CHAPTER VIII : ORDNANCE FACTORY ORGANISATION

8.1 Performance of Ordnance Factory Organisation

8.1.1 Introduction

The Ordnance Factory Board (OFB) functions under the administrative control of the Department of Defence Production of the Ministry of Defence and is headed by the Director General, Ordnance Factories. There are 39 factories divided into five products based Operating Groups[32] as given below:

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

In addition to the existing 39 ordnance factories, two more factories viz Ordnance Factory Nalanda and Ordnance Factory Korwa are under project stage. ₹ 786.01 crore had been spent up to March 2010 for the Ordnance Factory Nalanda as against the sanctioned cost of ₹941.13 crore, revised subsequently to ₹ 2160.51 crore in February 2009. A sum of ₹48.71 crore had been spent as of March 2010 in connection with Ordnance Factory Korwa project as against the sanctioned cost of ₹ 408.01 crore. Ordnance Factory Nalanda- earmarked to manufacture two lakh Bimodular Mass Charge System per annum-and Ordnance Factory Korwa being set up to manufacture 45,000 carbines per annum were to be completed by August 2011 and March 2011 respectively.

8.1.2 Core activity

Ordnance Factories - the departmental undertaking under the Department of Defence Production of the Ministry of Defence – are basically set up to cater to the requirement of Indian Army, Air Force and Navy. The core activity of Ordnance factories is to produce and supply arms, ammunition, armoured vehicles, ordnance stores, etc., based on the requirements projected by Indian Armed Forces during the Annual Target Fixation meeting held every year.

[32] ***On a functional basis, the factories are grouped into Metallurgical (5 factories), Engineering (13 factories), Armoured Vehicles (6 factories), Filling (5 factories), Chemical (4 factories), Equipment and Clothing (6 factories)***

These requirements are later on confirmed by Indian Armed Forces in the form of Indents.

However, to utilize spare capacity if any, the Ordnance Factories also supply arms and ammunition to Paramilitary Forces of the Ministry of Home Affairs, State Police, and Other Government Departments and also for Civil Indentors including Export.

The present product range at Ordnance Factories encompasses 881 Principal Items including Anti Tank Guns, Anti-Aircraft Guns, Field Guns, Mortars, Small Arms, Sporting Arms including their Ammunitions, Bombs, Rockets, Projectiles, Grenades, Mines, Demolition Charges, Depth Charge, Pyrotechnic Stores, Transport Vehicles, Optical and Fire Control instruments, Bridges, Assault Boats, Clothing and Leather Items, Parachutes, etc. These product ranges collectively constitute 84 per cent of the total cost of production of all the ordnance factories.

8.1.3 Manpower

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

(*In number*)

Category of employees	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**
Gazetted Officers	3866	3877	4036	3947	3481
Percentage of gazetted officers to total manpower	3.31	3.47	3.77	3.84	3.50
NGO/NIEs	35517	33783	32359	31105	30482
Percentage of NGOs/NIEs to total manpower	30.38	30.20	30.22	30.27	30.67
IEs	77528	74181	70666	67717	65411
Percentage of IEs to total manpower	66.31	66.33	66.01	65.89	65.82
Total	**116911**	**111841**	**107061**	**102769**	**99374**

There is continuous decline in manpower of Ordnance Factory Organization. The manpower position in Ordnance Factory Organization as of 31 March 2010 had declined by 15 *per cent* when compared with the position as of 31 March 2006. The decline in the Industrial employees and Non-gazetted officers/Non-industrial employees was 15.63 *per cent* and 14.18 *per cent* respectively.

The Gazetted officers in Ordnance Factory Organization comprise Group A and B officers. When compared to 2005-06 the number of Group A officers (1622 in 2005-06 to 1577 in 2009-10) decreased by nearly 3 *per cent*, the

Group B officers (2244 in 2005-06 to 1904 in 2009-10) decreased by 15 *per cent* in 2009-10.

8.1.4 Analysis of the performance of OFB

Revenue Expenditure

The expenditure under revenue head during 2005-06 to 2009-10 is given in the table below:

(₹in crore)

Year	Total expenditure incurred by ordnance factories	Receipts against products supplied to Armed Forces	Other receipts and recoveries [33]	Total receipts	Net receipts of ordnance factories (5-2)
1	2	3	4	5	6
2005-06	6847.13	5701.31	1537.81	7239.12	391.99
2006-07	6191.89	5147.77	1384.52	6532.29	340.40
2007-08	7125.63	5850.65	1464.12	7314.77	189.14
2008-09	9081.28	6123.38	1474.54	7597.92	(-) 1483.36
2009-10	10812.10	7531.08	1545.01	9076.09	(-) 1736.01

Comparison of element wise expenditure revealed that the increase in Revenue expenditure during 2009-10 vis a vis 2008-09 was due to increase in Maintenance, Manufacture (comprising direct labour and indirect labour charges), Direction/Administration charges and Stores expenditure to the extent of 25.09, 24.75, 22.61 and 20.55 *per cent* respectively with the corresponding fall in the expenditure towards Works and Renewal and Replacement by 19.39 and 17.37 *per cent* respectively.

The trend of generating surplus of receipts over expenditure in Ordnance Factory Organization got reversed since 2008-09 due to increase in manufacturing cost resulting from increase in pay and allowances on implementation of recommendations of Sixth Central Pay Commission and non-materialization of certain CKD/SKD items.

While, till 2007-08, the Ordnance Factories had been able to maintain negative charge to the Consolidated Fund of India, supplies to the Armed Forces have never been able to match the budget provision indicating less supply than anticipated. Against the budgeted supply of ₹8393 crore in 2009-10, the supplies booked were ₹ 7531 crore registering a shortfall of ₹ 862 crore. In 2008-09, the shortfall was ₹474 crore and in 2007-08, it amounted to ₹594 crore.

