Report of the Comptroller and Auditor General of India

for the year ended March 1999

Union Government (Defence Services)

Army and Ordnance Factories

No.7 of 2000

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PREFATORY REMARKS

This Report for the year ended March 1999 has been prepared for submission to the President under Article 151 of the Constitution. It relates to matters arising from the Appropriation Accounts of the Defence Services for 1998-99 together with other points arising from the test audit of the financial transactions of Ministry of Defence, Army and Ordnance Factories including Defence Research and Development Organisations.

The Report includes 59 Paragraphs and three Reviews on (i) Overhaul of Infantry Combat Vehicles and Engines (ii) Delay in construction of bridges by Director General of Border Roads (iii) Indigenous manufacture of 155 mm ammunition.

The cases mentioned in this Report are among those which came to notice in the course of audit during 1998-99 and 1999-2000 as well as those which came to notice in earlier years but could not be included in the previous Reports.

OVERVIEW

Accounts of the Defence Services

The total budget provision for the Defence Services for the year 1998-99 under the five Demands for Grants was Rs 42385.05 crore against which the total actual expenditure aggregated to Rs. 41363.51 crore. The unspent balances of Rs 289.57 crore, 675.39 crore and 332.72 crore against the budget provisions in the voted section of Grant Nos. 21, 22 & 23 respectively calls for explanatory notes to PAC. On the other hand, excess expenditure of Rs 131.68 crore, 143.25 crore in the voted section of Grant Nos. 19 & 20 and Rs 8.98 crore in the charged section of Grant No.23 occurred over the approved provision require regularisation. In four Grants 25 *per cent* to 48 *per cent* of the total expenditure was incurred in the month of March 1999.

Overhaul of Infantry Combat Vehicles and Engines

- Infantry Combat Vehicles (BMP) having improved fighting capabilities, mobility and protection against nuclear radiation was introduced in the Army in 1977. Majority of the fleet of BMP-I was imported during 1981-85. An improved version of the BMP vehicle known as BMP-II was introduced into service in 1986. While 24 *per cent* of BMP-II fleet was imported during 1986-90, 76 *per cent* was manufactured indigenously between 1988-99.

- Overhaul facilities sanctioned in 1986 were put on hold in 1988 due to reduced induction rate and shifting of first overhaul to 12th instead of 8th year. Minstry issued fresh sanction after six years in 1994 for establishing overhaul facilities at an existing workshop by March 1998. The overhaul facilities were yet to be fully established, even after 15 to 19 years of the induction of the BMP-I vehicle in service.

- The basis of taking up overhaul was changed in 1993 from vintage to kilometres run. 130 BMP-I vehicles sent for overhaul disclosed that these vehicles were sent after occurrence of breakdowns, which is not desirable.

- Delay in setting up of the overhaul facilities led to a situation wherein 114 BMP-I vehicles of 1981 vintage, and 495 engines awaiting the mandatory overhaul. To tide over the situation, 250 new engines were imported at Rs 12.37 crore and 247 engines repaired abroad at Rs 5.83 crore.

- The performance of the Base Workshop in achieving its targets in overhaul of vehicles and engines remained very low at 10 to 19 *per cent* in respect of vehicles and nil to 16 *per cent* in respect of engines during the period 1994-95 to 1998-99. First overhaul of the BMP-I fleet was expected to be completed by 2006 and BMP-II would be taken up for overhaul only thereafter.

- In view of Army's plan to equip the mechanised Infantry Battalions exclusively with BMP-II by a target date, the overhauls of BMP-I would hardly benefit the mechanised infantry.

- Ministry approved in July 1998 a proposal for life time buy of 185 items of spares for BMP-I at an estimated cost of Rs 27.09 crore. Of these, spares worth Rs 18.27 crore are for second overhaul which is unlikely to take place and certain systems of outdated technology which are not being overhauled pending their replacement with systems based on new technology. Audit called for a review of such procurements.

(Paragraph 19)

Delay in construction of bridges by Director General of Border Roads

- Ministry of Surface Transport and Director General of Border Roads accorded sanctions for construction of bridges without stipulating any completion period. In the absence of this, the quantum of delay involved in completing the bridges could not be assessed. Time taken in construction of bridges did not bear any relation to the length of the bridge. Certain bridges sanctioned during 1977 to 1986 were yet to be completed.

- Initial selection of unsuitable sites, inadequate soil investigation, repeated revision of design, drawings and specifications and delayed decisions on contract matters resulted in abnormal delays in completion of the bridges. These delays entailed cost escalation of Rs 21.92 crore in respect of 10 bridges alone. Besides, such delays will have an effect on the socio-economic development of the areas as well as Defence requirements.

- Although the Bridging Directorate under Director General Border Roads started functioning from 1983, the Directorate did not compile any Standard Schedule of Rates of its own for proper estimation of cost of bridges to be constructed. The Directorate is preparing its estimates based on only the completion cost of bridges, frustrating administrative control.

(Paragraph 42)

Delay in taking over of land leading to pilferage of trees

A Defence Estates Officer, who made payment of full compensation in March 1994 for 1995.05 acres of land and assets thereon acquired under urgency clause, took possession of 493.31 acres in 1994, 242.98 acres in July 1996, 425.58 acres in July 1997 and 275.024 acres in December 1998. The delay in taking over of the land resulted in pilferage of trees worth Rs 37.78 lakh. 557.77 acres of land costing Rs 2.69 crore was yet to be taken over by the Defence Estates Officer as of October 1999 resulting in non-realisation of value for money for five years. Further, the Defence Estates Officer had not obtained refund of Rs 2.37 crore from the Special Land Acquisition Collector in respect of those lands for which compensation was paid but which were later denotified from acquisition.

(Paragraph 31)

Infructous expenditure in creation of a safety zone around a test range

For creating a safety zone around a test range, Ministry accorded sanction for acquisition of 329.76 acres of land from a private party and transfer of 191.11 acres of State Govt. land. Defence Estates Officer paid Rs 1.22 crore for the private land between October 1991 and March 1993. Though the land was acquired completely under urgency clause of Land Acquisition Act 1894, the local Defence Estates Officer took over possession of the land in December 1994 pending assessment of rehabilitation package for the inhabitants. As a result, the inhabitants continued to stay in the acquired land. Each time a test was conducted in the range the inhabitants had to be evacuated to safe places, involving additional extra expenditure. Government had also sanctioned Rs 2 crore in July 1999 towards rehabilitation package, setting a precedent.

(Paragraph 29)

Delay in setting up of an aviation base

A Station Commander, who was aware in February 1993 that 106.08 acres of defence land meant for setting up of an aviation base was being encroached upon by Power Grid Corporation of India by erecting Pylons for high tension power transmission lines, failed to stop the encroachment. Quarter Master General at Army Headquarters also formalised the encroachment by entering into an agreement to the effect that the high tension power transmission lines to be erected across the defence land would be removed within two years. The Corporation had not removed the power lines as of July 1999 which hampered the setting up of the aviation base.

(Paragraph 30)

Inadmissible payment under Land Acquisition Act

Land Acquisition Act 1894, was amended in September 1984, which provided certain additional benefits in addition to market value of the land as compensation. Certain land owners whose land was acquired prior to the said amendment filed petitions for such additional benefits in High Court, which passed orders in their favour. The State Government appealed in Supreme Court against orders of High Court and Supreme Court set aside the lower Court's orders.

However, additional benefits paid by DEO, Ambala was Rs 23.80 lakh which remained to be recovered. DEO, Jaipur continued to make the inadmissible additional benefits to the tune of Rs 50.68 lakh even after the Supreme Court verdict.

(Paragraph 32)

Non-recovery of dues from a commercially run club occupying prime Defence land

Ordnance Club, Calcutta which is run on commercial lines is in occupation of 1.42 acres of prime Defence land since 1907. The Garrison Engineer, Calcutta executed a lease agreement with the club in May 1935 and renewed it in January 1958 at annual rent of Rs 10 and thereafter had not renewed the agreement. Area Headquarters, Calcutta issued instructions in July 1992 to execute a fresh lease.

The Director Defence Estates, Calcutta in January 1996 informed Director General Defence Estates (DGDE) that the club has assumed the shape of a commercial establishment and recommended annual rent of Rs 23.20 lakh per acre on the commercial value of the land which comes to Rs 33 lakh for 1.42 acres. The DGDE had not taken any decision on this case and rent remained unrealised.

(Paragraph 28)

Acceptance of substandard mosquito nets by the Inspecting Authority

Senior Quality Assurance Officer (Textile and Clothing) Calcutta accepted 2.75 lakh mosquito nets purchased from trade by Director General of Ordnance Services, though they did not conform to specifications. When one of the Depots complained about the substandard nets supplied, Senior Quality Assurance Officer maintained that the specification of nets drawn at random from different bales were within acceptable limits and fit for normal use. On receipt of complaints from more Depots, a Board of Officers recommended rejection of the entire supply. Out of 1.11 lakh nets, 83,543 nets held by the Depot valued at Rs1.80 crore were rejected. The number of defective mosquito nets in the 1.64 lakh nets issued to the troops was yet to be ascertained.

(Paragraph 25)

Questionable purchase of stores

Department of Defence Production and Supplies invited tenders for Aerosol Bomb - a mosquito and insect repellent - in November 1990. Analysis of the rates quoted by a firm revealed that while the cost of chemical content was only Rs 9.30, the cost of disposable container with spraying mechanism was Rs 44.50. In view of the disproportionately high cost of disposable container, the Director General of Armed Forces Medical Services expressed reservation about its introduction and Quarter Master General declined to recommend the procurement, particularly when cheaper substitutes were already under use. Despite such reservations, order for 92,600 numbers of Aerosol Bomb costing Rs 52.91 lakh was placed by Department of Defence Production and Supplies in June 1992 to appease the firm. Considering the various reports from the User units about the non effectiveness of the product and its prohibitive cost, the item was removed from the inventory in September 1994 by the Quarter Master General.

(Paragraph 26)

Extra expenditure due to delay in taking risk purchase action

Army Headquarters failed to administer properly the contracts concluded for purchase of 1.90 lakh canvas shoes. Undue delay in obtaining legal advice, cancellation of contracts and conclusion of risk purchase contract resulted in an extra expenditure of Rs 37.37 lakh in procuring the canvas shoes.

(Paragraph 27)

Avoidable extra expenditure in delayed conclusion of contract

Additional Financial Advisor (Defence) in April 1990 did not entertain the financial concurrence sought by a Chief Engineer for conclusion of a contract at Rs 77.53 lakh on the grounds that tenders were issued after two years from the date of Administrative Approval. This decision of the Additional Financial Advisor (Defence) was not covered by the Defence Works Procedure. Refusal of the financial concurrence led to repeated revision of estimates till revised estimates was sanctioned by the Ministry in November 1995. After the revised sanction, the Chief Engineer concluded the contract in January 1998 for Rs 1.83 crore leading to additional expenditure of Rs 1.05 crore.

(Paragraph 37)

Avoidable expenditure on cancellation of a contract

Commander Works Engineer, Wellington did not accede to the request of a contractor to use PCC bond stones in lieu of stone bond stones due to non-availability of the latter, though a provision to this effect was available in the Contract Agreement and other contractors in the same station and same period were allowed to use PCC bond stones. Arbitrary decision of the Commander Works Engineer led to illegal cancellation of the contract, conclusion of risk and expense contract, arbitration award in favour of contractor, payment of HRA on account of delay in completion of quarters and consequent total extra expenditure of Rs 17.06 lakh.

(Paragraph 40)

Deliberate delay in award of contract to favour a contractor

Chief Engineer (Project) Himank, invited tenders for handling and conveyance of stores from Pathankot to Leh and adjoining areas of Leh, and entered into unwarranted correspondence with a firm whose rates for the areas adjoining Leh was much higher than the rate quoted by another firm. This action of the Chief Engineer delayed the decision for conclusion of the contract and expiry of validity of other tenders. The Chief Engineer concluded the contract with the former resulting in additional expenditure of Rs 11.82 lakh.

(Paragraph 43)

Nugatory expenditure on indigenisation of a Rocket

122 mm Grad Rocket, was indigenised by Armament Research and Development Establishment Pune (ARDE). As the indigenised Rocket was not meeting the Russian Range Table, ARDE in consultation with Director General Quality Assurance (DGQA) formulated new acceptance criteria, for the rockets to be manufactured.

Decision to clear bulk production even when the rockets were not meeting the range table criteria resulted in subsequent suspension of production, rejection of 2294 rockets valued at Rs 6.33 crore and segregation of 8844 rockets valued at Rs 24.41 crore. Further, with the suspension of production, stores worth Rs 25 crore were also lying at an Ordnance Factory.

(Paragraph 41)

Downgradation of mines due to manufacturing defects

As per PAC's recommendations the DGQA established a procedure for repair of body crack in mines as early as in 1989. Four Depots were holding mines costing Rs 1.56 crore in repairable condition due to body crack since 1992. Though majority of these mines were sentenced repairable during 1992 to 1995, DGOS approached OFB in October 1995 and April 1997 and DGQA in June 1998 for *in situ* repairs of mines. DGQA declined to undertake repair on the grounds that mines had already outlived their lives. Failure of DGOS in initiating timely action for repairs of the mines resulted in expiry of shelf life of mines and loss of Rs 1.56 crore.

(Paragraph 21)

Recovery at the instance of Audit

Test check of payments admitted by two Controllers of Defence Accounts, seven Pay and Accounts Offices (Other Ranks), and 16 Army Units revealed overpayments/under recoveries of Rs 75.56 lakh due to deficient internal control; the overpayments were recovered subsequently. On a request from Audit to carryout a review on a particular category of overpayment; one of the Pay and Accounts Officers identified and recovered Rs 1.51 crore.

(Paragraph 16)

Ordnance Factory Organisation

Performance of Ordnance Factory Organisation

The Ordnance Factory Organisation comprising of 39 factories with a manpower of 1.54 lakh produced 1210 items of arms, ammunition, equipment and components. The value of production aggregated to Rs 5441.13 crore in 1998-99 which was 24.10 per cent higher than the value of production of Rs 4384.58 crore in 1997-98.

The net expenditure of Ordnance Factory Organisation has increased substantially over the last three years.

Production of 73 out of 234 items of completed products for which targets were fixed was behind schedule. Ordnance Factory Board did not fix targets for production of 50 completed items.

(Paragraph 44)

Indigenous Manufacture of 155 mm ammunition

- Army placed eight demands between August 1990 and August 1998 on Ordnance Factory Board for delivery of 2.37 lakh shells (seven types), 1.19 lakh fuzes (four types), 1.29 lakh primers and 2.51 lakh propellants (four types) of 155mm ammunition during 1991-92 to 1998-99 against their requirement of 5.85 lakh shells, 5.82 lakh fuzes, 6.42 lakh primers and 6.13 lakh propellants. Ordnance factories developed only shell M 107, 77B, HEER and smoke 24 km and issued 2.23 lakh shells to Army during 1992-93 to 1998-99. Remaining three types of shells viz. Illuminating, cargo and smoke (infrared) were yet to be developed as of March 1999. Similarly, 0.38 lakh fuze PDM 572, 0.59 lakh primers and 1.18 lakh propellants were issued to Army up to March 1999. Delayed and reduced supply of components were due to delayed development of four types of shells and delayed creation of facilities at Ordnance Factory Badmal, as an imported machine valued at Rs 29.36 crore was commissioned after a delay of one and half years.

