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Report of the Comptroller and Auditor General of India

Performance of Ordnance Equipment Group of Factories

Union Government (Defence Services)
Ordnance Factories
No. 24 of 2013
(Performance Audit)

Contents

Preface

This Report of the Comptroller and Auditor General of India contains the results of the Performance Audit of the core activities of the Ordnance Equipment Group of Factories during the years 2008-09 to 2010-11, updated for the period 2011-12, wherever stated in this Report. This Report has been prepared for submission to the President of India under Article 151 of the Constitution of India.

Executive Summary

Background

Five factories of Ordnance Equipment Group (OEFG) under the control of Ordnance Equipment Group Headquarters Kanpur (OEF HQ) and Ordnance Factory Board Kolkata (OFB) are engaged in production of general stores and clothing (GS&C) items to meet the requirements of the Services. Army is the main recipient of these items (around 77 *per cent*).

Mention was made in previous Audit Reports of the Comptroller and Auditor General of India about inefficient production planning, deficiencies in procurement of stores and machinery, underperformance in production, underutilisation of resources, *etc.* in OEFG. Performance of these factories for the period 1999-2004 had been reviewed in audit during February-June 2004 and the results thereof were included in Paragraph 8.2 of Report No. 6 of 2005 of the Comptroller and Auditor General of India. The performance of OEFG was reviewed by us afresh during January - July 2011 with focus on the areas of production planning, utilisation of capacity, production and issue of GS&C products of specific quality at the right time to the Army (major recipient of the products). The data for the year 2011-12, wherever stated in this Report, was collected subsequently in April 2013.

The Performance Audit of these factories for the years 2008-12 brought out systemic deficiencies right from planning to execution.

Key findings

1. Shortcomings in fixation of annual production targets

Deficiencies including mismatch of the targets and capacity of the factories, delay in fixation of targets for annual production and subsequent unilateral reduction of targets by the factories persisted, which resulted in slippages in supply of items to the Army.

(Chapter-III)

2. Violation of procurement norms

Paragraphs 3.1.1, 3.7.7, 4.6.1 and Annexure-47 of OFB's Material Management and Procurement Manual (MMPM) stipulate the procurement norms, procedures etc. We observed that procurement of stores in violation of these extant provisions in MMPM resulted in over-provisioning of stores worth ₹165.54 crore during 2008-11. Similarly, against the prescribed

provision for 20 *per cent* purchases through open tender enquiry (OTE) in MMPM, four factories, in violation, made only 4 to 10 *per cent* of the purchases through OTE. An extra expenditure of ₹12.31 crore was observed in procurement of 14 items through 40 supply orders due to limited tender enquiry (LTE), instead of OTE. Further, in violation of OFB's direction (April 2007), 107 supply orders valuing ₹94.33 crore were placed by OEFG even though the rates exceeded the reasonable limit of eight *per cent* over the last purchase rate. This manifests that reasonability of rates was not ensured before placing orders by the factories.

Failure to break the suppliers' cartel in line with the OFB's instruction of July 2007 led to procurement of stores worth ₹33.91 crore through 102 orders from different suppliers, at identical rates.

As compared to the specific timeframe stipulated in MMPM, there were significant delays (up to 1441 days) in placement of 4117 orders valuing ₹430.63 crore, out of 11689 orders placed by the five factories in 2008-12.

(Chapter-IV)

3. Slippages in production and issue of items to the Army

In 116 out of 208 instances, the percentage of shortfalls in production and issue of GS&C items to the Army ranged between 21 and 100. The value of shortfalls in respect of 34 to 41 items out of 52 items analysed each year works out to ₹1147.13 crore during 2008-12. Besides, the value of issues to the Services spilled over to the next year amounts to ₹493.08 crore. The endemic slippages in issue of GS&C items despite outsourcing of jobs and unilateral reduction of targets in many cases, caused serious concern to the Army. OEFG also failed to tap the potential needs of paramilitary forces as it catered only 2.62 *per cent* of their requirements (₹1068.36 crore) of GS&C items during 2008-12.

(Chapter-V)

4. Underutilisation of resources

Although the available standard man-hours was not fully utilised, the factory managements allowed overtime payments of ₹48.68 crore to the Industrial Employees (IEs) in excess of actual requirement in 2008-12. Besides, the factories made additional payment of ₹10.91 crore towards piece work profit to IEs in 2011-12. Use of machines on single shift also led to underutilisation of capacity in the range of 45 to 69 *per cent*.

(Chapter-VI)

5. Poor quality control and assurance of products

Inefficient manufacture and inadequate quality control by the factories led to increasing trend of 'Returned for Rectification' (RFR) at quality assurance stage even in respect of established items. High level of RFR beyond 20 *per cent* and up to 100 *per cent* was noticed in 72 out of 266 instances in respect of 31 items during 2008-12. There were final rejections of five items valuing ₹11.66 crore in two factories during 2009-11. Apart from regular customer complaints, we came across rejections worth ₹10.42 crore in five cases at the users' end though the same were passed in inspection by Quality Assurance agencies.

(Chapter-VII)

6. Recurring loss in issue of products to the indentors

Deficient pricing mechanism of OFB and ineffective cost control by the factories led to recurring losses in four factories during 2008-12 in issue of items to the indentors. Net loss suffered by the OEFG worked out to ₹226.09 crore during 2008-12. Besides, there was extra expenditure of ₹105.47 crore in 16 instances due to higher cost of production for common items at one factory compared to that of another factory**.** OEFG had the production share of only six *per cent* every year while it accounted for 16 to 18 *per cent* of direct labour cost of ordnance factory organisation as a whole during 2008-12.

OEFG could not tap potential market for its products due to their exorbitant price.

(Chapter-VIII)

7. Ineffective internal control and monitoring

Inadequate internal control and lack of proper monitoring at the factories coupled with ineffective monitoring and guidance by the OEF HQ resulted in irregular booking of labour charges on closed/non-existent warrants, non-regularisation of losses arising from rejections/wastages and manufacture with excess or without drawal of material**.** The monitoring by the top level management on the working of OEFG was also inadequate.

(Chapter-IX)

Recommendations

- ***Ministry may ensure that the Army and OFB, in close coordination, fix production targets taking into account Army's requirement and capacity of OEFG. OFB should communicate its production capacity for each item to the Army well in advance before target fixation meetings.***

- ***Ministry may ensure that the Army and OFB hold target fixation meetings at the appropriate time so as to give the factories the required procurement lead time.***

- ***OFB may ensure that the factories adhere to the prescribed policy/ guidelines in assessment of net requirement of stores for reliable and accurate provisioning to avoid excess procurement.***

- ***The e-procurement system should be implemented effectively in all the factories and all factories should maintain shareable database.***

- ***OFB may ensure that the procurement agencies strictly adhere to the OFB's guidelines of July 2007 to prevent cartelisation.***

- ***Ministry may ensure that OEFG formulate judicious production and procurement plan so as to achieve realistic production targets.***

- ***A system should be institutionalised to ensure that Army's account is debited with simultaneous credit of ordnance factories' account only after the stores are inspected and cleared by the consignee Army's depots to plug the deficient accounting for spill-over issues.***

- ***OFB may streamline the outsourcing policy to minimise the outsourcing of jobs so as to ensure optimum capacity utilisation and also institute a mechanism to ensure reasonableness of rates.***

- ***OFB should generate a database at OEF HQ with the latest and reasonable rates for outsourcing of jobs which can be shared by all factories.***

- ***OFB may ensure that the factories plan their production activities efficiently, deploy their manpower judiciously in tune with the workload requirements and fully utilise the available SMH before resorting to work on overtime payment.***

- ***Ministry may ensure that OFB follow the correct methodology for making payment towards piece-work profit by excluding additional 25 per cent over and above the output SMH booked.***

- ***OFB should operationalise two-shift working in the factories to increase the productivity and to optimise capacity utilisation.***

- ***OFB should put in place a system of periodical review of inventory holding at different factories as well as take prompt action to dispose of all surplus/obsolete/non-moving/waste after proper identification.***

- ***OFB must ensure that the factories diligently follow the prescribed norms for inspection of input materials.***

- ***OFB may ensure that factories adhere to 100 per cent pre-inspection as required, by independent Quality Control staff of the factories.***

- ***Ministry may ensure that OEFG generate reliable cost-data for enforcing strict cost control on the products.***

- ***Ministry may ensure that the OFB and the factories strengthen their internal controls and monitoring mechanisms, especially in planning and production, accounting and documentation of the related activities.***

- ***A comprehensive and effective internal control system must be put in place by the OEFG to avoid irregularities in booking of labour charges and manufacture with excess or without drawal of materials.***

Chapter I: Introduction

1.1 Ordnance Equipment Group of Factories

The Ordnance Factory Board (OFB), Kolkata functioning under the administrative control of the Department of Defence Production, Ministry of Defence (MoD), is headed by the Director General Ordnance Factories (DGOF) and Chairman, OFB. There are 39 ordnance factories, grouped into five product-based Operating Groups, of which Ordnance Equipment Factories Group (OEFG) is engaged in production of general stores and clothing (GS&C) to meet the requirements of the Services[1]. Five factories, *viz.* Ordnance Equipment Factory Kanpur (OEFC), Ordnance Parachute Factory Kanpur (OPF), Ordnance Clothing Factory Shahjahanpur (OCFS), Ordnance Clothing Factory Avadi (OCFA) and Ordnance Equipment Factory Hazaratpur (OEFH) constitute this group. These factories also cater to the demands of paramilitary forces, other government departments, public sector undertakings, private indentors, sister factories *etc.*

During 2008-12, the value of issues of GS&C items to the Army was 77.36 *per cent,* Air Force 13.85 *per cent* and Navy only 1.71 *per cent.* Issue to the paramilitary forces was negligible at 0.97 *per cent,* while the remaining issues were made to others.

1.2 Organisational structure

OEFG is headed by Additional (Addl.) DGOF, Kanpur who functions under the OFB. OFB and OEF HQ are responsible for policy formulation, production planning, supervision and control of all the activities of OEFG, apart from regular interaction and coordination with the Services and MoD.

Factories are headed by Senior General Managers/ General Managers (GMs) who are assisted by Addl. GMs / Joint GMs in day to day activities of the factories.

Directorate General of Quality Assurance (DGQA) which is independent of the OFB is responsible for quality assurance of the products issued to the Services. DGQA discharges this function through two Controllerates of Quality Assurance (CQA) based at Kanpur, one for Textile and Clothing

[1] Army, Navy and Air Force

(T&C) and another for General Stores (GS). Senior Quality Assurance Establishments (SQAE) are posted at each factory to function under the respective CQA.

The Principal Controller of Accounts (Factories) Kolkata [PCA (Fys)] under Controller General of Defence Accounts New Delhi discharges its functions of cost accounting, compilation of annual accounts and advisory role on finance through Accounts Office attached with every factory.

1.3 Product profile and cost of production

The factory-wise product-profile, cost of production, value of issue and profit/loss for the period 2008-12 are depicted in Table-1.

Table-1: Major products, cost of production and value of issue

(₹ in crore)

Factory (Year of establishment)	Major products	Year	Cost of production	Value of issue	Profit(+)/ Loss(-)[2]
OEFC (1862) KANPUR	Tents, Boot, Net Mosquito, Bag Sleeping/kit, Gloves, Tape Tracing, Cover Waterproof, Mattress, Heater Space Oil Burning, Ground Sheet, *etc.*	2008-09	265.70	264.71	2.17
		2009-10	256.34	228.92	(-)26.43
		2010-11	318.40	290.56	(-)26.00
		2011-12	288.00	243.19	(-)42.84
		Total	**1128.44**	**1027.38**	**(-)93.10**
OCFS (1914) SHAHJA-HANPUR	Shirt, Trouser, Jersey, Coat, Suit, Blanket, Cap, Overall, Socks, Men's Parka, *etc.*	2008-09	156.64	143.03	(-)13.90
		2009-10	142.47	94.94	(-)46.93
		2010-11	237.32	199.41	(-)37.67
		2011-12	297.06	261.80	(-)22.22
		Total	**833.49**	**699.18**	**(-)120.72**
OCFA (1961) AVADI	Trouser, Jacket, Shirt, Parachute, Shorts, Overall, Coat, Cap, *etc.*	2008-09	103.93	88.26	(-)14.21
		2009-10	115.18	107.26	(-)7.76
		2010-11	127.69	122.45	(-)5.15
		2011-12	165.07	157.27	(-)7.89
		Total	**511.87**	**475.24**	**(-)35.01**
OPF (1941) KANPUR	Parachutes (Supply Drop/Brake), Shirt, Trouser, Socks, Coat, Tent, Poncho Glacier, PTA(M), NBC Suit, *etc.*	2008-09	99.90	101.08	1.16
		2009-10	115.84	118.54	2.76
		2010-11	118.29	114.24	(-)4.09
		2011-12	151.51	138.59	(-)13.11
		Total	**485.54**	**472.45**	**(-)13.28**
OEFH (1985) HAZRAT-PUR	Trouser, Jacket, Gaiter Glacier, Tent, Coat, Net Mosquito, Bag Kit, Parachute, Multiple Element Net Assembly (MENA), *etc.*	2008-09	33.38	36.82	3.16
		2009-10	39.16	45.00	5.84
		2010-11	53.38	66.04	12.97
		2011-12	59.53	73.86	14.05
		Total	**185.45**	**221.72**	**36.02**
		Grand Total	**3144.79**	**2895.97**	**(-)226.09**

(Source : Annual reports of the OFB and Annual Accounts of OF Organisation)

[2] Profit/loss as computed by the ordnance factories.

The OEFG suffered a total loss of ₹226.09 crore during 2008-12 which was made good by providing funds from the Consolidated Fund of India (CFI) as is seen from the succeeding paragraph.

1.4 Budget estimates and actual expenditure/income

The estimated and actual expenditure *vis-a-vis* income of the OEFG for the years 2008-09 to 2011-12 are given in Table -2.

Table-2: Budget estimates and actual expenditure/income of OEFG

(₹ in crore)

Year	Expenditure			Income			Net budget support (Actual) (₹)
	Budget Estimate (₹)	Actual (₹)	Variation (*per cent*)	Budget Estimate (₹)	Actual (₹)	Variation (*per cent*)	
1	2	3	4	5	6	*7*	8 (3-6)
2008-09	498.15	670.54	*34.61*	466.86	648.38	*38.88*	22.16
2009-10	822.77	742.87	*-9.71*	716.61	604.23	*-15.68*	138.64
2010-11	816.29	832.53	*1.99*	777.57	809.53	*4.11*	23.00
2011-12	957.34	1016.73	*6.20*	812.80	887.90	*9.24*	128.83
Total	**3094.55**	**3262.67**		**2773.84**	**2950.04**		**312.63**

(Source: Statement of Budget Utilisation as furnished by OFB)

As the expenditure exceeded the income, the OEFG had to resort to budget support from the Consolidated Fund of India every year, aggregating ₹312.63 crore during 2008-12.

Chapter II: Audit Approach

2.1 Why did we take up this audit?

Performance of 'Supply chain management of general stores and clothing in the Army' was earlier reviewed by us, which had highlighted (Audit Report No. PA 4 of 2008) that the supply chain suffered from systemic deficiencies such as placing of orders on trade in preference to ordnance factories, users' dissatisfaction on quality of GS&C items of ordnance factories, failure to meet the users' demands, *etc.*

Mentions were also made in previous Audit Reports[3] of the Comptroller and Auditor General of India about inefficient production planning, various deficiencies in procurement of stores and machinery, underperformance in production, underutilisation of resources, *etc.* Performance of OEFG for the period 1999-2004 had been reviewed by us during February-June 2004 and the results thereof were included in Paragraph 8.2 of Report No. 6 of 2005 of the Comptroller and Auditor General of India. Details of action taken by the Ministry/OFB on the aforesaid Audit Reports are indicated in **Annexure-I**. However, no significant improvement was seen.

We observed that OEFG could meet only 56 *per cent* of total requirement of GS&C items of the Services during 2008-12.

The performance of these factories was reviewed afresh with focus on the areas of production planning, utilisation of capacity, production and issue of right products at the right time to the Army (major recipient of the products).

2.2 Scope of audit and sample

The Performance Audit, conducted during January to July 2011, covered the performance of OEFG during the years 2008-09 to 2010-11, subsequently (April 2013) updated for the period 2011-12 wherever stated in this Report. The audit findings were arrived at after test check of records of the OEFG, OEF HQ, Central Ordnance Depot (COD) Kanpur, Controllerate of Quality Assurance (Textile and Clothing) Kanpur and Director General Ordnance Services (DGOS) New Delhi.

[3] Paragraph 8.2 of Report No. 6 of 2005, PA Report No. 19 of 2007 and PA Report No. 4 of 2008

The details of population and sample selected for examination in Performance Audit are indicated in Table-3.

Table-3: Details of population and sample

Issues		Population	Sample	Remarks
Planning **(Fixation of production target)**	2008-09	81 items	56 items	Sample size restricted to major principal items (Army) for which capacity is known.
	2009-10	76 items		
	2010-11	58 items		
	2011-12	61 items		
Procurement **(Placement of orders for procurement of stores by five factories during 2008-12)**		11689 numbers	966 numbers	Stratified sampling based on money value (orders valuing less than ₹1 lakh not selected in sample).
Production **(Shortfall in production and issue)**	2008-09	57 items	52 items	Only principal items (Army) considered. Few items of sample changed year to year based on fixation of their target.
	2009-10	58 items	52 items	
	2010-11	56 items	52 items	
	2011-12	61 items	52 items	
Quality **(Returned for rectification) (RFR)**	2008-09	91 items	34 items	Population and sample size was small in 2008-09 due to non-availability of RFR data in respect of OEFC. For 2011-12, only principal items were considered.
	2009-10	187 items	143 items	
	2010-11	208 items	143 items	
	2011-12	77 items	60 items	

While conducting the Performance Audit we were constrained with limitations such as non-availability of data in the required format as asked for by us pertaining to items 'returned for rectification' (RFR) and 'machine-hour utilisation' in respect of OEFC for 2008-09.

2.3 Audit objectives

The primary audit objectives were to assess whether:

- production planning was efficient and effective to meet the requirements of the Services;
- factories procured requisite stores efficiently and economically in tandem with the production requirement;
- factories optimally utilised their resources;
- quality and cost control mechanism were efficient and effective;
- an efficient pricing mechanism was in place to recover the cost of production; and
- internal controls and monitoring systems were effective.

2.4 Audit criteria

The major sources of audit criteria for assessing the audit objectives were:

- Defence Procurement Manual, OFB's Material Management and Procurement Manual (2005) and General Financial Rules (GFR) ;
- Minutes of annual target fixation meeting between the Army and OFB;
- Orders on delegation of financial powers to OFB and General Managers;
- Monthly production reports of factories;
- Cost estimates vis-à-vis pricing formula;
- Norms for consumption of raw materials;
- Norms of normal rejection in factory and proof rejection by the DGQA;
- Policy on outsourcing of jobs;
- Policy/direction in regard to work on overtime; and
- Minutes of the monthly Board meeting of the OFB.

2.5 Audit methodology

The audit objectives and criteria were discussed with OFB during an 'Entry Conference' held in August 2011. Subsequently, audit findings and recommendations were reported to the OFB and the Ministry in October 2011 and discussed in an 'Exit Conference' held with OFB in April 2012. Responses of OFB/Ministry and views expressed by them in the 'Exit Conference' have been considered while finalising this report. The Ministry's reply of May 2012 to the draft Performance Audit Report has also been considered.

2.6 Acknowledgement

The Chairman of the OFB, Addl. DGOF of OEF HQ, Senior General Managers/General Managers and the Accounts Officers of the factories, DGOS New Delhi, COD Kanpur and CsQA Kanpur had extended co-operation during audit.

A list of **abbreviations** used in this report is appended as *Appendix-I*.

Chapter III: Production Planning

Audit objectives
Whether the production planning was efficient and effective to meet the requirements of the Services.

Source of audit criteria
- *Annual provision review by the Army;*
- *Minutes of target fixation meetings; and*
- *Production targets and capacity of the factories.*

3.1 General

3.1.1 Under the Standing Directive for Provision Review (SDPR), DGOS centrally carries out the annual provision review (APR) for the GS&C items for identifying the future requirement and initiation of procurement action based on data obtained from Central Ordnance Depots relating to 'stocks held' and 'dues out' as on 1 October of each year for items other than winter clothing. For winter clothing, stock/dues-out details as on 1 July are reckoned. The APR is to be completed by 30 November each year. The demands finalised based on APR are forwarded to the Addl. DGOF. Thereafter, a list of all items giving size-wise details and the proposed targets are sent to Addl. DGOF for fixation of target. The mutually agreed targets fixed during the target fixation meeting form the basis for procurement and production planning by the factories to ensure optimum utilisation of the resources and timely delivery of the targeted products to the Services.

3.1.2 Although there is no provision for fixation of tentative target, the DGOS indicates tentative target to the Addl. DGOF to facilitate the factories to plan advance procurement. Subsequently, at the instance of OFB, DGOS introduced (February 2011) a 'five year roll-on-procurement plan'[4] for the years 2011-12 to 2015-16 to facilitate procurement of materials in time.

We observed systemic deficiencies *viz.* delays in holding target fixation meeting, targets not commensurate with the factory's capacity, huge variation between tentative and final targets *etc.* as discussed in the succeeding paragraphs.

3.2 Delay in holding target fixation meeting

In order to establish an efficient and effective production-supply chain, target fixation meeting is required to be held well in advance so that the factories can

[4] Army indicates minimum and tentative annual requirements to OFB for 5 years at a time.

resort to proper procurement planning. However, the target fixation meetings were held in February, March, July and February for the years 2008-09 to 2011-12. As an interim measure, the DGOS has been giving tentative targets to the Addl. DGOF for procurement planning. We observed that the tentative targets and actual targets had been at variance to the extent of (-) 100 *per cent* to (+) 1067 *per cent*.

While admitting the facts, the Ministry stated (May 2012) that the target fixation meeting for 2012-13 was advanced and held in January 2012 and added that roll-on-procurement plan had been introduced in February 2011 for OEFG but the actual targets were widely different from the figures indicated in the role-on-procurement plan.

The reply indicates that the procedure of the target fixation was yet to improve to facilitate advance procurement action by the factories based on firm target. We also observed that even after introduction of roll-on-procurement plan in February 2011; the DGOS continued the practice of forwarding tentative target to OEF HQ even for the year 2012-13.