Audit came across cases where the issue prices are less than the actual cost of production even though instructions exist to recover the actual cost from the

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

Armed forces. This has a direct effect on the quantum of receipts of Ordnance Factories and consequently the budgetary support that they receive from the Government. Audit also came across cases where the (i) Ordnance Factories estimated their cost abnormally on a higher side and (ii) Ordnance Factory Board fixed an abnormal issue price for the Army as per the details given below and as a result of which there was an abnormal profit of ₹ 317.91 crore in issue of items to the indentors:-

Name of the item	Qty supplied (in numbers)	Factory Involved	Estimated Unit cost (₹ in lakh)	Actual Unit cost (₹ in lakh)	Issue Price per unit (₹ in lakh)	Profit (₹ in lakh)
Final Stage (stage wise indigenized T-90 tanks)	24	HVF	1434.35	44.33	175.50	3148.08
Proof firing (stage wise indigenized T-90 tanks)	24	HVF	1427.46	39.02	351.00	7487.52
PTA-M	1075	OPF	0.83	0.72	7.20	6966.00
14.5 Artillery Trainer	53	MTPF	8.71	7.94	11.45	186.03
Final Stage (Stage-wise MBT)	35	HVF	1876.39	34.41	226.88	6736.45
Proof Firing (Stage wise MBT)	21	HVF	1862.63	107.74	453.76	7266.42
					Total	**31790.50**

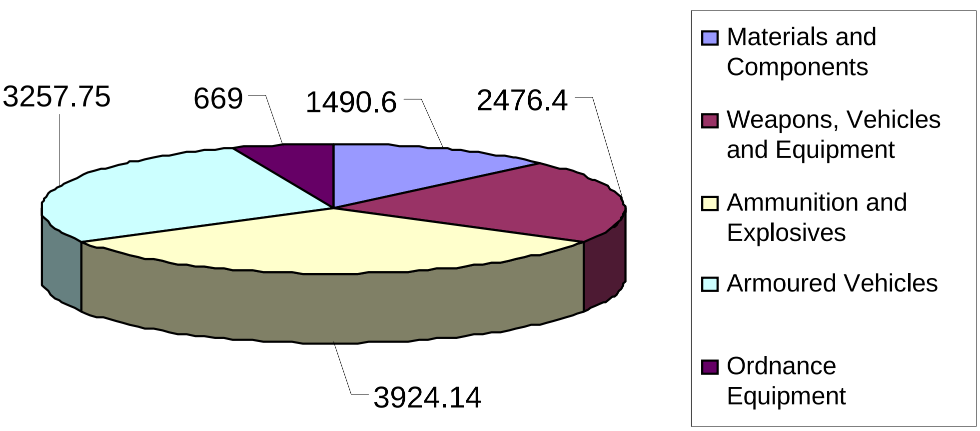
Ordnance Factory Board (OFB) stated in May 2011 that unit issue price of PTA-M at Ordnance Parachute Factory Kanpur was erroneously shown as ₹ 7.20 lakh in place of ₹72,000 and necessary amendment would be issued to all concerned. The OFB's reply supports the Audit contention that the factory had gained huge profit due to depiction of abnormal issue price of the PTA-M. With regard to huge difference in estimated cost and unit cost of four items (i) Final Stage (stage-wise T-90 indigenised) (ii) Proof firing (stage-wise T-90 indigenised) (iii) Final Stage (stage-wise MBT) and (iv) Proof firing (stage-wise MBT), the OFB stated that at HVF the tanks are manufactured in four stages and also issues are booked in stages. OFB added that (i) separate estimates were prepared for the four stages viz I to IV and also issue rates are fixed at 45 per cent for Stage-I, 25 per cent for stage II, 20 per cent for Stage III and 10 per cent for Stage IV without any relevance to the estimated cost of production involved in these stages and (ii) ₹ 35 lakh are added to the T-90 tank cost towards TOT expenses in stage IV. OFB's contention is unconvincing and contradictory to each other since on the one hand they had stated that separate estimates were prepared for the four stages viz I to IV on the other hand they argued that issue rates of various stages of production are independent of the estimated cost of production involved in these stages.

Cost of production

The following table indicates the group-wise/element-wise expenditure incurred during the year to arrive at the cost of production for 2009-10 and the percentages of various elements to the cost of production:

Sl. No.	Group of factories	Cost of production	Direct Store and percentage to cost of production	Direct Expenses and percent-age to cost of production	Direct Labour and percentage to cost of production	Overhead Charges		
						Fixed Overhead and percentage to cost of production	**Variable Overhead and percentage to cost of production**	**Total Overheads & percentage to cost of production (8+9)**
1	**2**	**3**	**4**	**5**	**7**	**8**	**9**	**10**
1	Material &	1490.60	548.17 **(36.78)**	55.24 **(3.71)**	193.84 **(13.00)**	459.70 **(30.84)**	233.64 **(15.67)**	693.34 **(46.51)**
2	Weapons, Vehicles	2476.40	1159.29 **(46.81)**	21.04 **(0.85)**	292.67 **(11.82)**	686.83 **(27.74)**	316.58 **(12.78)**	1003.41 **(40.52)**
3	Ammunition and Explosive	3924.14	2567.77 **(65.44)**	17.03 **(0.43)**	294.15 **(7.50)**	763.02 **(19.44)**	282.17 **(7.19)**	1045.19 **(26.63)**
4	Armoured Vehicles	3257.75	2452.46 **(75.28)**	12.21 **(0.38)**	148.06 **(4.54)**	489.69 **(15.03)**	155.33 **(4.77)**	645.02 **(19.80)**
5	Ordnance Equipment	669.00	268.63 **(40.15)**	0.24 **(0.04)**	173.48 **(25.93)**	165.95 **(24.81)**	60.69 **(9.07)**	226.64 **(33.88)**
	Total	11817.89	6996.32 **(59.20)**	105.76 **(0.89)**	1102.20 **(9.33)**	2565.19 **(21.71)**	1048.41 **(8.87)**	3613.60 **(30.58)**

Cost of production in different groups of Factories during 2009-10 (₹ in crore)



During 2009-10, Ammunition & Explosives group of factories registered the highest cost of production of ₹3924.14 crore amongst all the five group of factories with Material, Direct Expense, Labour and Overheads at 65.44 *per cent*, 0.43 *per cent,* 7.50 *per cent* and 26.63 *per cent* respectively while Ordnance Equipment Group of factories registered the lowest cost of production of ₹ 669.00 crore with Material, Direct Expense, Labour and Overheads at 40.15 *per cent*, 0.04 *per cent*, 25.93 *per cent* and 33.88 *per cent* respectively. While the average overhead charges of Ordnance Factory Board were 30.58 *per cent*, the Material and Components Group registered the highest overheads at 46.51 *per cent* and the Armoured Vehicles Group registered the lowest overheads at 19.80 *per cent*.

Overhead Charges

The details of overheads in relation to the cost of production in respect of various Ordnance Factories from 2005-06 to 2009-10 are shown in **Annexure-VII.**

The percentage of overheads to the cost of production was more in respect of factories classified under Material and Components Division where overheads averaged at 45 *per cent* of the cost of production and the same was lowest at 22 *per cent* in the Armoured Vehicles Division.

