed the quality inspection by the SQAE. Thus, as against the total production of 3,77,887 detonators, 1,33,443 detonators (35.31 *per cent*) were rejected on quality issues. The quality failures were attributed

(March 2010) by a Board of Enquiry constituted by OFK to the use of 1991-94 vintage 'housing and delay tubes' supplied by Ammunition Factory Kirkee (AFK) and failure of detonators to withstand environment and water immersion test. The Board was guided by the reports of the SQA(A) and CQA (MET). The SQA (A), after undertaking a joint investigation, had also attributed (February 2010) failure of the detonators to the use of Barium Chromate that did not meet the specifications.

The OFK was responsible for quality control of production through intermediate stage/inter-stage inspection. The end products are proof tested by the quality assurance authorities for acceptance inspection. Hence, rejection of 35.31 *per cent* of the detonators during testing by the quality assurance authorities and the users symtomized the failure of quality control in OFK during the relevant period *i.e.* January 2008 to October 2009. Quality control was all the more imperative since the OFK undertook production of detonators using vintage components and had accepted Barium Chromate which deviated from the prescribed specifications. Thus, poor internal quality control by the OFK, resulted in rejection of 35.31 *per cent* of detonators manufactured by the OFK during January 2008 – October 2009, with a resultant loss of ₹ 4.64 crore.

The Directorate of Quality Assurance (Armaments) stated (January 2012) that **(i)** the performance of the detonators had been found satisfactory in all the ISAT trials; **(ii)** the discrepancy of use of vintage components had been pointed out to OFK by SQA (A) in March 2008; and **(iii)** the OFK was responsible for acceptance of the Barium Chromate. OFB stated (July 2012) that old vintage components used by OFK, were duly inspected and cleared by Area inspector of AFK, while Barium Chromate with minor deviation of apparent density and mean diameter of average particles was utilized in production only after successful proving of the same in the practical trial conducted in association with the Quality Assurance Establishment (Military Explosives) Khamaria and the Quality Assurance (Material Section)/Production section of the OFK. Thus, both the production and quality assurance agency disowned responsibility for the production of detonators which were eventually found defective. The contention of OFB is unacceptable because **(a)** OFK went ahead with production of 30,390 detonators in February 2008 without waiting for the results of the evaluation of the components from SQA (A) Khamaria and bulk production clearance from CQA/A, who had referred (February 2008) the matter to CQA (M) Ishapore for advice; and **(b)** OFK was solely responsible for accepting barium chromate with deviation.

The Ministry may order an investigation into the matter to fix responsibility for the loss of ₹ 4.64 crore and to take remedial action, rather than allowing the production and inspection agency to point fingers at each other.

The case was referred to the Ministry of Defence in January 2012; their reply was awaited as of July 2012.

## Miscellaneous

### 8.7 Issue of rejected items to the indentors by Ordnance Factories

**Five Ordnance Factories issued sub-standard ammunition to the Ministry of Home Affairs, State Police Forces and Central Police Organisations in violation of standing instructions meant for ensuring quality controls.**

Ordnance Factories, in addition to undertaking manufacture and supply arms/ammunition to the Armed Forces, cater to similar needs of the Ministry of Home Affairs (MHA), Central Police Organisations (CPO) and the State/Union Territory Police (SUP). The MHA, in April 1998, informed the OFB that the arms/ammunition supplied to all the MHA units and SUP should be subjected to Director General of Quality Assurance (DGQA) inspection prior to supply to the respective indentors.

We noted that in April 2004, the DGQA had informed the Procurement Wing of MHA that the Ordnance Factories had been resorting to issue of various types of ammunition to MHA under their own inspection, without getting it tested by the DGQA organisation thus defeating the very objective of issuing reliable/authentic armament stores to the MHA. Again, in May 2007, the DGQA informed the MHA, that despite the instructions to get the arms and ammunitions inspected by the DGQA, the MHA units, in order to obtain early supply of stores, were placing open ended supply orders on Ordnance Factories indicating the inspection by the Ordnance Factory concerned. DGQA had pointed out that such an ambiguity on inspection responsibility was being misinterpreted by Ordnance Factories to issue ammunition and arms to MHA units under self certification with diluted specifications.