3.3 Targets not commensurate with the manufacturing capacity

Production capacity of the factories for different items is required to be ascertained by DGOS from OEFG before fixing realistic targets. As required under Paragraph 3.7.3 of OFB's Material Management and Procurement Manual, 2005 (MMPM), OEF HQ is required to formulate production programme with reference to the Services' demands, available capacity in the factories and constraints related to production.

However, we observed that there was no system in place for informing the DGOS of the production capacity of the factories for different items. DGOS intimated (April 2011) that OEF HQ generally communicated the capacity of factory made items as and when asked by them. Non-availability of latest and reliable information about the capacity of different product range led to fixing of targets below or beyond the capacity during 2008-12, as discussed in the succeeding paragraphs.

3.3.1 Targets beyond the capacity

We test checked the item-wise capacity and tentative/final targets for the sampled 56 items for the years 2008-12 and observed that targets for 7 to 16 items were fixed in excess of the capacity by 5 to 367 *per cent* as shown in Table-4.

Table-4: Target fixed beyond the capacity

Year	Targets in excess of capacity (percentage)	
	Number of items	Range of percentage
2008-09	10	25 to 300
2009-10	9	13 to 250
2010-11	7	25 to 160
2011-12	16	5 to 367

We observed that out of the above 42 instances of fixing final targets higher than the capacity, the factories failed to meet the targets in 35 instances (26 items). This practice was predominant in respect of seven items (Jacket and Trouser (combat disruptive and ICK), Trouser (PW PC OG), Socks (woollen heavy khaki), Tank fabric collapsible (6140 ltr. body), Parachute tactical assault (main) and Tent (2M)) for which excessive targets were fixed year after year.

3.3.2 Target below the capacity

We observed that targets were fixed in the range of only 1 to 50 *per cent* of the available production capacity in 56 instances covering 33 items (59 *per cent*) during 2008-12, while in 24 instances covering 21 items (38 *per cent*), the same was fixed between 51 and 79 *per cent* of the available capacity during the same period as tabulated below:

Table-5: Target fixed below 80 *per cent of* the capacity

Year	Target as percentage with reference to capacity Number of items			
	1 to 20%	**21 to 50%**	**51 to 79%**	**Total**
2008-09	5	17	4	26
2009-10	8	8	6	22
2010-11	2	9	9	20
2011-12	2	5	5	12

Despite low utilisation of capacity due to fixation of target below the capacity, OFB did not impress upon the DGOS in the target fixation meeting to fix the targets commensurate with available capacity.

The Ministry stated (May 2012) that productivity/piece work profit and absenteeism were the main factors influencing the capacity and in reality absenteeism was going beyond the projected benchmark. It added that factory managements had taken all out efforts to curb absenteeism for optimum utilisation of capacity. The reply is not specific to the audit observation as it failed to address the shortcomings in fixing targets below and beyond capacity.

3.4 Unilateral reduction of target

We observed that OEF HQ reduced the targets unilaterally in the mid-year without the concurrence of DGOS, either due to acceptance of higher targets beyond the capacity or delayed positioning of input materials and shortfall in production, for 21 items (2008-09), 19 items (2009-10), 3 items (2010-11) and 5 items (2011-12). Targets were also reduced to Nil for 8 items in 2008-09 and 1 item in 2009-10. This unilateral reduction of target was also not placed before the meetings of the OFB.

3.5 Other major constraints in target fixation

Analysis of minutes of final target fixation meetings revealed various constraints *viz.* insufficiency of Army's formal indents (orders) to cover the mutually agreed targets in respect of certain items, non-availability of size-wise details for clothing and boot items, late receipt of vetted indents from CQA (T&C) and CQA (GS). These factors ultimately contributed to delays in procurement of input materials and manufacture of end products.

3.6 Audit conclusion

The target fixation mechanism suffered from systemic deficiencies such as inordinate delays in communication of firm requirement by the DGOS, lack of coordination between DGOS and OEF HQ and poor flow of information about the item-wise capacity of factories, and fixation of multiple targets like tentative, final, roll-on procurement plan without any reliability.

Recommendation 1

Ministry may ensure that the Army and OFB, in close coordination, fix production targets taking into account Army's requirement and capacity of OEFG. OFB should communicate its production capacity for each item to the Army well in advance before target fixation meetings.

Recommendation 2

Ministry may ensure that the Army and OFB hold target fixation meeting at the appropriate time so as to give the factories the required procurement lead time.

Chapter IV: Procurement of Stores

Audit objectives
Whether the factories procured requisite stores efficiently and economically in tandem with the production requirements.

Source of audit criteria
- *Defence Procurement Manual;*
- *OFB's Material Management and Procurement Manual (2005); and*
- *General Financial Rules.*

4.1 General

After finalising the mutually agreed production targets, OFB communicates the same to the respective factories before commencement of each financial year for undertaking manufacturing activities. Thereafter, each factory formulates the production planning based on the target and initiates provisioning and procurement of input materials required for manufacturing the end products for that year.

Deficiencies in the procurement procedure and practices in ordnance factories had been commented upon in the PA Report No. 19 of 2007. Ministry in their ATN stated (December 2008) that OFB had taken various corrective actions to remove the deficiencies in procurement and practical difficulties in finalising store requirement, as detailed in **Annexure-I**.

However, we observed that systemic deficiencies in the areas of material planning and procurement, assessment of requirement of stores, tender formalities *etc.* still persisted, as discussed in the succeeding paragraphs.

4.1.1 Table-6 indicates the factory-wise supply orders placed during 2008-12 and sample of the orders test checked by us.

Table-6: Orders placed and orders examined

(Value ₹in crore)

Factory	Orders placed		Orders examined	
	Number	Value	Number	Value
OEFC	3572	591.05	299	255.94
OCFS	1987	392.67	163	176.54
OPF	3073	178.67	280	53.57
OCFA	1731	207.26	136	120.31
OEFH	1326	145.61	88	35.44
Total	**11689**	**1515.26**	**966**	**641.80**

Note: Orders valuing less than one lakh each not selected in the sample.

4.2 Over-provisioning of stores

As per Paragraphs 3.1.1 and 3.7.7 of Material Management and Procurement Manual (2005) (MMPM), factories are required to initiate provisioning action for input materials on the basis of annual production targets of the end-products for the ensuing year as well as for additional 25 *per cent* quantity for the first quarter of the next year. The net requirement of the stores is to be arrived at after considering the existing stock, dues in and work-in-progress.

We examined 810 cases of provisioning of stores with reference to the estimates relating to 2008-11 and observed that in 679 cases, in deviation from the laid down procurement norms, Material Control Offices (MCOs) of five factories assessed the net requirement of stores for a particular year after considering the past year's requirement and 'miscellaneous/extra requirement' in addition to the current year's requirement. This deficiency in assessment of requirement by addition of miscellaneous/extra requirement was also vetted and cleared by the Accounts Office of the factories. The Tender Purchase Committees (TPCs) also finalised their recommendations without proper check and verification of this faulty assessment of requirement. This led to over-provisioning of stores worth ₹165.54 crore during 2008-11, as detailed in Table-7.

Table-7: Details of over-provisioning of stores

(₹ in crore)

Name of factory	No. of cases	Reasons for over-provisioning	Total value of over-provisioning
OPF	4	Inclusion of past year's requirement.	1.72
	1	Excess procurement over and above the requirement	0.51
OEFC	13	Inclusion of past year's requirement.	75.34
	478	Inclusion of 2 *per cent* miscellaneous requirement	7.31
OCFS	40	Inclusion of 4/10 *per cent* miscellaneous requirement	60.86
	3	Inclusion of past year's requirement.	8.10
OCFA	31	Inclusion of 1 *per cent* miscellaneous requirement	0.78
	6	Inclusion of past year's requirement.	9.57
OEFH	103	Inclusion of 0.75 to 2 *per cent* miscellaneous requirement as UAR[5]	1.35
Total	**679**		**165.54**

The Ministry's response and our comments are given in Table-8.

[5] Unavoidable rejection

Table-8: Ministry's response and Audit comments

Ministry's response	Audit comments
• Inclusion of miscellaneous requirement for smooth functioning of shops was in practice since long and against the provision of unavoidable rejection (UAR) in the estimate, testing quantity, etc. However, the practice had been discontinued since 2010-11. ***(OEFC and OCFS)***	• Inclusion of miscellaneous requirement to calculate net requirement for a particular provisioning period was contrary to the MMPM (2005). Further, the Ministry's claim that the practice had been discontinued since 2010-11 was factually incorrect as OCFS and OEFC followed the same practice even during 2010-11. Moreover, the material estimate itself included UAR percentage. Hence, assessment of excess requirement again for UAR by OEFC and OCFS lacked justification.
• Past year's requirement was included but the dues from various supply orders and materials already received against the orders placed for past year's requirement was subtracted from the quantity to arrive at the actual requirement. Hence, there was no over-provisioning. ***(OEFC).***	• Inclusion of past year's requirement to calculate net requirement for a particular provisioning period was also contrary to the MMPM (2005).

4.3 Non-observance of procedures for opening of tenders

4.3.1 Non-preparation of Spot Comparative Statement

Paragraph 6.14 of MMPM stipulates the necessity to prepare an abstract of the quotations received, *viz.* 'Spot Comparative Statement' (SCS) in the prescribed form, duly signed by the officers who open the tenders, after opening of tenders.

We observed that in violation of MMPM, OPF, OEFC and OCFS did not prepare SCS in respect of 658 supply orders test checked by us during 2008-11. This indicated lack of transparency in evaluation of tenders and short-listing of suppliers.

The Ministry/OFB stated (May/April 2012) that SCS was prepared in OPF and OCFS after introduction of on-line system but the same was not in force in OEFC which would be taken care of by the system itself with introduction of e-tendering. However, the reply did not explain as to why SCS was not prepared during 2008-11.

4.3.2 Lack of transparency in the attendance of representatives of firms

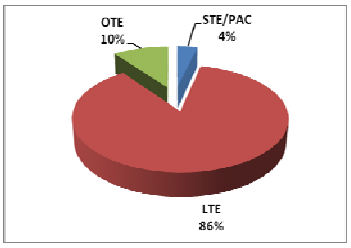
Paragraph 6.12 of MMPM requires that one Purchase Officer and another Officer nominated by General Manager should open tenders on the specified date and time in the presence of only authorised representatives of the tendering firms. CVC guidelines (7 January 2003) and Paragraph 4.7(h) of Defence Procurement Manual (DPM), 2005 also stipulate that one agent cannot represent two suppliers or quote on their behalf in a particular tender enquiry and that if such quotes are received, they should be rejected.

We, however, observed that OCFS and OEFC did not maintain the details of the names of the firms nor were the authority letters obtained from the participating firms. Further, we observed that same persons were found to have represented two or more firms against the same TE on various occasions in OEFC in contravention of CVC guidelines and DPM.

The Ministry claimed that OCFS maintained records of attendance of the firm's representatives and this aspect would be taken care of by OEFC after introduction of e-tendering**.** The Ministry added that OEFC could not have questioned the appointment of representatives as it was the firm's prerogative to appoint any person to represent it in tender opening. The reply is not factually correct as relevant register of OCFS examined by us had no mention about the details of the attendance of the firms' representatives and their signature. Further, the Ministry's contention about the acceptance of appointment of same representatives by two or more firms against the same TE is contrary to the direction of CVC.

4.4 Procurement through Limited and Single Tender Enquiry instead of Open Tender Enquiry

As per Paragraph 4.6.1 of MMPM, 80 *per cent* of annual ordering quantity is to be procured through limited tender enquiry (LTE) from established sources and 20 *per cent* quantity through open tender enquiry (OTE) for source development.



We examined all 11689 supply orders placed by five factories during 2008-12 and observed that contrary to the MMPM, only 4 to 10 *per cent* of the orders were executed through OTE except OCFS which had attained 20 *per cent*, while 88 to 91 *per cent* orders were placed against LTE by OPF, OEFC and OCFA, as tabulated below:

Table-9: Details of tender enquiries

(In number)

Factory	Supply Orders	Procurement through		
		STE/PAC	LTE	OTE
OPF	3073	60 *(1.95%)*	2754 *(89.62%)*	259 *(8.43%)*
OEFC	3572	96 *(2.69%)*	3159 *(88.44%)*	317 *(8.87%)*
OCFS	1987	70 *(3.52%)*	1527 *(76.85%)*	390 *(19.63%)*
OEFH	1326	116 *(8.75%)*	1074 *(81.00%)*	136 *(10.25%)*
OCFA	1731	82 *(4.74%)*	1582 *(91.39%)*	67 *(3.87%)*
Total	**11689**	**424 *(3.63%)***	**10096 *(86.37%)***	**1169 *(10%)***

A test check of supply orders placed during 2008-11 showed that the factories predominantly resorted to procurement through LTE, incurring extra

expenditure of ₹12.31 crore for procurement of 14 items involving 40 supply orders due to rate difference as compared to OTE. Factory-wise responses of the OFB / Ministry are given in Table-10.

Table -10: Factory-wise Ministry/OFB's response

Factory	Ministry/OFB's response
OPF	Quality cannot be compromised for critical materials by going for tender enquiries from unknown vendors through OTE.
OEFC	20 *per cent* OTE for source development were not floated for meagre value stores as OTE is costly and time consuming. More OTEs are being floated for 50 *per cent* of required quantity as per new Procurement Manual 2010.
OCFS	For indirect items having lower quantum and value, mostly LTEs were issued. Receiving lower rate in OTE compared to LTE was not an established fact.
OEFH	For 'A' category items, 80 *per cent* LTE and 20 *per cent* OTE were resorted to.
OCFA	Guidelines as per OFB's MMPM 2005 were followed.

Moreover, if there were constraints as stated in tendering by OTE, this should have been looked into. The fact remains that 88 to 91 *per cent* procurement by OPF, OEFC and OCFA was through LTE which was in violation of 80:20 ratio prescribed in the MMPM.

4.5 Long lead time for placement of orders

Annexure-47 of MMPM provides for 15 weeks (105 days) for LTE and 19 weeks (133 days) for OTE to complete the procurement process of the cases within the power of General Manager of Factory, starting from generation of Store Holder Inability Sheet (SHIS)[6] and up to placement of the orders on the selected firms.

We observed that 35 *per cent* of total supply orders were placed during 2008-12 beyond the lead time stipulated in MMPM, as depicted in Table-11.

Table-11: Details of lead time taken for placement of supply orders

(Value ₹ in crore)

Factory	Total Supply Order		Orders placed with delay		Time taken (in days)
	Number	Value	Number	Value	
OPF	3073	178.67	1107	66.41	134 to 1441
OEFC	3572	591.05	1230	130.60	134 to 890
OCFS	1987	392.67	761	131.01	135 to 1428
OCFA	1731	207.26	536	52.32	134 to 1049
OEFH	1326	145.61	483	50.29	134 to 1053
TOTAL	**11689**	**1515.26**	**4117**	**430.63**	

This led to non-positioning of input materials as per the production plan which ultimately resulted in delayed/shortfall in production and issue of items to the Services as discussed in subsequent Chapter-V.

[6] SHIS indicates total requirement, present stock and dues, net requirement, *etc*.

The Ministry attributed the delays to the time taken for submission of cases beyond ₹10 lakh to OEF HQ for concurrence of the nominated Member/Finance at Kanpur in respect of OEFH, non-availability of TPC members, holding of TEC and TPC meeting separately, negotiation of price, or verification of capacity of the new vendors. This reply is not relevant since the internal lead time has been fixed taking into account all the complexities of the procurement process. Hence, the slippages should have been avoided through proper planning and coordination amongst different wings.

4.6 Procurement of stores at higher rates beyond eight *per cent* of LPR

In line with the Ministry's advice (December 2006) for ensuring reasonableness of price, OFB directed (April 2007) all General Managers to keep the prices in control and to restrict increase in prices, if any, within eight *per cent* of the Last Purchase Rate (LPR). General Managers were also directed to forward monthly report to Member/Operating Division on cases where increase of price is beyond eight *per cent* with the detailed justification with reference to market indices, base metal price increase *etc.*

We examined supply orders placed during 2008-11 and observed that 107 supply orders valuing ₹94.33 crore were placed by the five factories at rates higher than the LPR by 21 to 146 *per cent.* Though these cases involved increase in expenditure by ₹22 crore beyond the authorised limit, none of the General Managers reported them with detailed justification to the Addl. DGOF, OEF HQ Kanpur. OFB also did not oversee the placement of orders by the General Managers at the rates more than eight *per cent* of the LPR to ensure price reasonableness, as advised by the Ministry.

While admitting the fact, the Ministry stated that the price indices of major textile raw materials had gone up by 30 to 50 *per cent* and thus this value of eight *per cent* needed review at the apex level and preferably be substituted with suitable price variation formula involving standard indices. The contention is not acceptable because hike in price beyond eight *per cent* should have been explained and reported by the General Managers to the Addl. DGOF. If the Ministry had felt the necessity to enhance the threshold limit of eight *per cent*, it should have appropriately acted upon by giving suitable justification.

4.7 Formation of cartel

Mention had been made of formation of cartels in Paragraph 4.2.2 of Report No. 19 of 2007 of Comptroller and Auditor General of India.

Ministry in their ATN of December 2008 had stated that after introduction of anti-cartel clauses in the tenders with effect from July 2007, instances of cartel formation came down drastically. In order to avoid cartel formation by the suppliers of input materials, OFB directed (July 2007) General Managers of all factories to incorporate the following conditions in tender enquiries (TEs):

- all the firms should desist from forming cartel as it is an offence under the Competition Act 2002;
- factories reserve the right to delete the established firms who quote in cartel, from list of approved sources or to debar them from competing for a period to be decided by factories;
- in case of submission of equal rates in cartel by the approved firms, factories reserve the right to place order on any one or more firms with exclusion of the rest. The selection would, however, be based on a pre-determined ranking of firms, decided through a Vendor Rating mechanism in line with OFB's Standard Operating Procedure (SOP).
  SOP prescribes that ranking of the vendors should be based on Quality, Delivery, Price and Service parameters with weightage factor of 60, 25,10 and 5 respectively against the orders already placed on the vendors; and
- factories reserve the right to place order on two or three firms where the tendered quantity will be distributed in the ratio 60:40 or 50:30:20 among Rank-1 (R1), Rank-2 (R2) or R1, R2 and Rank-3 firms respectively.

We observed that no vendor rating mechanism had been carried out. We examined firms' quotations against 85 TEs as well as Minutes of Tender Purchase Committee (TPC) meetings for 2008-12 and noticed that in 33 cases, two or more firms had quoted equal rates. However, despite this evidence of cartel formation, the OEFG did not reject the cartelised offers, as required under the OFB's direction of July 2007. Instead, in violation of provision of MMPM and SOP, OEFG placed 102 supply orders valuing ₹33.91 crore on various firms against 33 TEs without carrying out the requisite vendor rating, as detailed below**:**

- OPF placed 26 orders valuing ₹6.57 crore against 10 TEs on various firms which had quoted identical rates, by equal distribution of the tendered quantities.
- In OCFA, OCFS and OEFH, 40 orders valuing ₹14.03 crore were either equally distributed or distributed in the ratio of 60:40 or 50:30:20 amongst the firms which had quoted same rates against 11 TEs.

- In OEFC, 36 orders valuing ₹13.31 crore were placed against 12 TEs on various firms where two or more firms quoted L-1, L-2 and L-3 rates. Hence, orders were distributed amongst the firms in the ratio of 50:30:20 or 60:40.

OFB stated (April 2012) that vendor rating system had been introduced and the same was being followed. The contention is not acceptable because since the introduction of vendor rating system in July 2007, only OCFA had followed the system after expiry of three years *i.e.* from July 2010, while other four factories under OEFG did not act upon the OFB's directives of July 2007. Further, the reply is silent as to why other four factories failed to act upon the OFB's directives (July 2007) for item-wise vendor rating mechanism to effectively counter the cartel formation.

In 102 cases pointed out by us where cartelisation was found, neither the factories concerned made any enquiry nor did the OFB call for explanation from the factories concerned. As a result, it could not be ensured that the best economic and competitive offers were obtained.

4.8 Audit conclusion

In spite of issue of guidelines by OFB/Ministry from time to time to streamline the procurement process, deficiencies like over-provisioning of stores, lack of transparency in procurement of stores, procurement through LTE at higher rates instead of OTE as well as procurement at higher rates beyond eight *per cent* of LPR, delayed placement of orders, non-adherence to vendor rating mechanism continue to exist. The OFB had also not succeeded in breaking the cartel among the vendors despite earlier audit comments and the Ministry's ATN.

Recommendation 3

OFB may ensure that the factories adhere to the prescribed policy/ guidelines in assessment of net requirement of stores for reliable and accurate provisioning to avoid excess procurement.

Recommendation 4

The e-procurement system should be implemented effectively in all the factories and all factories should maintain shareable database.

Recommendation 5

OFB may ensure that the procurement agencies strictly adhere to the OFB's guidelines of July 2007 to prevent cartelisation.

Chapter V: Production Performance

Audit objective
Whether the factories efficiently produced items as per annual production target and issued the same to the indentors within the financial year.

Source of audit criteria
- *Monthly production reports; and*
- *Policy on outsourcing of jobs;*

5.1 General

OEFG are responsible for meeting the requirements of GS & C items for the Services. Services resort to trade procurement/import of items, when the factories are unable to supply as well as for items[7] which are not manufactured by the factories. During the period 2008-12, the Services resorted to trade procurement/import of items worth ₹2141.28 crore which constitute 44 *per cent* of total procurement by the Services from trade/import and OEFG. The details of trade procurement/import *vis-a-vis* intake from the OEFG by the Services during 2008-12 are tabulated below:

Table-12: Procurement by Services from trade *vis-a-vis* OEFG

(₹in crore)

Services	2008-09		2009-10		2010-11		2011-12		Total	
	Trade	OEFG	Trade	OEFG	Trade	OEFG	Trade	OEFG	Trade	OEFG
Army	636.28	453.19	508.75	437.66	427.89	643.81	247.70	705.57	1820.62	2240.23
Air Force[8]	60.82	119.94	59.40	92.02	15.88	87.85	56.78	101.24	192.88	401.05
Navy	20.67	9.34	19.86	9.20	45.47	10.93	41.78	19.92	127.78	49.39
Total	**717.77**	**582.47**	**588.01**	**538.88**	**489.24**	**742.59**	**346.26**	**826.73**	**2141.28**	**2690.67**

The comparison of supplies by OEFG against the trade procurement/import by the Services brings out that the OEFG were catering to only 56 *per cent*[9] of the requirements of the Services. OEFG even failed to achieve the production targets relating to Army items in all the four years, as discussed in the subsequent paragraphs.