- Though Army required all components of ammunition in matching quantity so as to make complete rounds, ordnance factories could issue only 0.38 lakh shells as complete rounds as fuzes, primers and propellants were not issued in matching numbers.

- Army had to conclude contract with a foreign supplier in March 1997 for import of 0.80 lakh shells and 0.20 lakh fuzes at a cost of Rs 188.10 crore due to delayed development and reduced supply of 155 mm shells and fuzes by ordnance factories.

(Paragraph 45)

Continuance of production of ammunition despite high rejection

Recurring rejection of shots of 105 mm FSAPDS ammunition in proof led to suspension of manufacture of shots at Heavy Alloy Penetrator Factory, Trichy and blocked inventory at Rs 19.77 crore.

(Paragraph 46)

Repowering of Vijayanta tank

The repowering of Vijayanta tank entrusted to Heavy Vehicles Factory Avadi in 1990 could not take off due to Heavy Vehicle Factory's repeated failure to rectify defects in users' trials. Failure of Heavy Vehicles Factory to repower Vijayanta tank up to users' satisfaction rendered infructuous expenditure of Rs 15.99 crore on surplus stores and Civil Works.

(Paragraph 52)

Non disposal of cobalt despite no prospect of utilisation

Metal and Steel Factory Ishapore was holding cobalt worth Rs 6.72 crore for over 26 years despite pilferage and recommendations of the Board of Enquiry for its early disposal as of October 1999.

(Paragraph 59)

Short closure of indents resulting in blocked inventory

Fixing unrealistic scale of ammunition pouches to be carried by each Jawan by the Army and subsequent shortclosure of indents placed on Ordnance Equipment Factory Kanpur and Ordnance Clothing Factory Avadi led to blockage of inventory costing Rs 6.29 crore.

(Paragraph 48)

Extra expenditure in procurement of stores from ineligible firm

Procurement of stores from selling/marketing agents at higher rates instead of from the prime manufacturers directly by Ordnance Factory Medak and Heavy Vehicles Factory Avadi resulted in extra expenditure of Rs 4.96 crore .

(Paragraph 53)

Loss due to defective manufacture

Defective Manufacture of brass cups of an ammunition by Ordnance Factory Ambernath led to rejection of 196 tonne brass cups valuing Rs 2.24 crore.

(Paragraph 50)

Non-commissioning of imported grinding machine

A crank pin grinding machine imported after making payment of Rs 1.97 crore by General Manager Vehicle Factory Jabalpur was yet to be fully commissioned since its receipt in March 1993.

(Paragraph 57)

Raising permissible rejection limit to cover up defective production

Action by General Managers of three factories in upward revision of unavoidable rejection limits instead of improving quality of production led to abnormal rejections worth over Rs 2.26 crore

(Paragraph 51)

Unnecessary procurement of a machine

Despite holding sufficient infrastructure for manufacture of components of Infantry Combat Vehicles – BMP-II the General Manager Machine Tool Prototype Factory Ambernath imported a costly machine worth Rs 1.09 crore which was avoidable. Besides due to delay & break downs, the machine even after procurement was practically without use.

(Paragraph 56)

Extra expenditure due to purchase of search light from a public sector under taking

Importation of search light by Heavy Vehicles Factory Avadi through Bharat Electronics Limited, Machilipatnam entailed an extra expenditure of Rs 59.95 lakh which could have been avoided had the search light been imported directly.

(Paragraph 55)

Suppression of defects in inter factory supplies

Acceptance of defective components worth Rs 38.49 lakh and its suppression through use of Non-Recurring Rate Forms of materials by Ordnance Factory Varangaon was in gross violation of extant orders.

(Paragraph 61)

Avoidable import of indigenously developed store

General Manager Heavy Vehicle Factory Avadi imported distribution panel of T-72 tanks during 1996-97 and 1997-98 despite successful development of the item indigenously in 1995-96. The importation of panel not only involved avoidable foreign exchange outgo but also entailed extra expenditure of Rs 37.86 lakh as compared to the indigenous cost.

(Paragraph 54)

Response of the Ministry/Departments to Draft Audit Paragraphs

As per the Government instructions issued at the instance of Public Accounts Committee, the Ministries are required to send their response to the Draft Paragraphs forwarded demi-officially to the Secretaries within six weeks. Defence Ministry did not send response to 26 paragraphs included in this Report. Similarly, Department of Defence Production and Supplies did not send its response for eight paragraphs.

(Paragraphs 17 and 62)

CHAPTER 1 : ACCOUNTS OF THE DEFENCE SERVICES

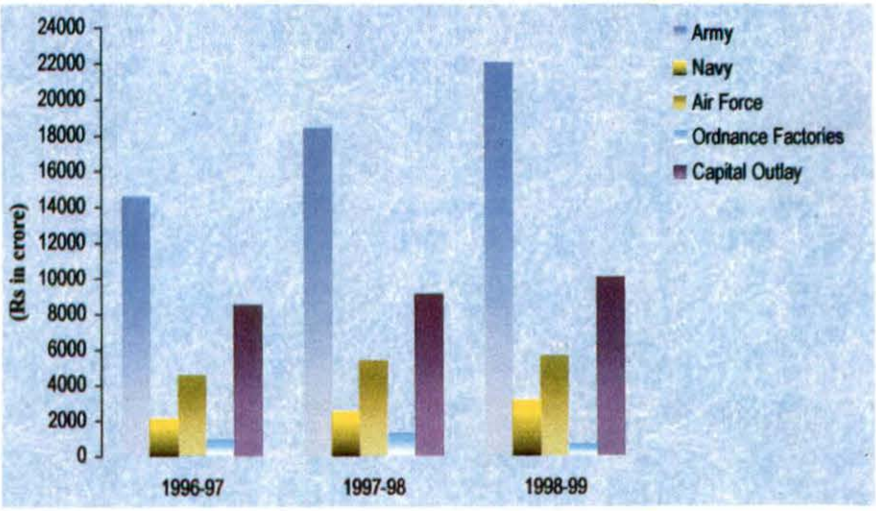
1. Defence Expenditure

The expenditure on major components of Defence Services during 1996-99 was as under :

(Rs in crore)

	1996-97	1997-98	1998-99
Army	14560.33	18353.47	21994.26
Navy	2084.16	2476.85	3109.15
Air Force	4532.64	5337.84	5615.45
Ordnance Factories	859.72	1207.54	608.71
Capital Outlay on Defence Services	8508.42	9103.51	10035.94
Total	30545.27	36479.21	41363.51

The expenditure is represented in the chart below :



2. Authorisation and Expenditure

A summary of Appropriation Accounts of gross sums expended during the year ended March 1999 compared with the several sums authorised in the schedules appended to the Appropriation Acts 1998 passed under articles 114 and 115 of the Constitution of India, is given below:

(Rs in crore)

		Authorisation			Expenditure	Total
		Original Grant/ Appropriation	*Supple-mentary grant	Total	Actual expenditure	unspent provision(-) Excess (+)
REVENUE						
19 – Army						
	Voted	21856.80	---	21856.80	21988.48	(+) 131.68
	Charged	10.30	---	10.30	5.78	(-) 4.52
20- Navy						
	Voted	2965.73	---	2965.73	3108.98	(+) 143.25
	Charged	2.75	---	2.75	0.17	(-) 2.58
21-Air Force						
	Voted	5904.85	---	5904.85	5615.28	(-) 289.57
	Charged	0.75	---	0.75	0.17	(-) 0.58
22 – Ordnance Factories						
	Voted	1284.03	---	1284.03	608.64	(-) 675.39
	Charged	0.16	---	0.16	0.07	(-) 0.09
CAPITAL						
23 – Capital outlay on Defence Services						
	Voted	10352.92	---	10352.92	10020.20	(-) 332.72
	Charged	6.76	---	6.76	15.74	(+) 8.98

* Ministry sought supplementary demands under Grants of Army, Navy & Capital outlay on Defence - Services to the tune of Rs 666.52 crore (voted), Rs 242.62 crore (voted) and Rs 9.00 crore (charged) respectively but Appropriation Act authorising additional expenditure came into force after the financial year had ended.

The overall unspent provision in all the five grants of Defence Services under voted section aggregated to Rs 1022.75 crore as a result of unspent provision in the Grants of Air Force, Ordnance Factories and Capital outlay on Defence Services, and excess expenditure in the Grants of Army and Navy. There was an overall excess expenditure of Rs 1.21 crore under charged section against overall provision of Rs 20.72 crore for all appropriations.

3. Injudicious re-appropriation

In the following cases where re-appropriation from/to various heads were made, there were unspent provision/excesses noticed, suggesting that re-appropriation made during the year were not assessed properly:

(a) Re-appropriation to heads without requirement

In the following cases the original approved provision were sufficient to meet the requirement and thus, there was no necessity for re-appropriation of funds to these minor heads:

(Rs in crore)

Grant No. Minor head	Sanctioned provision	Re-appropriation	Actual expenditure
19- Army			
104- Pay and allowances of Civilians	1097.61	(+)34.19	1095.74
23-Capital Outlay on Defence Services			
02/102- Heavy and Medium Vehicles	6.00	(+) 1.50	3.93

(b) Re-appropriation from heads where expenditure was more than the final provision

In the following cases, the actual expenditure turned out to more than Rs 5 crore compared with the balance provision after re-appropriation from these heads :

(Rs in crore)

Grant No. Minor Head	Sanctioned provision	Re-appropriation	Final provision	Actual Expenditure	Excess with reference to final provision
19-Army					
113-N.C.C.	190.92	(-) 3.76	187.16	203.13	15.97
21-Air Force					
800-Other Expenditure	91.08	(-)5.40	85.68	92.43	6.75
23-Capital Outlay on Defence Services					
01/103-Other Equipments	1838.20	(-)43.56	1794.64	1799.86	5.22

(c) Re-appropriation to heads where expenditure was less than the final amount

In the following cases, the amount of re-appropriation were not utilised fully:

(Rs in crore)

Grant No. Minor Head	Sanctioned provision	Re-appropriation	Final provision	Actual Expenditure	Unspent provision with reference to the final provision
21-Air Force					
104-Pay and Allowances of Civilians	258.94	(+)9.19	268.13	260.20	7.93
105-Transportation	101.64	(+)45.62	147.26	124.44	22.82
23-Capital Outlay on Defence Services					
01/102-Heavy and Medium Vehicles	263.96	(+)121.13	385.09	346.34	38.75

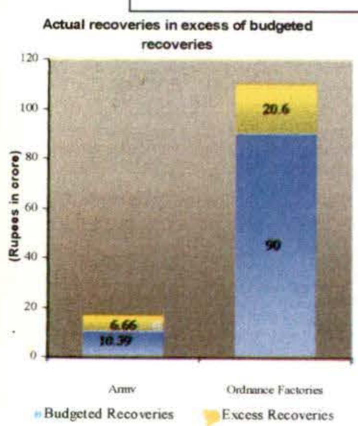
Grant No. Minor Head	Sanctioned provision	Re-appro-priation	Final provision	Actual Expendi-ture	Unspent provision with reference to the final provision
02/202-Construction works	85.00	(+)25.52	110.52	101.46	9.06
02/204-Naval Fleet	2081.02	(+)259.58	2340.60	2322.69	17.91
03/101-Aircraft and Aero-engine	2708.18	(+)127.65	2835.83	2820.51	15.32

4. Recoveries in reduction of expenditure

The Demands for grants are for the gross amount of expenditure i.e., inclusive of recoveries arising from use of stores etc. procured in the past or credits for services rendered to other Departments. While comparing the gross expenditure with the gross amount authorised by the Parliament under the grants, the excess and shortfall in recoveries indicate inaccurate estimation of recoveries and defective budgetary assumptions which ultimately affect the unspent provisions/excesses in the grant. In the revenue section of grants of Defence Services, the Actual recoveries were in excess of budgeted recoveries by 27 *per cent* as indicated below:

(Rs in crore)

No. and Name of Grant	Budgeted recoveries	Actual recoveries	Actuals Compared with Budgeted recoveries Excess (+) Shortfall (-)
Revenue			
19-Defence Services -Army	10.39	17.05	(+) 6.66
22-Defence Ordnance Factories	90.00	110.60	(+) 20.60
Total	100.39	127.65	(+) 27.26



In Grant No.19, against the estimated recoveries of Rs 10.39 crore the actual recoveries were in excess of budgeted recoveries by 64 *per cent* while in the Grant No.22, against estimated recoveries of Rs 90 crore, actual recoveries were in excess of budgeted recoveries by 23 *per cent*. These variations between budgeted recoveries and recoveries adjusted in reduction of expenditure in the revenue section affected excesses and unspent provisions in the Grants of Army & Ordnance Factories respectively.

There is, therefore, need to strengthen budgetary control in this regard.

5. Unspent provision exceeding Rs 100 crore in grant(s)

The Public Accounts Committee in para 1.24 of their 60th Report (Tenth Lok Sabha) commented on the sharp increase in unspent provisions as compared to the sanctioned provisions. The Committee desired that Ministry of Finance should adopt appropriate measures to overcome the unfortunate situation of large unspent provisions and also desired that detailed explanatory notes in respect of unspent provision in a grant/appropriation involving Rs 100 crore and above be furnished to them. Unspent provision exceeding Rs 100 crore in the voted segments of three grants occurred as per details given below :

(Rs in crore)

Grant No.	Sanctioned Grant/ appropriation	Actual expen-diture	Unspent provision	Percentage of unspent provision	Reasons
21- Defence Services-Air Force	5904.85	5615.28	289.57	4.90	Non-finalisation of outstanding claims and expected foreign contracts, slower materialisation of supplies against contracts and less book adjustment of Rail charges etc.
22-Defence Ordnance Factories	1284.03	608.64	675.39	52.60	Lower expenditure on overtime, non-materialisation of supplies and less expenditure against import of material etc. by the Factories.
23-Capital outlay on Defence Services	10352.92	10020.20	332.72	3.21	Non - finalisation / conclusion of certain contracts, slow progress of works etc.

These call for submission of explanatory notes to the Public Accounts Committee.

6. Excess over Grants/appropriation

The table below shows excess expenditure under three grants/ appropriation.

(Rs in crore)

Grant No.	Original grant/ appropriation	Actual expenditure	Excess
19- Defence Services Army - Voted	21856.80	21988.48	131.68
20- Defence Services Navy - Voted	2965.73	3108.98	143.25
23-Capital outlay on Defence Services - Charged	6.76	15.74	8.98

The entire amount of excess registered under the grants/appropriation shown above occurred as the Appropriation Act authorising additional expenditure came into force after the financial year had already ended and hence expenditure included in the second batch of supplementary demands were not legally available in March 1999. In view of the peculiar circumstances, excess expenditure requires regularisation by presenting excess Demands for Grants to Parliament.