During audit of five Ordnance Factories (Ammunition Factory Kirkee, Ordnance Factory Dehu Road, Ordnance Factory Varangaon, Ordnance Factory Khamaria and Ordnance Factory Chanda), we noticed (February 2011) that arms, ammunition and weapons valuing ₹ 180.67 crore manufactured by these factories were issued between 2005-06 and 2010-11 to MHA/SUP/CPO, even though it had been rejected in tests by the DGQA inspectorates for different reasons for issue to Army, or which were yet to be cleared in trial evaluation by the Army. This action of the Ordnance Factories was also in contravention of the instructions in vogue for segregating the stores/lots rejected in inspection and shifting them to a bond area under the joint custody of the factory and Quality Assurance Establishments with proper stamping/markings to avoid any mix up. Ordnance Factories are also required to obtain permission from Quality Assurance Establishments and to inform Authority Holding Sealed Particulars (AHSP) in case of withdrawal of those rejected stores for rework/retrieval *etc.*

The issue of these rejected items to the indentors of MHA in violation of above stipulations could compromise their effectiveness as well as endanger the lives of the users. In fact, one rejected lot of ammunition which had been

issued to the Andhra Pradesh Police had caused an accident damaging weapons and caused minor injury on the face of the firer due to the splinters of fired cartridges.

The OFB stated in July 2012 that the MHA could at best issue instructions to the OFB through the Ministry of Defence (MOD), implying that the instructions of April 1998 were not applicable to the OFB, as these had not been received through the MOD. OFB further stated that MHA was willing to accept the stores under factory inspection and none of the State police organisations had approached the factories for getting the stores inspected by DGQA for which they were required to pay Quality Assurance Charges, as per the policy guidelines issued by the MOD in April 2009. OFB affirmed that in no case ammunition which did not conform to the quality standards was issued to the indentors and none of the users had made any complaints about the quality of items supplied to them under self certification.

OFB's contention regarding the inapplicability of MHA's instructions of April 1998 to the Ordnance Factories is not tenable since a copy of the MHA's instruction of April 1998 was not only addressed to the OFB but also endorsed to the Department of Defence Production of the MOD. By acknowledging the MHA's request of April 1998, OFB had even issued instructions to the General Managers of Ordnance Factories in December 1998 to allow the DGQA to inspect the stores supplied to the MHA. OFB also did not explain as to why the items rejected by DGQA for supply to the Army were issued to the MHA under their own self-certification.

Above assertions in the reply of the OFB do not address the fact that supply of stores to MHA, SUP and CPO should have been made only after its clearance by DGQA inspectors as mandated in MHA's letter of April 1998 and repeatedly highlighted by the DGQA. Since the matter is a serious lapse on the part of the Ordnance Factories and violates standing instructions regarding testing of supplies before issue, it needs to be investigated to fix responsibility.

The matter was referred to the Ministry of Defence/Ministry of Home Affairs in February 2012; their replies were awaited as of July 2012.

## **8.8 Recoveries/savings at the instance of Audit**

**At the instance of Audit, Ordnance factories and inspectorates of Directorate General of Quality Assurance New Delhi recovered ₹ 44.48 lakh. Further, Ordnance Factory Katni achieved a saving of ₹ 43.20 lakh per annum due to reduction of maximum demand of electricity after pointed out in Audit.**

During the course of audit, we observed instances of irregular payments, under/non-recovery of charges, etc. Acting on the audit observations, the audited entities took corrective action, the net effect of which is summarised below:

### **Recoveries**

At the instance of Audit, seven Ordnance Factories and five inspectorates of DGQA cumulatively recovered ₹ 44.48 lakh on account of excess payment of sales tax, recovery of rent/electricity charges/service tax/licence fee/welfare cess/excess pay and allowances/children education allowance/damage rent due to overstayed and recovery of extra cost from a defaulting firm against procurement of a store at higher rate by operation of risk and purchase clause.

### **Savings**

Ordnance Factory Katni achieved an annual saving of ₹ 43.20 lakh by entering into agreement with M/s Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Limited in December 2010 for reduced maximum demand of electricity of 5500 KVA and 150 KVA in respect of two connections against earlier maximum demand of 6500 KVA and 212 KVA. The reduction was effected after we pointed out that the penalty paid to Electricity Company owing to consumption of less than 90 *per cent* of maximum contracted demand since May 2007 could be avoided by reduction in maximum contracted demand for electricity.

The matter was referred to the Ministry of Defence in January 2012; their reply was awaited as of July 2012.