The expenditure on overheads as a percentage of the cost of production is increasing every year as may be seen from the table given below:

(₹ in crore)

Year	**Cost of Production**	**Total overhead Charges**	**Percentage of overhead to Cost of Production**
1	2	3	4
2007-08	9312.61	2643.37	28.38
2008-09	10610.40	3180.11	29.97
2009-10	11817.89	3613.60	30.58

It can be seen from the above that total overhead to the cost of production for the Ordnance Factories as a whole for the year 2009-10 stood at 30.58 per cent. The increase in overhead percentage was due to failure of Ordnance Factory Board to fix target for 171 items for which the demand existed and partly due to non-achievement of target in respect of 134 items.

OFB stated in May 2011 that supplies were made based on targets mutually agreed between them and Indentors considering the availability of budget with customers and one of the major reasons for marginal increase in overhead was on account of payment of 60 per cent arrear as well as the increase in salaries due to sixth central pay commission implementation.

High Supervision and Indirect Labour Charges

Group-wise amount of supervision charges incurred during the last five years and its relation with the total Labour charges as well as with Direct Labour charges is shown in the **Annexure-VIII.**

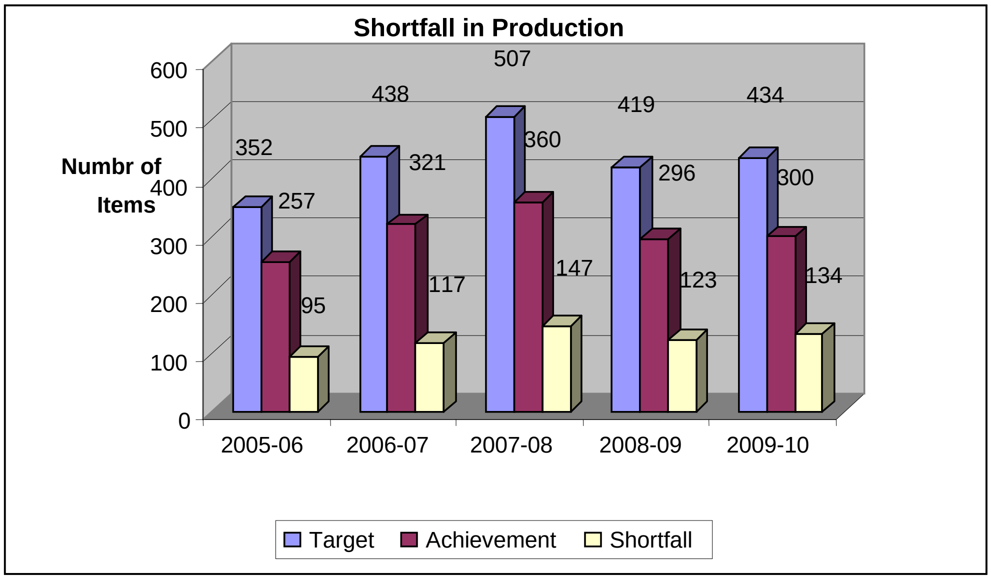
It can be seen from the **Annexure-VIII** that except Ordnance Equipment Group, in all other Groups the supervision charges compared to the Direct labour charges was quite abnormal as is evident from the fact that for every ₹spent on Direct labour, the Ordnance Factories spent supervision charges ranging between ₹1.67 and ₹ 1.35. There appears to be some disconnect in these figures since the number of Group A and B officers- forming major element of supervision charges- was only 3481 whereas the Industrial Employees coming under the category of Direct Labour was 65,411. In any case, the supervision charges to the direct labour charges as a percentage should be brought down to a reasonable level.

Production programme

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

Year	Number of items for which demands existed	Number of items for which target fixed	Number of items manufactured as per target	Number of items for which target were not achieved	Percentage of shortfall with reference to target fixed
2005-06	352	352	257	95	26.99
2006-07	552	438	321	117	26.71
2007-08	628	507	360	147	28.99
2008-09	419	419	296	123	29.36
2009-10	605	434	300	134	30.88

It may be seen from the above table that during the last few years, Ordnance Factories never met the target. During the year 2009-10, though demand existed for 605 items manufactured in Ordnance Factories, the target was fixed only for 434 items. Even in respect of items for which the target was assigned during 2009-10, the Ordnance Factories could achieve target only in respect of 300 items resulting in the Ordnance Factories failing to achieve targets for 31 per cent of targeted items. Fulfillment of targets on all the items for which the demand existed could have reduced the overhead burden on the Ordnance Factory organization by offloading the fixed overhead cost to these items and recovering the issue price from the indentors.



OFB stated in May 2011 that production targets are fixed in consultation with the customers according to the priority of the items and hence though the indents may be available for large number of items, all the items are not targeted for production in a particular year. OFB further added that major reasons for shortfall with reference to accepted target for the year 2009-10 was attributed to (i) non receipt of inputs from trade sources due to business dealing put on hold with certain firm (ii) non receipt of bulk production clearance in certain stores (iii) indent coverage not sufficient to cover the target in respect of certain items (iv) delay in proof and acceptance (v) long lead time required in procurement of some input materials particularly in case of imported ones after receipt of indent and (vi) design problems in some of the ammunition and rockets like 130mm Cargo, Round 120mm HESH, Round 120mm FSAPDS ammunition and Pinaka Rocket. OFB's contention regarding fixation of targets by the customers well below the indented quantity is acceptable but their justification for failing to achieve the targeted production is untenable.