7. Persistent unspent provision

A detailed scrutiny has disclosed that large scale unspent provision had been regularly occuring under the grants/appropriations relating to the Defence Services. The following table indicates the quantum of overall unspent provisions noticed during the last five years:

(Rs in crore)

Year	Overall unspent provision	Reasons for large unspent provision
1994-95	384.61	An amount of Rs 120.40 crore and Rs 113.82 crore remained unutilised in the grants/appropriations of Defence Ordnance Factories and Capital outlay on Defence Services.
1995-96	289.60	An amount of Rs 209.24 crore and Rs 49.74 crore remained unutilised in the grants/appropriations of Defence Services-Air Force and Defence Ordnance Factories.
1996-97	449.59	An amount of Rs 437.36 crore remained unutilised in the grant/appropriation of Capital Outlay on Defence Services.
1997-98	1467.42	An amount of Rs 1160.98 crore and Rs 193.49 crore remained unutilised in the grants/appropriations of Defence Services-Army and Capital outlay on Defence Services.
1998-99	1021.54	An amount of Rs 1021.54 crore (overall) remained unutilised in the grants/ appropriations of Defence Services despite of excesses in the grants of Army(voted), Navy(voted) and Capital outlay on Defence Services(charged).

Audit noticed that large amounts of unspent provisions, exceeding Rs 5 crore in voted segments continued to persist during 1998-99 in the following cases for the reasons shown against each:

(Rs in crore)

Grant No. Minor Head	1996-97	1997-98	1998-99	Reasons for unspent amount given in Appropriation Accounts
19 – Army				
101 – Pay and Allowances of Army	51.32	322.37	58.92	Lower rates of D.A. than anticipated and non-announcement of additional allowances/incentives by the Anomalies Committee as anticipated

104 – Pay and Allowances of Civilians	1.63	14.65	36.06	Announcement of lower rates of D.A.& Bonus than anticipated
21–Defence Services-Air Force				
110 – Stores	2.17	8.89	23.88	Non-booking of expenditure on the Helicopter and overhaul of Aircraft; non-presentation of some vouchers by the Army
22-Defence Ordnance Factories				
054 – Manufacture	13.09	23.64	12.31	Less expenditure on overtime by the factories
23-Capital Outlay on Defence Services				
01 - Army				
102 – Heavy and Medium Vehicles	4.70	31.11	38.75	Delay in finalisation of certain contracts
02 – Navy				
101 – Air craft and Aero-engine	4.54	8.21	29.20	Delay/rescheduling in supply of foreign equipment and non-finalisation of certain foreign contracts
103 – Other Equipment	2.26	3.69	8.45	Non-finalisation of certain contracts
205 – Naval Dockyards	10.51	6.25	10.91	Slower progress of works than anticipated
04–Defence Ordnance Factories				
052 – Machinery and Equipment	7.85	6.31	7.92	Less expenditure against projects and delay in supply of CRV Presses from Foreign Suppliers
05 – R & D Organisation				
111 - Works	15.92	16.54	8.94	Non-materialisation of certain foreign supplies

The persisting trend of large unspent provisions in the grants/appropriations are indicative of over-estimation of the requirement of funds by Ministry of Defence.

8. Persistent excess

During the last three years there was persistent excess with reference to approved provision in the voted segment of grant as per details given below:

(Rs in crore)

Grant No. Minor Head	1996-97	1997-98	1998-99
19 – Army			
113 – N.C.C.	12.42	1.61	15.97

9. Dues on account of Special flights/air lifts

Despite mention made in Para 11 of Report No.7 of 1998 of the Comptroller and Auditor General of India, Union Government, Defence Services (Army and Ordnance Factories), the amount due for recovery on account of special flights/air lifts provided by the Airforce had increased from Rs 73.58 crore as on 30 June 1998 to Rs 90.06 crore as on 30 June 1999 showing an increase of 22 *per cent*. Of these, the oldest amount due for recovery pertains to the year 1962-63.

Action to liquidate the huge outstanding amount needs to be taken.

10. Losses awaiting finalisation/regularisation

i) The number of claims for losses or damages of stores in transit preferred against the Railways/Shipping Corporation/Airways upto 31 March 1999 and awaiting finalisation as on 30 June 1999 was 2495 amounting to Rs 24.44 crore approximately. The oldest case of these relates to the year 1971-72.

ii) There were 1498 cases of losses awaiting regularisation for more than one year by the Government of India or Ministry of Defence as on 30 June 1999 involving a sum of Rs 223.62 crore approximately. The oldest case relates to the year 1969-70.

Action for early finalisation/regularisation of these cases needs to be taken.

11. Suspense Balances

The Receipts and Payments which await final classification in the absence of further information or orders and yet to be accounted for under the appropriate functional heads are shown separately in a suspense head and termed as suspense balance. The suspense balances on the debit side represent expenditure items and those on the credit side represent receipts items awaiting adjustments. The figures exhibited as net figures do not show the total dimension of the value of transactions awaiting adjustments on both sides.

The position of suspense balances under various minor heads of account for the last three years as per statement No.13 of Receipts, Disbursement and Balances relating to Debt, Deposits and Remittances was as under:

Suspense Accounts Defence

(Rs in crore)

Year Up to	Net Balances						
	PAO Suspense	A.G.-Suspense	Public Sector-Bank Suspense	Reserve Bank-Suspense	P.F.-Suspense	Misc.-Suspense	Total Net Suspense Balances as on 31 March
1996-97	DR 131.24	DR 43.93	--	DR 940.52	DR 0.09	CR 135.28	DR 980.50
1997-98	DR 145.44	DR 72.81	DR 349.40	DR 1072.32	DR 0.09	CR 43.62	DR 1596.44
1998-99	DR 143.35	CR 10.44	DR 447.14	DR 1797.79	DR 0.15	CR 27.56	DR 2350.43

It is evident from the above details that the total net outstanding balances under Suspense Accounts-Defence as on 31 March 1999 was Rs 2350.43 crore (DR) and balances under suspense heads were increasing over the years. In terms of percentage, the increase in Suspense Head during 1997-98 and 1998-99 over the year 1996-97 was to the extent of 62.82 *per cent* and 139.72 *per cent* respectively.

The suspense balances not only affect the unspent provision and excesses with reference to the approved provision but also affect the accuracy of Appropriation Accounts. The huge outstanding balances lying under the suspense head need to be cleared expeditiously by classifying them to appropriate heads of account in order to ensure the correct depiction of amounts in the accounts.

12. Rush of expenditure in March

As per rule 105 of Financial Regulation Part I Volume I of Defence Services, rush of expenditure particularly in March i.e., the closing month of the financial year is to be regarded as a breach of financial regularity and should be avoided. Contrary to the above provision, a large portion of the total expenditure was incurred in the following Grants/Appropriations in the month of March during the last three years i.e; 1996-97 to 1998-99:

(Rs in crore)

Name of Grant	1996-97		1997-98		1998-99	
	Total Expenditure	March Expenditure (%)	Total Expenditure	March Expenditure (%)	Total Expenditure	March Expenditure (%)
Defence Services-Army	14560.33	3363.97 (23.10)	18353.47	4470.26 (24.36)	21994.26	6156.16 (27.99)
Defence Services-Navy	2084.16	327.70 (15.72)	2476.85	405.91 (16.39)	3109.15	764.76 (24.60)

Defence Services-Air Force	4532.64	830.13 (18.31)	5337.84	1162.97 (21.79)	5615.45	1777.37 (31.65)
Capital Outlay on Defence Services	8508.42	2426.02 (28.51)	9103.51	2874.25 (31.57)	10035.94	4801.29 (47.84)

Despite mention made in Para 13 of Report No.7 of 1998 of the Comptroller and Auditor General of India, Union Government, Defence Services (Army and Ordnance Factories), the rush of expenditure in the month of March shows an increasing trend over the years.

CHAPTER II : MINISTRY OF DEFENCE

13. Failure to safeguard Government interest

Director (Systems), Ministry of Defence paid Rs 4.22 crore to a firm for supply of 200 radio sets without verification of the claims as certified by the firm's internal auditors. Bank guarantee against which advance was paid was not renewed.

Failure of Director (Systems), Ministry of Defence to renew the bank guarantee securing the initial advance, and reimbursement of progressive expenditure without verification of the claims for further instalments, resulted in non-recovery of Rs 4.22 crore from the defaulting firm for over eight years besides litigation and loss of interest of Rs 3.07 crore.

Radio Set HX is a light weight manpack used by Commando Units and Special missions.

Ministry placed LOI for Radio Sets in October 1990 for Rs 4.96 crore

Director (Systems), Ministry of Defence placed a letter of intent on firm 'A' in October 1990 for supply of 200 radio sets and related spares for Rs 4.96 crore. Supply was to be completed by June 1992.

Even though the radio set offered by the firm had failed in the high altitude trials conducted in early 1989, and the Army did not recommend the sets, Director (Systems) placed the letter of intent on the grounds of encouraging indigenous production.

LOI provided for an initial advance of 20 *per cent*

The letter of intent constituted an authority for the firm to draw initial advance not exceeding 20 *per cent* of Rs 4.96 crore on furnishing a bank guarantee of like value, and further progressive reimbursement not exceeding 65 *per cent* of Rs 4.96 crore against certification by the internal auditors of the firm to the effect that the amount claimed did not exceed the total progressive expenditure.

Director (Systems) further paid Rs 3.23 crore till February 1991 even before bulk production clearance

Director (Systems) paid 20 *per cent* advance of Rs 99.20 lakh in October 1990 against bank guarantee. Although the firm did not supply any radio set, Director (Systems) continued further payments amounting to Rs 3.23 crore up to February 1991 on the basis of certificate issued by the firm's internal auditors, without ensuring independently whether the firm had procured components required to produce the radio set. The total payment thus made to the firm was Rs 4.22 crore. The items to be supplied included spares, special machine tools, special test equipments, technical manuals worth Rs 1.08 crore and other items like batteries, hand crank generators, etc. which should not have been paid for unless supplied.

Director (Systems) did not renew the guarantee

Although the bank guarantee expired on 12 October 1991, the Controller of Defence Accounts Central Command, Meerut with whom the bank guarantee was lodged and the Director (Systems) did not get it renewed.

Director (Systems) extended delivery period up to 31 December 1994

The firm offered two sets in November 1991 for evaluation. The evaluations and consequent modifications continued till December 1993 when the Director (Systems) gave clearance to the firm for bulk production of the radio sets. The delivery period was extended up to 31 December 1994. Meanwhile in August 1994, the Director (Systems) learnt that the firm was facing financial problems and did not have working capital to produce the radio sets. He approached the Secretary, Industries of the State to make available details of working capital of the firm. This did not yield any result.

The firm wound up in November 1996

On verification in firm's premises, it was found that execution of supply order was not possible except for a small number of sets for which components were understood to be available. Thereafter, the matter remained under correspondence between Army HQ, Ministry of Defence and the firm till November 1996 when the firm was wound up.

Ministry filed an affidavit in October 1997 before the High Court of Andhra Pradesh for recovery of Rs 7.28 crore including compound interest at 9.9 *per cent*. The matter was still under litigation as of November 1999.

The matter was referred to the Ministry in June 1999; their reply was still awaited as of December 1999.

14. Unfruitful expenditure on repair of a weapon system

Equipment repaired abroad at a cost of Rs 1.47 crore in August 1994 remained in packed condition even after a lapse of over 4 years .

A vital equipment known as K-1 complex used for operational and technical control of an air defence weapon system needed repair primarily to maintain operational effectiveness. Offer for repair received from a foreign country had not been ensured by concluding an agreement.

Agreement for repair of technical equipment abroad entered into on 16 December 1991

Repaired equipment carried a guarantee of 12 months from the date of delivery

Ministry entered into a general agreement on 16 December 1991 with General Engineering Department of the Ministry of Foreign/Economic Relations of USSR for repair of this equipment for a period of 5 years. The Ministry entered into another agreement, superseding this in September 1992 to extend the validity beyond December 1996 by signing yearly supplementary agreements. The repaired equipment carried a guarantee of 12 months from the date of delivery, provided the repaired equipment was properly unpacked, assembled, tested, operated and stored conforming to the supplier's instructions.

Cost of repairs was Rs 1.47 crore

Ministry concluded a supplementary agreement on 31 December 1993 for repairs to K-1 complex of air defence weapon system for US $408,080 equivalent to Rs 1.47[1] crore. The repaired equipment was to be handed over by the supplier by deputing Russian specialists to India at their expense.

Repaired complex was lying in a depot for over 4 years unopened

The repaired K-1 complex was shipped to India in August 1994 and had been lying in a Depot pending opening of the packages and handing over by foreign specialists. Neither the Army HQ nor the Ministry of Defence followed up the matter till October 1997 when the Embassy of India Moscow pointed out the delays in taking a decision to arrange for the visit of the Russian specialists for the purpose. The Ministry made arrangements after eight months in June 1998 for the visit of Russian specialists for the purpose of handing over of the repaired equipment. Foreign specialists who visited India handed over the repaired equipment in March 1999.

The very purpose of enhancing the operational effectiveness of the vital air defence weapon system was defeated even after incurring an expenditure of Rs 1.47 crore.

Army HQ stated in October 1999 that the delay in calling foreign specialists was due to an impasse over signing of supplementary agreements pertaining to the visit and overhaul of further K-1 complex was still under consideration in the light of the experience with the first overhaul. Army HQ added that requirements of operational unit were met from reserve equipment. They added that equipments were now operational with no major complaints from users.

Thus, delay in conclusion of an agreement and not taking over repaired K-1 complex since 1994 for over four years deprived the Army of enhanced operational effectiveness of air defence weapon system for which an amount of Rs 1.47 crore was spent.

The matter was referred to the Ministry in May 1999; their reply was awaited as of December 1999.

15. Additional expenditure due to non-compliance of Risk Purchase Procedures

Department of Defence Production and Supplies failed to follow laid down procedure in concluding risk purchase contracts. This led to unenforceable claim for Rs 66.59 lakh.

The Department of Defence Production and Supplies placed a supply order in March 1987 on firm 'A' for purchase of 125 sets of "Support Roller" for T-72 tanks at Rs 59,649 per set. The supplies were to be completed by 1 December

[1] 1 US $ = Rs 36.02

1990. The firm failed to deliver the sets within the delivery schedule. In a Ministerial meeting held in August 1991, the firm's proposal to import the bearings, required for manufacturing the sets, with customs duty exemption, was agreed to. However, the department failed to issue a formal letter granting extension of time beyond the original date of delivery schedule i.e. 1 December 1990. As the firm did not evince any interest thereafter to supply the item, in another Ministerial meeting held in May 1992 it was decided to cancel the contract. Accordingly, the Department of Defence Production and Supplies cancelled the supply order in June 1992 at the contractor's risk and expense. Subsequently, the department placed two supply orders in September 1992 on firm 'B' for 16 sets and on firm 'C' for 109 sets at a total amount of Rs 1.22 crore, overlooking the fact that as per general terms and conditions of contract any risk purchase contract had to be concluded within 12 months from the date of failure/scheduled delivery. The two firms completed the supply in September 1994 and June 1997 respectively.

DDPS failed to issue formal letter granting extension of time

DDPS placed order for risk purchase after 12 months of date of failure

Rs 47.08 lakh involved on repurchase could not be enforced on the defaulting firm

The failure of the Department of Defence Production and Supplies to issue a formal letter to the firm granting extension of time beyond the original delivery period and subsequently in not concluding risk purchase contract within stipulated period, resulted in recovery of the additional expenditure of Rs 47.08 lakh incurred through risk purchase orders not enforceable on the defaulting firm.

Firm failed to supply the store within delivery period in one more case

In another case, the Department of Defence Production and Supplies placed in September 1988, a supply order on firm 'D' for supply of 125 sets of 'Pipeline Exhaust' at Rs 12250 each plus 4 *per cent* Central Sales Tax and Excise Duty as applicable. The firm did not supply the stores up to the stipulated delivery schedule of 10 February 1991. The Department cancelled the order in November 1991 at risk and expense and placed an order on firm 'C' in June 1992 for supply of the 125 sets at Rs 27254 per set plus Central Sales Tax at 4 *per cent* and excise duty. The latter firm completed the supply by May 1993.