New Delhi  
Dated: 2012

**(VENKATESH MOHAN)**  
Director General of Audit  
Defence Services

**Countersigned**

New Delhi  
Dated: 2012

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

**ANNEXURE-IA***(Referred to in Paragraph 1.9)***Position of outstanding ATNs****Ministry of Defence - excluding Ordnance Factory Board****(i) Pending for more than ten years**

<b>Sl.No.</b>	<b>Report No. and Year</b>	<b>Para No.</b>	<b>Subject</b>
1.	Audit Report, Union Government (Defence Services) for the year 1985-86	34*	Loss due to delay in pointing out short/ defective supply.
2.	No.2 of 1988	9**	Purchase of Combat dress from trade.
3.	No. 2 of 1989	11**	Purchase and licence production of 155mm towed gun system and ammunition
4.	No.12 of 1990	9**	Contract with Bofors for (a) purchase and licence production of 155mm gun system and (b) Counter Trade
5.		10*	Induction and de-induction of a gun system.
6.		19*	Import of ammunition of old vintage.
7.		46**	Ration article-Dal.
8.	No.8 of 1991	10*	Procurement of stores in excess of requirement.
9.		13*	Central Ordnance Depot, Agra.
10.		17**	Infructuous expenditure on procurement of dal chana.
11.	No.8 of 1992	20**	Procurement of sub-standard goods in an Ordnance Depot.
12.		28**	Avoidable payment of maintenance charges for Defence tracks not in use.
13.	No. 8 of 1993	15**	Non-utilisation of assets.
14.		22**	Over-provisioning of corrugated card board boxes

Sl.No.	Report No. and Year	Para No.	Subject
15.		29*	Import of mountaineering equipment and sports items
16.		31*	Avoidable payment of detention charges
17.	No. 7 of 1997	18*	Management of Defence Land
18.		23**	Avoidable expenditure on Demurrage charges
19.		27**	Non-realisation of claims from the Railways.
20.		69**	Defective construction of blast pens and taxi track
21.	No. 7 of 1998	30**	Avoidable payment of container detention charges
22.		32*	Infructuous expenditure on procurement of substandard cylinders
23.		36**	Procurement of batteries at higher rates
24.	No. 7 of 2000	52***	Repowering of Vijayanta Tank
25.	No. 7 of 2001	15**	Procurement of an incomplete equipment
26.		19**	Infructuous expenditure on procurement of entertainment films
27.		32***	Wrongful credit of sale proceeds of usufructs to regimental fund
28.	No.7A of 2001	@Entire Report (ATN for 8 out of 42 paras yet to be received even for the 1 <sup>st</sup> time)	Review of Procurement for OP VIJAY(Army)
<b>(ii) Pending more than 5 years upto 10 years</b>			
29.	No. 6 of 2003	2*	Exploitation of Defence lands
30.		11**	Recoveries effected at the instance of Audit
31.		14***	Irregular recruitment of personnel
32.	No. 6 of 2004	3.2*	Recoveries/Savings at the instance of Audit.

Sl.No.	Report No. and Year	Para No.	Subject
33.	No. 6 of 2005	3.2*	Recoveries/savings at the instance of Audit
34.	No.18 of 2005 (Performance Audit)	Standalone Report*	Performance Audit of the Directorate General of Quality Assurance
<b>(iii) Pending more than 3 years upto 5 years</b>			
35.	Report No. 4 of 2007	2.1 <sup>@@</sup>	Delay in execution/renewal of lease
36.		2.4**	Follow up on Audit Reports
37.		3.3**	Unauthorised use of Defence assets and public fund for running educational institutes
38.		3.5*	Recoveries/savings at the instance of Audit
39.		6.2**	Irregular payment of counter insurgency allowance
40.	Report No. CA 4 of 2008	2.8*	Follow up on Audit Reports
41.		3.2**	Avoidable extra expenditure in procurement of blankets
42.		3.3**	Recovery and savings at the instance of Audit
43.		3.4*	Avoidable loss due to acceptance of defective ammunition
44.	Report No. PA 4 of 2008 (Performance Audit)	Chapter I*	Supply Chain Management of General Stores and Clothing in the Army
<b>(iv) Pending upto 3 years</b>			
45.	Report No. CA 17 of 2008-09	2.7***	Non-renewal of lease of land occupied by Army Golf Club
46.		3.4***	Unauthorized use of A-1 Defence land by Army Welfare Education Society
47.		3.5***	Utilisation of Government assets for non-governmental purposes
48.		3.6**	Misuse of special financial powers by Army Commanders
49.		3.10***	Recoveries and savings at the instance of Audit
50.		4.1*	Irregular diversion of savings of a project for execution of new works