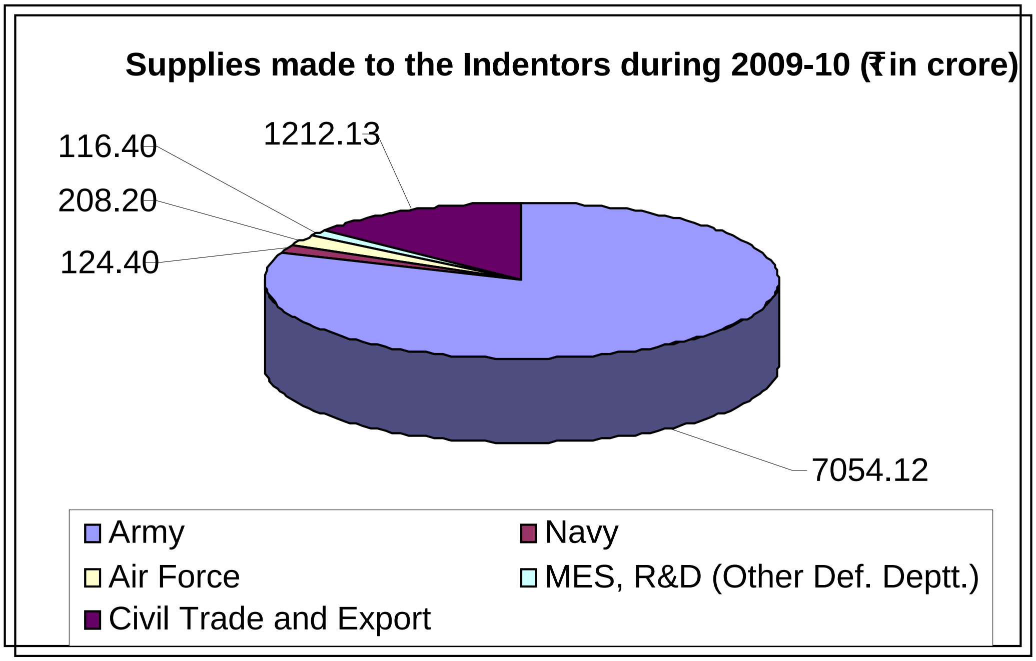
Issue to users (Indentors)

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

(`₹ in crore)

Name of Indentors	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**
Army	5187.25	4535.43	5252.15	5557.66	7054.12
Navy	147.49	130.76	119.39	179.41	124.40
Air Force	203.44	208.09	239.53	221.02	208.20
MES, Research and Development (Other Defence Department)	106.15	143.08	145.63	124.67	116.40
Total Defence	**5644.33**	**5017.36**	**5756.70**	**6082.76**	**7503.12**
Civil Trade and Export	1247.35	1179.98	1181.11	1146.55	1212.13
Total issues	**6891.68**	**6197.34**	**6937.81**	**7229.31**	**8715.25**

Total value of issues during 2009-10 has increased by 20.55 *per cent* in comparison to the previous year. As evident from the chart below, the Army remained the major recipient of the products of the Ordnance Factories, accounting for nearly 80.94 *per cent* of the total issues during the year 2009-10.



Civil Trade

The Ordnance Factories undertook civil trade since July 1986 for optimal utilization of spare capacities and to lessen dependence on budgetary support. The turn-over from civil trade other than supplies to the Ministry of Home Affairs and State Police Departments during 2005-2006 to 2009-2010 was as under:

(₹in crore)

Year	Number of factories involved	Target	Achievement	Percentage of achievement
2005-06	33	266.00	312.17	117.36
2006-07	33	279.16	298.56	106.95
2007-08	32	335.01	359.56	107.33
2008-09	39	351.12	329.30	93.79
2009-10	27	374.23	425.18	113.61

Though during the year 2008-09 there was shortfall in achieving the target of civil trade, during the year 2009-10 the achievement was 13.61 *per cent* higher than the target.

Export

The following table shows the achievement with reference to target in export from 2005-06 to 2009-10:

(₹in crore)

Year	Factories involved	Target	Achievement	Shortfall (-) /Excess (+)	Percentage shortfall (-) / Achievement (+) w.r.t. target
2005-06	11	15.00	14.66	(-) 0.34	(-) 2.27
2006-07	13	25.00	15.12	(-) 9.88	(-) 39.52
2007-08	10	30.00	27.44	(-) 2.56	(-) 8.53
2008-09	11	35.00	41.07	(+) 6.07	(+)17.34
2009-10	13	41.30	12.30	(-) 29.00	(-) 70.22

During the last few years, except during 2008-09, Ordnance Factories could not achieve the targeted export. During the year 2009-10 the shortfall in achieving the export target was 70.22 *per cent.* Ordnance Factory Board stated that deliveries of the major orders were scheduled in 2010-11 hence, the shortfall in achievement. As on 31 March 2010 amount due to be realized from the Ministry of External Affairs against supplies to Royal Bhutan Army in January 2004 was ₹15.62 lakh. Expeditious action need to be taken by Ordnance Factory Board to recover the amount.

Inventory Management

Stockholding

The level of store-in-hand inventory holding by a factory at any time in respect of imported stores as well as indigenous items, will depend upon the criticality of the items in maintaining the continuity of production, lead time required to procure the item, availability of alternate capacity verified and established sources, availability of storage space, etc. The optimum level of store- in- hand inventory for any item may be fixed by the General Managers in such a way that overall assessed inventory holding for the factory should not normally exceed the maximum level as indicated below :

Sl. No.	Group of Factories	Authorized limit of inventory holding (maximum)
1.	Armoured Vehicles	6 months
2.	Ordnance Equipment Factories	3 months
3.	Others	4 months

It is seen that (i) Ordnance Factory Dehra Dun under Armoured Vehicles Group was holding inventory for 12 months requirement (ii) Ordnance Clothing Factory Shahjahanpur and Hazratpur under Ordnance Equipment Factories Group was holding inventory for six months requirement and (iii) Ordnance Factory Katni/Ambernath/Muradnagar and Metal and Steel Factory Ishapore coming under Others category were holding inventory for meeting 12 months requirement. Besides, Gun and Shell Factory Cossipore and Ordnance

Factory Khamaria was holding inventory for 10 months and 9 months requirement respectively as against the authorized limit of 4 months.
Besides blocking Public money, holding of inventory for long time results in deterioration of quality of the inventory and also occupies valuable storage space. Necessary action needs to be taken by the factory management to reduce the excess inventory holding.

OFB stated in May 2011 that the status of inventory is discussed in the Board Meeting on quarterly basis in a financial year and suggested that Store section of each ordnance factory should exhibit 30 to 40 items with full details like nomenclature, date of receipt, source of supply etc to enable General Managers along with officers to discuss the best course of utilization of such items. The suggestion of OFB, if implemented, may help to liquidate the excess stock held with factories. It however does not explain as to how such inventory was allowed to be accumulated and the steps OFB propose to take to ensure that the factories do not resort to such overstocking in future.