Additional expenditure in purchase from other source was Rs 19.51 lakh

Additional expenditure in procuring the store at higher rate amounted to Rs 19.51 lakh.

The matter was referred to the Ministry in September 1999; their reply was awaited as of December 1999.

16. Recovery/saving at the instance of Audit

Deficient control by two Controllers of Defence Accounts, seven Pay Accounts offices and 16 units and formations resulted in overpayment of Rs 2.23 crore. Cancellation of unauthorised works and revision of estimates at the instance of Audit resulted in savings of Rs 32.22 lakh.

Recoveries

Audit noticed overpayment of Rs 21.37 lakh in CDA(Officers)/six PAOs

Overpayments and short recoveries aggregating Rs 21.37 lakh relating to pay and allowances and personal claims were noticed in the pay accounts maintained by Controller of Defence Accounts (Officers) and Pay and Accounts office (Other Ranks) AOC Secunderabad, Pay and Accounts Office (Other Ranks) MLI Belgaum, Pay and Accounts Office (Other Ranks) MIRC Ahmednagar, Pay and Accounts office (Other Ranks) BEG Kirkee, Pay and Accounts Office (Other Ranks) ACR Ahmednagar and Pay and Accounts Office (General Reserve Engineering Force). The overpayments were accepted by the concerned offices.

Review at the instance of Audit resulted in recovery of Rs 1.51 crore

Audit scrutiny of Individual Running Ledger Accounts maintained by Pay and Accounts office (Other Ranks) EME Secunderabad for the quarter ending August 1996 disclosed credit of Rs 3.13 lakh in excess of amounts shown in due drawn statements. On being pointed out the Pay and Accounts Office reviewed 23063 Individual Running Ledger Accounts and recovered Rs 1.51 crore from the accounts for the quarter ending August 1997.

Test check of the accounts maintained by Controller of Defence Accounts, Canteen Stores Department revealed an overpayment of Rs 6.96 lakh towards excess reimbursement of excise duty to unit run canteens. This was accepted and recoveries effected.

Test Check of accounts of 16 Army units/formations disclosed overpayments of Rs 44.10 lakh

Further, test check of the accounts maintained by 16 Army units and formations revealed over-payment/under-recovery of Rs 44.10 lakh towards LTC, pay and allowances, Transport allowance, CCA, field allowance and excess payment of water charges etc. These overpayments and under-recoveries were accepted and recoveries being made.

Thus, overpayments and short-recoveries of Rs 2.23 crore were effected/noted at the instance of Audit.

Savings

At the instance of Audit savings of Rs 32.22 lakh were effected in the following cases:

Case I

Revision of estimates resulted in savings of Rs 20.11 lakh

Ministry accorded a sanction in May 1997 for construction of married accommodation for service personnel at an estimated cost of Rs 14.72 crore later amended in January 1998 to Rs 15.96 crore. The sanction, inter-alia, provided 5 *per cent* extra for undertaking construction in restricted area. Since some of the accommodation during execution were sited in unrestricted area, Audit called for reduction in the sanctioned amount by Rs 8.00 lakh. It was also noticed that though the construction of some of the married accommodation were changed from triple storey framed structure to double storey non-framed construction, an amount of Rs 11 lakh towards framed structure was still provided in the revised sanction of January 1998. On these being pointed out the Chief Engineer initiated action in June 1999 to reduce the sanctioned amount by Rs 20.11 lakh including contingency and establishment charges thereon.

Case II

Deletion of the water meter as suggested by Audit saved Rs 1.58 lakh

When Audit pointed out that as per existing orders water meters are not to be provided in married Junior Commissioned Officers/Other Ranks quarters, Chief Engineer 31 Sub Area had agreed to delete 263 water meters included for provision from various contracts resulting in a saving of Rs 1.58 lakh.

Case III

CE(P) procured oil and lubricants worth Rs 13.93 lakh during 1971-89 but did not use it till 1996

DGBR proposed initiation of loss statement

When Audit highlighted loss, alternative use of oil and lubricants worth Rs 10.53 lakh was established

Oil and lubricants worth Rs 13.93 lakh procured during 1971 to 1989 by Project Chief Engineer Beacon under Director General of Border Roads were held in stock till November 1996 when a Board of Officers suggested its alternative use. This was not agreed by the Director General of Border Roads on the ground that such alternate usage might result in damage to costly equipment, and suggested initiation of loss statement. When the over provisioning and lack of timely action to use these oils and lubricants resulting in avoidable loss was highlighted in audit, the Chief Engineer, Project Himank intimated in June 1999 that the alternate use of oil and lubricants worth Rs 10.53 lakh has been established and quantity worth Rs 4.63 lakh had already been consumed. Thus, at the instance of Audit use of oil and lubricants worth Rs 10.53 lakh was explored and quantity worth Rs 4.63 lakh used.

The matter was referred to the Ministry in September 1999; their reply was awaited as of December 1999.

17. Response of the ministries/departments to Draft Audit Paragraphs

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

The Draft Paragraphs are always forwarded by the respective Audit Offices to the secretaries of the concerned ministries/departments through Demi Official letters drawing their attention to the audit findings and requesting them to send their response within six weeks. It was brought to their personal notice that since the issues were likely to be included in the Audit Report of the Comptroller and Auditor General of India, which are placed before Parliament, it would be desirable to include their comments in the matter.

Draft paragraphs proposed for inclusion in the Report of the Comptroller and Auditor General of India for the year ended March 1999: Union Government (Defence Services), Army and Ordnance Factories: No.7 of 2000 were forwarded to the Secretary, Ministry of Defence between April 1999 and October 1999 through Demi Official letters.

The Ministry of Defence did not send replies to 26 Draft Paragraphs out of 42 Paragraphs in compliance to above instructions of the Ministry of Finance issued at the instance of the Public Accounts Committee. Thus, the response of the Ministry could not be included in them.

Ministry/ Department	*Total No. of Paragraphs on Ministry/Department included in Audit Report*	*No. of Paragraphs on which reply not received from Secretary*	*Paragraph Number*
Ministry of Defence	**42**	**26 (excluding Paragraph 1 to 12 of Chapter I)**	**13,14,15,16,18,20, 21,22,23,24,27,28, 29,30,31,32,33,34, 35,36,37,38,39,41, 42 and 43**

18. Follow up on Audit Reports

Despite repeated instructions/recommendations of the Public Accounts Committee, the Ministry did not submit remedial Action Taken Notes on 159 Audit Paragraphs.

Action Taken Notes are to be submitted within four months of placing the Report on the Table of House

With a view to ensuring enforcement of accountability of the executive in respect of all the issues dealt with in various Audit Reports, the Public Accounts Committee desired that Action Taken Notes on all paragraphs pertaining to the Audit Reports for the year ended 31 March 1996 onwards be submitted to them duly vetted by Audit within 4 months from the laying of the Reports in Parliament. Meetings were also held in August 1998, December 1998 and September 1999 under the Chairmanship of Secretary, (Expenditure) to ensure timely submission of Action Taken Notes and to review the position of pending Action Taken Notes.

The Ministry failed to submit Action Taken Notes on 159 paragraphs

Review of outstanding Action Taken Notes relating to Army as of 10 January 2000 revealed that the Ministry failed to submit Action Taken Notes in respect of 159 Paragraphs included in the Audit Reports up to and for the year ended March 1997 as per Annexure. Of these, 55 paragraphs pertained to the Audit Reports up to and for the year ended March 1993.

The matter was referred to the Ministry on 29 November 1999; their reply was awaited as of 10 January 2000.

CHAPTER III: ARMY

Review

19. Overhaul of Infantry Combat Vehicles and Engines

Highlights

- **Facilities to overhaul BMP vehicles inducted since 1977 were not available at required level even after 22 years as of December 1999. As many as 373 items of machinery/equipment were not yet procured and critical spares for overhaul of vehicles were not available.**

- **Setting up of overhaul facilities at a new Base Workshop alongwith a dedicated depot for spares support at Bhopal sanctioned by the Ministry in April 1986 was shelved in 1988 due to change in the induction rate of BMP vehicles.**

- **Ministry/Army HQ took six years between 1988 and 1994 to finalise the size of workshop facilities and the agency to be entrusted with the task. The overhaul policy initially adopted was based on vintage. This was changed to combination of vintage and usage in 1987 and finally only to usage in 1993.**

- **Test check of 130 BMP-I vehicles revealed that the final policy for working out repairables was not realistic and these vehicles have been sent for overhaul after breakdowns which is not desirable.**

- **In the absence of overhaul facilities 247 engines had to be repaired abroad at Rs 5.83 crore besides import of 250 new engines at Rs 12.37 crore under the contracts concluded in March/August 1992.**

- **Setting up of overhaul facilities at an Army Base Workshop with rated capacity of 110 vehicles and 210 engines per annum sanctioned in March 1994 for completion by March 1998 is expected to be ready only by mid-2000. While 114 BMP-I vehicles and 495 engines had already become due for overhaul, by the time the backlog is cleared, there will be further accumulation.**

- **The Army Base Workshop had overhauled only 56 vehicles and 39 engines against respective target of 355 and 765 during the period from 1994-95 to 1998-99. At this rate, the prospects of clearing the backlog to**

match the Army's plan to equip the Mechanised Infantry Battalions with pure profile of BMP-II by the target date is likely to be affected.

- **Procurement of life time spares for overhaul of technologically outdated items and certain spares for second overhaul of BMP-I vehicles is not warranted as there would be no spare capacity with the Army Base Workshop to undertake any overhaul of BMP-I beyond the year 2006 by which time only the first overhaul of the vehicles are expected to be completed. Cost of these spares is estimated at Rs 18.27 crore. This calls for an urgent review.**

- **Army Base Workshop did not follow cost accounting system to ensure that cost of overhaul of vehicles and engines remained within the limits fixed by Ministry.**

- **Cabinet Committee on Political Affairs was not kept informed of the revision in the scope of the project as promised in the Action Taken Note on paragraph 15 of Audit Report No.8 of 1993.**

19.1 Introduction

Army introduced Infantry Combat Vehicles (BMP)[1] in 1977 in replacement of Armoured Personnel Carriers for improved fighting capabilities and mobility; besides securing protection against nuclear radiation. Majority of the fleet of 747 BMP-I was imported during 1981-85. BMP-II vehicles were introduced during 1986 and 24 percent of present fleet were imported during 1986-90 and 76 percent were manufactured indigenously between 1988 and 1998-99. Army planned to equip Mechanised Infantry Battalions with both BMP-I and II upto a particular date, and thereafter only with BMP-II. However, BMP-I would be in service with other arms and services and non-field forces for 5 to 10 years thereafter.

Ministry sanctioned a project called 'White Lily' in April 1986 for setting up of facilities for overhaul of BMP vehicles in a new Base Workshop alongwith a dedicated depot for spares support.

While preparatory works like acquisition of land and import of technical documents were in progress between 1986 and 1988, Ministry put the project on hold in view of reduced induction rate and changes in overhaul policy. Comments on avoidable expenditure due to change in the plan and scope of the project were made in paragraph 15 of Audit Report No.8 of 1993.

Ministry decided in March 1994 to entrust the task to the existing Army Base Workshop and spares support to Central Armoured Fighting Vehicle Depot, by augmenting the existing facilities, stipulating that the cost of overhaul of the

[1] BMP – BOEVAYA MASHINA PEKHOTA (RUSSIAN)

vehicles and engines would at no time exceed 30 per cent of the cost of a new vehicle/engine obtained from Ordnance Factory.

19.2 Implementing Agency

Master General of Ordnance at Army HQ was the nominated nodal agency for establishing the facilities for overhaul of BMP vehicles and engines. A project team of 14 officers and 18 personnel, headed by a Project Controller, was constituted in August 1986 to monitor implementation of the project. Overall monitoring of the project vested with Joint Secretary (Ordnance), Ministry of Defence, assisted by Director (Procurement) of the Ministry.

19.3 Audit objectives

The objectives of the review were to ascertain how far the Ministry's plan and programmes in setting up of overhaul facilities for Infantry Combat Vehicles were accomplished, and whether delays had any adverse impact on keeping the vehicles in battle worthy condition.

The review was conducted between November 1998 and February 1999 through a test check of records and documents at the Ministry, Project Office at Army HQ, Army Base Workshop, and Central Armoured Fighting Vehicle Depot.

19.4 Project Outlines

Ministry sanctioned in March 1994 creation of overhaul facilities

Ministry sanctioned creation of the facilities at a cost of Rs 41.97 crore in March 1994 to achieve full capacity to overhaul 210 engines and 110 vehicles per annum by March 1997 and March 1998 respectively. The sanctioned cost catered for civil works, Plant and Machinery, Higher assemblies and training of personnel as given below:

Item of Work	Cost (Rs in crore)		
	AB workshop	CAFVD	Total
Civil Works	10.12	8.66	18.78
Plant & Machinery	9.96	3.23	13.19
Training	1.50	-	1.50
Higher assemblies	1.50	-	1.50
Plant & Machinery imported under the sanction of April 1986	7.00	-	7.00
Total	**30.08**	**11.89**	**41.97**

Rs 31.43 crore was booked as spent/committed till December 1998 against the project.

19.5 Civil Works

Ministry sanctioned civil works at Rs 17.55 crore in October 1997

Ministry sanctioned "Go-ahead" for civil works in November 1994. The works commenced in August 1995. Based on the tendered cost, Ministry accorded formal sanction in October 1997 for Rs 17.55 crore. Though the Ministry directed in March 1994 that the facilities should be completed in four years time, they allowed 5½ years for completion of the civil works. The work was almost completed as of October 1999, and the balance work was expected to be completed by mid-2000.

Work was expected to be completed by mid-2000

19.6 Delay in decision making and fall outs

BMP vehicles carried 15 years life with one mid life overhaul

Ministry enhanced life to 32 years with overhaul at 12 and 22 years or 10000 km whichever is earlier

Ministry revised the overhaul concept in 1993 based on usage

Life of tracked vehicles including BMPs prevalent at the time of induction of BMP-I in 1977 was 15 years, with one mid-life overhaul. The Ministry changed the overhaul policy in January 1987 while increasing the life of the vehicle to 32 years, providing for two overhauls at 12 and 22 years from the date of the induction, or 10,000 kms run, whichever was earlier. The Army changed the overhaul philosphy yet again in 1993 under which the periodicity of overhauls were to be worked out with reference to kilometerage instead of vintage, as it was considered that the need for repairs arose more through usage than vintage. The engines common to both BMP-I and II were due for overhaul after 4800 kms. The Ministry, accepting in principle this overhaul philosophy, sanctioned in March 1994 creation of facilities for overhaul of 110 BMP-I vehicles and 210 engines per annum, by augmenting the existing facilities at Army Base Workshop and spares support by Central Armoured Fighting Vehicle Depot.

The overhaul facility was expected to be fully established by mid 2000. First overhaul of 686 BMP-I vehicles was expected to be completed by 2006 and BMP-II would be taken up for overhaul only from 2007. This is critical in the context of Army's existing plan to equip all Mechanised Infantry Battalions with BMP-II vehicles by a target date by which time all imported BMP-II vehicles would have completed more than 16 years.