Sl.No.	Report No. and Year	Para No.	Subject
51.	Report No. 12 of 2010-11	2.1***	Defective import of SMERCH Multi Barrel Rocket Launcher System
52.		2.2**	Procurement of low capability missiles
53.		3.2*	Irregular procurement of Punched Tape Concertina Coil
54.		3.6***	Recoveries and savings at the instance of Audit
55.		3.9*	Non-identification of imported stores
56.		4.1***	Irregular sanction and construction of accommodation for a Golf Club
57.		4.3***	Additional expenditure on execution of a work due to indecision by the users
58.		5.1***	Hasty procurement of segregators
59.		5.2***	Misappropriation of Government stores
60.		5.3***	Additional cost due to delay in opening of commercial bids
61.		6.2*	Loss due to damage to imported equipment
62.	Report No. 6 of 2010-11 (Performance Audit)	Standalone Report***	Supply Chain Management of Rations in Indian Army
63.	Report No. 14 of 2010-11 (Performance Audit)	Standalone Report***	Canteen Stores Department
64.	Report No. 35 of 2010-11 (Performance Audit)	Standalone Report***	Defence Estates Management
65.	Report No. 11 of 2011-12 (Performance Audit)	Entire Report*	Special report on Adarsh Co-operative Housing Society, Mumbai
66.	Report No. 24 of 2011-12	2.1***	Delay in induction of State-of-the-Art Artillery Guns
67.		2.2***	Delay in establishment of repair facilities (Mini Depot) and unwanted import of Trailers
68.		2.4***	Non-realisation of Revenue due to non-revision of rent of land

Sl.No.	Report No. and Year	Para No.	Subject
69.		2.5***	Deficient pre-despatch inspection
70.		3.1***	Extra expenditure due to acceptance of higher rates
71.		3.2*	Diversion of funds from Government into non-Government account for procurement of Personal Kit items
72.		3.3***	Irregular payment of field area allowance
73.		3.4***	Irregular de-hiring of house constructed on leased land
74.		3.5***	Deficiency of fire fighting staff at Central Ammunition Depot
75.		3.6***	Loss of ₹ 1.19 crore due to irregularities in the account of Hay
76.		3.7*	Non-conclusion of contract resulted in extra avoidable expenditure of ₹ 59 lakh
77.		3.8***	Avoidable expenditure due to rejection of a valid tender
78.		3.9***	Loss due to non-inclusion of laid down clause-in wheat grinding contracts
79.		3.10**	Injudicious procurement of Tippers
80.		3.11***	Irregular payment to Civil Hired Transport Contractors
81.		3.12***	Avoidable provisioning of tyres of Scania Vehicles
82.		3.13***	Procurement of defective spares from foreign vendor
83.		3.14***	Recoveries and savings at the instance of Audit
84.		4.1**	Overpayment in Electricity Bills
85.		5.1***	Loss due to collapse of a bridge
86.		5.2***	Non-completion of bridge after twelve years of sanction
87.		5.3***	Avoidable procurement of core drilling machine
88.		6.1**	Blockage of public money due to take over of unusable land

<b>Sl.No.</b>	<b>Report No. and Year</b>	<b>Para No.</b>	<b>Subject</b>
89.		6.2**	Procurement/receipt of equipments after the closure or at the fag end of a project
90.		7*	Project Management in Armament Research and Development Establishments

\* **Action Taken Notes examined by Audit but yet to be finalised by the Ministry in the light of Audit remarks – 25**

\*\* **ATNs vetted by Audit but copy of the finalised ATNs awaited from Ministry – 28**

\*\*\* **Action Taken Notes not received even for the first time - 35**

@ **Part ATN received – 01**

@@ **Observation on final ATR -01**

**ANNEXURE-IB**

*(Referred to in paragraph No 1.9)*

**Ministry of Defence - Ordnance Factory Board**

**Action Taken Notes which have not been received even for the first time**

<b>Sl. No.</b>	<b>Report No &amp; Year</b>	<b>Para No.</b>	<b>Subject</b>
1	No. 12 of 2010-11	7.4	Undue benefit to a firm in procurement of Oleum
2	No.24 of 2011-12	8.1	Performance of Ordnance Factory Organisation
3		8.3	Extra expenditure due to purchase of spares at higher cost