Status of inventory holding

The position of total inventory holdings during 2005-06 to 2009-10 was as under:

(₹ in crore)

Sl. No.	**Particulars**	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10** [19]	**Percentage of increase (+) /decrease (-) during 2009-10 in comparison to previous year**
1.	Working stock						
a.	Active	1649.99	1734.00	2160.00	2354.00	2732.00	16.06
b.	Non-moving	253.55	256.00	333.00	322.00	297.00	-7.76
c.	Slow moving	241.48	194.00	211.00	287.00	507.00	76.66
	Total Working Stock	**2145.02**	**2184.00**	**2704.00**	**2963.00**	**3536.00**	**19.34**
2	Waste & Obsolete	10.43	14.00	14.00	26.00	39.00	50
3.	Surplus/ Scrap	57.88	80.00	81.00	68.00	64.00	-5.88
4.	Maintenance stores	73.28	87.00	79.00	73.00	73.00	0.00
	Total	**2286.61**	**2365.00**	**2878.00**	**3130.00**	**3712.00**	**18.59**
5.	Average holdings in terms of number of days' consumption	151	169	160	149	177	18.79

6.	Percentage of total slow-moving and non-moving stock to total working stock	23.08	20.60	20.12	20.55	22.74	10.66

Average holding in terms of number of days' consumption has increased by 18.79 *per cent* during 2009-10 in comparison to 2008-09. The huge accumulation of Slow and Non-moving as well as Waste & Obsolete stores needs immediate review by the management to explore reasons and to ensure effective utilization/disposal of the stores.

Finished Stockholding

Position of Finished stockholding (completed articles and components) during the last five years as extracted from the Review of Annual Accounts of the Ordnance Factory Organisation for the year 2009-10 as prepared by the Principal Controller of Accounts (Fys) Kolkata was as under:

(₹ in crore)

Particulars	2005-06	2006-07	2007-08	2008-09	2009-10
Holding of Finished articles	121.06	125.11	79.00	506.00	166.59
Total cost of production	8811.59	7957.53	9312.61	10610.40	11817.89
Holding of finished stock in terms of number of days issue	5	5	3	17	5
Holding in terms of percentage of total cost of production	1.37	1.57	0.85	4.77	1.41
Finished component holding	437.92	465.45	617.00	458.00	1015.04
Holding of finished components in terms of number of days consumption	46	52	44	38	85
Holding of finished components in terms of percentage of total cost of production	4.97	5.85	6.63	4.32	8.59

Though as on 31 March 2010 there was decrease in the value of finished (completed) articles in hand, the value of finished components in hand had increased abnormally by 121.62 *per cent* in 2009-10 when compared with 2008-09. Immediate action needs to be taken for early utilization of huge finished components. Audit observed that actual cost of finished components consumed by the Ordnance Factory Organisation during the year 2009-10 had not been reflected in any of the accounts. Rather, in a footnote under the Annual Production Account for the year 2009-10 it was indicated that cost of finished components consumed in production was ₹ 1448.07 crore whereas in the Review of Annual Accounts 2009-10 prepared by the Principal Controller of Accounts (Fys) Kolkata, the total consumption of finished components had been reflected as ₹ 4342 crore resulting in discrepancy of ₹ 2893.93 crore. As a result, the veracity of the figures shown by the Principal Controller of Accounts (Fys) Kolkata regarding consumption of finished components during the year 2009-10 is highly questionable. Audit recommends that suitable entry as to the consumption of finished components by the ordnance factories for the financial year need to be incorporated in the Consolidated Annual Accounts of the Ordnance Factory Organization.

OFB in May 2011 stated that increase in finished stock holding compared to 2008-09 was mainly on account of receipt of T-90 Semi Knocked Down (SKD) items at HVF Avadi. Of the SKD items valuing ₹1710 crore recovered up to 2009-10 only ₹ 960 crore work items had been converted into finished products. OFB did not comment on the deficiencies in the system of depiction and consumption of finished components in the accounts.

8.1.5 Work-in-progress

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

(₹in crore)

As on 31 March	Value of work-in-progress
2006	1270.68
2007	1179.31
2008	1265.00
2009	1961.82
2010	2121.75

The total value of work-in-progress as on 31 March 2010 has increased by 8.15 *per cent* as compared to the previous year. As on 31.03.2010 a total of 27708 warrants were outstanding, of which 20877 warrants pertain to the year 2009-10 and balance 6831 warrants pertain to the years prior to 2009-10, the oldest being the year 1993-94. Necessary action needs to be taken by OFB for closure of the warrants outstanding for more than six months particularly the outstanding warrants pertaining to the period 1993-94 to 2006-07. OFB stated in May 2011 that status of outstanding warrants is being reviewed by Board every six months and directives were issued for closing the old outstanding warrants.

8.1.6 Losses written off

The table below depicts losses written off during the last five years ending 31 March 2010:

(₹in lakh)

Sl. No	Particulars	2005-06	2006-07	2007-08	2008-09	2009-10
1	Overpayment of pay & allowances and claims abandoned	0.15	1.21	0.00	0.22	0.00
2	Losses due to theft, fraud or neglect	2.81	0.55	29.11	0.28	0.17
3	Losses due to deficiencies in actual balance not caused	0.00	4.65	0.00	0.00	0.00

	by theft, fraud or neglect					
4	Losses in transit	6.51	0.00	0.16	6.46	16.85
5	Other causes (e.g. conditioning of stores not caused by defective storage, stores scrapped due to obsolescence, etc.)	5.98	0.34	19.58	180.41	1.07
6	Defective storage loss	0.00	0.45	0.00	0.00	0.00
7	Losses not pertaining to stock	1984.21	883.70	333.90	73.75	233.19
	Total	**1999.66**	**890.90**	**382.75**	**261.12**	**251.28**

As of June 2010, 173 cases of losses amounting to ₹77.21 crore were awaiting regularization by the Ministry of Defence, the oldest items pertaining to the year 1964-65. As of March 2009, 175 cases of losses amounting ₹ 77.42 crore were awaiting regularization by the Ministry. Only four cases aggregating to ₹ 0.21 crore had been regularized during 2009-10. This indicates tardy progress in regularization of losses by the Ministry and effective steps need to be taken by Ordnance Factory Board to impress upon the Ministry to regularize the losses at the earliest. As the oldest item requiring regularization of loss pertained to the year 1964-65, Ministry is recommended to accord sanction to Ordnance Factory Board for operating capital outlay for regularization of loss which had occurred long time ago.

OFB stated in May 2011 that they had taken up the matter with the Ministry of Defence for regularization of losses.

8.1.7 Capacity utilization

The table below indicates the extent to which the capacity had been utilized in terms of machine hours during the last five years.