Ministry stated in December 1999 that 56 vehicles have been overhauled and 114 of 1981 vintage have become due for overhaul.

Ministry added that the downgradation of vehicles for overhaul was based on approved policy and mechanical condition.

121 out of 130 BMP-I vehicles were downgraded for overhaul on breakdowns not conforming to policy

Overhaul policy based on twin conditions would be prudent

Ministry's contention was not borne out by ground realities in that 121 out of 130 BMP-I vehicles sent for overhaul were downgraded when they had run between 1000-10000 kms, and 50 per cent of them did not achieve even half the bench mark i.e. 5000 kms. This would indicate that the vehicles were down graded on occurrence of break down rather than any pre-determined criteria. Viewed from this perspective, overhaul policy based on twin conditions would be prudent in that repairable arising could be forecast and their overhaul planned accordingly, to keep the vehicles battle worthy.

19.7 Poor performance at Army Base Workshop

19.7.1 Vehicles

Army Base Workshop's achievement fell short of target for overhaul

Ministry stipulated that full capacity for overhaul of 110 vehicles at the Army Base Workshop should be achieved by March 1998. Army HQ fixed progressive annual targets from 1994-95 to 1998-99. The achievement against the targets was only 10 to 19 per cent as indicated below:

Year	Target	Achieved	Shortfall	% of achievement
1994-95	10	1	9	10%
1995-96	50	7	43	14%
1996-97	75	10	65	13%
1997-98	110	17	93	15%
1998-99	110	21	89	19%
Total	355	56	299	

The Ministry stated in December 1999 that due to non-availability of all Plant, Machinery and Service Equipments Ex-USSR, adequate time/efforts were involved in procuring these indigenously and large number of critical spares were not available due to the time taken in indigenisation.

The reply was not convincing as the vehicles were inducted since 1977, setting up of overhaul facilities was initiated as early as in 1981 and ample time was available for procurement of spares either by import or through indigenisation. The desired personnel were also available with the Electrical and Mechanical Engineer Corps.

19.7.2 Engines

Delay in establishing repair facilities entailed repair/ procurement of 497 engines from abroad

Engines common to both BMP-I and II were due for overhaul after 4800 kms run. Since overhaul of engine had not commenced, in March/August 1992, to ensure maintainability, 247 engines were repaired abroad at Rs 5.83 crore and 250 new engines were imported for Rs 12.37 crore. 388 engines became due for overhaul by October 1993.

Shortfall in overhaul of engines varied from 84 to 100 *per cent*

The shortfall against target varied between 84 and 100 per cent as shown below:

Year	Target			Achievement	% of Shortfall
	Field Engine	Vehicle Engine	Total		
1994-95	40	10	50	8	84
1995-96	70	50	120	NIL	100
1996-97	100	75	175	11	94
1997-98	100	110	210	10	95
1998-99	100	110	210	10	95
Total			765	39	

As of September 1999 Base Workshop had overhauled 92 engines, 48 were undergoing overhauls and 495 engines were held at Armoured Fighting Vehicle Depot for overhaul.

Ministry stated in December 1999 that major factor affecting the overhaul of engines was non-availability of spares, which have become indigenously available only in mid 1999.

19.8 Excess use of manhours

The manhours authorised for overhaul of BMP engines and vehicles were 450 and 4453 respectively. As against these the average manhours utilised were 541 on engines and 7000 on vehicles as extracted from the respective completed work orders.

The Ministry stated in December 1999 that the higher incidence of manhours in the initial stage was due to pilot overhaul to formulate overhaul scales and the excess booking was gradually reduced.

Utilisation of excess manhours involved additional expenditure of Rs 35 lakh

The Ministry's contention is not tenable as in the pilot overhauls the Army Base Workshop had only replaced the higher assemblies with new ones. As a matter of fact, this should have involved less manhours. The additional expenditure incurred on this account worked out to Rs 34.93 lakh.

19.9 Delay in procurement of indigenous Plant, Machine and Service Equipment

In all, 888 Plants, Machines and Service Equipments were required for the project. 234 of these were imported during 1990-92. Of the balance 654, 31 were identified as not required and the remaining 623 were to be procured indigenously. 250 of them were procured as of February 1999.

Ministry stated in December 1999 that the longer time taken for procurement was due to efforts of indigenisation and mandatory procedural requirements. The Ministry added that major plants, machines and service equipment were under supply and civil works for their foundation were in progress.

Procurement of Plants, Machines, Service Equipments was delayed abnormally

This reply was not tenable in that the Ministry sanctioned creation of facilities for completion by March 1998 but they could procure only 250 items till February 1999, reflecting lack of concerted efforts in this regard. The status of procurement of 373 items was not indicated.

19.10 Life Time Spares for BMP-I

As the foreign supplier discontinued manufacture of BMP-I, the Project Controller mooted a proposal in June 1995 to buy life time spares for the maintenance and overhaul of the vehicles.

The proposed purchase of the spares was assessed for life cycle concept of 32 years with two overhauls and three medium repairs of 742 BMP-I vehicles. The Ministry approved the proposal for life time purchase of 185 items of spares at an estimated cost of Rs 27.09 crore in July 1998 duly restricting it to half life time in respect of 133 items in view of their outdated technology and impending replacement. On a review in February 1999, 30 items pertaining to image converter based systems were deleted since these are not to be overhauled in view of passivisation of active systems after 10^{th} plan. Army HQ placed indents for 155 items of spares, as of December 1999.

Analysis of 133 items under procurement after restricting it to half life time buy, disclosed that it included 114 items for first overhaul and maintenance till replacement of outdated gunner/driver night vision devices. Since the mechanised Infantry Battalions would be constituted with BMP-II by early 10^{th} plan, import of the spares for overhaul of these items was not justified at the fag end of their use by mechanised infantry. Cost of spares for these 114 items was estimated at Rs 15.62 crore and included in the sanctioned amount of Rs 27.09 crore. Further, provisioning of another 36 items of spares was for two overhauls.

The Ministry stated in December 1999 that since BMP-I vehicles was out of production in the country of origin, requirment of life time buy had been projected taking due care not to overstock and at the same time to cater for providing engineer support to maintain BMP-I till 2019.

Unwarranted procurement of substantial life time buy of spares will cost the exchequers Rs 18.27 crore

The Ministry's contention was not tenable as first overhaul of BMP-I would stand completed by 2006 and thereafter overhaul of BMP-II vehicles would commence, there would be no spare capacity in the Army Base Workshop to carry out the second overhaul of any BMP-I vehicle. In this scenario, procurement of spares to cater for second overhaul at an estimated cost of Rs 2.65 crore for 36 items as well as the outdated devices estimated at Rs 15.62 crore is hardly justified. These issues required to be addressed and action taken to reconsider import of the spares at a total cost of Rs 18.27 crore.

19.11 Non-utilisation of hostel accommodation

Based on the recommendations of a Board of Officers, presided over by Project Controller, convened in January 1994, an air conditioned hostel for 14 visiting foreign specialists was constructed at a cost of Rs 43.46 lakh by a Chief Engineer in July 1995. No contract existed for their visit to India as of December 1999. Even the sanctions issued in March 1994 did not allocate any funds towards visits of foreign specialists. Though the hostel was ready in December 1998, Commandant, Army Base Workshop took over it only in June 1999.

The Ministry stated in December 1999 that visit by the foreign specialists is under review and only minimum number with specific duration would be proposed.

The necessity for such visits by the foreign specialists may not arise at all in view of the technological clarifications/ training in overhaul already obtained by the Indian team that visited Russia in 1999 incurring Rs 98.81 lakh. The construction of the hostel thus lacked justification.

19.12 Absence of cost control

Cost accounting of overhaul desired by the Ministry was not followed by the workshop

The Ministry, in its sanction accorded in March 1994, stipulated that the cost of overhaul of the vehicles and engines would at no time exceed 30 per cent of the cost of a new vehicle and engine obtained from Ordnance Factory Board. This stipulation was based on working out the cost of BMP at Rs 82.25 lakh, and cost of overhaul of each BMP at about Rs 25 lakh inclusive of spares. Nevertheless, the Army Base Workshop did not maintain their records to ensure the cost control system. The Ministry stated in December 1999 that the Army Base Workshop in the present form are not organised to cater for cost accounting and computation of overhaul cost was premature at this stage. The reply did not indicate as to whether cost accounting system would be established in future.

In the absence of cost accounting the economy of overhaul cannot be verified.

19.13 Change of scope not reported to Cabinet Committee on Political Affairs

Change in scope was not intimated to CCPA

The Ministry informed the Public Accounts Committee in January 1996 through Action Taken Note on paragraph 15 of the Audit Report No. 8 of 1993 that a note would be prepared and submitted to inform the Cabinet of the foreclosure of the project at Bhopal giving full justification. No such papers were, however, submitted to the Cabinet.

20. Rejection of barrels manufactured for T-72 tanks

Director General Ordnance Factories deviated from manufacturing technique without consulting the original designer. This resulted in defective manufacture of barrels valued at Rs 45.07 crore affecting the performance of T-72 tanks.

Director General Ordnance Factories manufactured 770 barrels for T-72 tanks deviating from critical heat treatment schedule for tempering of barrels without consulting the original designer. This resulted in manufacture of defective barrels. 11 barrels burst in firing from tanks causing accidents. 454 defective barrels valued at Rs 44 crore were held in stock and the remaining 305 barrels fitted in the tanks were under process of investigation as of June 1999. The case is as under:

DDPS placed order on MIDHANI for supply of 774 barrels

Department of Defence Production and Supplies placed an order on Mishra Dhatu Nigam Limited., Hyderabad in October 1989 for supply of 774 barrels to be fitted in T-72 tanks, at a cost of Rs 67.73 crore. Mishra Dhatu Nigam Limited, in turn,

MIDHANI placed a letter of intent on DGOF for converting forgings into barrels

placed a letter of intent in March 1990 on Director General Ordnance Factories for converting black forging hot rolled bars i.e. input raw materials into finished, machined and tested barrels. The letter of intent envisaged that the tempering of barrels would be carried out in two stages viz. in first stage in the temperature range of 520-550°C and in the second stage in the temperature range of 530-570°C. The barrels were to be supplied by the Director General Ordnance Factories to Central Ordnance Depot Jabalpur only after testing by Controllerate of Quality Assurance (weapons) Jabalpur.

One barrel broke in FGF, Kanpur

QAE(FG) pointed out that heat treatment should be at 520°C – 570°C

FGF Kanpur continued tempering the forgings at temperature below 430°C

The responsibility for quality assurance of items manufactured in Ordnance factories rests with the manufacturing factory. Director General Quality Assurance and Inspectorates under him are responsible for surveillance, quality audit and final acceptance inspection. In surveillance check of barrels during manufacture in Field Gun Factory, Kanpur in 1990, when one of the barrels broke in the straightening operation, the Quality Assurance Establishment (Field Gun), notified the Factory that to avoid such breakage, the heat treatment should be carried out at 520°C-570°C as provided by designer. The Field Gun Factory Kanpur however, continued tempering the forgings at reduced temperature even below 430°C, on the plea that the protocol signed by it with Russian team in 1985, permitted the heat treatment at lower range.

Field Gun Factory supplied 770 barrels to the Central Ordnance Depot Jabalpur between 1992 and 1996. The Quality Assurance Establishment had, however, passed these barrels despite their tempering at reduced temperature, as fit for use. Department of Defence Production and Supplies paid Rs 74.67 crore inclusive of price escalation to Mishra Dattu Nigam Limited.

11 barrels cracked/ burst during firing causing accidents

Foreign specialists attributed accidents to deviation in tempering temperature

During firing in September 1992, from a T-72 tank, the barrel cracked causing an accident. Further in 35 more accidents occurred till March 1998, ten more barrels cracked/burst. Russian specialists, who investigated the cause(s) of the accidents, observed that the deviation from prescribed tempering temperature was the direct cause of such breakages, and that the protocol signed in 1985 was without consulting the original designer.

Army decided in December 1997 to withdraw all the barrels

Army Headquarters decided in December 1997 to withdraw all barrels tempered at 460°C and below. As of June 1998, 454 such barrels valued at Rs 44 crore from stock were identified and rejected and remaining 305 barrels fitted on tanks were under investigation. Tempering of barrels were now being done at temperatures above 500°C.

In response to Audit observation, Ordnance Factory Board stated in August 1998 that reduced band of heating during tempering was a modification in the technological process to suit Indian conditions of available plant and machinery. The reply is not acceptable since the modification was done without consulting the original designer and subsequent accidents had been directly ascribed to this.

The matter was referred to the Ministry in September 1999; their reply was awaited as of December 1999.

21. Downgradation of mines due to manufacturing defects

Failure of the Director General of Ordnance Services to repair the defective body cracked mines worth Rs 1.56 crore in time resulted in expiry of their shelf lives and loss of value for money.

Inordinate delays on the part of Director General of Ordnance Services to get 5516 defective mines repaired within their shelf lives resulted in not realizing value for money of Rs 1.56 crore. The case is as under :

Mention was made in Para 76 of the Report of Comptroller & Auditor General of India, Report No.2 of 1988 Union Government Defence Services about segregation of huge stock of repairable mines. In their Action Taken Report Ministry stated among other things that Army Headquarters had permitted Director General of Quality Assurance to undertake repairs of mines; Director General of Quality Assurance had identified Trade firms for undertaking the repair and the repair work would be taken up in the Depots where mines were stored. Ministry also added that the repair procedure had been approved by the Authority Holding Sealed Particulars and all concerned agencies. The repair commenced in 1991.

Three Field Ammunition Depots and an Ammunition Depot held 3356 of Type "A" and 2160 Type "B" mines as of February 1999 in repairable condition due to body crack. The depot authorities attributed it to manufacturing defects. These mines carried a shelf life of 5 years from the date of manufacture. The shelf life was increased to 10 years in 1998. However, life of repaired mines can be extended by another 3 years from the date of repair. Depot-wise details of the repairable mines, cost thereof and the period by which their shelf lives expired are as under :

Name of Depot	Repairable mines due to manufacturing Defect (Body Crack)		Period of Manu-facture	Expiry of Shelf life	Cost of repairable mines (Rs in lakh)	Since when held in repairable condition
	Type 'A'	Type 'B'				
19 FAD	15	---	1989-90	1994-95	0.42	1995
23 FAD	416	336	1988-90	1993-95	21.28	1992
24 FAD	150	1824	1988-91	1993-96	55.86	1995
AD Bhatinda	2775	---	1991	1996	78.53	1994-95(2762) 1998 (13)
Total	3356	2160			156.09	

Even though mines were found repairable in 23 FAD in February 1992 the Director General of Ordnance Services took up the matter with Ordnance Factory

DGOS initiated action for repairs three years after mines were found repairable

DGQA declined to repair the mines

Board only in October 1995 and in April 1997 for in situ repair of mines at the earliest. He also took up the matter with Director General of Quality Assurance in June 1998. In response, the Director General of Quality Assurance declined to undertake repairs in June 1998 on the grounds that the mines had already outlived their lives.

Thus Rs 1.56 crore worth of mines which were repairable and could have been made serviceable continue to remain non-usable and defective for five to eight years.

The matter was referred to the Ministry in August 1999; their reply was awaited as of December 1999.

22. Loss due to non-repair of missiles within shelf life

Missiles worth Rs 1.11 crore were not repaired within their shelf lives due to Army Headquarters' inability to identify suitable repair agency.