**ANNEXURE-IC**

*(Referred to in paragraph No 1.9)*

**Ministry of Defence - Ordnance Factory Board**

**Action Taken Notes on which Audit has given comments/observations but revised ATNs were awaited from the Ministry/Department**

<b>Sl. No.</b>	<b>Report No &amp; Year</b>	<b>Para No.</b>	<b>Subject</b>	<b>Date of Return</b>
1	6 of 2004	7.11	Non recovery of inspection charges	13 June 2005
2	CA 4 of 2008	6.3	Abnormal delay in execution of Ordnance Factory Project Nalanda	17 June 2010

**ANNEXURE-II**

(Referred to in paragraph 8.1.4.1)

**Details of Spillover Issues in Ordnance factories for the year 2010-11**

(₹ in crore)

Sl No	Name of the Factory	Cost of Production <sup>1</sup>	Spill over Issues					Total
			Army	Navy	Air-Force	MHA incl State Police	R&D/other Def Dept	
1	Vehicles Factory Jabalpur	1164.15	779.83	Nil	Nil	8.14	Nil	787.97 <sup>2</sup>
2	Ordnance Factory Badmal	757.91	388.54	Nil	Nil	Nil	Nil	388.54 <sup>3</sup>
3	Ordnance Factory Khamaria	1096.56	282.22	Nil	Nil	0.16	Nil	282.38 <sup>4</sup>
4	Ordnance Factory Varangaon	310.15	Nil	0.43	7.94	96.98	69.89	175.24 <sup>5</sup>
5	Ordnance Equipment Factory Kanpur	318.40	44.46	4.79	9.72	Nil	Nil	58.97 <sup>6</sup>
6	Ammunition Factory Kirkee	671.15	15.98	Nil	Nil	34.65	Nil	50.63 <sup>7</sup>
7	Ordnance Factory Chanda	1240.37	362.31	Nil	8.04	4.29	Nil	374.64 <sup>8</sup>
8	Ordnance Factory Dehu Road	223.56	20.93	Nil	Nil	13.58	Nil	34.51 <sup>9</sup>
9	Ordnance Clothing Factory Shahjahanpur	237.32	23.16	Nil	9.17	Nil	0.13	32.46 <sup>10</sup>
10	High Explosive Factory Kirkee	140.74	0.80	Nil	Nil	1.56	1.86	4.22 <sup>11</sup>
11	Ordnance Parachute Factory Kanpur	118.29	10.54	Nil	Nil	Nil	Nil	10.54 <sup>12</sup>
12	Ordnance Clothing Factory Avadi	237.32	6.54	Nil	Nil	Nil	Nil	6.54 <sup>13</sup>
13	Ordnance Equipment Factory Hazratpur	53.37	3.84	Nil	Nil	Nil	Nil	3.84 <sup>14</sup>
	<b>Grand Total</b>	<b>6965.64</b>	<b>1939.15</b>	<b>5.22</b>	<b>34.87</b>	<b>159.36</b>	<b>71.88</b>	<b>2210.48</b>

<sup>1</sup>Data of Cost of Production taken from Annual Accounts of Ordnance & Ordnance Equipment Factories in India Vol-II for the year 2010-11

<sup>2</sup>Data extracted from production status of stallion, LPTA and MPV vehicles of VFJ as on 1.4.2011

<sup>3</sup>Data extracted from SQA (Armt) Badmal letter No. BL/QA/CAG/PA/09/1 dated 4.1.2012

<sup>4</sup>Data extracted from details of ammunition issued by OFK between June 2011 and October 2011 but shown in the year 2010-11

<sup>5</sup>Data extracted by IDEA from the database provided by Ordnance Factory Varangaon

<sup>6</sup>Data extracted from the records of Ordnance Equipment Factory Kanpur

<sup>7</sup>Data extracted from the details of P. Issue Voucher of Ammunition Factory Kirkee during the year 2010-11

<sup>8</sup>Data extracted by IDEA from the database provided by Ordnance Factory Chanda

<sup>9</sup>Data extracted from the records of P. Issue Voucher during the year 2010-11 and connected gate pass details of Ordnance Factory Dehu Road

<sup>10</sup>Data extracted from OCF Shahjahanpur letter No. P&P/1906/Misc/Audit dated 13.7.2011

<sup>11</sup>Data extracted from the records of P. Issue Voucher during the year 2010-11 and connected gate pass details of HEF Kirkee