(Capacity utilization in terms of Machine Hours)

Year	Machine hours available	Machine hours utilized	Percentage of Capacity utilization
2005-06	1763	1392	78.96
2006-07	1472	1120	76.08
2007-08	1351	1147	84.90
2008-09	1696	1294	76.30
2009-10	1839	1261	68.57
Total	**8121**	**6214**	76.52

During the last five years the utilization of available capacity of Machine Hours was around 76.52 *per cent*. Though the available capacity of Machine Hours has increased during 2009-10 the utilization of the available capacity has reduced drastically leaving 31.43 *per cent* of the available capacity as idle. Action needs to be taken for optimum utilization of the available capacity.

OFB stated in May 2011 that in view of increased target and sanction to recruit manpower against retirees the capacity utilization in terms of machine hours is likely to improve in the coming years.

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

NOTE : The figures incorporated in this paragraph are mainly based on the figures of the Consolidated Annual Accounts of Ordnance and Ordnance Equipment Factories in India finalised by Principal Controller of Accounts (Fys.), Kolkata for the year 2009-10, documents maintained by and information supplied by Principal Controller of Accounts (Fys.), Kolkata as well as Ordnance Factory Board, Kolkata.

Procurement of Stores and Machinery

Machinery

8.2 Extra expenditure due to delay in finalization of a purchase agreement

Abnormal delay in finalization of a purchase agreement by Heavy Vehicles Factory Avadi, Armoured Vehicles Headquarters Avadi and Ministry of Defence led to its procurement at an avoidable extra cost of ₹ 1.36 crore.

Heavy Vehicles Factory Avadi (HVF) required a Special Purpose Semi Automatic Longitudinal Rolling Machine (Machine) for indigenous manufacture of Torsion bar of T-90 tanks. The machine was stated to be essential to avoid perennial import of the Torsion bar. HVF therefore initiated procurement action in March 2003 and sought quotation from the Original Equipment Manufacturer, viz. M/s Rosboronexport (OEM). As the quotation of USD 1.297 million, subsequently reduced to USD 1.10 million in August 2003 was more than the amount projected in the Detailed Project Report (DPR) and repeated attempts to obtain further reduction in the cost of machine did not bear any fruit, Armoured Vehicles Headquarters, Avadi (AVHQ) directed HVF in December 2003 to go in for Global Tender Enquiry.
Global Tender Enquiry floated by HVF in January 2004 failed to obtain any quote. HVF decided in October 2004 to procure the machine from OEM, which was accepted by the AVHQ in December 2004. The AVHQ took nearly eight months to refer the matter to the Ministry of Defence (MOD) in August 2005 for sanction. MOD in turn took more than a year to accord sanction (October 2006) to procure the machine from OEM at USD 1.10 million (equivalent to ₹ 5.14 crore).

In the meantime, OEM on the request of HVF extended the validity period of their offer of May 2003 from time to time i.e. up to December 2005, April 2006 and finally to August 2006.

HVF in October 2006 approached OEM to ink the deal. OEM however informed HVF in December 2006 that due to the long period of about three years taken by the Indian side, the offer had been cancelled. HVF thereafter obtained a fresh offer (June 2007) from OEM and signed the agreement in November 2007 for purchase of the machine at a total cost of USD 1.38 million. HVF received the machine in October 2009 which was commissioned in December 2009.

In the meantime, due to non-availability of machine, HVF imported 1800 Torsion Bar LH and RH between September 2008 and October 2009 against two supplementary agreements of November 2007 and December 2007 at a total cost of ₹ 6.69 crore (USD 1.633 million) from OEM to indigenously manufacture T-90 tanks.

Delay of more than two years in formalizing an offer collectively by HVF, AVHQ and MOD had resulted in procurement of machine at an avoidable extra expenditure of USD 0.28 million, equivalent to ₹ 1.36 crore.

OFB stated in September 2010 that efforts were made to obtain reduction in price but the reduced price was higher than the cost catered in the DPR. Owing to the exorbitant rate quoted by OEM, HVF was advised by AVHQ to go for Global Tender Enquiry anticipating quotations from global machine suppliers. Contention of OFB is not acceptable since even after realizing that there was no other source of supply for the said machine and further reduction in the rate was not foreseeable, the authorities failed to process the procurement action within the extended validity of the offer of the OEM. This had resulted in avoidable delay in procurement of the machine entailing an extra cost of ₹ 1.36 crore for the machine. Additionally, torsion bars required for production of the tanks had to be imported at a cost of ₹ 6.69 crore. The delay in processing the procurement action when it had been known in October 2004 itself that machine has to be imported from the single known source was inexplicable.

The matter was referred to the Ministry of Defence in July 2010; their reply was awaited as of July 2011.

Stores

8.3 Extra expenditure due to purchase of spares at higher cost

Ordnance Factory Medak incurred an extra expenditure of ₹83.67 lakh due to injudicious decision of Ordnance Factory Board, i.e. acceptance of costlier rate of Bharat Earth Movers Limited, towards procurement of spares of infantry combat vehicles.

To cater for two indents (May 2003 and August 2003) received from Central Armoured Fighting Vehicles Depot, Pune (Depot) for spares, Ordnance Factory Medak (factory) issued a single tender enquiry (December 2003) on M/s Bharat Earth Movers Limited, Kolar Gold Fields (BEML), for procurement of 75 gears, 55 sleeves, 135 oil pumps and 105 servo boosters.

Based on quotation received from BEML in January 2004 the factory requested (April/May 2004) Ordnance Factory Board (OFB) to accord sanction for placement of order for above items at a total cost of ₹2.06 crore. Pending decision on rates quoted by BEML, OFB directed the factory to obtain import prices and also to call the representatives of BEML for negotiations on 14 July 2004.

The factory obtained a quotation (USD 128,110 equivalent to ₹ 60.12 lakh) from M/s Cenrex Poland on 8 July 2004 and forwarded it to the OFB on 14 July 2004 through FAX, before the Tender Purchase Committee meeting was held. In the Tender Purchase Committee meeting of 14 July 2004, BEML was offered their last paid rates (total cost of ₹ 1.42 crore) instead of cheaper rate of M/s Cenrex (₹ 60.12 lakh). BEML, however, reduced (24 July 2004) their rates from ₹ 2.06 crore to ₹ 1.60 crore. The Tender Purchase Committee of OFB accepted the revised offer in August 2004 in preference to the lower rate of M/s Cenrex of ₹ 60.12 lakh and directed the factory to procure spares from BEML at the revised price.