Inability of Army Headquarters to identify/ establish an agency to repair 28 missiles within their shelf lives led to their being rendered unserviceable, whereby value for money of Rs 1.11 crore was not achieved.

Inspection Authorities sentenced 28 missiles into repairables within their shelf life

During periodical inspection of a class of imported missiles in a Field Ammunition Depot and two Ammunition Depots in two Commands, during October 1982 and March 1992, inspection authorities sentenced 28 of these missiles as repairable due to defects in the electronic system and assemblies. These missiles had a shelf life of 12 years from the date of manufacture.

The vintage, expiry of shelf life, the year by which the missiles were classified as repairables and the period for which the missiles remained in repairable condition before their downgradation into unserviceable were as under:

28 missiles remained in repairable condition between 2 to 8 years

Vintage	Year by which shelf life expired	Year in which sentenced into repairables	Quantity	Period for which remained in repairable condition (in years)
November 1978	November 1990	October 1982	6	8
		November 1984	5	6
		November 1987	7	3
		December 1988	5	2
April 1982	April 1994	November 1987	2	7
		March 1992	3	2
		Total	28	

Army HQ belatedly initiated action to find out agency to repair

Firm expressed its inability to repair

EME could not also repair the missiles

Although the missiles were held in repairable condition ranging from 2 to 8 years, Army Headquarters entrusted the task of carrying out a feasibility study on repairs of the missiles, after delays of three to thirteen years in July 1995 to firm 'A'. The firm expressed its inability in May 1996 to repair these missiles as it did not have the requisite hardware, test equipment and skills. Electrical and Mechanical Engineers had observed that these missiles could not be repaired as the major electronic units were unserviceable. No repair agency had been identified as of October 1999. The total cost of the 28 missiles worked out to Rs 1.11 crore.

Procurement of missiles from abroad, without identifying indigenous sources to undertake contingent repairs within their shelf lives, is fraught with adverse effects on value for money and on operational preparedness.

The matter was referred to the Ministry in August 1999; their reply was awaited as of December 1999.

23. Procurement of defective bullet proof windscreen glasses

Failure to ensure quality in purchase of bullet proof windscreen glasses for counter insurgency operation led to their non-fitment even after three years of their purchase.

Drawings for fitment programme were not firmed up before procurement of the bullet proof glasses

GSQR did not specify technicalities of the item

Officiating General Officer Commanding in Chief, Eastern Command in exercise of the special delegated financial powers to meet urgent requirements for counter insurgency, internal security etc. sanctioned in February 1996 procurement of 153 bullet proof windscreen glasses at Rs 47.43 lakh for fitment in Nissan patrol cars. However, the concerned Workshop did not firm up the drawing or the modalities for fitment programme before procurement. Even the General Staff Qualitative Requirement was drawn up without giving any detailed specification of the material and design.

Headquarters Eastern Command placed an order in February 1996 on firm 'A' for supply of 153 bullet proof wind screen glasses at a cost of Rs 47.74 lakh. Ordnance Depot, Calcutta received the wind screen glasses from the firm between March and April 1996 after the inspection by a Board of Officers. However, no officer from Quality Assurance Organisation was associated with the inspection .

On opening packages 9 glasses were found cracked

The Depot did not insist for second inspection despite provision in the contract

The Ordnance depot despatched all 153 windscreen glasses to Advance Base Workshop in April 1996 in factory packed condition in civil truck for fitment in Nissan patrol cars. On receipt of the consignment in Advance Base Workshop, a Board of Officers noticed in May 1996 that out of 153 glasses, 9 were in cracked condition as packing material used between the glasses in factory packages were not proper and adequate. Although, the contract provided for second inspection within six months of the date of initial inspection, the depot did not arrange for any such inspection. Thereafter on the instruction of Headquarters Eastern Command a loss statement of Rs 2.79 lakh was raised in December 1997.

Subsequently, a Court of Inquiry, constituted in July 1998 opined that these glasses might have developed cracks during transit and recommended that the loss be borne by the State.

The glasses could not be fitted due to development of cracks

Cracks were noticed in the glasses lying in the workshops also

After one year of procurement, the Advance Base Workshop issued in April 1997, 50 glasses to its repair section for installation on patrol cars of which two were utilised in trial and 48 were returned to the workshop in July 1997. Subsequently 48 glasses were issued to 7003 Combined Workshop in July 1997. The combined workshop reported in March 1998 to the Advance Base Workshop that due to development of hairline cracks in the glasses, these could not be used and were lying in stock. Advance Base Workshop also reported to 7003 Combined Workshop in April 1998 that hairline cracks had also developed in some of the glasses held by them.

Commandant of Advance Base Workshop stated in February 1999 that they have sought disposal orders for 94 glasses held in stock. He added that he had no further feed back on 48 glasses issued to 7003 Combined Workshop.

Since not a single Nissan patrol car was modified with the bullet proof wind screen glasses they remained as vulnerable during counter-insurgency operations as they were three years ago, despite expenditure of Rs 47.74 lakh

The matter was referred to the Ministry in August 1999; their reply was awaited as of February 2000.

24. Procurement of Batteries at higher rates

Action of the Commandant Central Ordnance Depot Delhi in placing supply orders for batteries at higher rates without first exhausting the capacity of firms, whose lower rates had been accepted, resulted in extra expenditure of Rs 25.58 lakh.

Commandant COD Delhi placed orders at higher rates without fully exploiting capacity of firm quoting lower rates

For procurement of 12 volts secondary lead acid batteries of two types (180 ampere hours and 92 ampere hours), Central Ordnance Depot, Delhi had valid rate contracts at different rates. Instead of placing the orders on firms for whose rates were lowest to the extent of their capacity, before placing orders on firms whose rates were higher, the Commandant placed orders on firms whose rates were higher without fully utilising the capacities of firms whose rates were lower. This had been commented upon adversely by the Comptroller and Auditor General of India in his Report for the year ended March 1997.

This resulted in extra expenditure of Rs 25.58 lakh

Despite this, the same procedure was adopted by the Commandant, while placing orders for such batteries in 1998 with the result that an avoidable expenditure of Rs 25.58 lakh was incurred by procuring batteries at higher rates without fully exploiting the capacity of firm which had quoted lower rates. This is exhibited in the tables given below:

Battery secondary lead acid 12 volt, 180 AH 1A

Firm	Unit Rate	Capacity per annum (number of batteries)	Quantity ordered	Cost (Rs in lakh)
Firm 'A'	3357.12	3000	350	11.75
Firm 'B'	4028.55	7050	350	14.10
Firm 'C'	3775.85	15000	4090	154.43
Total			4790	180.28

Battery secondary lead acid 12 volt, 92 AH

Firm	Unit Rate	Capacity per annum (number of batteries)	Quantity ordered	Cost (Rs in lakh)
Firm 'A'	1813.76	3000	1000	18.14
Firm 'D'	1995.14	5500	2000	39.90
Firm 'E'	2176.51	6000	5250	114.27
Firm 'B'	2176.51	7050	1300	28.29
Firm 'C'	2176.51	15000	8000	174.12
Total			17550	374.72

The matter was referred to the Ministry in May 1999; their reply was awaited as of December 1999.

25. Acceptance of substandard mosquito nets by the Inspecting Authority

Repeated failures of Inspecting Authority in passing substandard mosquito nets short in length led to rejection of 83,543 nets, valued at Rs 1.80 crore, out of 1.11 lakh nets held in Depot Stocks; defects leading to such rejection in respect of 1.64 lakh nets, valued at Rs 3.54 crore, issued to units were yet to be identified.

DGOS placed two supply orders for procurement of 2.75 lakh mosquito nets

Director General of Ordnance Services under Master General Ordnance Branch of Army Headquarters placed two supply orders in April 1997, one on firm 'A' and the other on firm 'B' for procurement of 1.50 lakh and 1.25 lakh mosquito nets, respectively, at a total cost of Rs 5.92 crore. The dimensions and tolerances of the nets to be supplied were mentioned in the specifications of supply orders.

The SQAE cleared the mosquito nets after inspection

The two firms supplied the nets between August 1997 and October 1997 after inspection and acceptance by the Senior Quality Assurance Officer of the Senior Quality Assurance Establishment, Calcutta under the Controllerate of Quality Assurance (Textile and Clothing), Kanpur .

One of the feeding depots reported about the variation in dimension of the nets

Ordnance Depot, Calcutta issued the entire quantity of mosquito nets to 12 feeding depots for onward issue to the troops. One of the feeding depots, namely, 6 Field Ordnance Depot, reported to the Ordnance Depot in October 1997 that the user units refused to accept the nets due to variation in sizes. Senior Quality Assurance Officer carried out a joint inspection on 28 October 1997 and maintained that the dimension of nets drawn at random from different bales were within acceptable limits and fit for normal use.

On receiving similar complaints from two more feeding depots, namely, 11 Field Ordnance Depot and 223 Field Ordnance Depot, through Director General of Ordnance Services, the Controllerate of Quality Assurance convened in May 1998 a Board of Officers to examine the nets.

DGOS served notices in July 1998 on the firms for replacement

The Board on examining 20 per cent of the nets at random found in July 1998 that the nets were short in length and therefore, recommended rejection and replacement of entire supply by the firms. Accordingly, Director General Ordnance Services in July 1998 served notices on the two firms to rectify/replace the nets supplied by them by 31 October 1998.

The Ministry, while accepting the facts stated in August 1999 that the matter was investigated by a fact finding inquiry whose findings were being examined for further action. Ministry added that 83,543 nets out of 1.11 lakh nets held in the depots, valued at Rs 1.80 crore were rejected. Ministry's reply was silent about defects in the balance 1.64 lakh (2.75-1.11 lakh) nets valued at Rs 3.54 crore issued to the troops.

Thus, repeated failure of Senior Quality Assurance Officer, Calcutta in passing substandard mosquito nets resulted in rejection of nets valuing Rs 1.80 crore.

26. Questionable purchase of stores

Department of Defence Production and Supplies purchased Mosquito and other insect repellent known as 'Aerosol Bomb' at a cost of Rs 52.91 lakh despite availability of cheaper substitutes and reservations expressed by Director General Armed Forces Medical Services and Quarter Master General's Branch of Army Headquarters.

Armed Forces Medical Services was actively considering the introduction of an effective and economically viable chemical for use against mosquitoes and insects in uncontrolled areas patrolled by detached parties.

DDPS floated tender for purchase of Aerosol Bomb

Firm quoted Rs 54.90 per unit of item

CQA Kanpur approved the tendered sample

After identifying a product known as `Aerosol Bomb'; Department of Defence Production and Supplies floated tender inquiry in November 1990 for purchase of the product. Only firm 'A' submitted tender in December 1990. The quoted price was Rs 54.90 per unit exclusive of taxes. The break-up of the cost was Rs 9.30 for chemical and Rs 44.50 for disposable container with spraying mechanism. Controller of Quality Assurance Kanpur tested the tendered sample of the firm and approved the same for use.

In a ministerial meeting held in May 1991 under the chairmanship of the Additional Secretary, Department of Defence Production and Supplies, attended by Director General Supplies and Transport of Army Headquarters and Director General Armed Forces Medical Services, a decision was taken to re-examine and determine procurement of Aerosol Bomb in view of the disproportionate cost of

QMG declined to recommend the item considering its high cost

the chemical and the disposable container. Director General Armed Forces Medical Services expressed reservations in June 1991 about procurement of the Aerosol Bomb in view of high cost of container vis-à-vis the chemical element. Similarly Quarter Master General declined in July 1991 to recommend the procurement considering the prohibitive cost of the Aerosol Bomb, particularly so when cheaper substitutes were already under use.

DDPS in June 1992 placed order on firm for 92,600 numbers of item

While the matter was still under correspondence, the firm sought redressal in October 1991 as the department did not place any orders on it for supply of the item despite assurance given for substantial orders. Director General Supplies and Transport requested in April 1992 for purchase of Aerosol Bomb for value up to Rs 50 lakh. Thereafter, the Department of Defence Production and Supplies placed an order on the firm in June 1992 for supply of 92,600 numbers of Aerosol Bomb at Rs 52.91 lakh.

The firm completed the supply of the Aerosol Bomb in May 1993 and the payment was made in June 1993/February 1994.

QMG in September 1994 deleted the item from inventory

Considering reports from the users about the prohibitive cost and its non-effectiveness in operational area, Quarter Master General deleted the item from inventory/purchase list in September 1994 and the item was not purchased thereafter.

The Ministry stated in July 1999 that ' use of any item could be judged only after the same was put to trial which was done in this case as well.'

Ministry's contention was not tenable in that for judging the effectiveness through trials the department need not have placed order for 92,600 numbers of Aerosol Bomb particularly when they were aware of the disproportionately high cost of the disposable container against the chemical content.

27. Extra expenditure due to delay in taking risk purchase action

Inordinate delay in taking decision to cancel the contract at risk and cost resulted in extra expenditure of Rs 37.37 lakh to the State.

A contract was concluded in May 1994 for supply of canvas shoes

Supplier sought extension of delivery period

Risk purchase contract was concluded with the same firm

Army HQ concluded in May 1994 a contract with frim 'A' for supply of 1.90 lakh pairs of canvas shoes by December 1994 at Rs 34.50 per pair. In January 1995 the firm sought extension of delivery period, stating that due to non-availability of specified brown canvas cloth in the market it could not supply the shoes by the stipulated date. In May 1996 after prolonged consultation with Ministry involving the Legal Advisor, Army HQ cancelled the contract at the risk and cost of the firm. Fresh quotations for supply of the shoes led to the lowest bid being that of the same firm dated 27 November 1996. Army HQ placed acceptance of tender on it in February 1997 on the same terms and conditions as the original contract for acceptance within 30 days. The firm sent a legal notice in April 1997 stating that the risk purchase contract did not bind it to supply the stores as it did not take into account its revised offer regarding placing additional orders for supply of shoes under option clause and payment of sales tax, etc.

AHQ cancelled the risk purchase contract also without any financial effect

Army HQ sought further legal advice in August 1997 in the light of the legal notice received from the firm. The Legal Advisor opined in March 1998 that the risk purchase contract was not binding on the firm, being time-barred. Army HQ, had eventually to cancel the risk purchase contract in June 1998 without any financial effect on either side.

The shoes had to be procured at an extra expenditure of Rs 37.37 lakh

The entire quantity of canvas shoes were procured at higher rates ranging from Rs 46.00 to Rs 56.60 per pair, averaging Rs 54.17 per pair. The original firm, while seeking extension had stated that it had encountered difficulty in procuring brown canvas, but had since purchased the same. Despite this, Army HQ refused an extension but also failed to cancel the contract for almost a year and a half. This led to an extra expenditure of Rs 37.37 lakh in procuring the shoes.

The matter was referred to the Ministry in May 1999; their reply was awaited as of December 1999.

28. Non-recovery of dues from a commercially run club occupying prime Defence land

The Ordnance Club Calcutta has been running as a lucrative commercial establishment. Ground rent at Rs 33 lakh per annum worked out by Director of Defence Estates Calcutta remains unrealised for want of decision by Director General Defence Estates since 1996.