<sup>12</sup>Data extracted from the records of P. Issue Voucher during the year 2010-11 and connected gate pass details of Ordnance Parachute Factory Kanpur

<sup>13</sup>Data extracted from the records of P. Issue Voucher during the year 2010-11 and connected gate pass details of Ordnance Clothing Factory Avadi

<sup>14</sup>Data extracted from the records of P. Issue Voucher during the year 2010-11 and connected gate pass details of Ordnance Equipment Factory Hazratpur

## ANNEXURE-III

(Referred to in paragraph 8.1.6)

## Details of Direct/Indirect labour charges and supervision charges

(₹ in crore)

Division	Year	Direct Labour	Indirect Labour	Percentage of Indirect Labour to Direct Labour	Total Labour Charges	Supervision charges	Percentage of Supervision charges to Total Labour Charges	Percentage of Supervision charges to Direct Labour Charges
Material & Components	2006-07	106	117	110	222	137	62	129
	2007-08	116	125	108	241	143	59	123
	2008-09	137	190	139	327	205	63	150
	2009-10	198	193	97	391	267	68	135
	2010-11 <sup>15</sup>	221	159	72	380	249	66	113
Weapons, Vehicles and Equipment	2006-07	177	179	101	356	222	62	125
	2007-08	188	185	98	373	236	63	126
	2008-09	224	292	130	516	342	66	153
	2009-10	298	312	105	610	433	71	145
	2010-11	355	250	70	605	419	69	118
Ammunition and Explosive	2006-07	153	154	101	306	233	76	152
	2007-08	168	156	93	324	246	76	146
	2008-09	205	250	122	455	380	84	185
	2009-10	299	243	81	542	477	88	160
	2010-11	349	194	56	543	489	90	140
Armoured Vehicles	2006-07	64	60	94	124	96	77	150
	2007-08	73	63	86	136	98	72	134
	2008-09	97	101	104	198	172	87	177
	2009-10	137	100	73	237	229	97	167
	2010-11	162	100	62	262	210	80	130
Ordnance Equipment	2006-07	113	54	48	166	51	31	45
	2007-08	111	54	49	165	53	32	48
	2008-09	136	93	68	229	99	43	73
	2009-10	186	117	63	303	102	34	55
	2010-11	233	66	28	299	114	38	49
Total	2006-07	612	564	92	1176	738	63	121
	2007-08	655	583	89	1238	776	63	118
	2008-09	800	926	116	1726	1199	69	150
	2009-10	1118	965	86	2083	1508	72	135
	2010-11	1320	769	58	2086	1480	71	112

<sup>15</sup> Annual Production Accounts of Ordnance & Ordnance Equipment Factories the year 2010-11

**ANNEXURE-IV***(Referred to in paragraph 8.1.12)***Statement showing factory-wise abnormal stock holding****(₹ in crore)**

Sl No	Name of Factory	Consumption of direct and indirect Stores in 2010-11	Consumption per day	Stores in hand as of 31 March 2011	Holding in number of days consumption	Authorised holding in terms of days	Excess holding in terms of days
1	Opto Electronic Factory Dehra Dun	212.09	0.589	257.08	436.36	180	256
2	Heavy Vehicles Factory Avadi	1870.73	5.20	2058.19	396.07	180	216
3	Ordnance Factory Dehra Dun	16.77	0.046	16.95	363.86	180	184
4	Ordnance Factory Kanpur	209.21	0.58	151.94	261.45	120	141
5	Machine Tool Prototype Factory Ambarnath	29.51	0.82	21.24	259.11	120	139
6	Ordnance Factory Trichy	59.54	0.165	36.77	222.32	120	102
7	Ordnance Clothing Factory Shahjahanpur	86.23	0.239	36.94	154.22	90	64
8	Gun and Shell Factory Cossipore	231.07	0.642	117.14	182.50	120	63
9	Ordnance Factory Chanda	1094.10	3.04	520.04	171.11	120	51
10	Ordnance Factory Dum Dum	31.92	0.088	14.78	166.69	120	47
11	Ordnance Factory Ambajhari	302.34	0.84	139.43	166.02	120	46
12	Grey Iron Foundry Jabalpur	34.04	0.095	15.13	160.01	120	40

**(Details of excess stock holding at Ordnance Factories prepared by Audit from Annual Production Accounts and Annual Store Accounts of Ordnance Factories for the year 2010-11)**

**ANNEXURE-V**

(Referred to in paragraph 2.2)