The factory accordingly placed an order in August 2004 with Proposed Date of Completion of March 2005. The factory received 75 gears, 55 sleeves, 102 oil pumps and 80 servo boosters resulting in short receipt of 33 oil pumps and 25 servo boosters. Subsequently the factory supplied 33 numbers of oil pumps by importing (February 2007) from M/s Cenrex Poland against another indent of April 2006. However, the order of August 2004 was short closed in May 2010 at supplied quantity only after the matter was pointed out by Audit.

The decision of OFB to accept higher offer of BEML (₹1.60 crore) at their last paid rate instead of rates offered by M/s Cenrex (₹60.12 lakh) was injudicious. As a result, the Ordnance Factory Medak incurred an avoidable expenditure of ₹83.67 lakh on supplied quantity.

Ministry of Defence (MOD) stated in February 2010 that (i) very purpose of going to BEML was to encourage a Defence Public Sector Undertaking and designated indigenous source of the main equipment and (ii) import price details might have been obtained for assessment of market trend and involvement of foreign exchange. MOD also added that the process of import was more time consuming. The contention of the Ministry is untenable as the BEML's bid was more than three times the price quoted by the foreign supplier and the OFB has been importing equipments on regular basis. The Tender Purchase Committee had failed to take advantage of the information supplied to it by the factory about the availability of the spares at cheaper rates ex-import. The MOD's contention regarding import process being time consuming is also not acceptable as the BEML did not supply the entire quantity even in more than five years. Interestingly, OFB had to supply 33 oil pumps and 25 servo boosters to the Depot by import from the same foreign firm, whose offer had not been considered in 2004 before placing the supply order for the spares on BEML. Thus, the purchase of spares from BEML at higher cost led to an avoidable expenditure of ₹83.67 lakh.

8.4 Undue benefit to a firm

Ordnance Factory Ambernath failed to make a Public Sector Undertaking liable to bear an extra expenditure of ₹ 9.77 crore for delayed supply of copper cathodes.

Ordnance Factory Ambernath (OFA) requires copper cathode for manufacture of brass cups and strips. In order to meet the production requirement for the year 2006-07 and the first quarter of 2007-08, OFA placed an order in March 2006 on M/s Minerals and Metals Trading Corporation Mumbai (MMTC) for procurement of 4800 tonne copper cathode to be delivered by March 2007 at a cost of ₹ 102.79 crore. The order inter alia contained a price variation clause according to which payment would be made by OFA based on the average price of London Metal Exchange (LME) of copper for the month prior to month of shipment for each consignment.

OFA received 3626.693 tonne copper cathode from MMTC between July 2006 and February 2007, of which 1329.758 tonne was rejected due to presence of copper sulphate and other deformities. MMTC replaced the rejected copper cathode free of cost in May-June 2007 and September 2008. MMTC's proposal (April 2007) for supply of outstanding 1173.307 tonne (i.e. 4800 tonne ordered quantity – 3626.693 tonne supplied quantity) copper cathode which was due for supply by March 2007, in June/July 2007 at the LME rate applicable during May 2007 was accepted by OFA by extending (May 2007) the delivery period up to August 2007. OFA received 1173.307 tonne copper cathode in August 2007 at LME rate of May 2007.

OFA erred in accepting MMTC proposal for supply of 1173.307 tonne at LME rate of May 2007 since the deferred supply arose due to failure of the MMTC to supply the total ordered quantity within specified date of completion of supply and extension of delivery period ought to have been provided by the former with the condition to apply LME rate of February 2007. Failure to do so, had resulted in an extra expenditure of ₹ 9.77 crore due to difference in the LME rate applicable in February 2007 (US $5676.45 per tonne) and May 2007 (US $ 7682.17 per tonne).

Ministry of Defence (MOD) in their reply of January 2011 agreed with facts but stated that the last consignment of 1,200 tonne due in March 2007 would have inflated the stock and blocked the Government money to the tune of ₹ 30 crore. Further, they stated that from January 2006 to December 2006 the rate of copper was on increasing trend and there was sudden drop in January - February 2007. In such situation one could think that the decreasing trend had started. Hence the term business hazard is more appropriate rather than terming it as a loss. MOD's contention regarding inflating the stock position at OFA and thereby blocking the Government money with the receipt of last consignment of 1200 tonne copper cathode in March 2007 is untenable since the purchase order stipulated the delivery to be completed by March 2007 itself. Further, acceptance of last consignment of copper cathode at the LME rate applicable for May 2007 was also not justified since MMTC ought to have supplied it in March 2007 at LME rate of February 2007. As a result, the question of increasing or decreasing trend in price of copper cathode is irrelevant.

Thus, OFA extended an undue benefit to MMTC instead of making it liable to bear the extra price of ₹ 9.77 crore for delayed supply of 1173.307 tonne.

8.5 Avoidable import of propellant

Supply of incorrect information to the Ordnance Factory Board by OFK and decision of OFB to grant extension of delivery period, resulted in avoidable import of propellant valuing ₹ 2.17 crore. The import was also costlier by ₹ 39.79 lakh, when compared to the cost of production in Ordnance Factory Bhandara (OFBa).

Ordnance Factory Khamaria (OFK) required a propellant powder (propellant) to assemble 40mm Pre-fragmented full charge (PFFC) ammunition (ammunition). OFK received a target from Ordnance Factory Board (OFB) in November 2005 for manufacture of 50,000 ammunition during 2006-07, which was subsequently reduced to 25,000 in December 2006 in view of shortage of propellant.

In order to assemble the ammunition, OFK placed two inter factory demands on OF Bhandara in July 2005 and February 2006 for 23,756 Kg propellant. The propellant was under development at OF Bhandara since March 2003. OFB felt that indigenous development and manufacture of propellant at OF Bhandara would take some more time and therefore authorized the factory (October 2006) to import propellant equivalent to 25,000 ammunition for the year 2006-07.

In November 2006, OFK obtained a quotation from M/s Simmel Difesa, Italy and requested OFB to sanction import of 13,140 Kg propellant, on the ground that it did not have the requisite stock of propellant to manufacture ammunition for the year 2006-07. Audit, however, observed that the required quantity of 12,693 Kg propellant was available, as per their bin card. OFK incorrectly informed OFB that the available propellant had been utilized for production of ammunition for the year 2005-06 even though they drew the propellant only between January 2007 and March 2007.

Based on input of OFK, OFB in January 2007 authorized the former to place order on M/s Simmel Difesa for the import. OFK placed the order in January 2007 with the condition to complete the entire supplies by February 2007.