[7] Special clothing items *viz.* Sleeping Bag, Jacket Down, Trouser Down, Gore tex suit, Gloves Outer, Gloves Inner and Rucksack 70 Ltr, *etc.*

[8] Actual expenditure for clothing and general stores procured from trade by Air Force and Navy could not be obtained from Air/Naval HQ. Hence, data relating to the trade procurement of clothing stores for 2008-11 have been taken from Defence Services Estimates and data for 2011-12 obtained from Ministry of Defence (Finance) Budget Division.

[9] Calculation : $\frac{\text{Procurement from OEFG x 100}}{\text{Procurement from Trade + OEFG}} = \frac{2690.67 \times 100}{4831.95} = 56$ *per cent*

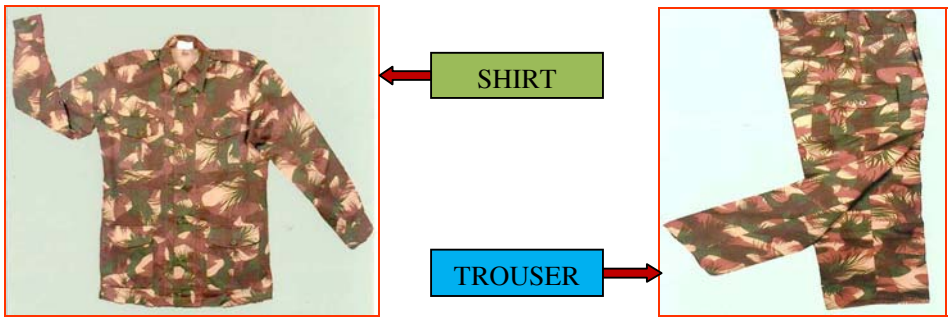
5.2 Shortfall in production/issue against targets

The details of item-wise target, production and issues reported by the OEF HQ, shortfall in issue and value of shortfall in respect of 52 items during 2008-09 to 2011-12 are indicated in **Annexure-II.** The Annexure brings out shortfall in production/issue for 34 to 41 items valuing ₹1147.13 crore during 2008-12. Factories also failed to issue full quantity that had been produced, to the Army in respect of 15 items in 2008-09, six items in 2010-11 and five items in 2011-12. The table below summarises the number and range/value of shortfall in production and issue.

Table-13: Analysis of shortfall in production/issue

Year	Number of items analysed	Number of items where shortfall existed	Number of items			Total value of shortfall (₹ in crore)
			Range of percentage of shortfall			
			1 to 20	21 to 50	51 to 100	
2008-09	52	34	6	12	16	155.56
2009-10	52	37	4	10	23	447.90
2010-11	52	35	7	12	16	183.42
2011-12	52	41	14	7	20	360.25
					Total	**1147.13**

The Central Ordnance Depot Kanpur (Army), in March 2010, expressed serious concern about critical deficiency of 13 items[10] due to non-supply/short supplies by the OEFG during 2009-10. Against the target of 4,87,444 Boot High Ankle DVS, OEFC could supply only 32,500 boots in 2009-10 as evident from **Annexure-II**. This forced OEF HQ to issue no objection certificate to the DGOS for trade procurement of two lakh boots. Again, ADGOS (Clothing, Necessary and Administration) apprised (May 2012) Addl. DGOF, OEF HQ of serious slippages in production and supply of 41 items (₹169.98 crore) against the mutually accepted targets for 2011-12.



[10] Net mosquito, Shirt PW PV DD OG, Durries, Boot high ankle DVS, Boot Paratroopers, Jersey woollen V neck, Cover water proof(4 types), Fly outer 4M, End curtain, Fly outer 2M.

The slippages were mainly due to delayed finalisation of firm targets, acceptance of targets beyond the capacity for some product-mix, slippages in procurement of stores and low utilisation of capacity.

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The Ministry attributed the shortfall in production to delayed fixation of firm target by DGOS and OEF HQ and delay in giving size-wise distribution by DGOS, delayed placement of order, inadequate supply of raw materials - mainly garniture items, delayed clearance of final product in inspection by DGQA and acceptance of target beyond capacity for certain items.

The reply of the Ministry is an admission that the reasons for slippage and low capacity utilisation were attributable to known factors which should have been appropriately addressed. Moreover, the reply is silent on the remedial action proposed to be taken.

5.3 Spill-over production/issue

According to Paragraphs 668 and 670 of Defence Accounts Department Office Manual Part-VI (DAD OM), the manufactured items are accepted after inspection and thereafter, the accepted items are brought on charge in the Production Ledger. Subsequently, those items, when issued to the indentors through production issue vouchers are priced with reference to OFB's firm price list and accordingly, debited to the relevant Services' head.

Items which are neither manufactured nor physically issued by 31 March of a financial year, but 'shown as issued' to the indentors in the accounts of Ordnance Factories, are termed as 'spill-over' production/issue. This leads to reporting of inflated issues in the factories' accounts and release of payment from the Services' accounts without physical receipt of the stores from the factories.

The Controller General of Defence Accounts (CGDA), New Delhi had informed (October 2007) all Controllers of Finance and Accounts (Factories)[11] that advance issue vouchers were being prepared by Ordnance Factories without any physical issue of stores to the Services in order to take payment from the Services. CGDA also impressed that this deficiency resulted in many accounting irregularities (depiction of unrealistic profit in the accounts, distortion of cost of production and work-in-progress, disparity between value of issues and actual expenditure booked under manufacturing head, *etc).*

In order to end this irregularity, the CGDA instructed all Controllers of Finance and Accounts (Factories), in October 2007, not to accept advance issue vouchers without despatch particulars for financial adjustment.

However, all the five factories did not follow the instructions and continued to resort to 'spill-over' production/issue, which had aggregated to ₹493.08 crore during 2008-12, representing 18 *per cent* of the total issues to the Services, as detailed below:

Table-14: Factory-wise value of spill-over issue

Factory	Value of spill-over items (₹ in crore)				Total (₹ in crore)
	2008-09	2009-10	2010-11	2011-12	
OEFC	84.81	69.10	58.97	Nil	212.88
OPF	Nil	28.55	10.54	Nil	39.09
OCFA	21.05	20.19	6.34	Nil	47.58
OCFS	47.80	28.20	37.43	55.32	168.75
OEFH	Nil	14.43	3.84	6.51	24.78
Total	**153.66**	**160.47**	**117.12**	**61.83**	**493.08**
Percentage of total issues	***26***	***30***	***16***	***7***	***18***

The Secretary, Defence Production assured the *Raksha Mantri* in January 2011 that there would be no spill-over in production during 2010-11. Despite this assurance, we observed significant quantum of spill-over issues worth ₹117.12 crore in 2010-11 and ₹61.83 crore in 2011-12.

While accepting the facts and assuring to stop spill-over in future, OFB, in April 2012, stated that the following factors were responsible for spill-over production:

[11] Controller of Finance and Accounts (Factories) functions under the PCA (Factories) Kolkata for a group of factories on regional basis.

- Delayed target fixation and placement of indents by all indentors;
- Late receipt of size-wise details mainly from the Army; and
- Delay in procurement action resulting in non-availability or late receipt of raw materials.

The above mentioned factors, however, did not justify the accounting of advance issues without corresponding physical production and issues.

5.4 Outsourcing of jobs

The factories are allowed to get trade assistance/outsourcing of jobs, wherever in-house manufacturing capacity is not sufficient to meet the targeted production. The Chairman, OFB, while expressing the need for quality improvement, instructed all factories in May 2008 that production of uniforms ordered on the OFB should not be outsourced.

However, we observed that during 2008-12, ₹159.93 crore was spent on outsourcing of fabrication jobs on various items including uniforms (₹9.63 crore). We also observed other irregularities and lapses in outsourcing of jobs on the grounds of capacity constraints with reference to inflated targets, unjustified outsourcing despite availability of sufficient in-house capacity and outsourcing without adhering to quality and security aspects. Even with outsourcing, the targets were not met as discussed below.

5.4.1 Outsourcing due to acceptance of target beyond capacity

As discussed in Paragraph 3.3.1, OEF HQ accepted target beyond the available capacity in respect of 7 to 16 items during 2008-12. Resultantly, OEFG resorted to trade assistance with the approval of Addl. DGOF and Chairman, OFB. The details of outsourcing of a few items in 2008-09, 2009-10 and 2011-12 are indicated in Table-15.

Table-15: Trade assistance due to high production target

Item	Capacity (in number)	Final target (in number)	Percentage of excess target	Trade assistance		Issue (in number)
				Quantity (in number)	Value (₹ in lakh)	
OPF (2009-10)						
Fly Outer of Tent 2M	4000	15343	284	16678	27.15	5343
Shirt PW PV DD OG	100000	200000	100	50000	7.74	80000
Trouser PW PV DD OG	150000	200000	33	50000	8.32	100000
OEFC(2008-09)						
Boot High Ankle DVS						
i) Fabrication Operation	500000	500000	Nil	100000	403.28	400000
ii) Clicking Operation	225000		122	140000	12.32	
iii) Lasting Operation	420000		19	100000	27.00	
iv) Moulding Operation	600000		Nil	108000	49.63	
OEFC (2009-10)						
Boot High Ankle DVS						
i) Clicking Operation	225000	487444	117	150000	15.12	32500
ii) Moulding Operation	600000		Nil	36000	16.54	
OCFA (2009-10)						
Trouser PW PV DD OG	100000	500000	400	133334	68.00	100000
Liner inner (TEFS 4M)	Nil	12000	@	8000	N.A.	6120
Overall Navy Blue	Nil	3248	@	3248	N.A.	3248
OEFH*						
All items (2009-10)	13.40 lakh SMH	39.91 lakh SMH	198	1.63 lakh SMH	31.03	14.51 lakh SMH
All items (2010-11)	13.75 lakh SMH	19.92 lakh SMH	45	7.19 lakh SMH	142.04	14.29 lakh SMH
OCFS (2011-12)						
Jacket Wind Cheater	30000	54000	80	9090	5.00	18200
Trouser Wind Cheater	30000	49000	63	50000	14.99	18400
Total					**828.16**	

@Not determinable as no specific capacity was mentioned.
**** Item-wise details not available, hence figures given in labour hours (SMH)***

The foregoing table indicates that the trade assistance sought by the factories for certain selected items was substantial and amounted to ₹8.28 crore.

The Ministry's response and our comments thereon are indicated in Table-16.

Table-16: Ministry's response and Audit remarks

Ministry's response	Audit remarks
There was no scope of non-acceptance of target when fixed by OEF HQ even beyond factory's capacity.	The reply indicates that capacity of factories had not been properly assessed upfront by the OEF HQ nor was the matter of allotting the targets beyond the capacity taken up by the factories with OEF HQ. This led to recurring events of trade assistance.
Trade assistance was resorted to at cheaper cost in case of urgent requirement and capacity constraints. Trade assistance was sought for labour oriented operations only.	Outsourcing on the plea of lesser labour cost compared to factory cost flags the question of efficiency of the factory.
Completion of targets through trade assistance depends on availability of raw material, readiness of cut components and garniture items[12].	Non-achievement of targets despite trade assistance points to the factory's failure to position the input materials in time.

[12] Items relating to decorative accessories for beautification

5.4.2 Outsourcing despite availability of sufficient in-house capacity

We observed that despite sufficient in-house capacity, two factories outsourced jobs valuing ₹11.05 crore to trade during 2009-12. Even after trade assistance these factories failed to meet the production targets in most of the cases. Details of item-wise capacity, target, trade assistance and final issue are shown in Table-17.

Table-17: Trade assistance despite in-house capacity

Item	Capacity	Target	Trade assistance		Issue
			Quantity	Value(₹ in lakh)	
OCFS (2010-11)					
Coat ECC	50000	50000	35000	224.00	25000
Cap FS	150000	100000	300000	38.40	10000
Jersey DBG/V OG	260000	245000	21000	17.85	235000
Blanket	400000	350000	80000	493.12	260000
OCFS (2011-12)					
Coat ECC	80000	80000	59018	309.84	27000
OCFA (2009-10)					
Overall Greenish Khaki	41425	41425	35000	22.05	41425
Total				**1105.26**	

Response of the Ministry and our comments thereon are indicated in Table-18.

Table-18: Ministry's replies and Audit comments

Ministry's response	Audit remarks
Outsourcing orders were placed at a belated stage only after review of the balance workload *vis-à-vis* capacity available. Due to non-availability of some basic materials and garniture items, supplies could not be achieved as per target.	Reply is not specific to the audit findings in regard to outsourcing the jobs despite sufficient in-house capacity. Systematic review and assessment of workload *vis-à-vis* availability of manpower and materials were not done by the factories to ensure the timeliness and exact requirement of outsourcing.

5.4.3 Outsourcing without enforcing quality and security deposit

While according approval of trade assistance sought by the factories, OEF HQ generally stipulates the following conditions:

- Compliance with applicable rules and provisions of Procurement Manual should be ensured;
- Cost of trade fabrication should be less than the factory's cost for the same operation;
- Cut components and garniture items are to be supplied by the factory;
- Quality control is to be ensured by the factory; and
- Production target is to be completed by 31 March each year.

Detailed scrutiny of the fabrication orders revealed the following irregularities:

- OFB's MMPM stipulates that General Managers are required to obtain security deposit equal to book value of the stores issued to the contractors from factory's stock plus 10 *per cent* on the all inclusive cost of the order. However, OPF handed over cut components worth ₹5.98 crore to the contractors for fabrication of fly outer for tent, uniforms, *etc.*, without obtaining the required security deposits from the contractors, in respect of 10 fabrication orders during 2009-10;
- OCFA received 99,466 trousers (PV DD OG) against 1,33,334 ordered in three fabrication contracts of December 2009 with reference to the production target of five lakh trousers in 2009-10. Out of the supplied quantity, 27,202 trousers were found defective in COD Kanpur and the factory was forced to send its team to rectify the defects; and
- There were delays and short supplies of items from the trade firms in respect of 61 orders (80 *per cent*) out of 76 orders analysed in respect of OPF, OEFH and OEFC which ultimately defeated the condition of meeting the production target within the financial year.

Ministry/OFB's replies and our comments are in Table-19.

Table-19: Ministry/OFB's replies and Audit comments

Ministry/OFB's reply	Audit comments
OPF obtained indemnity bond from the firms as guarantee of the materials issued to them for fabrication work.	As the indemnity bond was not issued by any financial institution/bank, it cannot be treated as adequate safeguard of Government property.
Outstanding supplies received at belated stage was gainfully utilised to meet next year's target at OEFH.	OFB's replies indicate failure of the factory management to get the fabrication orders executed by trade in time.
Late supply of raw materials by OEFC to trade led to delayed execution of fabrication orders by trade.	The reply is silent as to what corrective action was taken to avoid late supply of raw materials to the trade.
OCFA achieved the target of 1 lakh trousers PV DD OG and supplied these to COD Kanpur in 2009-10.	OFB's reply regarding OCFA is not acceptable as target was for supply of 5 lakh trousers. Reply did not explain why the defective trousers were sent to COD Kanpur, without proper inspection.

5.4.4 Fabrication orders placed at uneconomical rates

Our comparison of rates for execution of fabrication jobs by factories showed that the rates accepted by OCFA were substantially higher by as much as 234

per cent compared to that of other factories for the same job, resulting in extra expenditure of ₹2.14 crore against 25 orders, as depicted in Table-20.

Table-20: Inter-factory comparison of outsourcing rate for same job

Item	Outsourcing at higher rate by OCFA		Outsourcing/factory cost at lower rate		Extra expenditure (₹ in lakh)
	No. of orders & date	Quantity (Rate)	Order No. & date	Rate	
Fly outer TEFS 4M	4 orders dt. 19.02.09	1000 (₹1032)	263 dt. 19.06.09 (OEFC)	₹350	6.82
	3 orders dt.16.12.10	5000 (₹1032)	506 dt. 03.10.10 (OEFC)	₹408	31.20
Trouser PW PV DD OG	3 orders dt.24.12.09	133334 (₹51)	508 dt. 04.01.10 (OPF)	₹16.64	45.81
End curtain TEFS 4M	4 orders dt.20.09.08	8000 (₹927.50)	360 dt.19.08.08 (OEFC)	₹278	51.96
	2 orders dt. 03 and 13.12.11	10000 (₹721.50)	388 dt. 04.09.11 (OPF)	₹340	38.15
	1 order dt. 05.03.12	7500 (₹610)			20.25
Liner Inner TEFS 4M	6 orders dt.10.11.09	3000 (₹761)	454 dt. 08.09.10 (OEFC)	₹325	13.08
	2 orders dt.30.11.11 and 12.12.11	2200 (₹635)	198 dt. 11.11.11 (OEFH)	₹310	7.15
				Total	**214.42**

Though OEF HQ accords permission for trade assistance yet they did not effectively monitor the reasonableness of rates in fabrication orders placed by different factories.

The Ministry stated that the rate accepted by OCFA was high being located at A-1 city. Higher labour cost at OCFA compared to OEFC/OPF cannot justify difference of fabrication cost in the range of 79 to 234 *per cent*.

5.5 Civil trade/export activities

OEFG undertook civil trade/ export activities since 1986 to utilise the spare capacity after meeting the requirements of the Services and established Regional Marketing Centres to explore prospective customers. Details of issues made to all civil indentors including Ministry of Home Affairs (MHA) and exports during 2008-09 to 2011-12 are indicated in Table-21.

Table-21: Factory-wise details of civil trade issue

(₹ in crore)

Factory	2008-09	2009-10	2010-11	2011-12
OEFC	0.64	12.13	5.72	0.03
OPF	0.53	0.78	1.55	0.98
OCFS	3.75	2.43	2.90	9.03
OEFH	0.67	5.12	0	1.24
Total	**5.59**	**20.46**	**10.17**	**11.28**

The table indicates that civil trade and export activities by OEFG were not significant. Total value of issues on account of civil trade and export reduced from ₹20.46 crore in 2009-10 to ₹10.17 crore in 2010-11. One of the reasons for the failure to tap potential market is the significantly higher rate of OEFG produced items. The Director General, Sashastra Seema Bal had informed us in July 2012 that the rates of OEFG produced items were as high as 300 *per cent* compared to market rates. The expenditure on procurement of GS&C items by the paramilitary forces during 2008-12 was ₹1068.36 crore, of which items valued at ₹27.95 crore (2.62 *per cent)* was sourced from the OEFG.

5.6 Audit conclusion

Even after outsourcing, targets were not met fully and we observed numerous slippages in production and issue of GS&C items by OEFG.

Recommendation 6

Ministry may ensure that OEFG formulate judicious production and procurement plan so as to achieve realistic production targets.

Recommendation 7

A system should be institutionalised to ensure that Army's account is debited with simultaneous credit of ordnance factories' account only after the stores are inspected and cleared by the consignee Army's depots to plug the deficient accounting for spill-over issues.

Recommendation 8

OFB may streamline the outsourcing policy to minimise the outsourcing of jobs so as to ensure optimum capacity utilisation and also institute a mechanism to ensure reasonableness of rates.

Recommendation 9

OFB should generate a database at OEF HQ with the latest and reasonable rates for outsourcing of jobs which can be shared by all factories.

Chapter VI: Utilisation of Resources

Audit objectives
Whether the factories efficiently and effectively utilised the manpower, machinery and inventory resources for achieving optimum productivity.

Source of audit criteria
- *Policy/direction in regard to work on overtime;*
- *Policy and benchmarks for machine utilisation; and*
- *Manual provisions for inventory holding.*

6.1 General

Optimum utilisation of manpower, machinery and inventory is essential to ensure the productivity in factories to meet the production targets and minimise the cost of production.

6.2 Utilisation of manpower

OEFG have four categories of manpower, *viz.* Gazetted Officers (GO), Non-Gazetted Officers (NGO), Non-Industrial Employees (NIE) and Industrial Employees (IE). In OEFG, the strength of the GOs increased from 220 in 2008-09 to 472 in 2011-12, while the same for NGOs/NIEs dipped substantially from 2416 in 2008-09 to 2052 in 2011-12. The number of IEs also declined to 9388 in 2011-12, as compared to 9667 in 2008-09.

6.2.1 OEFG determine manpower capacity in terms of available standard man-hours (SMH) on the basis of number of direct industrial employees (IEs) engaged in production activities and quantifies the total man-hours consumed in production in terms of output SMH. IEs are required to work overtime, whenever the output SMH corresponding to the production targets is more than the available SMH.

As per DGOF's Procedure Manual (Paragraph 4162), the labour estimate of an item indicates time required to manufacture, with an allowance of 12.5 *per cent* of the net working time for rest and minor break-down. Further, 25 *per cent* is provided in the estimate for piece work profit to the IEs as an incentive.

We observed the deficiencies in utilisation of manpower as discussed in the succeeding paragraphs.

6.2.2 Excess payment of overtime

The factory managements allowed overtime (OT) payment to IEs in a routine manner and paid OT in excess of actual requirement as detailed in Table-22.