Ordnance club has been paying Rs 10 as rent for 1.42 acres land used for commercial purpose

The Ordnance Club Calcutta, a private club managed by Army Ordnance Corps, has been in occupation of prime Defence land at Hastings, Calcutta measuring 1.42 acres since 1907. The Garrison Engineer Calcutta entered into a lease agreement with the club in May 1935 and renewed it in January 1958 at annual rent of Rs 10 and thereafter had not renewed the agreement during the last 40 years, eventhough Area Headquarters Calcutta issued instructions in July 1992 to get a fresh lease executed. The club was being allowed unauthorised occupation on payment of Rs 10 per annum despite commercial use of land leased to it. Besides, 10 servant quarters had been held by the club since 1962 on payment of Rs 60 as monthly rental.

The membership of the club which was restricted to service officers was thrown open to civilians after Independence. The club had more than 2000 life members and above 1000 private members . The ownership of the club since September 1980 is with Ordnance Services Officers Welfare Society, New Delhi functioning under Director General Ordnance Services, New Delhi.

Defence Estates officer Calcutta carried out joint measurement and found that the actual area under occupation of the club was 1.765 acres in place of 1.42 acres, as known earlier.

Defence Estate authorities recommended rent at Rs 23.20 lakh per acre to be recovered from the club

The arrears of rent remains unrealised for want of decision

The Director, Defence Estates Calcutta informed the Director General Defence Estates in January 1996 that the club had practically assumed the shape of a commercial establishment. He recommended an amount of Rs 23.20 lakh per acre as rent based on the commercial value of the land of Rs 1.16 crore per acre as has been done in case of Royal Calcutta Turf Club, in which case non recovery of rent was commented upon under para 14 of Audit Report of the Comptroller and Auditor General of India, Union Government, Defence Services (Army and Ordnance Factories) for the period ended 31 March 1998. Rent for 1.42 acres of land at Rs 23.20 lakh per acre would be Rs 33 lakh and premium Rs 6.60 crore. For previous period, it was proposed to decrease the present value by 10 *per cent* for every slab of 30 years. The Director General Defence Estates was yet to take any decision on this case though a huge sum based on revised proposal remained unrealised as of December 1999.

The matter was referred to the Ministry in June 1999; their reply was awaited as of February 2000.

29. Infructuous expenditure in creation of safety zone around a test range

Defence Department could not take over possession of the land acquired for Rs 1.22 crore as the State authorities insisted settlement of rehabilitation package. Government sanctioned Rs 2 crore for this purpose even-though such a payment was not covered by the Land Acquisition Act. This set a new precedent.

A test range in a station needed a safety zone free from human habitation upto 3.5 km around its launching pad. Anticipating difficulty in acquisition of land, a decision was taken in October 1989 to acquire land up to one km radius of the launching pad in the first phase. Ministry accorded sanction in January 1991 for acquisition of 329.76 acres of private land at a cost of Rs 1.15 crore by invoking urgency clause under Section 17 of the Land Acquisition Act, 1894 and transfer of State Government land of 191.11 acres costing Rs 28.73 lakh. Defence Estates Officer paid Rs 1.22 crore on account of acquisition of 321.06 acres of private land to the District Collector between October 1991 and March 1993.

Defence Estates Officer failed to acquire the land free from all encumbrances

Ignoring the provision of the urgency clause stipulating complete acquisition, the local Defence Estates Officer, in December 1994, took over the possession of the land subject to settlement of rehabilitation package being assessed. Although section 17 of the Land Acquisition Act, 1894 does not provide for such packages, the Director General of Defence Estates failed to pursue this issue before agreeing to the conditional taking over of the possession of land. The land owners continued to stay unauthorisedly in their homesteads and the safety zone sought to be created remained inhabitated by 576 persons in 1992, which in 1997 rose to about 700, defeating the very purpose of acquisition of land.

Defence had to arrange for evacuation of people each time a test was conducted

Each time a test was conducted the entire population living there had to be evacuated to safer places leading to additional expenditure by way of their transportation, creation of temporary shelters, food and provision of other amenities. Expenditure on this account between February 1993 and January 1996 amounted to Rs 51.03 lakh.

Acquisition of land without removing the encroachers entailed an indefinite liability

Range authorities informed audit in August 1997 that the land in question was taken over with "existing occupation thereon". For mission launching purpose compensation had to be paid to the residents for security of their lives and property. Government sanctioned Rs 2 crore in July 1999 towards rehabilitation package. However, the fact remains that conditional taking over of the land without removing the encroachment had led to incurring an indefinite liability. Also the rehabilitation package had set a new precedent since it was not covered under Land Acquisition Act.

The matter was referred to the Ministry in August 1999; their reply was awaited as of December 1999.

30. Delay in setting up of an aviation base

Construction of aviation base was hampered since Army authorities allowed encroachment and erection of power transmission lines across defence land acquired in 1986.

106.08 acres of land was acquired in 1986 for establishing aviation base

Land measuring 219.64 acres was acquired at a station in January 1986 at Rs 1.02 crore of which 106.08 acres was for establishing an aviation base. The land was in possession of the Army.

Station Commander allowed encroachment of Defence land

The Station Commander who learnt in February 1993 that the Defence land was being encroached upon by Power Grid Corporation of India by erecting pylons for High Tension power transmission lines, did not take any action either to evict them or initiate appropriate legal action.

Quartermaster General ratified the encroachment

Quartermaster General Army HQ also formalised the encroachment by entering into an agreement on 11 April 1994 with the Corporation to the effect that the high tension transmission power lines to be erected across the defence land would be removed within two years from the date of agreement.

The land was under encroachment as of July 1999

The Corporation had not removed the high tension transmission power lines as of July 1999 resulting in non-availability of the land for setting up the aviation base.

Thus, despite acquiring land for Rs 1.02 crore in 1986 for setting up an aviation base, Ministry has not sanctioned its construction as of July 1999.

The matter was referred to the Ministry in August 1999; their reply was awaited as of December 1999.

31. Delay in taking over of land leading to pilferage of trees

Delay in taking over of the land and assets thereon acquired under Urgency clause of Land Acquisition Act resulted in not realising value for money of Rs 2.69 crore. The cost of trees valued at Rs 37.78 lakh found missing had also not been recovered.

Mention was made in paragraph 35 of Audit Report Defence Services No.8 of 1995 regarding extra expenditure due to delay in taking over possession of the land acquired under urgency clause and non-recovery of compensation of Rs 2.37 crore in respect of land later denotified from acquisition. The Ministry in their Action Taken Note of December 1996 stated that efforts were on to expedite taking over of the land.

Further examination of the case in audit revealed the following:

Refund of on account payment of Rs 2.37 crore for the denotified land had not been obtained by a Defence Estates Officer as of April 1999 although he had requested Special Land Acquisition Collector in July 1993 to get the necessary notifications published. The land owners had challenged denotification in 1994, but even after their writ petitions were dismissed in 1998, Special Land Acquisition Collector had not initiated action for denotification as of October 1999.

Despite paying full compensation, DEO delayed taking over of land measuring 1436.89 acres

Though payment of full compensation for 1995.05 acres was made as of March 1994, the Defence Estates Officer took possession of only 493.31 acres during 1994. He took over possession of 242.98 acres in July 1996, 425.58 acres in July 1997 and 275.024 acres in December 1998.

557.77 acres of land was yet to be taken over as of October 1999

557.77 acres of land costing Rs 2.69 crore at T.T. Nagrota village had not been taken over as of October 1999 resulting in non-realisation of value for money for five years. Physical verification of land/assets thereon was in progress as of October 1999.

Delay in taking over land resulted in pilferage of trees worth Rs 37.78 lakh

At the time of taking over the land on 1 July 1996 at village Pangoli, and on 1 July 1997 at village Nagrota Ban, the Defence Estates Officer had observed that substantial number of trees were missing for which compensation of Rs 37.78 lakh had already been paid. He, however, requested the Special Land Acquisition Collector to recover the amount from the land owners in June 1997 and June 1998 respectively. The recovery was yet to be effected as of April 1999. Defence Estates Officer stated in October 1999 that Special Land Acquisition Collector was being requested in writing as well as by personal contacts to effect the recovery.

Thus, the delay in taking over the land acquired under urgency clause not only resulted in pilferage of trees valued at Rs 37.78 lakh but also non-realisation of value for money in respect of 557.77 acres costing Rs 2.69 crore.

The matter was reported to the Ministry in September 1999; their reply was awaited as of December 1999.

32. Inadmissible payment under Land Acquisition Act

Recoveries of overpayment in terms of Supreme Courts verdict in two Defence Estates Offices were not realised even after four years; besides payments of such inadmissible benefits continued in two of them. The total overpayment was Rs 74.48 lakh.

Failure of a Defence Estates Officer in not initiating recovery proceedings to realise the overpayments connected with acquisition of land and continued payment of such inadmissible items by another Defence Estates Officer even after the Supreme Court judgement resulted in overpayments of Rs74.48 lakh. Further delay would make the task of recovery more difficult.

Land Acquisition Act 1894 was amended on 24 September 1984

Land Acquisition Act 1894 was amended on 24 September 1984. The amended Act envisages that in addition to market value of the land as compensation, an amount calculated at 12 *per cent* per annum as additional compensation on such market value from the date of notification or the date of possession, whichever is earlier, to the date of award, a sum of 30 per cent also on the market value as solatium for compulsory nature of acquisition and interest at 9 *per cent* up to one year and 15 per cent thereafter from the date of taking over possession on the compensation awarded by Court in excess of award of Collector are payable.

Certain land owners sought additional benefits in respect of past cases under the amended Act

The High Court passed orders awarding the additional benefits

Subsequent to the aforesaid amendment certain land owners, whose lands had been acquired and where the respective awards and decree had already been made prior to the said amendment, filed a petition praying for enhancement of solatium, additional compensation and interest before the High Court of Bombay in April 1987. The High Court passed orders in September 1993 entitling the petitioners to receive the additional benefits sought.

The State of Maharashtra appealed against these orders of the High Court before the Supreme Court. The Supreme Court held in February 1995 that the Civil Court was devoid of power to entertain the applications for additional benefits as the court had no power to amend the decrees already made before amendment of

The State of Maharashtra appealed against the impugned orders of the court in Apex Court

the Land Acquisition Act i.e. 24 September 1984. The Supreme Court also clarified that the additional benefits envisaged in the amended Act were not part of component of the compensation awarded as they were only in addition to market value and the consequential interest was also not payable.

The Apex Court set aside the lower Court's orders

A test check by audit in the light of the Supreme Court verdict in Defence Estates Officer Jaipur disclosed that he made inadmissible payment of Rs 50.68 lakh after judgement of the Supreme Court reportedly due to non-receipt of copy of judgement. DEO Ambala had made inadmissible payments in 187 cases prior to the judgement of Supreme Court. He was still working out details as of November 1999. The amount to be recovered in 10 cases was Rs 23.80 lakh.

Further delay would make the chances of recovery more difficult.

The matter was referred to the Ministry in August 1999; their reply was awaited as of December 1999.

33. Idle investment owing to non-utilisation of assets

Married accommodation constructed for Mountain Brigade at Rs 3.22 crore remained mostly vacant.

A Board of Officers convened by Headquarters Eastern Command made a projection of the requirement of married accommodation for a Mountain Brigade. The assets created at a cost of Rs 3.22 crore proved to be an idle investment as the quarters remained vacant even after eight to twelve years of construction.

The position of occupancy of married accommodation under various categories, constructed between May 1987 and June 1991 is given below:

70 *per cent* of the accommodation remained vacant after 8 to 12 years of construction

Quarters re-appropriated for unintended purpose

Occupancy position of the accommodation as on January 1999

	Major & above	Captain	Junior Commissioned Officers	Other Ranks
No.of quarters constructed	12	20	24	128
No.of quarters occupied	2	---	14	52
No.of quarters vacant	10	20	10	76
Percentage of vacancy	83	100	42	59
Re-appropriated or otherwise	---	4	2	---
Purpose of re-appropriation	---	Single officers accommodation	Family Welfare Centre and Nursery School	---

The accommodation was constructed at a total cost of Rs 3.22 crore under three sanctions accorded by Army Headquarters in November 1979, December 1980 and February 1982. Eastern Command issued convening order for assembly of

Board of Officers stating that Brigade would occupy the accommodation after construction. The Boards of Officers convened for this purpose had opined in December 1978 that there was no married accommodation for the Officers and service personnel of the Mountain Brigade which was in field area.

The matter was referred to the Ministry in September 1999; their reply was awaited as of December 1999.

34. Wrongful reappropriation of married JCOs accommodation into married officers accommodation

Failure of Army Headquarters to adequately assess requirement of married accommodation for JCOs resulted in unauthorised re-appropriation of accommodation constructed at a cost of Rs 1.16 crore.

40 units of married accommodation for Junior Commissioned Officers were re-appropriated to accommodate married officers undergoing training for whom construction of accommodation had been proposed but not yet sanctioned.

AHQ sanctioned construction of married accommodation in March 1996

Board assessed the deficiency of above accommodation by raising authorised percentage from 60 to 75

Army HQ sanctioned construction of 40 units of married accommodation for Junior Commissioned Officers at Secunderabad in March 1996 at Rs 1.13 crore based on recommendations made by a Board of Officers assembled in October 1995. Though, the orders, in vogue, provides for married accommodation of Junior Commissioned Officers at 60 *per cent* of the total authorised strength only, the Board of Officers worked out the deficiency of 40 units of married accommodation for Junior Commissioned Officers at 75 *per cent* of the total authorised strength in the station on the ground that the requirement of married accommodation for Junior Commissioned Officers at the station was more than 60 *per cent* of their authorised strength.

CE(Fy) completed the work in May 1997

Station HQ re-appropriated these quarters in August 1997 for married student officers of MCEME

Chief Engineer (Factory) Secunderbad completed the work in May 1997 at Rs 1.16 crore. Even though the number of married Junior Commissioned Officers had gone up, Station Headquarters Secunderabad re-appropriated these quarters in August 1997 for married student officers of Military College of Electrical and Mechanical Engineering Secunderabad on the plea that requirement of married Junior Commissioned Officers at the station was fully met at 60 *per cent* authorisation. A proposal had been made for construction of accommodation for married officers undergoing training at the Military College of Electrical and Mechanical Engineering, but sanction to this was still awaited. It could therefore be inferred that the action was meant to bypass the process of obtaining sanction for the latter proposal.

The matter was referred to the Ministry in April 1999; their reply was awaited as of December 1999.

35. Unauthorised use of accommodation of married JCOs

Station Commandant Pithoragarh ignoring the existing deficiency and in violation of existing provisions initiated action to re-appropriate accommodation for an Army Public School and allotted 10 such quarters.

HQ CC, Lucknow sanctioned accommodation for married JCOs

The work was completed in October 1996

10 quarters of married JCOs were allotted to staff of a public school

A Board of Officers recommended in April 1993 provision of 18 married Junior Commissioned Officers accommodation against the existing deficiency at Pithoragarh. Headquarters Central Command Lucknow sanctioned the works services in June 1994 for Rs 74.89 lakh. The work was completed in October 1996. While the quarters were under construction Station Headquarters Pithoragarh initiated action in April 1996 for re-appropriating the accommodation for the teaching staff of Gen. B.C.Joshi Army Public School. To an audit observation, Station Headquarters had responded in July 1999 that as regular re-appropriation was officially not tenable, the quarters were allotted on temporary basis to the Army Public School staff. The Garrison Engineer also confirmed in July 1998 that 10 quarters were allotted to the teaching staff in December 1996.