In February 2007, after receipt of the import order, the firm offered to supply only 5,000 Kg of the propellant immediately and the balance by June 2007. OFK thereupon informed OFB that OF Bhandara had supplied 6,000 Kg and an additional 3,000 Kg were under proof. OFK sought decision of OFB for allowing the supplying firm for completion of supply by June 2007 and to use the supplies that are received after April 2007 to meet the production requirement of 2007-08. OFB authorized OFK in April 2007 to re-fix the delivery period up to 31 August 2007, without liquidated damages, for full quantity of 13,140 Kg.

OFK received 13,140 Kg propellant valuing ₹ 2.17 crore (₹ 1,652.32 per Kg) from the supplier only in December 2007. OFK however could assemble 22,000 ammunition during 2006-07 with the propellant available ex- stock and 6,000 Kg propellant received from OF Bhandara between November 2006 and

February 2007, which was more than sufficient to meet the target of 25,000 ammunition for 2006-07. With the receipt and acceptance of additional 18,000 Kg propellant ex-OF Bhandara and 13,140 Kg propellant ex-import, OFK manufactured 3,184 and 25,500 ammunition during 2007-08 and 2008-09, i.e. to the extent of Fuze availability, and was holding 9,468 Kg propellant in stock as of October 2009.

Provision of incorrect information to the OFB by OFK about the stock balance of propellant in the first instance and the decision of OFB to allow the extension of delivery date to the supplier resulted in avoidable import of propellant valuing ₹ 2.17 crore. This also led to an extra expenditure of ₹ 39.79 lakh, since the cost of production of the propellant in OF Bhandara was cheaper when compared with the cost of import.

Ministry of Defence (MOD) stated in March 2010 that the import of propellant was justified considering the target of 50,000 ammunition for 2006-07 and the available stock of 12,693 Kg propellant was sufficient for 24,000 ammunition. MOD added that the supply from OF Bhandara was not regular and bulk production clearance had been given only in July 2008. Further, in November 2010 the OFB stated that there had been no reduction of target to 25,000 and OFK was able to achieve 22,000, i.e. to the extent of availability of other components.

The contention of the OFB and MOD does not address the issue as to why they had overlooked the fact that the indigenous source of supply from OF Bhandara had been established and the import initiated with the specific objective of meeting production schedule of 2006-07 would not have been accomplished if the revised delivery schedule sought by the foreign supplier is acceded to. General Manager OFK had informed the Member/A&E of OFB in February 2007, i.e., before the grant of extension of delivery schedule, that the existing stock was sufficient to meet the revised production schedule of 25,000 ammunition in 2006-07 and that OF Bhandara had supplied the indigenously developed propellant. The Member, however, had recorded that the revised delivery schedule offered by the foreign supplier be accepted as the imported propellant can be effectively used for production during 2007-08. The statement made by OFB in November 2010 amplifies that there were other limiting factors such as non-availability of other components that hindered the production of the ammunition. Thus, despite the availability of imported and indigenous propellants, OFK could manufacture only 3,184 ammunition during 2007-08 to the extent of availability of Fuze. OFB should have considered all such factors before re-fixing the delivery date of the propellant ordered for import. An objective and thorough assessment of the requirements vis-à-vis availability could have avoided the import of the propellant for ₹ 2.17 crore and consequential extra expenditure of ₹ 39.79 lakh. The matter may merit inquiry to fix responsibility for the lapse.

Miscellaneous

8.6 Non-recovery of cost of rejected turret castings

Heavy Vehicles Factory Avadi failed to recover the cost of four rejected turret castings from two Public Sector Undertakings, despite observing the defects within the warranty period. After being pointed out in Audit, HVF recovered ₹ 37.43 lakh towards cost of two rejected turret castings from one of the PSUs while the cost of remaining two rejected castings valuing ₹ 36.40 lakh was yet to be recovered from another PSU.

Heavy Vehicle Factory Avadi (HVF) placed supply orders in August 1998 on M/s Bharat Heavy Electricals Limited, Haridwar (BHEL) and M/s Heavy Engineering Corporation Limited Ranchi (HEC) for procurement of 150 and 65 turret castings respectively – a raw material for manufacture of turrets of T-72 tanks. Against these orders, HVF received 143 and 59 turret castings from M/s BHEL and M/s HEC between January 1999 and July 2001. HVF however short-closed its order of August 1998 placed on M/s BHEL and M/s HEC at the supplied quantity of 143 and 59 turret castings respectively, in October 2004. The short-closure of its two orders of August 1998 was due to the Army reducing (May 2004) its order for T-72 tanks from 1380 to 1300.

It was seen in audit that of the 202 of turret castings supplied by the Public Sector Undertakings (PSUs), HVF had rejected 14 turret castings (Eight turret castings of M/s HEC and six turret castings of M/s BHEL) due to crack in well bore area, bottom plate and core shifting. Of these rejected turret castings, HVF returned two rejected turret castings to M/s BHEL after recovery of the payment and was holding 12 rejected turret castings in their stock as of November 2010.

Even though HVF had recovered the cost of 10 of the 14 rejected turret castings – four from M/s BHEL and six from M/s HEC, amounting to ₹ 2.18 crore, the cost of remaining four rejected turret castings (two each from M/s BHEL and M/s HEC) was not recovered.

Failure of HVF to recover the cost of the four rejected turret castings valuing ₹ 73.83 lakh despite the defects having been noticed in 2001 and 2002 were pointed out by Audit in March 2006 and March 2010. Thereupon, HVF recovered ₹ 37.43 lakh from M/s BHEL in March 2010. OFB confirmed in November 2010 that cost of two rejected turret castings was yet to be recovered from M/s HEC.

Thus, at the instance of Audit, HVF could recover the cost of two rejected castings valuing ₹ 37.43 lakh from M/s BHEL in March 2010 while recovery of the cost of remaining two turrets castings valuing ₹ 36.40 lakh from M/s

HEC was still awaited (November 2010). The delay of nearly a decade to recover the cost of rejected items supplied by the PSUs is symptomatic of the poor follow up of post-contract events by the HVF.

The matter was referred to the Ministry of Defence in August 2010; their reply was awaited as of July 2011.

(C.M.SANE)
New Delhi **Principal Director of Audit**
Dated: 2011 **Defence Services**

Countersigned

New Delhi **(VINOD RAI)**
Dated: 2011 **Comptroller and Auditor General of India**