Table-22: Avoidable overtime payment

Year	SMH available (in lakh hours)	SMH utilised (in lakh hours)	Available SMH not utilised (in lakh hours)	Total SMH utilised including OT (in lakh hours)	OT required (in lakh hours)	OT actually allowed		Excess OT	
						Hours (in lakh)	Payment (₹ in crore)	Hours (in lakh)	Amount (₹ in crore)
1	2	3	4 (2-3)	5	6 (5-2)	7	8	9 (7-6)	10
OEFC									
2008-09	64.33	58.99	5.34	70.75	6.42	11.76	6.83	5.34	3.10
2009-10	60.25	52.84	7.41	64.00	3.75	11.16	7.39	7.41	4.91
2010-11	61.82	52.02	9.80	62.92	1.10	10.90	8.21	9.80	7.38
2011-12	58.44	50.68	7.76	61.25	2.81	10.57	11.79	7.76	8.66
OPF									
2008-09	23.10	22.97	0.13	28.11	5.01	5.14	3.27	0.13	0.08
2009-10	25.65	24.05	1.60	29.38	3.73	5.33	3.46	1.60	1.04
2010-11	26.24	27.27	-1.03	32.43	6.19	5.16	4.13	Nil	Nil
2011-12	24.88	25.66	-0.78	31.06	6.18	5.40	11.28	Nil	Nil
OCFA									
2008-09	26.37	23.77	2.60	29.20	2.83	5.43	3.52	2.60	1.68
2009-10	30.40	25.36	5.04	31.05	0.65	5.69	3.95	5.04	3.50
2010-11	31.26	32.10	-0.84	37.44	6.18	5.34	4.59	Nil	Nil
2011-12	26.90	34.96	-8.06	40.66	13.76	5.70	15.04	Nil	Nil
OCFS									
2008-09	54.04	48.48	5.56	54.16	0.12	5.68	2.11	5.56	2.06
2009-10	53.63	26.32	27.31	33.06	Nil	6.74	2.57	6.74	2.57
2010-11	54.49	44.48	10.01	53.42	Nil	8.94	4.82	8.94	4.82
2011-12	50.43	41.60	8.83	49.04	Nil	7.44	5.38	7.44	5.38
OEFH									
2008-09	10.24	12.11	-1.87	14.02	3.78	1.91	1.22	Nil	Nil
2009-10	7.79	11.80	-4.01	12.88	5.09	1.08	0.63	Nil	Nil
2010-11	10.81	5.07	5.74	7.1	Nil	2.03	1.39	2.03	1.39
2011-12	10.67	5.56	5.11	7.67	Nil	2.11	2.11	2.11	2.11
Total						**123.51**	**103.69**	**72.50**	**48.68**

The table shows that in 14 out of 20 instances, the factories did not fully utilise the available SMH, which resulted in excess payment of overtime. The overall extent of non-utilisation of SMH was up to 53 *per cent* by OEFH. The factories allowed 123.51 lakh OT hours of which 72.50 lakh hours (59 *per cent)* was allowed in excess of actual requirement. This resulted in payment of excess OT of ₹48.68 crore during 2008-12, of which ₹24.05 crore (49 *per cent*) was paid by OEFC alone.

Ministry's response and our comments thereon are indicated in Table-23.

Table- 23: Ministry's response and Audit comments

Ministry's response	Audit comments
At OPF, input man-hours shown in the report of 2009-10 included OT hours and output SMH did not include fatigue allowance of 25 *per cent*. Hence, avoidable OT hours did not arise in 2009-10.	The reply of OPF is not relevant because 'fatigue allowance' was not considered while working out excess overtime.
OCFS decided to give OT to get maximum output. OEFC exercised adequate control on working on OT basis. At OCFA, percentage of OT hours to output SMH was in reducing trend.	The claim of the Ministry in regard to the control instituted against payment of OT in OCFS and OEFC is not correct because these factories continued to pay overtime during 2008-12 as a routine matter without correlating it with the actual workload and available SMH.

6.2.3 Irregular payment towards piece-work profit to IEs

As mentioned in Paragraph 6.2.1, labour estimate indicates time required to manufacture an item inclusive of an allowance of 12.5 *per cent*. However, till June 2008, the factories also included a provision of additional 25 *per cent* time in the labour estimate as built-in incentive for piece-work (PW) profit to the IEs. This was commented in the earlier Performance Audit Report No. PA 4 of 2008 on 'Performance of Chemical Factories of Ordnance Factory Organisation'.

As a follow up to the Action Taken Note against the Performance Audit Report, Ministry had stated in September 2010, that Audit's view was noted and assured that since observation raised pertains to the OFB as a whole, the same would be examined separately.

Notwithstanding the assurance, it was observed that no remedial measures were taken by the Ministry and all the five factories continued to make payments towards PW profit by adding 25 *per cent* over and above the output SMH booked in PW card. The amount of such additional payment during the year 2011-12 alone worked out to ₹10.91 crore which was irregular.

Factory-wise details of the payments are given in Table-24.

Table-24: Excess payment towards piece work profit

Factory	Piece work profit percentage[13] allowed	Actual payment (₹ in crore)	Piece-work profit percentage admissible	Payment admissible (₹ in crore)	Excess payment (₹ in crore)
OEFC	52.23	5.94	21.78	2.48	3.46
OPF	56.64	3.16	25.31	1.41	1.75
OCFS	39.36	4.27	11.49	1.25	3.02
OCFA	58.00	3.65	26.40	1.66	1.99
OEFH	66.99	1.39	33.59	0.70	0.69
				Total	**10.91**

Response of OFB and our comments thereon are given in Table-25.

Table-25: Response of OFB and Audit comments

Response of OFB	Audit comments
Estimates were without 25 *per cent* built-in incentive. While making payment of piece work profit, output SMH was multiplied by 1.25 factors. Hence, industrial workers got same payment what they had been getting earlier and there was no overpayment.	Despite acceptance of audit contention and assurance for examining the matter for OFB as a whole, the Ministry did not take any remedial measures. As a result, irregular payment towards PW profit for additional 25 *per cent* output SMH continued.

6.3 Underutilisation of machinery

6.3.1 Overall underutilisation of machine-hours

OFB decided in March 2008 that for the purpose of calculating the capacity utilisation, normal capacity of a plant in production shop was to be reckoned on the basis of its working in two shifts (eight hours in each shift) daily for 25 days per month. Accordingly, machine-hours *per annum* are worked out to 3840 hours after deducting 20 *per cent*[14] towards breakdown, tool setting time, absenteeism, *etc.* Hence, annual availability of total machine hours in a factory is assessed on the basis of average number of plant and machinery held in production section multiplied by 3840 working hours available. Percentages of utilisation of the available machine-hours during 2008-12 were as under:

[13] Piece work profit percentage = {(1.25×Output SMH/Input SMH) - 1}×100
This formula was effective from July 2008. As per formula applied prior to July 2008 profit percentage = {(Output SMH/Input SMH) – 1} X 100 where output SMH included built-in incentive of 25 *per cent*.
[14] As adopted by factory managements for assessing cost benefit before procurement of any new machine.

Table-26: Machine-hour utilisation

Factory	Percentage of utilisation of machine-hours			
	2008-09	2009-10	2010-11	2011-12
OEFC	*	36.78	47.49	39.55
OPF	52.27	46.66	52.21	54.56
OCFS	51.45	31.12	55.39	84.28
OCFA	54.60	58.13	76.42	60.48
OEFH	75.55	57.28	68.65	67.49

**** Data not available in the required format as asked for by us***

It would be seen from the table that none of the factories had been able to utilise 80 *per cent* of the available machine-hours during 2008-12 except OCFS for 2011-12. The percentage of underutilisation of available machine-hours was more in OEFC (53 to 63), OPF (45 to 53) and OCFS (16 to 69). Further, the machine-hour utilisation (55 to 76 *per cent*), reported by OCFA and OEFH and 84 *per cent* utilisation reported by OCFS for 2011-12, were overstated as working on single shift basis in those factories could not have exceeded 50 *per cent* utilisation of available machine-hours which was reckoned on two shift basis. As analysed by us, the underutilisation of machine-hours was attributable to working of machines on single shift basis, delayed procurement of input materials as well as offloading of jobs to trade.

Justifying the working on single shift basis, the Ministry stated that working on two shifts would involve additional manpower. It added that more than 50 *per cent* machine-hour utilisation, as reported by OCFA and OEFH, was correct as the factories worked on overtime.

The contention of the Ministry is not acceptable due to the following facts:

- We calculated availability of machine-hours on two shift basis in accordance with OFB's instruction of March 2008. Despite persistent underutilization of available machine-hours, the OEF HQ did not formulate any effective plan to utilise the machines on two shift basis with available manpower. OFB did not also monitor the underutilisation of available machine-hours in different factories. The reply was also silent on action taken to streamline the procurement planning as well as to direct the factories from not offloading the jobs despite availability of in-house capacity;

- On the basis of working up to 54 hours (including OT) *i.e.* 9 hours per day, maximum machine-hour utilisation is worked out to 56 *per cent*[15] considering availability of machine-hours on two shift basis as per OFB's guidelines. Hence, claim of machine-utilisation up to 76 *per cent* in respect of OCFA and OEFH is not valid.

In the Exit Conference, Member (OEFG and Finance) assured that steps would be taken for improving the productivity.

6.3.2 Specific cases of significant underutilisation

We observed significant under/non-utilisation of 91 costly machines at OPF and OCFS, which are briefly discussed below:

- OPF had purchased 40 socks knitting machines costing ₹4.88 crore based on an order of April 2001. The capacity of the machines was 10 lakh socks woollen heavy khaki and 4 lakh socks olive green *per annum* on two shift basis. OPF had also concluded an Annual Maintenance Contract (AMC) with the firm in March 2003 at a cost of ₹28.16 lakh *per annum*. Thereafter, the AMC was extended up to December 2011 and ₹1.97 crore had been paid to the firm during the last seven years. However, the machines were underutilised by 62 to 77 *per cent* during 2008-11 due to less workload. The factory management did not chalk out any effective plan to utilise these machines optimally.
- Similarly, at OCFS, the utilisation of 50 socks knitting machines worth ₹6.10 crore fell below the capacity of 12.90 lakh per annum by 29 to 63 *per cent* during 2008-11. OCFS continued to spend on AMC of those machines which aggregated to ₹2.07 crore during last five years.
- OPF placed an order on M/s IIGM Pvt. Ltd., New Delhi in February 2009 for one set of Computer Aided Design/Manufacture (CAD/CAM) system costing ₹2.26 crore. Though the system was received in the factory in August 2009, OPF took six months for commissioning the system. Against the annual envisaged savings of ₹45 lakh to ₹50 lakh towards labour and material only ₹6 lakh had been saved by introducing the system. Further, the material estimates were not revised by 31 March 2012. The breakdown register also indicates that the system was prone to frequent minor breakdowns between April 2012 and March 2013. Thus the system was yet to be fully functional.

[15] Maximum of percentage of utilisation for machine working in 9 hours against two shifts work of 16 hours = 9/16 X 100 = 56.25 *per cent*

The Ministry/OFB's response and our remarks are indicated in Table- 27.

Table-27: Ministry/OFB's response and Audit remarks

Ministry/OFB's response	Audit remarks
40 machines of OPF were product and size specific and not utililsed uniformly throughout the year. Hence, average percentage of utilisation was reduced. At OCFS, the machines were utilised to execute the target of indentor.	The reply is not specific on the gross under-utilisation of machines at OPF/OCFS despite the fact that the machines were product/size specific and utilised to meet the target. Reply did not mention about the efforts made by the factories to evaluate the workload of machines for optimum utilisation.

6.4 Inventory control

Efficient inventory management is essential in any organisation to identify the inventory requirement, set targets, report actual and projected inventory status, monitor the material movement so as to minimise stock holding and inventory carrying cost. In OEFG, inventory comprises stores-in-hand (SIH) which mainly includes working stock (active, non-moving and slow moving stores), maintenance stores, surplus/scrap/waste/obsolete stores. The level of SIH inventory in the factories depends on the criticality of the items in maintaining the continuity of production, procurement lead time, availability of sources, and availability of storage space in the factories.

Paragraph 3.4 of OFB's MMPM prescribes the maximum level of holding SIH inventory to three months *i.e.* 90 days in respect of OEFG. Scrutiny of the accounts revealed that the inventory holding of OEFG as a whole exceeded the authorised holding of 90 days every year during 2008-12, as shown in Table-28.

Table- 28: Analysis of closing stock

					(₹ in crore)
Sl.No.	**Particulars**	**2008-09**	**2009-10**	**2010-11**	**2011-12**
1.	Working Stock	Value			
a.	Active	65	70	82	107
b.	Slow-moving	8	10	12	9
c.	Non-moving	4	4	5	4
	Total working stock	77	84	99	120
2.	Waste and obsolete	1	0	1	0
3.	Surplus stores /Scrap	0	1	0	1
4.	Maintenance stores	5	5	3	3
	Total	**83**	**90**	**103**	**124**
5.	Stores consumed during the year *(Average consumption per day)*	310 *(0.849)*	289 *(0.792)*	341 *(0.934)*	406 *(1.112)*
6.	Average holding in terms of days' consumption	98 days	114 days	110 days	112 days
7.	Percentage of slow moving and non-moving stores to total working stock	16	17	17	11

[Source: Annual Store Accounts of OF Organisation and Review of Annual Accounts prepared by PCA(Factories)]

The Table indicates that the average holding of SIH inventory ranged between 98 and 114 days' consumption resulting in unnecessary blocking of public money besides avoidable inventory carrying cost. Further, slow/non moving stores were accumulated in the range of 11 to 17 *per cent* of the working stock, thereby indicating lack of efforts of the factories to identify such stores for expeditious disposal, particularly during 2008-11. Factory-wise comparison of inventory holding is shown in Table-29.

Table- 29: Details of factory-wise value of excess inventory holding

(₹ in crore)

Year	Closing stock	Store consumed during the year	Average consumption per day	Holding of stock in terms of days	Excess holding (days)	Value of excess holding
OEFC						
2008-09	33.76	149.45	0.409	83	Nil	Nil
2009-10	31.59	137.02	0.375	84	Nil	Nil
2010-11	40.21	151.34	0.415	97	7	2.90
2011-12	47.02	130.61	0.358	131	41	14.72
OPF						
2008-09	14.05	46.02	0.126	112	22	2.76
2009-10	10.97	51.28	0.140	78	Nil	Nil
2010-11	12.51	39.13	0.107	117	27	2.89
2011-12	18.81	59.47	0.163	115	25	4.09
OCFS						
2008-09	24.01	60.47	0.166	145	55	9.11
2009-10	28.02	48.75	0.134	209	119	15.95
2010-11	36.94	86.24	0.236	157	67	15.76
2011-12	38.77	126.23	0.346	112	22	7.62
OCFA						
2008-09	5.94	38.43	0.105	57	Nil	Nil
2009-10	8.66	33.92	0.093	93	3	0.28
2010-11	6.43	35.16	0.096	67	Nil	Nil
2011-12	8.66	57.70	0.158	55	Nil	Nil
OEFH						
2008-09	5.77	15.24	0.042	137	47	1.98
2009-10	10.96	17.92	0.049	224	134	6.56
2010-11	7.40	28.66	0.079	94	4	0.31
2011-12	11.45	31.98	0.088	130	40	3.52

In 14 out of 20 instances, inventory holding exceeded the authorised limit of 90 days. In OCFS, the excess holding itself ranged between 22 and 119 days during 2008-12, while the same stood at 47, 134 and 40 days in OEFH during 2008-09, 2009-10 and 2011-12 respectively. In OEFC, the excess holding worked out to 41 days in 2011-12.

OFB stated in April 2012 that the average stock holdings of OCFS for the years 2008-09 and 2010-11 were less than the prescribed limit. However, the facts stated above do not support the contention of the OFB. The reply is silent on the excess stock holding at OPF (2008-09 and 2010-11) and OEFH (2008-09 and 2009-10) and action taken to minimise the stock level.

6.5 Audit conclusion

The systemic deficiency in production planning, deployment of direct IEs not commensurate with the workload and working of machines on single shift led to payment of overtime in a routine manner as well as gross under-utilisation of machine-hours in all the factories. Besides, excess inventory holding mainly at OCFS, OEFH and OPF arising from over-provisioning and shortfall in production indicates poor material management.

Recommendation 10

OFB may ensure that the factories plan their production activities efficiently, deploy their manpower judiciously in tune with the workload requirements and fully utilise the available SMH before resorting to work on overtime payment.

Recommendation 11

Ministry may ensure that OFB follow the correct methodology for making payment towards piece-work profit by excluding additional 25 per cent over and above the output SMH booked.

Recommendation 12

OFB should operationalise two-shift working in the factories to increase the productivity and to optimise capacity utilisation.

Recommendation 13

OFB should put in place a system of periodical review of inventory holding at different factories as well as take prompt action to dispose of all surplus/obsolete/non-moving/waste after proper identification.

Chapter VII: Quality Control and Quality Assurance

Audit objectives
Whether adequate quality control mechanism was in place for input materials and finished products, and the existing controls were efficient and effective to ensure delivery of products conforming to the requisite quality.

Source of audit criteria
- *Standard Operating Procedure for inspection of input materials and*
- *Norms of rejection at factory end as well as proof rejection by the Quality Assurance Establishments.*

7.1 General

Ordnance factories follow a system of multilayer inspection, quality control and quality assurance before issue of final products to the Services. The responsibility of inspection of input materials and stage/inter-stage inspection of components/assemblies in the manufacturing process rests with the Quality Control section of the factory. Quality assurance of the end products before issue to the Services is the responsibility of the DGQA organisation. Thus, OEFG and DGQA are jointly and severally responsible for ensuring that the Services receive quality items. Flow chart of activities relating to quality control and assurance is depicted in **Annexure-III**.

We observed inadequate inspection at various stages, repeated rejections and frequent customer complaints as discussed in the subsequent paragraphs.

7.2 Inadequate inspection of input materials procured from trade

Paragraph 1.4 of Standard Operating Procedure (SOP) of OFB stipulates that all materials need to be inspected within 15 days from the date of receipt in the factory. Individual factories under OEFG have fixed different benchmark for minimum time required for inspection as 10 to 15 days for the materials required for manufacturing parachutes and uniforms. As an exception, OCFA has fixed the benchmark of minimum time as 18 to 26 days. As per Paragraphs 2.1 and 2.5 of SOP, the Quality Control officer is required to carry out visual and dimensional inspection of input materials with reference to the relevant product specification and drawings, by drawing samples as per the standards and the sampling plan and forwards the samples to its own/NABL accredited laboratory, wherever warranted. The Inspection Officer is required to obtain comments of acceptability from the concerned production section, if required, before final acceptance of the material or otherwise.

We observed that the factories did not adhere to the norms of minimum time required for inspection and took less time in inspection of input materials and passed various fabric and miscellaneous items on the day of their receipt, particularly on 31 March every year as detailed in Table-30.

Table-30: Instances of inadequate inspection

Factory	Inspection on the same day of receipt		Inspection in less time than the minimum time required			Remarks
	No. of cases	Value (₹ in lakh)	Time taken	No. of cases	Value (₹ in lakh)	
OEFC	49	767.63	1-5 days	40	433.78	Test check applied on small sample
OPF	14	57.32	1-5 days	150	224.57	- do -
OCFS	2	1.06	1-6 days	19	63.87	- do -
OCFA	11	109.01	1-17 days	2170	137.09	Data extracted from sample of 3787 records
OEFH	22	98.03	1-5 days	731	609.56	Test check applied on small sample

Thus, the inspection of input materials in less time compared to the minimum time required as well as on the same day of their receipts was deficient and inadequate.

The Ministry stated that the materials were cleared as per procedure giving adequate time for testing/quality check and quality was not compromised. The contention is not acceptable since actual time taken for inspection (1 to 6 days) was less than the minimum time required (10 to 15 days) thereby compromising the quality of input materials as discussed in the Paragraphs 7.2.1 and 7.3.

7.2.1 Inspection of input material before actual receipt

We observed specific cases where the despatch challan dates of the suppliers were same as that of receipt, inspection and acceptance date (mainly 31 March 2010 and 2011) indicated by the factories. Since the firms were situated in Mumbai, Bhilwara, Phagwara, Faridabad *etc.,* far away from those factories, it is obvious that inspection was compromised in those cases.

In two cases, the factories received, inspected and took the stores on charge on the same day (31 March) even before physical receipt of the stores as brought out below:

- Against an order of January 2009, M/s S.S. Enterprises, Kanpur supplied 76,400 metre polyester tape 25 mm (Challan No. 01 dated 8 April 2009)

to OPF, Kanpur. However, the factory received, inspected and brought the stores on charge on 31 March 2009; and

- M/s Sunil Industries, Mumbai despatched 27,828.60 metres Cloth Gabardin to OEF Hazratpur (Challan No. 883 dated 31 March 2011). However, the factory received, inspected and took on charge the consignment on 30 March 2011.

This indicates that the factories prepared advance receipt vouchers without physical receipt and inspection of the materials only to facilitate payment to the suppliers.

The Ministry justified the preparation of a few receipt vouchers on 31 March *i.e.* on the date of receipt on the grounds of exigency of commitments at the closure of the financial year. The justification given by the Ministry citing exigency goes against the general principles relating to expenditure and payment of money out of public fund. The Ministry needs to ensure that such irregularities are not resorted to.

7.3 Acceptance of materials with deviation

Paragraph 12.1 of SOP permits acceptance of materials with deviations from design or specification which is limited in its application to cover a definite quantity or period or a particular purchase order. Acceptance of materials with minor deviations is allowed only when it does not affect the serviceability, function, durability, interchangeability or safety.

SD PARACHUTE

BRAKE PARACHUTE

We observed instances of acceptance of materials in deviation from the specifications in a routine manner by the QC sections of the factories which resulted in various defects in the manufacturing process and adversely affected the function and safety of the end products. Consequently, even the end products were also found rejected in inspection by the Quality Assurance

Establishment and returned for rectifications because of defective input materials. A few illustrative cases are given in Table-31.

Table-31: Acceptance of materials with deviations

Factory	Item Supplier Date of order	Audit observation	Ministry's reply	Audit comments
OCFA, OEFH	Fabric for parachute M/s Maharaja Shree Umaid Mills Ltd. May 2010	Contrary to the quality advisory note (November 2009) of DGQA organisation the factories accepted fabric (costing ₹2.78 crore) with weaving defects and used in production of parachutes.	The material was accepted as per supply order conditions without any compromise with the quality.	Contrary to the caution in the advisory note regarding possible failure of parachutes due to air permeability, defective fabrics were utilised in manufacturing parachutes. The cutting shop had also complained of the defects in 34,000 metres of fabrics. But replacement was not made. This indicates that the materials not meeting the specified parameters were used for manufacturing parachutes.
OCFS	Fabric for cap glacier and coat ECC M/s RADO Industries Ltd. October 2010	Despite deviations from the specified parameters of 'course and wales and mass of base/aluminized fabric', the item (costing ₹37.05 lakh) was accepted.	The factory had accepted the store considering aluminium coating and bursting strength of the fabric more than the specified.	Acceptance of material despite repeated deviations from the specified parameters and its issue to the shop was indicative of lack of quality control over issue of input materials. The cutting shop had also complained of the defects in the stores which indicates material did not meet the specified parameters.
OCFS	Fabric for Coat ECC M/s Shubh Swasan (I) Pvt. Ltd. October 2010	Though the store (costing ₹3.28 crore) could not achieve the specified value in parameters like threads/cm and mass/sqm in laboratory test, it was accepted under deviation.	The deviations would not affect the durability and serviceability of end products.	The acceptance and utilisation of material with deviation went against the specific instruction of SQAE (GS) Shahjahanpur.
OEFH	Cloth Polyester and Cotton Disruptive M/s Nahar Industrial Enterprises Ltd. October 2009	The store (costing ₹3.35 crore) was accepted with deviation in colour fastness to rubbing (brown) and (black) with the value of ¾ instead of 4.	The acceptance of material with minor deviation was as per SOP for input material inspection and the deviation granted was as per norms.	The reply does not address the fact that acceptance of defective clothing fabric as minor deviations in a routine manner ultimately led to the major problems of fading of colour, mismatch of colour and texture of uniforms.

7.4 Repeated failure of items in quality assurance

Established items once passed in inspection by the Quality Control Section of the factories are not expected to be returned for rectification after proof inspection by the Senior Quality Assurance Establishment (SQAE), since quality control involves 100 *per cent* inspection and weeding out of all non-conformities.

However, at times when the product is put up for final acceptance in quality assurance, representative of SQAE may return the product, which fails to fulfil the criteria for the final acceptance. Such type of product is categorised as Returned for Rectification (RFR) and put up for fresh inspection after its rectification by the factory.

High incidences of RFR items are given in Table- 32. The factory-wise trend of RFR of 34 items out of 91 items produced in 2008-09 and 143 items out of 187 and 208 items produced in 2009-10 and 2010-11 and 60 items out of 77 items produced in 2011-12 was analysed.

Table-32: Factory-wise details of RFR cases

Factory	2008-09		2009-10		2010-11		2011-12	
	No. of items	Range of RFR percentage	No. of items	Range of RFR percentage	No. of items	Range of RFR percentage	No. of items	Range of RFR percentage
OPF	3	6.85 – 8.87	7	7.60 – 12.28	7	8.05 – 12.99	10	7.33 – 14.79
OCFS	15	21.41 – 66.39	12	21.53 – 55.87	12	15.23 – 73.21	16	10.93 – 48.87
OCFA	5	5.44 – 42.90	5	6.54 – 32.80	2	20.57 – 34.18	10	19 – 54.66
OEFH	3	3.49 – 10.04	4	3.12 – 100	3	8.89 – 33.97	6	9.52 – 50.06
OEFC	**	**	103	5.66 – 22.02	29	6.52 – 42.59	14	6.91–27.80

***** Data not available in the required format as asked for by us***

We observed that –

- Addl. DGOF of OEF HQ apprised (March 2008) the Sr. General Manager (GM) of OCFS of high RFR percentages in various garments arising from improper and ineffective pre-inspection performed by the Line Inspectors. He also instructed the Sr.GM to strengthen the pre-inspection mechanism for reduction of RFR percentages to bare minimum. However, no improvement had been noticed in RFR. Again in February 2012, SQAE (GS) intimated GM, OCFS of high incidence of RFR citing the ineffective/improper pre-inspection of finished products as well as casual stamping of quality clearance on the products by the designated staff.
- Significant quantum of RFR beyond 20 *per cent* and up to 100 *per cent* in 72 out of 266 instances was recorded in respect of 31 items during 2008-12.

This clearly indicates inefficiency of the factories in the manufacture of items conforming to the specified quality and lack of proper quality control mechanism at the factory level. Such deficiencies tend to increase cost of production of these items due to further rectifications at the factories followed by reproof carried out by the Quality Assurance Agencies, which also adversely impacted the supply chain from the factories to the indentors.

OFB stated (April 2012) that:

- The reason for RFR projected by the resident SQAE(GS) was mostly based on subjective grounds, which was not easy to be challenged by the factory in absence of any objective evaluation criteria;
- Most of the defects occurring in bulk production of clothing items were rectifiable/subjective in nature and only a small percentage of it was non-rectifiable for which there is a provision of UAR percentage; and
- Stores (finished products declared as RFR) were rectified/ repaired by reprocessing without any extra payment to the worker.

The recurrence of RFR cases in respect of low technology/established products indicates lack of proper quality control in factories which ultimately resulted in slippages in delivery of the products to the consignees. CQA (T&C) Kanpur also admitted in July 2012 that RFR occurs when realistic quality checks are not carried out by the ordnance factories. Further, the claim that no extra payment was made for rectification of defects is not correct as time taken and wages paid for the rectification were not accounted for under Direct Material and Direct Labour cost in the factory's accounts. Instead, the same were booked incorrectly under Overhead.

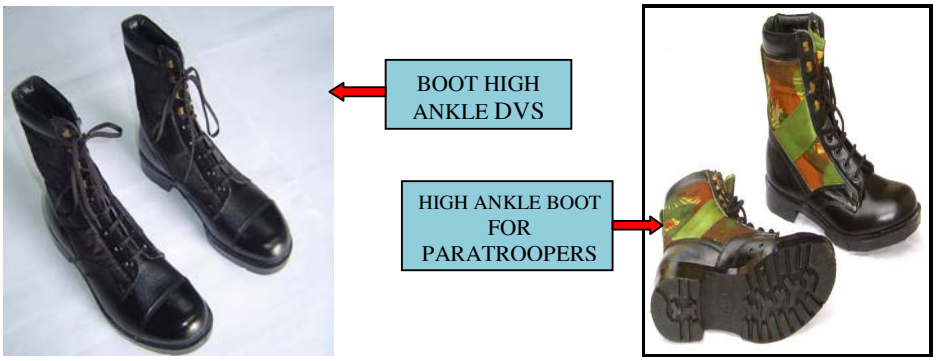
In the Exit Conference, Member (OEFG and Finance) also emphasised the need to book labour hour and labour cost for RFR cases.

7.5 Final rejection during quality assurance checks

Finished products cleared in quality control inspection by the factories are subjected to further quality assurance inspection by the SQAE before issue to the Services. At the quality assurance stage, items which are not rectifiable are declared as finally rejected. As factory's quality control involves 100 *per cent* inspection, there should not be any rejection at the quality assurance stage. We, however, observed certain instances of final rejection which are discussed below:

7.5.1 Final rejection at OEFC

OEFC manufactured sole for boot high ankle DVS from rubber compound purchased from trade sources. Responsibility of inspection of rubber item rests with the factory. SQAE (GS) Kanpur, the inspection authority of final acceptance, rejected 53,190 pairs Boot High Ankle valuing ₹10.17 crore during 2009-10 due to less hardness and less percentage of polymer content in sole. OEFC could also not meet the target of Army during the year 2009-10.



Despite rejection of the boots by SQAE(GS) Kanpur, the same were issued by OEFC to Central Reserve Police Force (CRPF) at a total price of ₹8.66 crore[16]. Since the boots, being common items for Army and MHA, are subjected to DGQA's inspection, the issue of rejected boots to CRPF was irregular.

On receipt of the boots, field units of CRPF made several complaints like heavy weight, hardness of sole and leather, poor pasting/stitching, heating of sole after walking short distance, *etc.* to Director General, CRPF. Accordingly, DG requested (July 2010) OEFC to replace the defective boots. However, no such replacement was effected so far (July 2012).

7.5.2 Final rejection at OCFS

We observed that 40,000 blankets worth ₹2.35 crore were rejected due to overweight/underweight during 2004-05 to 2008-09. Those blankets were still lying at the factory for disposal. However, the factory did not take corrective actions to improve the manufacturing process as well as quality control mechanism. We also observed rejections of four items (Net mosquito, Blanket, Jersey and Trouser) worth ₹1.49 crore during 2009-10 and 2010-11 at quality

[16] Price of ₹1628 per boot fixed by OFB for issue to MHA.

assurance inspection by SQAE (GS) Shahjahanpur due to poor workmanship and finish, shade variation, incorrect dimension, loose texture, weight variation and damaged fabric, *etc.*

Factory Management stated in June 2011 that most of the defects occurring in bulk production of clothing items were rectifiable, and only a small percentage of it was non-rectifiable for which there was a provision of unavoidable rejection (UAR) in the estimate of end product.

The reply is not factually correct because (i) the UAR percentage provided in the estimate is applicable up to the production stage which has no relation with final rejection of end product at the quality assurance stage; and (ii) final rejection of the end products occurred as the defects were not rectifiable.

7.6 Rejections at the consignee end

If the quality control of factories and quality assurance mechanism by DGQA are efficient and effective, there should not be any consignee end rejection of items once they are passed in quality assurance inspection.

We observed instances of rejection of end products at the users' end. A few of the important cases of consignee end rejections of items costing ₹10.42 crore are given in **Annexure-IV**. Additionally, an instance of 1.70 lakh Coat ICK (costing ₹22.48 crore) received by the Army till March 2007 from OPF, OCFS and OEFH lying in rejected state as of July 2012, due to non-detection of defects during quality assurance inspection is also shown in **Annexure-IV**.

7.7 Customers' complaints

We observed that factories received number of complaints from the indentors on various defects and poor quality of the items supplied to them. Even rejections of same items due to same reasons were recurring and the factories were replacing the defective items in a routine manner. This arose from ineffective quality control by the factories' QC section and deficient quality assurance by the SQAE concerned as well as despatch of defective items by the COD Kanpur to the field units despite being declared unacceptable by the CQA(T&C) as discussed in the Paragraphs 7.4 to 7.6 *supra*. Factory-wise details of complaints[17] are illustrated in **Annexure-V**.

[17] Value of major complained items for which quantity was mentioned in the customer complaint register worked out to ₹5.95 crore

We further observed that OEFC had once re-issued (October 2009) the earlier rejected lot of Bag Universal as fresh issue to the Air Force. Even, Secretary (Defence Production) expressed (June 2010) serious concern and displeasure over the poor quality and delayed replacement of the defective Bag Kit Universal for Air Force. The above situation points to the need for strengthening quality awareness for customer's satisfaction. Response of the Ministry and our remarks are given in Table-33.

Table-33: Ministry's response and Audit remarks

Ministry's response	Audit remarks
OEFC : Rejected stores were either rectified or replaced by sending fresh stores without incurring any additional expenditure on labour and material.	Ministry's reply did not explain the reasons for customers' complaints leading to replacement of rejected items in almost of all cases involving additional expenditure despite availability of quality control mechanism in the factories as well as in the SQAEs.
OCFS : Only blanket blue was replaced by the factory. No replacement was made for other items which were found acceptable by CQA(T&C) Kanpur in their closure report.	
OCFA : Replacement cost of damaged stores was recovered from the transporters. For Trouser and Jacket, discrepancy reporting protocol was not followed by COD Kanpur/ Army units. Shortage would have taken place in transit between COD Kanpur and OD Shakurbasti. Matter was taken up with OEF HQ for settlement.	
OEFH : Failure was part of production process. Customers' complaints were either settled or design was under review.	

7.8 Audit conclusion

Ineffective quality checks by the OEFG led to recurring cases of acceptance of poor quality materials, significant quantum of RFR cases and final rejections of finished products at quality assurance stage. Persistent consignee end rejections and customers' complaints at the user end indicate failure to manufacture quality products by the factories and failure of QA agencies under DGQA to ensure quality checks at the assurance level. These shortcomings in the system were not effectively addressed at the highest level to ensure user satisfaction and comfort of troops.

Recommendation 14

OFB must ensure that the factories diligently follow the prescribed norms for inspection of input materials.

Recommendation 15

OFB may ensure that factories adhere to 100 per cent pre-inspection as required, by independent Quality Control staff of the factories.

Chapter VIII: Pricing of Products and Cost Control

Audit objectives
Whether the cost of production of various items had been recovered in issue of the items to the Services through efficient pricing mechanism.

Source of audit criteria
- *Pricing policy and mechanism;*
- *Targets for overheads fixed by OFB; and*
- *Cost estimates and actual cost of production.*

8.1 General

The pricing policy of the OFB aims at recovering the entire cost of production in respect of items issued to the Services. The prices are estimated at the beginning of the financial year based on actual cost of the previous three years and the current trend in material, labour and overhead cost. After analysing these inputs received from the factories, OFB generally fix issue price of each item in advance before commencement of a year. In some cases, the issue prices for certain items are revised mid-year based on further inputs received from the factories. The Ministry permits OFB to limit the annual price increase up to eight *per cent* on overall basis with emphasis to keep this to a minimum.

We observed that instead of following a uniform formula, OFB used different yardsticks and adopted an ad-hoc approach for fixing issue prices of different products as under:

- based on OFB's calculation of estimated price considering a predetermined overhead percentage to estimated labour cost of the factory;
- average of the estimated cost of the factory and that of the OFB considering different labour rate and overhead percentage;
- equivalent to factory's proposed/estimated cost received at the fag end of the year for 2008-09 in respect of OEFC and for 2010-11 in respect of OEFH;
- determined after addition of eight to 15 *per cent* with last year's issue price; and
- at the same level of last year, as it was already 20 *per cent* more than the actual cost in the last year.

Thus, absence of sound pricing formula and non-adherence to the existing pricing policy led to incorrect fixation of issue prices by the OFB. This coupled with factories' failure to control cost resulted in recurring losses in

OEFG in all four years. The rates were also exorbitantly high compared to market price for certain items, as discussed in the succeeding paragraphs.

8.1.1 Huge losses incurred by factories

OEFG sustained aggregate loss of ₹226.09 crore for issue of items to all the indentors during 2008-12. Details of factory-wise profit /loss are given in Table-34.

Table-34: Factory-wise profit(+)/loss(-)

(₹ in crore)

Factory	2008-09	2009-10	2010-11	2011-12	Total
OEFC	2.17	(-) 26.43	(-) 26.00	(-)42.84	(-) 93.10
OPF	1.16	2.76	(-) 4.09	(-)13.11	(-) 13.28
OCFS	(-) 13.90	(-) 46.93	(-) 37.67	(-)22.22	(-) 120.72
OCFA	(-) 14.21	(-) 7.76	(-) 5.15	(-)7.89	(-) 35.01
OEFH	3.16	5.84	12.97	14.05	36.02
Total	**(-) 21.62**	**(-) 72.52**	**(-) 59.94**	**(-)72.01**	**(-) 226.09**

The table indicates that only OEFH had earned profit in all four years, while OCFS and OCFA sustained loss in all four years. OPF and OEFC incurred loss in two and three years respectively. Despite this sub-optimal performance, OFB did not analyse the reasons for the persisting losses.

We analysed the issue prices of 65 items fixed by OFB with reference to the estimated cost of the factories and actual cost of production for the three years 2008-12 (**Annexure-VI)** and found that in 97 out of 121 instances, the issue prices fell short of the estimated cost by more than 10 *per cent* and up to 53 *per cent* in OEFC, OPF, OCFS and OCFA. Even the actual cost of production of these items had exceeded the issue prices by same percentages in 102 instances.

Despite the huge variations between the issue prices and the product cost, the OFB had not instituted any effective mechanism to analyse the reason for recurring loss year after year nor did it review the product profitability periodically in its meetings to take corrective measures.

Justifying the variations, OFB stated (April 2012) that prices were decided almost 18 months in advance of working out the actual cost of production. Hence, there were little variations and surplus/deficit became inevitable due to change in load/product-mix after finalisation of price, efforts undertaken by factories towards cost reduction and variation in market prices than those expected at the time of pricing.

The reply did not explain as to how 10 to 53 *per cent* adverse variations between actual cost and issue price had occurred. The reply was also silent on the failure of the OFB to review the actual cost and issue prices periodically to ensure effective cost control and recovery of entire cost of production through pricing mechanism.

8.1.2 Exorbitant price of OEFG's items compared to market rates

We observed that in respect of OCFS during 2009-10, actual cost of nine items was more than the estimated cost by 6 to 41 *per cent*. Against the factory cost of Trouser PW PC Khaki and Vest Woollen FS of ₹772 (in 2008-09) and ₹632 (in 2010-11) respectively in OCFA and OCFS, COD Kanpur procured these items at ₹195 and ₹122 respectively in 2009-10, revealing that the cost of these two OEFG items were as high as 396 and 518 *per cent* of the market rate. Further, as mentioned in Paragraph 5.5, the Director General, Sashastra Seema Bal had observed that the rates of OEFG produced items were as high as 300 *per cent* compared to market rates. This clearly indicates that lack of cost control made the product-mix un-remunerative and non-competitive.

8.2 High overheads and labour charges in cost of production

8.2.1 Overhead charges

Cost of production comprises direct material, direct labour and overheads. Overheads charged in ordnance factory include indirect labour cost, indirect stores, supervision, electricity, transportation, depreciation, *etc.*

OFB fixed (May 2006) a target for overheads as a percentage of direct labour charges for OEFC, OPF, OCFS, OCFA and OEFH at 120, 164, 115, 175 and 175 respectively for 2006-07. OFB did not fix any such target for the subsequent years for which no reason was recorded. Even on the basis of target for 2006-07, the actual percentage of overheads to direct labour charges was higher in 2008-09 in respect of OEFC, OPF, OCFS and OCFA at 154, 196, 158 and 178 while the same for OEFH was 150 *i.e.* less than the target at 175. In 2009-10, the position had improved in respect of all factories except OEFC where the percentage of overheads was higher than the target at 164. In 2010-11, the percentage of overheads was less than the target in all the factories, while in 2011-12, the percentage of overheads was more than the target for OEFC and OCFS.

Further, the percentage of overheads to the cost of production for the OEFG was higher ranging from 34 to 33 than 31 to 26 *per cent* relating to Ordnance factories as a whole, as detailed in Table-35.

Table-35: Factory-wise percentage of overhead to cost of production

Year	OEFC	OPF	OCFS	OCFA	OEFH	OEFG	OF Organisation
2008-09	26	37	40	41	37	34	30
2009-10	30	34	38	39	33	34	31
2010-11	28	39	33	39	32	33	27
2011-12	30	35	35	34	32	33	26

Amongst the five factories, the extent of overheads at OCFA was highest in the range of 34 to 41 *per cent* during 2008-12. High incidence of overhead (41 *per cent*) at OCFA in 2008-09 was mainly due to high indirect labour (90 *per cent*) and supervision charges (72 *per cent*) as compared to direct labour.

OFB stated in April 2012 that the overheads were higher in OEFG as they are labour intensive units and the labour cost had increased due to implementation of the Sixth Central Pay Commission's recommendations. It did not explain the significantly higher rate of overhead charges in OCFA.

8.2.2 Labour charges

Details of cost of production and labour cost of OEFG vis-a-vis OF organisation as a whole are depicted in Table-36.

Table- 36: Labour cost *vis-a-vis* cost of production

(₹ in crore)

Year	Cost of production (COP)		Percentage of share in OEFG	Labour cost		Percentage of share in OEFG	Percentage of labour to COP	
	OF orgn.	OEFG		OF orgn.	OEFG		OF orgn.	OEFG
2008-09	10610.40	659.55	***6***	768.10	136.35	***18***	***7***	***21***
2009-10	11817.89	669.00	***6***	1102.19	173.48	***16***	***9***	***26***
2010-11	14012.12	855.08	***6***	1318.41	237.25	***18***	***9***	***28***
2011-12	15933.44	961.17	***6***	1490.10	260.52	***17***	***9***	***27***

Analysis of the tabulated data reveals that OEFG had the share of only 6 *per cent* of the cost of production every year, being lowest among all the groups. In contrast, it accounted for 16 to 18 *per cent* of the direct labour cost of ordnance factories as a whole during 2008-09 to 2011-12. Further, though the percentage of labour cost to cost of production in ordnance factories as a whole ranged between 7 and 9 *per cent*, the same in OEFG ranged between 21

and 28 *per cent* during 2008-12 despite modernisation through procurement of CNC[18] machines.

8.3 Wide variation in cost of production of common items

We compared the cost of production of common items manufactured in two factories and observed wide variations in unit cost of production comprising material, labour and overhead as depicted in Table-37.

Table-37: Variations in cost of production of common items

Item	Factory	Material cost (₹)	Percentage of variation	Labour cost (₹)	Percentage of variation	Overhead cost (₹)	Percentage of variation
2008-09							
Parachute SD 8.5M	OEFH	2690.13	3	1442.26	16	2163.39	37
	OCFA	2783.82		1678.27		2953.76	
Tent 4M	OEFC	18935.88	1	1758.97	131	2708.81	194
	OPF	19172.16		4064.92		7967.24	
2009-10							
Tent 2M	OEFC	18495.70	4	2628.10	104	4237.16	17
	OPF	19225.52		5373.35		4940.79	
Tent 4M	OEFH	409.16	5581	5121.55	29	589.19	998
	OEFC	23242.63		3970.46		6471.86	
Parachute SD 8.5M	OCFA	2392.74	113	2508.00	66	2897.74	154
	OEFH	5100.11		4156.81		7351.33	
Trouser Combat	OEFH	221.42	52	351.54	52	318.84	93
	OCFA	336.00		533.50		616.20	
Jacket Combat	OEFH	158.41	81	291.38	48	228.12	119
	OCFA	286.51		432.05		499.02	
2010-11							
Tent 4M	OEFC	26152.40	51	5284.62	1509	6771.95	1121
	OEFH	39477.46		328.54		554.85	
Trouser PV DD OG	OEFH	195.72	19	55.31	456	93.47	269
	OCFS	164.65		307.80		344.69	
Trouser Combat	OCFA	324.70	34	522.02	22	580.80	26
	OEFH	433.99		428.95		729.21	
Parachute SD 8.5M	OEFH	3227.27	6	1591.75	41	2703.86	10
	OCFA	3412.21		2241.91		2970.68	
Fly outer of Tent 4M	OCFA	6207.38	13	90.35	3039	159.84	2174
	OEFC	5513.25		2836.21		3634.45	
2011-12							
Jacket Combat	OEFH	47.63	824	238.15	101	414.12	20
	OCFA	440.02		479.79		498.98	
Fly outer of Tent 4M	OEFC	7019.90	7	3011.47	2490	3880.60	1797
	OEFH	7489.24		116.29		204.58	
Net Mosquito	OCFS	162.66	97	163.80	516	238.29	716
	OEFC	321.13		26.61		29.22	
Bag Kit universal	OEFH	236.01	169	10.40	2145	17.68	1670
	OEFC	635.97		233.49		312.93	

Source: Annual Accounts of Ordnance and Ordnance Equipment Factories

[18] Induction of Computerised Numerically Controlled machines is expected to achieve savings in terms of reduction of material and labour cost

The table shows inexplicable variations in labour and overhead cost of common items ranging up to 3039 *per cent* and 2174 *per cent* respectively. Similarly, material cost in 11 out of 16 instances widely varied between 13 and 5581 *per cent*. Further, even in the same factory *viz.* OEFH, material cost for Tent 4M showed an abnormal increase within one year from ₹409 in 2009-10 to ₹39477 in 2010-11. The Factory management/OEF HQ did not analyse this wide variation.

In response to the query on huge variation (9552 *per cent*[19]) in material cost of OEFH, Accounts Office of OEFH stated (July 2012) that the value of material was booked on the basis of documents forwarded by the factory management. They, however, added that the factory management assured that such type of irregularities would be avoided in future. The reply itself indicates that the Accounts Office did not verify the documents before booking the cost of materials.

Compared to higher cost at one factory with the cost at another factory, there was extra financial burden of ₹105.47 crore in 16 instances (**Annexure-VII**).

Ministry's reply and our remarks thereon are indicated in Table-38.

Table- 38: Ministry's reply and audit remarks

Ministry's reply	Audit remarks
OEFC : Data given by Audit appeared to be incorrect. Overhead and labour cost would differ from factory to factory.	We adopted the cost data from Annual Accounts of OF Organisation. Besides, the Ministry had not furnished any correct data to us while contending the figures.
OEFH : Transfer vouchers for labour and material were not considered by Accounts Office while preparing Annual Accounts for 2009-10. This led to wide variation in cost for Air Force items in that year. For balance items, difference was due to compilation and linking mistakes.	The reply itself indicated the deficiency in accounting the different cost components without proper reconciliation and setting right the linking mistakes between the factory management and the Accounts office of the factories. Reply did not indicate corrective actions taken to compile the accounts based on reliable cost data.
OCFA : In general, higher labour and overhead cost was due to difference in house rent and transport allowance as OCFA is under A-1 city. For Jacket and Trouser, the material cost of OEFH could not be less than that of OCFA as the latter is the nodal factory for basic material. It needs to be reconciled. For fly outer 4M, the labour and overhead cost is less as the factory outsourced the same due to huge load.	Trade assistance or higher house rent/transport allowance in one factory cannot justify huge variation in labour and overhead cost up to 3039 *per cent* and 2174 *per cent* in two different factories. Reply does not indicate any reason for such huge variation and corrective actions taken to set right such variations.
OCFS : Labour and overhead cost in manufacture of trouser was higher compared to that of OEFH as the item might have been manufactured through trade in OEFH.	

[19] Material cost of Tent 4M in 2009-10 = ₹409
Material cost of Tent 4M in 2010-11 = ₹39477
Increase = ₹39068
Percentage of increase = 39068 x 100/409 = 9552

8.4 Audit conclusion

The system of booking of expenditure merely on the basis of documents forwarded by the factory management without adequate checking by the Accounts Office led to irregular accounting of expenditure and unreliable cost data. Deficient pricing mechanism coupled with ineffective cost control led to recurring loss in issue of the products to the indentors every year, aggregating to ₹226.09 crore during 2008-12 as given in Table 34. This apart, abnormal variation in material and labour cost for common items produced in two factories resulted in extra financial burden of ₹105.47 crore in 16 instances.

Recommendation 16

Ministry may ensure that OEFG generate reliable cost data for enforcing strict cost control on the products.

Chapter IX: Internal Control

Audit objectives
Whether the existing internal control system was adequate and effective.

Source of audit criteria
- *Minutes of the meetings of the OFB; and*
- *Management Information System/Internal Audit Manual.*

9.1 General

Presence of and adherence to a robust internal control system minimise risk of errors and irregularities in operational and financial matters and provides assurance in matters relating to accounting, financial reporting and overall efficiency of the factories' operations. Important facets of existing controls in OEFG are as under:

- Review and monitoring of activities by the GM of the factory, OEF HQ and OFB;
- Management information system;
- Internal Audit; and
- Vigilance.

Apart from the weaknesses pointed out in Chapters III to VIII, the following additional instances substantiate the control weaknesses in OEFG.

9.2 Control failure in manufacture

Paragraph 601 of DAD OM requires Ordnance Factories to prepare standard estimate which provides the quantum of material and labour hours required to manufacture certain quantity of an item inclusive of an allowance for unavoidable rejection in manufacturing process. As per Paragraph 621 of DAD OM, General Manager is required to issue 'manufacture and material warrant' to the production shop concerned for manufacture of an item by drawal of labour and material as per estimate and the ordered quantity. The warrant is required to be executed and closed within a period of six months. Further, Paragraph 57 of DAD OM provides that the warrant along with the standard estimate forms the main instrument for control over utilisation of labour and material on an individual job or batch.

We observed failure of such controls in OEFG resulting in irregular booking of labour and material, concealment of rejections, non-regularisation of losses. Significant instances of such deficiencies are discussed in the succeeding paragraphs.

9.2.1 Irregular booking of labour charges

Scrutiny of closed warrants revealed that there were irregular booking of labour and proportionate overhead expenditure even after closure of the warrants during 2008-09, 2009-10 and 2011-12 in OCFS, OCFA and OEFH and during 2008-09 and 2009-10 in OEFC and OPF as summarised in Table-39.

Table-39: Excess booking of labour and overhead

Factory	Number of closed warrants	Expenditure booked after closure of warrants (₹ in crore)		
		Labour	Overhead proportionate to labour	Total
OEFC	375	4.11	6.37	10.48
OCFS	664	2.94	4.25	7.19
OCFA	139	7.10 (including overhead)	Break-up not available	7.10
OPF	47	0.48	0.73	1.21
OEFH	21	0.36	0.61	0.97
Total	**1246**			**26.95**

The excess and irregular booking of expenditure of ₹26.95 crore towards labour and overhead in respect of 1246 closed warrants reflects failure of internal control mechanism, as the computer system allowed booking beyond the warrant quantity after its closure and the officers responsible to monitor the system failed to plug this loopholes. The Accounts Office (AO) of OPF had pointed out (January 2011) this irregularity to the General Manager and impressed upon him to examine the matter and intimate the reasons for such irregular practice. However, General Manager did not examine the matter nor did he place on record the corrective action taken to stop this irregular practice.

Justifying the booking of labour and overhead charges, the Ministry stated that Planning, Production and Control (PPC) system did not allow booking of excess labour/material than the authorised quantity and further booking was not allowed on closed warrants. The contention is not acceptable because

audit evidence in support of irregular booking of labour /overhead in factory accounts after closure of warrants disproves the contention of the Ministry.

OCFS paid (May-September 2010) ₹17.45 crore to the piece workers for 14.70 lakh SMH against 599 manufacturing warrants which were non-existent as per records of Accounts Office. Despite this being pointed out repeatedly by AO, OCFS, the factory management had not taken any corrective action to set right this deficiency as well as to recover the excess payment made to the piece workers (PW).

Justifying the payment to the piece workers, the Ministry stated that sometimes PW payment of current month reflects the warrants issued in the starting of the month over and above the old warrants.

The reply does not reflect seriousness of the Ministry as the practice of making payment of PW wages against non-existent warrants was persisting despite repeatedly being pointed out by AO, OCFS. Being a matter of serious concern, it needs in-depth examination/ investigation by OFB/ factories to fix the responsibility for the continued irregularity.

9.2.2 Manufacture with excess or without drawal of material

Factory manufactures an item by drawing material as per standard estimate which provides the quantum of material required to manufacture certain quantity of the item with an allowance for unavoidable rejection (UAR). A test check of records revealed instances of manufacture of certain items with excess drawal of materials or without drawal of material. Details of a few such cases are discussed below:

- At OEFC, three items (two types of fabric and aluminium alloy tube) valuing ₹4.60 crore were drawn in excess over the authorised quantity provided in the warrants for manufacture of Tent 4M though the involved warrants (29 numbers) showed no excess booking.

- OCFS manufactured 21,621 shirts (PV DD OG) and 1000 coats (ECC) in March 2011 against four manufacture warrants even without drawal of certain input materials and issued the items to the Army also by March 2011, which is practically impossible.

- OCFS manufactured 4883 blanket barrack (natural grey) during April, November 2011 and March 2012 against 12 warrants without drawal of any material and issued to the Army by March 2012.

The Ministry/OFB's replies and our comments are given in Table-40.

Table- 40: Ministry/OFB's replies and Audit comments

Ministry/OFB's reply	Audit comments
At **OEFC**, materials drawn in excess were transferred to complete other warrants of smaller quantity of the Tents through transfer vouchers.	No document was made available to Audit regarding preparation of transfer vouchers on or before the closure of the warrants. Besides, the transfer voucher was for subsequent adjustment. Hence, it can no way justify over-drawal of stores due to lapses in material control.
At **OCFS**, 3 warrants for shirt PW PV DD OG were shown in the list of semi warrants for 2011-12. Cut components available against other warrants were drawn on sectional D-Note and utilised for production on these warrants. For Coat ECC, warrant is still outstanding for price issue voucher/ despatch leaving it operational for 2011-12.	The reply itself indicates that all the items were not actually manufactured in the targeted year 2010-11 but the same were projected as manufactured and issued (even without drawing the materials)**.**

9.2.3 Non-regularisation of losses

We came across instances of lack of documentation in regard to losses due to rejection, non-monitoring of wastages, *etc.* in two factories, which are attributable to inadequate internal control by the factory managements and Accounts Offices. A few cases are discussed below:

- There was no provision of UAR percentage in the estimate of Socks Men Wool Heavy Khaki at OPF. Our examination for the period 2008-11 showed that 8,500 kg unserviceable socks wool worth ₹23.36 lakh were returned by the production shop for disposal. Based on average requirement of 0.1729 kg wool for one pair socks, at least 49,161 pair socks worth ₹56.54 lakh could have been manufactured, had the wool not been declared unserviceable during manufacturing process.

- During April 2008 to December 2010, OPF had generated a reported wastage of 9000 kg yarns as against the permissible quantum of 2538.38 kg as per estimate. Hence, wastage of 6461.62 kg yarn worth ₹21 lakh had been generated over the prescribed limit. No action was taken to investigate the circumstances leading to excess wastage.

- OCFS manufactures blanket using yarn 450 Texture (+50/-25) procured from trade. There were instances of excess consumption of the yarn (costing ₹4.79 crore) during 2006-07. A fact finding inquiry (FFI) had in 2007 found that incorrect material estimate and manufacture of overweight blanket were a few reasons for the excess consumption leading to shortage of 5.81 lakh kg yarn. Subsequently, the factory resorted to excess (10 *per cent)* provision of yarn instead of procuring yarn with 425±25 count as recommended by the FFI team in 2007. The excess provision of yarn involved extra expenditure of ₹11.95 crore during 2009-11.

The Ministry stated that there was no failure of internal control at OCFS and that none of the materials was drawn in excess over the authorised quantity in respect of blanket. It added that loss statement for regularisation of shortage of 2.62 lakh kg yarn was awaiting concurrence of the Accounts Office. However, the Ministry did not specify the reasons for the variation in the actual loss as worked out by FFI and by the factory management.

9.3 Monitoring by top level management

The Rules for the conduct of the business of OFB stipulate that the Board would ordinarily meet once a fortnight but it would be open to the Chairman to summon a meeting at any time should he consider it necessary. Effective and viable running of factories largely depends on the efficient monitoring by the OFB. The meetings of the OFB were held once in every month to discuss the different issues related to the activities of all the ordnance factories. As stated in this Report, the OEFG suffered from persistent deficiencies *viz.* improper fixing of targets, faulty assessment of requirement while provisioning of materials, sub-optimal production performance, under-utilisation of capacity, outsourcing, absence of reliable quality control mechanism, lack of efficient pricing mechanism, recurring losses and absence of cost control. These had also adversely impacted the supply chain of GS&C items from factories to the Army depots. Despite these persistent deficiencies, we observed that in none of the 49 meetings held during 2008-12, except one, did the OFB address these deficiencies and recommend the remedial actions to overcome the shortcomings in the operation of these factories so as to ensure efficient and optimal functioning of the factories. Thus, the monitoring of the top level management was inadequate.

9.4 Audit conclusion

Ineffective internal control led to booking of labour charges on closed/non-existent warrants, drawing of excess/less input materials than that authorised for production of finished items and generating excess wastage during manufacturing process. Further, there was no adequate system in place for checking of documents relating to cost-data, financial reporting and production by the factory management/OFB for efficient functioning of factories. The monitoring by the top level management on the working of the OEFG was also inadequate.

Recommendation 17

Ministry may ensure that the OFB and the factories strengthen their internal controls and monitoring mechanisms, especially in planning and production, accounting and documentation of the related activities.

Recommendation 18

A comprehensive and effective internal control system must be put in place by the OEFG to avoid irregularities in booking of labour charges and manufacture with excess or without drawal of materials.

Chapter X: Conclusions

The Performance Audit of OEFG focussed on shortcomings in areas of production planning, procurement, manufacture and issue of GS&C items to the Services, quality control and underutilisation of resources and losses in issues. Fixing of production targets suffered from systemic deficiencies like delayed target fixation meeting, lack of coordination between DGOS and OEF HQ about flow of reliable information of item-wise capacity from factories, fluctuation of targets and their mismatch with capacity of factories. These flaws in the basic planning led to adverse impacts on the chain of activities in a cascading manner.

We also highlighted flouting of procurement norms as well as instructions of the Ministry/OFB by OEFG. This led to over-provisioning of stores, lack of transparency in procurement of stores through LTE at higher rates instead of OTE as well as procurement at higher rates beyond eight *per cent* of LPR, abnormal slippages in placing orders, failure to break the cartel among the vendors.

Shortfalls in production and issue of GS&C items by these factories have been recurring. Even after outsourcing, the issue targets were not entirely met. These factories were yet to gear up their planning and production performance to synchronise with the overall requirements of the Services and paramilitary forces.

The systemic loopholes in deployment of direct IEs not commensurate with the workload and working of machines on single shift led to payment of overtime in a routine manner as well as gross under-utilisation of machine-hours in all the factories. Inadequate quality controls by these factories resulted in significant quantum of RFR cases and final rejections of finished products at quality assurance stage. Persistent consignee end rejections and customers' complaints also highlighted failure of quality control in factories and quality assurance. These shortcomings were not addressed effectively to ensure users' satisfaction and comfort.

Existing pricing mechanism of OFB and ineffective cost control by the factories are also of grave concern as the factories incurred losses in issue of the products to the indentors every year aggregating ₹226.09 crore during 2008-12.

This Report also brings out inadequacies in top level monitoring to the extent that OFB neither addressed the deficiencies in the operations of these factories in their meetings held during 2008-12 nor did it direct the factory managements to take the corrective actions to ensure the efficient operation of these factories.

Viewed from the perspective of the Services and Paramilitary forces' requirements of GS&C items and competitive market scenario, the Ministry, OFB and the factory management should thoroughly review the present style of their functioning so as to overcome the existing deficiencies/drawbacks. There is an urgent need to take proactive action considering the recommendations made in this Report so that the OEFG can function viably and competently to meet the requirements of the indentors with due regard to quality, quantity and timeliness and also to ensure sustainable supply chain management for defence preparedness.

(Suparna Deb)
Kolkata **Principal Director of Audit**
Dated : **(Ordnance Factories)**

Countersigned

New Delhi **(Shashi Kant Sharma)**
Dated: **Comptroller and Auditor General of India**

Annexure-I

(Referred to in Paragraph 2.1 and 4.1)

Action taken by the Ministry/OFB on earlier audit comments/ recommendations

Issues commented in earlier Report	Paragraph /Report No.	Action taken on the earlier audit comments / recommendations
Over-provisioning of stores	Para 3.2 of Report No.19 of 2007	The following corrective actions have been taken by OFB: (a) Directives given to all the factories for strict adherence of the existing guideline for procurement of stores vide OFB Circular No. 14/4/OPP/MM(P&C) dt. 4-1-2007. (b) New Material Procurement Manual has been issued. (c) If dispensation is required, factory should take OFB's approval as a special case.
Cartelisation of vendors	Para 4.2.2 of Report No.19 of 2007	To eliminate cartel formation, detailed guidelines were formulated in consultation with Central Vigilance Commission by a Special Committee and those conditions were circulated to all factories in July 2007. The tender conditions were, accordingly, modified by incorporating such clauses so that firms are well informed and desist from forming cartel while quoting.
Spill-over of production	Para 8.2.6 of Report No.6 of 2005	All out efforts are being made to match the actual issues from the reported issue figure and accordingly OEF Hqrs has made the action plan to liquidate all the spill-over items of previous years in a time bound manner.
Avoidable overtime payment	Para 8.2.5 of Report No.6 of 2005	The necessity for working beyond normal working hours (OT) arises due to less input man-hour (normally available) than the output man-hour required for meeting the production target given by the indentors.
Wide variation in the cost of production of common items in different factories	Para 8.2.6 of Report No.6 of 2005	The main reason for variation in cost of common items produced by more than one factory was outsourcing by one of the factories. For better cost control, separate estimate for in-house manufacture and fabrication through trade have been made for common items. From time to time, instruction has also been issued to the factories to ensure that material and labour estimates for common items are pegged at minimum.
Underutilisation of machine hours	Para 8.2.5 of Report No.6 of 2005	OFB issued directives to the factories in March 2008 for calculation of capacity utilisation of machines engaged in production shops on the basis of working in two shifts daily.
Fixation of annual production target	Para 3.7.1 of PA Report No. 4 of 2008	OFB regularly reviews the production target vis-a-vis existing capacity of the factories before target fixation meeting and also periodically interacts with the end users with a view to improving capacity utilisation to the maximum extent.

Annexure-II

(Referred to in Paragraph 5.2)

Item-wise target, production, issue and shortfall during 2008-12

Sl. No.	Name of Item	Target	Production	Issue	Shortfall	Percentage of shortfall	Issue Price (₹)	Value of shortfall (₹ in crore)
		(In number)						
		2008-09						
1	Socks Woollen OG	500000	460000	460000	40000	8	43	0.17
2	Trouser Combat Disrupt.	300000	203500	203500	96500	32	904	8.72
3	Trouser Combat ICK	200000	200000	200000	0	0		0
4	Jacket Combat Disrupt	300000	203500	203500	96500	32	837	8.08
5	Jacket Combat ICK	100000	100000	100000	0	0		0
6	Combination Harness	3100	1500	1500	1600	52	1480	0.24
7	Splint Inflatable	577	577	577	0	0		0
8	Tent 2M	10000	10000	10000	0	0		0
9	ECAD Parachute SD 8.5	25000	16921	16921	8079	32	6710	5.42
10	PTA(M)	2100	0	0	2100	100	61060	12.82
11	Mattress Kapok	100000	72693	32135	67865	68	700	4.75
12	Gloves Leather White Line	200000	75000	59493	140507	70	627	8.81
13	Boot High Ankle DVS	500000	400000	143304	356696	71	1395	49.76
14	Heater Space Oil Burning	22000	15000	13698	8302	38	5200	4.32
15	Ground Sheet TPO-OG	86000	35000	8698	77302	90	620	4.79
16	Chagul Universal	200000	200000	188049	11951	6	203	0.24
17	Tent Arctic Medium	3500	3000	2022	1478	42	35470	5.24
18	Cover Water Proof 9.1X 9.1 M	7500	2000	2000	5500	73	12670	6.97
19	Cover Water Proof 5.5X 4.5 M	3300	0	0	3300	100	3442	1.14
20	Cover Water Proof 2.4X 1.8 M	300	0	0	300	100	932	0.03
21	Cover Water Proof 1.7X 1.2 M	1100	0	0	1100	100	447	0.05
22	Cover Water Proof 3.7X 3.0 M	850	0	0	850	100	1761	0.15
23	Bucket Water Canvas without lid	100000	100426	85996	14004	14	194	0.27
24	Bag Kit Universal OG	10000	10000	10000	0	0		0
25	Hat FS Disr. ICK	10000	10000	10000	0	0		0
26	Shell outer Parka	25000	25000	25000	0	0		0
27	Coat Combat ICK	10000	0	0	10000	100	1410	1.41
28	Shirt Angola Drab	200000	200040	200000	0	0		0
29	Trouser Serge BD	450000	440680	440680	9320	2	984	0.92
30	Coat ECC	40000	24498	24498	15502	39	7300	11.32
31	Jersey V neck Woollen OG	150000	150000	150000	0	0		0
32	Durry	205994	125000	125000	80994	39	369	2.99
33	Vest Men FS OG	50000	0	0	50000	100	204	1.02
34	Cap Glacier	20000	15185	15000	5000	25	300	0.15
35	Blanket Barrack	196160	110061	110060	86100	44	548	4.72

Sl. No.	Name of Item	Target	Production	Issue	Shortfall	Percentage of shortfall	Issue Price (₹)	Value of shortfall (₹ in crore)
		(In number)						
36	Tent 4M	20000	24880	21481	0	0		0
37	Gaiter Glacier	20000	20000	20000	0	0		0
38	Jacket Wind cheater	10000	10000	10000	0	0		0
39	Trouser Wind cheater	10000	10000	10000	0	0		0
40	Bag Sleeping	50000	45364	45309	4691	9	2370	1.11
41	Poncho Glacier	23900	23900	23900	0	0		0
42	Bag Waterproof	20000	20000	20000	0	0		0
43	Socks Woollen Khaki	400000	260000	260000	140000	35	69	0.97
44	Fly Outer 4M	6290	6360	3635	2655	42	9500	2.52
45	End Curtain	15130	15130	8640	6490	43	5500	3.57
46	Overall Mazri	5000	750	750	4250	85	603	0.26
47	Shirt PW PC Khaki	25000	25000	25000	0	0		0
48	Trouser PC PW Khaki	10000	10000	10000	0	0		0
49	Boot Paratrooper	12556	0	0	12556	100	900	1.13
50	Net Mosquito	205000	196000	184093	20907	10	560	1.17
51	HAP(M)	50	0	0	50	100	65690	0.33
52	Tank Canvas Water 230 ltr Body	4000	4000	4000	0	0		0
							Total	**155.56**
			2009-10					
1	Socks Woollen OG	800000	500000	500000	300000	38	130	3.90
2	Trouser Combat Disrupt.	300000	376500	376500	0	0		0
3	Trouser Combat ICK	200000	2620	2620	197380	99	820	16.19
4	Jacket Combat Disrupt	300000	376500	376500	0	0		0
5	Jacket Combat ICK	200000	1200	1200	198800	99	915	18.19
6	Combination Harness	3000	3000	3000	0	0		0
7	Splint Inflatable	600	600	600	0	0		0
8	Tent 2M	14112	13112	13112	1000	7	31900	3.19
9	ECAD Parachute SD 8.5	50000	4816	4816	45184	90	7880	35.60
10	PTA(M)	2100	1075	1075	1025	49	72000	7.38
11	Mattress Kapok	125600	85062	85062	40538	32	800	3.24
12	Set Harness web type SDM	50000	47000	47000	3000	6	284	0.09
13	Set Harness web type Strape 4.12	50000	42000	42000	8000	16	120	0.10
14	Boot High Ankle DVS	487444	32500	32500	454944	93	1550	70.52
15	Ground Sheet TPO-OG	48547	95107	95107	0	0		0
16	Chagul Universal	100000	100000	100000	0	0		0
17	Tent Arctic Medium	1000	1500	1500	0	0		0
18	Cover Water Proof 9.1X 9.1 M	5000	700	700	4300	86	12670	5.45
19	Cover Water Proof 5.5X 4.5 M	3300	0	0	3300	100	4200	1.39
20	Cover Water Proof 2.4X 1.8 M	400	0	0	400	100	1310	0.05
21	Cover Water Proof 3.7X 3.0 M	400	0	0	400	100	2890	0.12

Sl. No.	Name of Item	Target	Production	Issue	Shortfall	Percentage of shortfall	Issue Price (₹)	Value of shortfall (₹ in crore)
		(In number)						
22	Tank fab. Collap. 6140 lt.	250	250	250	0	0		0
23	Bucket Water Canvas without lid	24000	4000	4000	20000	83	300	0.60
24	Bag Kit Universal OG	50000	35080	35080	14920	30	185	0.28
25	Cap/Hat FS Disr. ICK	170000	0	0	170000	100	220	3.74
26	Coat Combat ICK	75000	0	0	75000	100	1660	12.45
27	Shirt Angola Drab	200000	150000	150000	50000	25	665	3.33
28	Trouser Serge BD	50000	10000	10000	40000	80	1120	4.48
29	Coat ECC	69000	236	236	68764	99.65	8000	55.01
30	Jersey V neck Woollen OG	250000	21100	21100	228900	92	570	13.05
31	Durry	100000	0	0	100000	100	435	4.35
32	Vest Men FS OG	50000	11550	11550	38450	77	240	0.92
33	Cap Glacier	15000	6298	6298	8702	58	350	0.30
34	Blanket Barrack	326160	180000	180000	146160	45	750	10.96
35	Tent 4M	18889	14789	14789	4100	22	42500	17.43
36	Gaiter Glacier	10000	10000	10000	0	0		0
37	Jacket Wind cheater	5000	5000	5000	0	0		0
38	Trouser Wind cheater	5000	5000	5000	0	0		**0**
39	Bag Sleeping	50000	50000	50000	0	0		0
40	Poncho Glacier	10000	2000	2000	8000	80	1800	1.44
41	Bag Waterproof	10000	10000	10000	0	0		0
42	Socks Woollen Khaki	400000	440000	440000	0	0		0
43	Fly Outer 4M	34689	818	818	33871	98	10500	35.56
44	End Curtain	41568	0	0	41568	100	6200	25.77
45	Liner Inner 4M	18624	12744	12744	5880	32	5375	3.16
46	Lt.Wt.Belt waist	100000	100000	100000	0	0		0
47	Net Mosquito	205000	30000	30000	175000	85	560	9.80
48	Boot Paratrooper	12556	9010	9010	3546	28	900	0.32
49	Shirt PW PV DD OG	400000	110000	110000	290000	73	510	14.79
50	Trouser PW PV DD OG	1750000	643750	643750	1106250	63	580	64.16
51	PTA(R)	565	415	415	150	27	38500	0.58
52	HAP (M)	50	48	48	2	4	65690	0.01
							Total	**447.90**
				2010-11				
1	Socks Woollen OG	1000000	1000000	1000000	0	0		0
2	Trouser Combat ICK	500000	467500	467500	32500	7	1370	4.45
3	Jacket Combat ICK	500000	468000	468000	32000	6	1150	3.68
4	Combination Harness	5000	0	0	5000	100	1600	0.80
5	Splint Inflatable	904	904	904	0	0		0
6	Tent 2M	4700	1000	1000	37000	79	33500	12.40
7	ECAD Parachute SD 8.5	65000	23800	23800	41200	63	8300	34.20
8	PTA(M)	500	514	514	0	0		0

Sl. No.	Name of Item	Target	Production	Issue	Shortfall	Percentage of shortfall	Issue Price (₹)	Value of shortfall (₹ in crore)
		(In number)						
9	PTA(R)	150	100	100	50	33	44200	0.22
10	Mattress Kapok	70000	0	0	70000	100	976	6.83
11	Boot High Ankle DVS	300000	200292	200292	99708	33	2015	20.09
12	Set Harness web type SDM	50000	27000	27000	23000	46	373	0.86
13	Set Harness web type strape 4.12M	40000	25000	25000	15000	38	155	0.23
14	Tent Arctic Large	80	47	47	33	41	176700	0.58
15	Tent Arctic Medium	1500	1500	1500	0	0		0
16	Cover Water Proof 9.1X 9.1 M	6473	5450	5450	1023	16	15300	1.57
17	Cover Water Proof 5.5X 4.5 M	2700	2700	2700	0	0		0
18	Cover Water Proof 2.4X 1.8 M	1150	0	0	1150	100	1310	0.15
19	Cover Water Proof 1.7X 1.2 M	3810	0	0	3810	100	593	0.23
20	Cover Water Proof 3.7X 3.0 M	731	731	731	0	0		0
21	Cover Water Proof 7.3X 5.5 M	3100	0	0	3100	100	7500	2.33
22	Bucket Water Canvas without lid	50000	0	0	50000	100	300	1.50
23	Bag Kit Universal OG	300000	265567	265567	34433	11	200	0.69
24	Cap/Hat FS Disr. ICK	100000	10000	10000	90000	90	310	2.79
25	Coat Combat ICK	50000	2000	2000	48000	96	4100	19.68
26	Shirt Angola Drab	160000	152886	152821	7179	4	730	0.52
27	Trouser Serge BD	100000	75587	75000	25000	25	1180	2.95
28	Coat ECC	50000	25539	25000	25000	50	8400	21.00
29	Jersey V neck Woollen OG	200000	205000	205000	0	0		0
30	Durry	50000	10443	10443	39557	79	780	3.09
31	Vest Men FS OG	200000	125000	125000	75000	38	270	2.03
32	Cap Glacier	30000	1087	1050	28950	97	403	1.17
33	Blanket Barrack	350000	260397	260000	90000	26	865	7.79
34	Tent 4M	18800	18800	18800	0	0		0
35	Gaiter Glacier	27220	27220	27220	0	0		0
36	Jacket Wind cheater	27000	600	600	26400	98	1270	3.35
37	Trouser Wind cheater	29000	600	600	28400	98	830	2.36
38	Bag Sleeping	100000	105000	105000	0	0		0
39	Poncho Glacier	27000	19000	19000	8000	30	1800	1.44
40	Bag Waterproof	5000	5000	5000	0	0		0
41	Socks Woollen Khaki	250000	120000	120000	130000	52	124	1.61
42	Fly Outer 4M	18000	10623	10623	7377	41	11000	8.11
43	End Curtain	20000	10016	10016	9984	50	6470	6.46
44	Pouch Ammn. ICK	30000	30000	30000	0	0		0
45	Shirt PW PV DD OG	500000	470003	470000	30000	6	608	1.82
46	Trouser PW PV DD OG	1300000	1350503	1350030	0	0		0

Sl. No.	Name of Item	Target	Production	Issue	Shortfall	Percentage of shortfall	Issue Price (₹)	Value of shortfall (₹ in crore)
		(In number)						
47	Net Mosquito	205000	99300	99300	105700	52	560	5.92
48	Tank fab. Collap. 6140 lt.	300	300	300	0	0		0
49	Liner Inner 2M	900	900	900	0	0		0
50	Liner Inner 4M	6400	5485	5485	915	14	5630	0.52
51	Fly Outer 2M	1540	1540	1540	0	0		0
52	Tank Canvas 230 ltr. Body	2500	2500	2500	0	0		0
						Total		**183.42**
2011-12								
1	Socks Woollen OG	1200000	1200000	1200000	0	0	137	0
2	Trouser Combat ICK	550000	538500	535400	14600	3	1493	2.18
3	Jacket Combat ICK	550000	538500	535400	14600	3	1254	1.83
4	Combination Harness	8000	2556	2556	5444	68	1600	0.87
5	Splint Inflatable	400	350	350	50	13	3100	0.02
6	Tent 2M	8300	2550	2550	5750	69	35845	20.61
7	ECAD Parachute SD 8.5	30000	28400	28254	1746	6	9047	1.58
8	PTA(M)	645	450	450	195	30	84334	1.64
9	PTA(R)	1000	386	386	614	61	48241	2.96
10	Mattress Kapok	100000	56000	56000	44000	44	1064	4.68
11	Boot High Ankle DVS	400000	217078	217078	182922	46	2200	40.24
12	Set Harness web type SDM	40000	35000	35000	5000	13	407	0.20
13	Set Harness web type strape 4.12M	50000	40000	40000	10000	20	166	0.17
14	Tent Arctic Large	130	130	130	0	0		0
15	Tent Arctic Medium	2000	2000	2000	0	0		0
16	Bag carrying rescue	3500	0	0	3500	100	7358	2.58
17	Cover Water Proof 9.1X9.1 M	14000	1950	1950	12050	86	20543	24.75
18	Cover Water Proof 5.5X4.5 M	4000	0	0	4000	100	4548	1.82
19	Chagul Universal	50000	50000	50000	0	0		0
20	Overall Winter	927	0	0	927	100	4120	0.38
21	Cover Water Proof 7.3X5.5 M	2200	0	0	2200	100	8250	1.82
22	Bucket Water Canvas without lid	100000	100000	100000	0	0		0
23	Bag Kit Universal OG	180000	214433	214433	0	0		0
24	Cap/Hat FS Disr. ICK	350000	50480	50480	299520	86	326	9.76
25	Coat Combat ICK	115000	93183	93183	21817	19	4305	9.39
26	Shirt Angola Drab	350000	315170	315170	34830	10	796	2.77
27	Trouser Serge BD	400000	145305	145305	254695	64	1270	32.35
28	Coat ECC	80000	27000	27000	53000	66	8500	45.05
29	Jersey V neck Woollen OG	250000	201507	201507	48493	19	1200	5.82
30	Durry	50000	0	0	50000	100		0
31	Vest Men FS OG	250000	140432	140432	109568	44	294	3.22
32	Cap Glacier	57000	21628	21628	35372	62	431	1.52

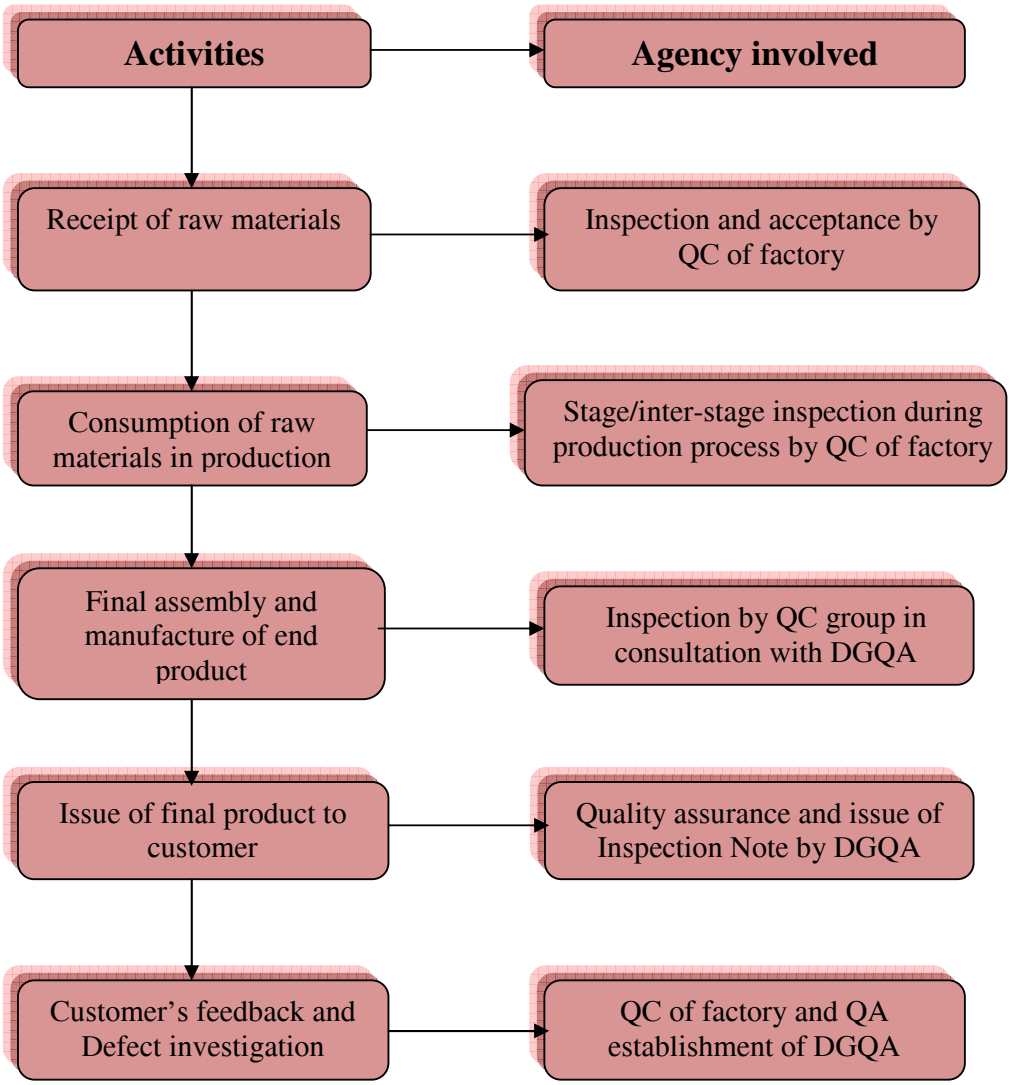
Sl. No.	Name of Item	Target	Production	Issue	Shortfall	Percentage of shortfall	Issue Price (₹)	Value of shortfall (₹ in crore)
		(In number)						
33	Blanket Barrack	300000	256348	256348	43652	15	943	4.12
34	Tent 4M	17100	2971	2971	14129	83	50290	71.05
35	Gaiter Glacier	100000	95000	95000	5000	5	551	0.28
36	Jacket Wind cheater	54000	18200	18200	35800	66	1334	4.78
37	Trouser Wind cheater	49000	18400	18400	30600	62	872	2.67
38	Bag Sleeping	140000	121000	121000	19000	14	3771	7.16
39	Poncho Glacier	35000	23000	23000	12000	34	1890	2.27
40	Bag Waterproof	27000	10172	10172	16828	62	257	0.43
41	Socks Woollen Khaki	450000	450000	450000	0	0		0
42	Fly Outer 4M	9000	20298	20125	0	0		0
43	End Curtain	34700	2050	2050	32650	94	7684	25.09
44	Pouch Ammn. ICK	40000	42000	42000	0	0		0
45	Shirt PW PV DD OG	500000	457534	457534	42466	8	663	2.82
46	Trouser PW PV DD OG	500000	474474	474474	25526	5	774	1.98
47	Net Mosquito	390000	162669	162669	227331	58	610	13.86
48	Tank fab. Collap. 6140 lt. body	700	390	390	310	44	23160	0.72
49	Liner Inner 2M	1550	1550	1550	0	0		0
50	Liner Inner 4M	8200	2365	2255	5945	73	6200	3.69
51	Fly Outer 2M	2000	3625	3625	0	0		0
52	Tank Canvas 230 ltr. Body	7000	4500	4500	2500	36	4465	1.12
						Total		**360.25**
						Grand Total		**1147.13**

Source : (i)Minutes of final target fixation meeting between OEF Group HQ Kanpur and DGOS New Delhi.
(ii) Monthly Achievement Reports of Principal items (Army) for March 2009, 2010, 2011 and 2012 prepared by OEF Group HQ Kanpur.

Remarks: Target was fixed by OEF Group HQ, Kanpur in respect of items at sl.no. 44 to 49 for 2008-09 and at sl.no. 8 and 35 for 2009-10 for which no target was given by DGOS in the target fixation meeting.

Annexure – III
(Referred to in Paragraph 7.1)

Flow chart of activities relating to Quality Management in ordnance factories



NOTE
QC – Quality Control
QA – Quality Assurance

Annexure-IV
(Referred to in Paragraph 7.6)

Details of consignee-end rejections

Brief of the cases	Audit comments
OPF	
After development of CFF parachute by ADRDE in 2006, Army placed (October 2008) an order for 700 parachutes on OFB. 40 CFF systems were to be produced for validation by April 2009 before according bulk production clearance (BPC). However, OPF despatched 42 parachutes valuing ₹4.10 crore to Army Aviation Training School Agra (AATS) in February-March 2010. The parachutes were also checked and cleared in inspection by DGQA and ADRDE before issue to the user for validation trials. However, Director General Infantry pointed out in July 2010 that the parachutes had numerous life threatening defects like tearing of canopies, material cracks in connector links, explosion of oxygen bottle, etc. and requested OFB to take action against the vendors / individuals involved in manufacturing the defective components of the parachutes as the issue was related to the operational preparedness of strategic elements of the Army. The Ministry stated (May 2012) that the initial development problems had been sorted out and bulk production clearance given.	The life threatening defects observed by the users indicated inefficient and ineffective quality control by the factory as well as failure in quality assurance inspection by SQAE(GS). Besides, delayed production and users' trials had adversely affected the operational preparedness of the Army.
OPF Kanpur dispatched 25 sets of CFF Parachutes to Army Airborne Training School (AATS) Agra in December 2008 against Army's order of August 2007 for gift-issue to Mongolia. AATS intimated (March 2009) OPF that 25 sets were inspected by ADRDE and failed in their fitness/worthiness test. Hence, the parachutes were back-loaded to OPF Kanpur for rectification and after rectification; the same were again dispatched to AATS, Agra in January 2010.Army further requested OPF in January 2011 to forward the necessary certificate specifying the parachutes were fit to be used for combat free-fall in all respects. OPF Management, however, responded that the parachutes had been inspected by SQAO, SQAE (GS) and the inspection notes were issued by them. The factory management stated in February 2011 that the system was fit in all respect as per specification.	Due to non-submission of necessary certificate by OPF, 25 sets CFF parachute (₹1.94 crore) were yet to be issued to Mongolia as of July 2012.
OEFH	
COD Kanpur raised a Defect Report in September 2008 in respect of Tent 4M, manufactured by OEF, Hazratpur in 2008-09. The physical examination and tests of the textile components by CQA (T&C) revealed (December 2008) that the variation in respect of dimensions, workmanship and finish, water-proofing and chlorite test were significant which might affect the serviceability and durability of the textile components of the tents during end use. Further, CQA (GS), Kanpur after testing of the defective samples of the metal components observed (January 2009) that the samples did not meet the specification requirement. Hence, CQA (T&C), in January 2009, recommended for replacement of the defective tents. Accordingly, COD Kanpur requested the factory in April 2009 to replace 500 defective tents valuing ₹1.86 crore which were declared unserviceable by CQA (T&C). However, OEFH replaced only the textile components in November 2009 followed by issue of the tents to the units by COD Kanpur. Thus, issue of the substandard tents without replacing defective metal components indicates poor quality control of the factory apart from compromising quality on the part of COD Kanpur. The Ministry stated (May 2012) that textile portions were replaced but metal components were not found unserviceable and by and large, acceptable to COD Kanpur.	The reply is not tenable as non-replacement of metal components by OEFH despite being declared defective by CQA(GS) Kanpur and subsequent acceptance of such tents only confirmed that the quality was compromised by both OEFH and COD Kanpur.

Brief of the cases	Audit comments
OEFC	
OEFC issued 74 Tents 4M to COD Kanpur during March 2008. During surveillance/ audit check of sample stores by CQA (T&C), the sample lot was recommended (May 2008) for rejection due to non-conformance to the specifications related to BWR[20] and Cone test. CQA (T&C) further requested (June 2008) COD Kanpur to freeze the consignment worth ₹27.59 lakh and not to issue the same to the users. The factory admitted in March 2009 that there was major deviation implying poor quality of base fabric resulting in leakage of water, waiting of inner surface of the tents and cracking/leakage of the fabric at the folds. The Ministry stated in May 2012 that the tents were accepted by COD Kanpur and no loss occurred.	The reply is not acceptable because COD issued the defective tents to the indenting units in violation of CQA (T&C)'s instruction to freeze the consignment.
OCFS	
OCFS manufactured blanket for issue to Army based on the specifications by CQA(T&C) which was subjected to change from time to time. During October 2008 it was revealed that OCFS was holding 40,000 defective blankets (manufactured during 2005-09) valuing ₹2.35 crore. Subsequently, 1872 blankets were issued to various factories for their use. Hence, 38,128 blankets worth ₹2.24 crore were still awaiting disposal by the factory. The Ministry stated in May 2012 that accumulation of rejected blankets was due to frequent changes of the acceptable limits of texture of yarn without changing the acceptable norms of ready blanket. It added that the UAR of 1 *per cent* provided in the estimate had not been changed to 5 *per cent* as demanded by the production shop.	The contention is not tenable as the factory supplied 10,28,840 blankets during 2005-08. Of which, only 40,000 (*3.89 per cent*) were rejected due to variation in weight. This indicates that the problem was not in the specification but in defective production and poor quality control which cannot be resolved by increasing the UAR percentage. The reply is silent about the corrective measures to improve the production efficiency and quality control mechanism.
Common item in OPF, OCFS and OEFH	
Against 6.20 lakh Coat Combat ICK received by the Army, 1.85 lakh Coats were rejected till March 2007 due to tight upper arm (when closed) and overextending sleeves when worn with the inner and lying as defective stock in different Command Offices of Army and Depots. OEF HQ intimated DGOS (June 2008) that bulk repairing was not possible by them and requested for placing repairing order if at all any repair was to be done. However, shelf/piece life of major portion of Coat ICK had already expired. Subsequently, 14,909 Coats were declared 'repaired' and 'under repair' by COD Kanpur as of March 2011. Neither any indent nor any communication for repair of balance quantity of 1.70 lakh rejected coats valuing ₹22.48 crore was received from DGOS/COD Kanpur so far and consequently they were still lying with the Army as of July 2012.	Failure in quality control and quality assurance led to rejection of the coats at users' end. Further, lack of proactive action of the factories for repair of the rejected coats resulted in expiry of its shelf life.

[20] Burdman's Water Repellency Test

Annexure-V
(Referred to in Paragraph 7.7)

Factory-wise customers' complaints

Factory	Items rejected (Consignee)	Nature of main defects (Period)	Remarks
OEFC	Boot High ankle (Army)	Less hardness and less percentage of polymer content in sole. (September 2009)	Fresh stores issued
	Bag Kit Universal (Air Force)	Different shades of cloth, cut-marks, improper stitch, formation of fungus. (May 2008 to September 2009)	Fresh items issued/to be issued
	Shoe Black Leather DMS(Air Force)	Infected with fungus. (November 2008 to July 2009)	Fresh stores issued
	Ballistic Tail Unit (Air Force)	Corrosion dents and cracks on tail unit. (August 2009)	Rectification to be done
	Belt Waist White Web (Air Force)	Weaving defects, short in length, improper nickel coating. (June and August 2009)	Replacement to be made
	Boot Ankle DMS (Air Force)	Defective (1430 no.) (2011-12)	Defective stores rectified and complaint settled
OPF	Shirt PV LB HS & PC HS (Air Force)	Stain mark, weaving defects, improper alignment/different size of pockets, shade variation (January 2009 to September 2010)	Replacement made
	Trouser PV BG/PC BG (Air Force)	Moisture content, formation of fungus (September 2009 to October 2010)	Replacement made
	Socks woollen black (Air Force)	Shade variation (850 pairs) (2011-12)	Replacement made
OCFS	Blanket Blue (Air Force)	Stain mark, weaving defects, wool not spread equally (January to March 2010)	Partly replaced
		Weight difference (637 No.) (2011-12)	Board of Enquiry constituted
	Blanket Barrack (Army)	Not mentioned (November 2010)	Under investigation
	Shell outer Parka (Air Force)	Poor workmanship and cloth material (October 2010)	Rectification/ replacement awaited
	Jersey men woollen (Army)	Poor workmanship and finish (September 2010)	Under investigation
	Trousers Serge PW & PW PV OG(Army)	Poor workmanship and finish (August 2010)	Rectification/ replacement awaited
	Shirt men angola Drab (Army)	Poor workmanship and finish (July 2010)	Rectification/ replacement awaited
OCFA	Trouser PV DD OG (Army)	Inferior stitching, poor finish, improper pressing (May-June 2010)	Replacement made.
	Improved combat uniform (Army)	Fading of colour, uncomfortable during summer (February 2010)	Investigation awaited
	ECAD Parachute (Army)	Wet and poor condition of stores (November 2008)	Replacement made
	Shirt Angola Drab (Army)	Wet and damaged condition. (December 2008)	Replacement made
	Trouser & Jacket combat disruptive (Army)	Quantity found deficient. (September 2010)	Result of enquiry awaited

Factory	Items rejected (Consignee)	Nature of main defects (Period)	Remarks
OEFH	Main Suspension Strap	Premature failure of arrester barrier, breaking of steel wire rope inside strap (September 2009)	Complaint partly settled
	TEFS 4M and 2M	Deficiency in tentage consignment, tents received without wooden crates (November/December 2010)	Complaint not yet settled
	MENA-30/40 ft.	Packing found infected by rodent, termite and fungus (January/December 2010)	Complaint partly settled
	Jacket combat disruptive	Defective (11370 No.) (2011-12)	Complaint not yet settled
	Trouser combat disruptive	Defective (25514 No.) (2011-12)	Complaint partly settled

Annexure-VI

(Referred to in Paragraph 8.1.1)

Item-wise analysis of estimated cost, actual cost and issue price

Year	Item	Estimated cost (EC) (₹)	Actual cost (AC) (₹)	Issue price (IP) (₹)	Percentage of variation between EC and AC	Percentage of variation between EC and IP	Percentage of variation between AC and IP
Factory : OEF, Kanpur							
2008-09	Bag Sleeping	2723.06	2824.44	2370	3.72	12.97	16.09
	Boot Ankle Leather DVS	720.31	725.31	651	0.69	9.62	10.25
	Bag Carrying Rescue	6862.96	6779.27	5660	-1.22	17.53	16.51
	Screen Latrin	1341.51	1406.52	1180	4.85	12.04	16.1
	Coller Head Pass Large	1290.26	1332.06	921	3.24	28.62	30.86
	Straps Supporting Pack	36.05	34.48	24	-4.36	33.43	30.39
2009-10	Mattress Kapok	878.86	909.68	800	3.51	8.97	12.06
	Bag Sleeping Medium	3676.77	3586.92	3200	-2.44	12.97	10.79
	Boot High Ankle DVS	1935.49	1911.75	1550	-1.23	19.92	18.92
	Heater Space Oil Burning	5869.53	5866.4	5200	-0.05	11.41	11.36
	Screen Latrin MK-III	6061.26	5810.48	4900	-4.14	19.16	15.67
	Ground Sheet TPO	714.23	732.37	620	2.54	13.19	15.34
	Tank Fabricated 6140 ltr	23821.73	24048.07	18490	0.95	22.38	23.11
	Lt.Wt. Belt Waist	117.54	115.19	60	-2	48.95	47.91
	Lining Felt Brown	218.53	232.7	170	6.48	22.21	26.94
	Anklet Webbing	259.3	253.7	155	-2.16	40.22	38.9
2010-11	Bag Sleeping Medium	4251.26	4267.54	3460	0.38	18.61	18.92
	Tape Tracing	3981.94	4115.87	3700	3.36	7.08	10.1
	Bag Sleeping Large	4548.47	4311.38	3460	-5.21	23.93	19.75
	Boot High Ankle DVS	2634.38	2826.36	2015	7.29	23.51	28.71
	Mattress Kapok	1272.8	1256.47	976	-1.28	23.32	22.32
	Bag Kit Universal OG	288.65	290.32	200	0.58	30.71	31.11
	Strap Girth PGS-1	246.03	260.87	205	6.03	16.68	21.42
	Crupper PGS	795.22	784.35	666	-1.37	16.25	15.09
	Tank Canvas Water - 230 L	4440.86	4595.33	4000	3.48	9.93	12.96
	Boot Ankle DVS	1491.7	1537.28	1300	3.06	12.85	15.44
	Belt Waist Synthetic Black	321.99	348.4	250	8.2	22.36	28.24
2011-12	Bag Sleeping Large	5182.75	5247.30	3771	1.25	27.24	28.13
	Tent Arctic Medium	66972.67	63525.79	56175	-5.15	16.12	11.57
	Fly outer 4M	14062.10	13911.97	11990	-1.07	14.74	13.82
	Tank Canvas Water - 230 L	5247.00	5252.85	4465	0.11	14.90	15.00
	Screen Latrin MK-III	9221.19	9056.65	8645	-1.78	6.25	4.55
	Mattress Kapok	1438.72	1397.20	1368	-2.89	4.92	2.09
	Roll Bedding	1351.14	1280.74	1058	-5.21	21.70	17.39

Year	Item	Estimated cost (EC) (₹)	Actual cost (AC) (₹)	Issue price (IP) (₹)	Percentage of variation between EC and AC	Percentage of variation between EC and IP	Percentage of variation between AC and IP
Factory : OPF, Kanpur							
2008-09	Tent Extn. 4M	30788.24	31204.32	27080	1.35	12.04	13.22
	ECAD Parachute 8.5m	7372.84	7329.94	6710	-0.58	8.99	8.46
	Trouser Dis. Jungle	1192.88	1134.37	904	-4.9	24.22	20.31
	Jacket CD Jungle	965.86	956.98	837	-0.92	13.34	12.54
	Trouser PV OG	645.08	655.19	580	1.57	10.09	11.48
	Trouser PV BG	948.31	903.16	760	-4.76	19.86	15.85
	Coat CD	2005.06	1864.42	1410	-7.01	29.68	24.37
	Stit Shirt PV SBS	563.42	518.57	415	-7.96	26.34	19.97
	Brake Parachute SU 30	100598.48	104394.39	94650	3.77	5.91	9.33
	Brake Parachute MIG 23	29681.25	30246.61	24730	1.9	16.68	18.24
	Parachute PTA M	71211.15	74753.82	61060	4.97	14.26	18.32
	Parachute PTA R	41692.03	45269.21	32310	8.58	22.5	28.63
2009-10	Para Tactical Assault	45196.15	44965.51	38500	-0.51	14.82	14.38
	Trouser PV BG	1073.63	1006.35	905	-6.27	15.71	10.07
	Stit Shirt PV SBS	640.31	589.62	500	-7.92	21.91	15.2
	Coat CD	2104.69	2306.87	1660	9.61	21.13	28.04
	Brake Parachute MIG 21	26209.6	24850.76	23410	-5.18	10.68	5.8
2010-11	PTA -M	84333.61	91036.96	77870	7.95	7.66	14.46
	Parachute Tactical Assault	48241.16	52935.98	44200	9.73	8.38	16.5
	Stit Shirt PV SBS	693.28	609.8	550	-12.04	20.67	9.81
	Brake Parachute MIG	26550.9	27498.53	24500	3.57	7.72	10.9
	Brake Parachute MIG 23	35154.23	32129.86	31900	-8.6	9.26	0.72
2011-12	Jacket CD Army Logo	1371.40	1352.72	1231	-1.36	10.24	9.00
	Tent 2M	39786.98	36604.58	35845	-8.00	9.91	2.08
	PTA -M	97046.00	90738.81	84334	-6.50	13.10	7.06
	Parachute PTA R	56936.56	51766.42	48241	-9.08	15.27	6.81
	Brake Parachute MIG-29	57141.09	51526.95	50085	-9.83	12.35	2.80
	Brake Parachute SU 30	129802.83	127563.19	116255	-1.73	10.44	8.86
Factory : OCF, Shahjahanpur							
2008-09	Blanket Barrack NG	793.97	864.32	548	8.86	30.98	36.6
	Jersey Woollen V Neck OG	572.95	606.59	458	5.87	20.06	24.5
	Shell Outer Parka	2248.42	2297.84	1570	2.2	30.17	31.67
	Durry	501.87	538.72	369	7.34	26.47	31.5
	Shirt Man AD	611.77	622.11	554	1.69	9.44	10.95
	Blanket Blue	1707.56	1536.2	1220	-10.04	28.55	20.58
	Coat CD	1951.46	1807.01	1410	-7.4	27.75	21.97
	Parka Man	3460.58	3177.39	2718	-8.18	21.46	14.46
	Suit Terry Wool BG	3842.74	3530.64	2880	-8.12	25.05	18.43

Year	Item	Estimated cost (EC) (₹)	Actual cost (AC) (₹)	Issue price (IP) (₹)	Percentage of variation between EC and AC	Percentage of variation between EC and IP	Percentage of variation between AC and IP
2009-10	Shirt PV DD OG	728.12	807.87	625	10.95	14.16	22.64
	Blanket Barrack NG	1010.69	1090.87	750	7.93	25.79	31.25
	Shirt Man AD PW	797.85	849.69	665	6.5	16.65	21.74
	Shirt PW PV DD OG	636.98	726.9	560	14.12	12.09	22.96
	Coat CD	2280.76	3203.51	1660	40.46	27.22	48.18
	Parka Man	4210.56	5885.18	3620	39.77	14.03	38.49
	Suit Terry Wool BG	4407.68	6149.45	3700	39.52	16.06	39.83
	Cap FS BG	400.85	548.05	332	36.72	17.18	39.42
	Shirt Man AD PW (Air Force)	800.38	1128.48	665	40.99	16.91	41.07
2010-11	Shirt PV DD OG	765.9	817.14	724	6.69	5.47	11.4
	Blanket Barrack NG	952.75	1034.38	865	8.57	9.21	16.38
	Jersey Woollen V Neck OG	1371.69	1425.65	1100	3.93	19.81	22.84
	Shirt PW PV DD OG	669.98	708.61	608	5.77	9.25	14.2
	Blanket Air Force Blue	2019.65	2116.83	1650	4.81	18.3	22.05
	Suit Terry Wool BG	4898.47	4850.41	4000	-0.98	18.34	17.53
	Cap FS BG	435.1	422.46	360	-2.91	17.26	14.78
	Jersey Woollen DARK BG	1275.39	1340	1030	5.07	19.24	23.13
2011-12	Coat CD	5343.61	4818.96	4305	-9.82	19.44	10.67
	Blanket Barrack NG	1184.44	1152.05	943	-2.73	20.38	18.15
	Jersey Woollen V Neck OG	1630.64	1587.32	1200	-2.66	26.41	24.40
	Shirt PV DD OG	856.30	838.45	663	-2.08	22.57	20.93
	Suit Terry Wool BG	6026.41	4381.62	4360	-27.29	27.65	0.49
	Blanket Air Force Blue	2456.35	2258.25	1799	-8.06	26.76	20.34
Factory : OCF Avadi							
2008-09	250 GSM FA & D & VD	1172.29	1083.63	904	-7.56	22.89	16.58
	Jacket CD	1025.98	961.71	837	-6.26	18.42	12.97
	Shirt Man Angola PW	687.36	694.69	586	1.07	14.75	15.65
	SD Parachute	7533.67	7415.85	6710	-1.56	10.93	9.52
	Overall Deep Brown	1397.16	1416.55	1156	1.39	17.26	18.39
	Shirt PV LB FS	634.32	696.32	462	9.77	27.17	33.65
	Overall Drill Khaki	966.61	1003.94	771	3.86	20.24	23.2
	Trouser PW PC Khaki	717.99	772	517	7.52	27.99	33.03
	Shirt PV LG	599.6	664.31	459	10.79	23.45	30.91
	Overall Greenish Khaki	1184.15	1192.93	982	0.74	17.07	17.68
	Shorts Disposable	191.34	190.54	89	-0.42	53.49	53.29
2009-10	250 GSM FA & D & VD	1408.45	1485.7	1300	5.48	7.7	12.5
	Jacket CD	1153.31	1217.58	1100	5.57	4.62	9.66
	Shirt Man Angola PW	784.27	853.07	665	8.77	15.21	22.05
	SD Parachute	8627.52	8338.48	7880	-3.35	8.66	5.5

Year	Item	Estimated cost (EC) (₹)	Actual cost (AC) (₹)	Issue price (IP) (₹)	Percentage of variation between EC and AC	Percentage of variation between EC and IP	Percentage of variation between AC and IP
	Overall DB	1597.23	1545.95	1390	-3.21	12.97	10.09
	Shirt PV LB FS	716.37	692.3	591	-3.36	17.5	14.63
	Shirt PV LG	714.04	691.62	596	-3.14	16.53	13.83
2010-11	Shirt Man Angola PW	793.59	801.44	730	0.99	8.01	8.91
	Shirt PW Poly	669.83	666.27	608	-0.53	9.23	8.75
	Overall Deep Brown	1530.04	1647.57	1460	7.68	4.58	11.38
2011-12	Trouser CD	1810.26	1728.95	1466	-4.49	19.02	15.21
	Jacket CD	1549.94	1418.79	1231	-8.46	20.58	13.24
	Trouser PW PV Khaki	992.99	877.12	774	-11.67	22.05	11.76
	Shirt Man Angola PW	991.57	1026.84	796	3.56	19.72	22.48
	SD Parachute	9192.45	10899.06	9047	18.57	1.58	16.99
	Overall Deep Brown	1907.58	1817.73	1591	-4.71	16.60	12.47

Source : Annual Accounts, Vol.II of O.F.Organisation for 2008-09, 2009-10, 2010-11 and 2011-12.

Annexure-VII

(Referred to in Paragraph 8.3)

Extra expenditure due to cost variation for common items in two factories

Year	Item	Factory	Cost of Production (₹)	Difference (₹)	Quantity manufactured (No)	Extra Expenditure due to higher cost (₹)
2008-09	ECAD Parachute SD 8.5M	OEFH	6295.78		1854	
		OCFA	7415.85	1120.07	8600	9632602
	Tent 4M	OEFC	23403.66		2300	
		OPF	31204.32	7800.66	5000	39003300
2009-10	Tent 2M	OEFC	25360.96		3000	
		OPF	29539.66	4178.7	9000	37608300
	Tent 4M	OEFH	6119.9		1671	
		OEFC	33684.95	27565.05	5361	147776233
	ECAD Parachute SD 8.5M	OCFA	8338.48		1723	
		OEFH	16608.25	8269.77	2073	17143233
	Trouser Combat Disruptive	OEFH	891.8		95120	
		OCFA	1485.7	593.9	276500	164213350
	Jacket Combat Disruptive	OEFH	677.91		95120	
		OCFA	1217.58	539.67	276500	149218755
2010-11	Tent 4M	OEFC	38208.97		6732	
		OEFH	40360.85	2151.88	1029	2214285
	Trouser PV DD OG	OEFH	344.5		100000	
		OCFS	817.14	472.64	421188	199070296
	Trouser Combat Disruptive	OCFA	1427.52		291000	
		OEFH	1592.15	164.63	100000	16463000
	ECAD Parachute SD 8.5M	OEFH	7522.88		5000	
		OCFA	8624.8	1101.92	4800	5289216
	Fly Outer 4M	OCFA	6457.57		2424	
		OEFC	11983.91	5526.34	2318	12810056
2011-12	Jacket Combat	OCFA	699.90		125000	
		OEFH	1418.79	718.89	289829	208355170
	Fly outer of Tent 4M	OEFH	7810.11		5489	
		OEFC	13911.97	6101.86	7272	44372726
	Net Mosquito	OEFC	376.96		16000	
		OCFS	564.75	187.79	300	56337
	Bag Kit universal	OEFH	264.09		6000	
		OEFC	1182.39	918.30	1600	1469280
					Total	**1054696139**

Source : Data compiled from Annual Accounts of Ordnance Factories

Appendix-I

Abbreviations

A

AATS	:	Army Aviation Training School
Addl.DGOS(CN&A)	:	Additional Director General Ordnance Services (Clothing, Necessary and Administration)
ADRDE	:	Aerial Delivery Research Development Establishment
AHSP	:	Authority Holding Sealed Particulars
AMC	:	Annual Maintenance Contract
APR	:	Annual Provision Review
ATN	:	Action Taken Note

B

BPC	:	Bulk Production Clearance

C

CAD/CAM	:	Computer Aided Design/ Computer Aided Manufacture
CFA	:	Controller of Finance and Accounts
CFF	:	Combat Free Fall
CGDA	:	Controller General of Defence Accounts
CN&A	:	Clothing, Necessary & Administration
CNC	:	Computerised Numerically Controlled
COD	:	Central Ordnance Depot
CQA (TC)	:	Controllerate of Quality Assurance (Textile and Clothing)
CQA(GS)	:	Controllerate of Quality Assurance (General Stores)
CRPF	:	Central Reserve Police Force
CST	:	Comparative Statement of Tenders
CVC	:	Central Vigilance Commission

D

DBG	:	Dark Blue-Grey
DDGOS(GS&C)	:	Deputy Director General Ordnance Services (General Stores & Clothing)
DGOF	:	Director General Ordnance Factories
DGOS	:	Director General Ordnance Services
DGQA	:	Director General Quality Assurance
DGS&D	:	Directorate General of Supplies and Disposals
DPM	:	Defence Procurement Manual
DVS	:	Direct Vulcanised Shoes

E

ECAD		Emergency Cargo Aerial Delivery
ECC	:	Extreme Cold Condition

F

FS	:	Full Sleeve

G

GFR	:	General Financial Rules

H

HAP	:	High Altitude Parachute

I

ICK	:	Infantry Combat Kit
IE	:	Industrial Employee
IFD	:	Inter-Factory Demand

L

LAO	:	Local Accounts Office
LPR	:	Last Purchase Rate
LTE	:	Limited Tender Enquiry

M

MCO	:	Material Control Office
MENA	:	Multiple Element Net Assembly
MHA	:	Ministry of Home Affairs
MMPM	:	Material Management and Procurement Manual

N

NABL	:	National Accreditation Board for Testing and Calibration Laboratories.

O

OCFA	:	Ordnance Clothing Factory Avadi
OCFS	:	Ordnance Clothing Factory Shahjahanpur
OE	:	Ordnance Equipment
OEF HQ	:	Ordnance Equipment Factories Headquarters
OEFC	:	Ordnance Equipment Factory Kanpur
OEFG	:	Ordnance Equipment Factories Group
OEFH	:	Ordnance Equipment Factory Hazratpur
OFB	:	Ordnance Factory Board
OPF	:	Ordnance Parachute Factory Kanpur
OT	:	Over Time
OTE	:	Open Tender Enquiry

P

PAC	:	Propriety Article Certificate
PCA (Fys)	:	Principal Controller of Accounts (Factories)
PPC	:	Planning, Production and Control
PSU	:	Public Sector Undertaking
PTA(M)	:	Parachute Tactical Assault (Main)
PTA(R)	:	Parachute Tactical Assault (Reserve)
PW PC OG	:	Poly Wool Polyester Cotton Olive Green
PV DD OG	:	Poly Viscose Dope Died Olive Green

Q

QA	:	Quality Assurance
QCS	:	Quality Control Section

R

RFR	:	Returned For Rectification

S

SDPR	:	Standing Directive for Provision Review
SHIS	:	Store Holder Inability Sheet
SMH	:	Standard Man-Hours
SOP	:	Standard Operating Procedure
SQAE (GS)	:	Senior Quality Assurance Establishment (General Stores)
SQAE (TC)	:	Senior Quality Assurance Establishment (Textile and Clothing)
STE	:	Single Tender Enquiry

T

TE	:	Tender Enquiry
TEC	:	Technical Evaluation Committee
TEFS	:	Tent Extendable Frame Supported
TPC	:	Tender Purchase Committee
TPO	:	Tarpaulin

U

UAR	:	Un-avoidable Rejection
UMH	:	Unit Man-Hours

W

WIP	:	Work-in-Progress