Re-appropriation of 10 married JCOs accommodation constructed at Rs 37.91 lakh for teaching staff of a private school without the sanction of the Government is irregular.

The matter was reported to the Ministry in August 1999; their reply was awaited as of December 1999.

CHAPTER IV : WORKS AND MILITARY ENGINEER SERVICES

36. Unjustified payment towards Sewerage Cess

Failure in not apprising the Ministry of the unjustified levy of sewerage Cess by BWSSB led to payment of Rs 3.52 crore.

Although the sewerage lines of Garrison Engineer Yelahanka and Garrison Engineer Jalahalli were not connected to the sewage system of the Bangalore Water Supply and Sewerage Board, both the Garrison Engineers paid sewerage cess levied by the Board amounting to Rs 3.52 crore for the period February 1995 to March 1999.

Sewerage Cess was introduced from April 1987 for sewage line connected with system of BWSSB

Government of Karnataka directed in July 1987 the Bangalore Water Supply and Sewerage Board to levy sewerage cess with effect from April 1987 at the rate of 10 *per cent* of the water bills of the consumers where the sewage of the consumer is connected to the sewerage system of the Board.

From September 1996 sewerage element was merged in water tariff

The rate of Cess was increased to 25 *per cent* effective from 1 November 1991, to 30 *per cent* effective from 1 September 1993 which was in force up to August 1996. From September 1996, an all inclusive water tariff was introduced inclusive of an element towards sewerage.

Civil Military liaison meeting decided in July 1995 not to charge Cess from Defence Services

Since the sewage line of the two Garrison Engineers were not connected to the sewage system of the Board, the Commander Works Engineer (Air Force) Banglore in March 1992 took up the matter with the Board. The Board agreed not to levy Cess. Nevertheless, the Board commenced levying the Cess from February 1995 onwards. The matter was again discussed in the Civil Military liaison meeting held in July 1995 in the presence of the Chief Minister of Karnataka. Therein a decision was taken that so long as Defence Services was not using the sewerage system, they would not be charged the Cess. The Chief Engineer(AF) Bangalore impressed upon the Board in October 1995 to issue suitable amendment to the bills already issued.

The Chairman of BWSSB did not agree to above

However, the Chairman of the Board did not agree to refund the amount towards Cess on the grounds that the tariff charges effective from September 1996 did not specify the element towards Cess. The Board, however, agreed to waive the interest for belated payment.

The Chief Engineer, Bangalore who was fully siezed of the situation, failed to bring it to the notice of the Ministry. Consequently, the two Garrison Engineers released the arrears of Cess amounting to Rs 1.23 crore pertaining to the period

Continued payment till March 1999 worked out to Rs 2.29 crore

February 1995 to August 1996 and continued to pay the Cess. The amount worked out to Rs 2.29 crore.

The Chief Engineer, Bangalore in their reply in May 1999 informed audit that though in the meeting for the year 1995 it was decided that Cess would not be levied where sewerage facilities were not provided, the Board continued to levy the Cess.

The matter was referred to the Ministry in April 1999; their reply was awaited as of February 2000.

37. Avoidable extra expenditure in delayed conclusion of contract

Denial of financial concurrence in a married accommodation project led to repeated revision of estimates and delayed contract action leading to avoidable extra expenditure of Rs 1.05 crore.

Conclusion of contract for construction of married accommodation at Dalhousie was delayed by eight years until 1998 although the tenders had been received in 1990. Additional Financial Advisor (Defence) denied financial concurrence in April 1990 on grounds which were not covered by Defence Works Procedure. Chief Engineer Udhampur Zone, Engineer-in-Chief and Ministry among them also took more than five years in revising the sanction. Transmission of sanction to Chief Engineer and conclusion of contract took a further two years. Consequently, the execution of the work services that could have been contracted for Rs 77.53 lakh in 1990 was contracted at Rs 1.83 crore in 1998.

Cost of works, exceeding 10 *per cent* of sanctioned cost requires prior concurrence of CFA

Defence Works Procedure-1986 provides that the final cost of any service may exceed the amount of Administrative Approval by not more than 10 *per cent* and an officer will take no action which will commit the Government to expenditure beyond the prescribed percentage without prior sanction of Competent Financial Authority, in the form of a financial concurrence or corrigendum or revised Administrative Approval.

Ministry sanctioned in 1986 provision of 116 married accommodation for Rs 1.47 crore

Ministry sanctioned in January 1986 provision of 116 married accommodation for Junior Commissioned Officers/Havildars/Other Ranks at Bakloh and Dalhousie at a total cost of Rs 1.47 crore. The work was released for execution in March 1986.

CE, Udhampur Zone sought financial concurrence based on tender

52 units of married accommodation at Bakloh were completed in May 1991 at Rs 62.91 lakh. For the remaining 64 units of accommodation to be provided at Dalhousie, Chief Engineer, Udhampur Zone took tender action in May 1988. This was, however, postponed due to technical reasons till February 1990 when finally the tenders were received. The lowest tendered amount of Rs 77.53 lakh exceeded the Administrative Approval by more than 10 *per cent* of the tolerance limit. The Chief Engineer, Udhampur Zone, therefore, initiated a case in April

1990 for obtaining financial concurrence pending revision of Administrative Approval to conclude the contract with an overall liability of Rs 87.51 lakh.

Addl. FA (Def) did not concur the approval

The financial concurrence sought was sent back by the Engineer-in-Chief on 18 April 1990 in view of the decision taken by the Additional Financial Advisor (Defence) on 16 April 1990 not to entertain the financial concurrence cases wherein tenders were issued after lapse of two years from the date of sanction. This decision was not covered by the provisions of Defence Works Procedure in that such a decision could be taken only by the administrative authority who had accorded the sanction for the works services. Such refusal imposed restriction on conclusion of contract within the validity of offer and attendant delay in inviting further tenders and price escalation thereof causing extra expenditure to the State.

CE, Udhampur Zone revised the estimates thrice between 1990 and 1994

Ministry revised the cost in 1995 for Rs 2.53 crore

The Chief Engineer, Udhampur Zone had to submit revised estimates in May 1990 for the project as a whole. However, the estimates had to be revised thrice in August 1990, January 1991 and August 1994 from the initial revised estimate of Rs 2.08 crore to Rs 2.51 crore. Based on the estimates of August 1994 Ministry revised the sanction to Rs 2.53 crore in November 1995 for the job as a whole after a delay of over one year.

CE, Udhampur Zone received the revised sanction after about a year in 1996

CE, Pathankot concluded contract in 1998 for Rs 1.83 crore

Chief Engineer, Udhampur Zone received the revised sanction only in September 1996 after a delay of about one year and transferred the sanction in January 1997 to Chief Engineer, Pathankot Zone which was raised in the same month. Thereafter the Chief Engineer, Pathankot Zone invited tenders for the 64 units of married accommodation in June 1997. Contract was concluded in January 1998 for Rs 1.83 crore. This led to additional expenditure of Rs 1.05 crore to the state.

The matter was referred to the Ministry in August 1999; their reply was awaited as of December 1999.

38. Negligence in ensuring return of Government stores by contractors on their abandoning works

A Garrison Engineer's laxity in vigilance, supervision and monitoring of the activities of defaulting contractors in two contracts led to non-return of Government stores valued at Rs 33.43 lakh.

Contract conditions provide penal recovery for unreturned stores by contractors

General condition 10(B) of contracts, known as IAFW-2249, forming part of contract agreements concluded by Military Engineer Services, provides, among other things, that if on completion of works, a contractor fails to return the surplus material out of those supplied by the Government despite written notices served by the Engineer-in-Charge, the contractor is liable to pay double the prevailing market rate towards such unreturned materials.

Chief Engineer, Jalandhar Zone concluded two contracts in February and April 1984 for execution of certain works in Ferozepur. On defaults by the contractors, the contracts were cancelled in April 1988 at their risk and expense. The Chief Engineer concluded the risk and expense contracts and the left over works were executed in August 1989 and October 1990.

Final bills included Rs 66.86 lakh towards unreturned stores

Recoveries not realised as of May 1999 after 11 years

Thereafter, the Garrison Engineer (East) Ferozepur took 8 to 28 months in processing the final bills of the defaulting contractors. The internal audit took further 44 to 53 months and passed the bills in August 1995 and May 1996. The final bills included Rs 29.41 lakh and Rs 37.45 lakh respectively, on account of cost of departmental materials not returned by the defaulting contractors at penal rates. The Engineers-in-charge failed to ensure return of the unused stores on abandoning of the works by the contractors. The recoveries were not realised as of May 1999.

Engineer-in-Charge failed to ensure return of unused stores by the contractors

Chief Engineer, Bhathinda Zone stated in May 1999 that the final bills of the defaulting contractors could not be finalised pending completion of the left over works through risk and expense contracts. This was not borne out by facts in that while the left over works were got executed in August 1989 and October 1990, the final bills were finalised after five to six years in August 1995 and May 1996 respectively. The Chief Engineer also added that the amounts could not be recovered as the matter was pending either before an arbitrator and / or court. This reply was also not tenable in that appointment of arbitrator had taken place in December 1996 after six years of completion of risk and cost contracts i.e. 1989 and 1990. Thereafter as the arbitrator could not finalise the proceedings, the matter was referred to a Court of Law. Moreover, not ensuring return of the unused stores by the contractor at the stage of their defaults was a direct consequence of the laxity in vigilance, supervision and monitoring the activities by the engineers. Even though recoveries towards non-return of Government stores were assessed at Rs 66.86 lakh at penal rate, stores at market rate was Rs 33.43 lakh.

Responsibility for the negligence was not fixed even after 8 years

Court of Inquiry, instituted to fix responsibility for the negligence of departmental personnel, though completed had not been approved and received as of May 1999. Thus, responsibility for the negligence was not fixed even after 8 years of the incidence.

The matter was referred to the Ministry in August 1999; their reply was awaited as of December 1999.

39. Construction of an overhead tank at a wrong site

A Garrison Engineer started construction of an overhead tank at a site which finally proved to be flight safety hazard. The reduced height imposed by Air Force made the overhead tank capable of feeding only 50 *per cent* of stipulated capacity to single storey accommodations negating the very purpose of overhead tank.

Neither the Air Force nor the Garrison Engineer prepared any site map authenticating the site selected

Headquarters Eastern Command sanctioned in November 1996 construction of an overhead tank of 40,000 gallon capacity for a Base Hospital at Barrackpore at a cost of Rs 61.80 lakh, to be located near a Defence air field. No. 6 Wing Air Force gave a no objection certificate in June 1996 after a spot survey. However, the certificate was neither specific in terms of location nor accompanied by site map. Recce-cum-Siting-cum-Costing Board held for provision of overhead tank also did not authenticate the site approved by Air Force with reference to a site map.

The work contracted for at Rs 42.27 lakh by the Chief Engineer, commenced in October 1997 and was scheduled for completion in March 1999.

The construction site was different from that approved by the Air Force

Belatedly Air Force observed that the constructed structure was a flight safety hazard

In November 1998 the same Air Force Wing requested the Commander Works Engineer to stop the work as the construction site differed from the one shown to them before obtaining the 'No objection certificate'. They further added the height of the tower was well above the maximum permissible height, which was posing a serious flight hazard. They requested that the height be reduced to the permissible limit of 10.16 metres including the top most extent, e.g. lightning conductor/obstruction light, etc. as per regulation. By the time the work was stopped, a sum of Rs 29.55 lakh was spent, representing 70 per cent work progress.

The Eastern Air Command lifted the ban as a damage control exercise

The Headquarters Eastern Air Command in response to a request made by the Chief Engineer Calcutta, in February 1999 for permitting to resumption of work in view of financial and legal implications, had lifted the ban in April 1999 on the condition that the height of the tank would be reduced to 10.16 metres. Accordingly the Garrison Engineer Barrackpore instructed the contractor in June 1999 that the tank would be constructed to 10.16 metres by demolishing the extra height. The Commander Works Engineer observed in May 1999 that with restricted height of the overhead tank only 21,000 gallons of water could reach all single storey buildings in Base Hospital Area, and the balance water would have to be pumped with on line booster, for which a special provision would have to be made. This put serious limitations on the functional efficiency of the overhead tank.

Contractor was yet to re-commence the work as of September 1999

The contractor was yet to re-commence the work as of September 1999. Even if the project is completed, it would meet the requirement of Base Hospital only partially, defeating the intended purpose of construction of overhead reservoir.

The matter was referred to the Ministry in August 1999; their reply was awaited as of December 1999.

40. Avoidable expenditure on cancellation of a contract

Insistence by a Commander Works Engineer on the contractor to provide a material which was not available and subsequent illegal cancellation of the contract on the grounds of slow progress led to an avoidable expenditure of Rs 17.06 lakh.

The contract catered for walls either with stone bond stone or PCC bond stones if stone bond stones were not available

Commander Works Engineer Wellington concluded in February 1989 a contract for provision of married accommodation at Wellington for Rs 15.38 lakh to be completed by February 1990. As per the particular specifications of the contract the walls of the building upto 60 cm thickness was to be provided with stone bond stone, and exceeding 60 cm thickness an option was allowed to use either stone bond stone or PCC bond stones. However, another clause under particular specification catered for providing PCC bond stone in lieu of stone bond stone where such stone bond stone are not available, without any extra cost.

CWE insisted upon use of stone bond stones

Similar requests from other contractors were considered

The contractor requested the Commander Works Engineer to permit him to use PCC bond stone at no extra cost as stone bond stones of required size were not available in sufficient quantities to progress the work at desired speed. The Commander Works Engineer did not accede to the request of the contractor and insisted upon use of stone bond stone only. However, similar requests from other contractors in the same station and during the same period were considered on confirmation of the non-availability of stone bond stone by a Board of Officers.

Contract was cancelled for slow progress at risk and expense of the contractor

The Commander Works Engineer cancelled the contract in June 1990 on the grounds of slow progress and concluded risk and expense contract in November 1990 for Rs 19.24 lakh which was completed in September 1992. The accommodation was allotted in September 1992 and till such time the state had incurred a revenue loss of Rs 1.15 lakh towards payment of House Rent Allowance for the period of delay in completion of quarters.

The contractor went for arbitration challenging the cancellation

The contractor went for arbitration claiming among other things amount towards profit that would have been earned by him but for the cancellation of the contract and interest on all the amounts legally due to him. The Commander Works Engineer put forth his counter claims for Rs 8.33 lakh towards compensation for delay etc., including extra expenditure of Rs 7.86 lakh incurred on the completion of left over work.

The Arbitrator awarded certain claims of the contractor

The Arbitrator while disallowing the claims of the Commander Works Engineer in June 1997, awarded to the contractor Rs 3.22 lakh together with 18 *per cent* simple interest per annum effective from June 1990 till date of actual payment on the counts of arbitrary decision in not allowing the contractor from using PCC bond stone and illegal cancellation of the contract. Instead of implementing the

CWE sought repeated legal advice on the award but in vain

award without loss of time from the date of award, the Commander Works Engineer sought repeated legal advice in June 1997 and April 1998 in the matter with no avail and deposited Rs 7.58 lakh with the Sub Court in August 1998.

The total loss on account of extra expenditure on left over works, Arbitration Award and payment of Rs 1.15 lakh on House Rent Allowance for the period of delay in completion of quarters was Rs 17.06 lakh.

The Ministry while admitting the facts of the case in August 1999 stated that request of the contractor could have been accepted by Commander Works Engineer.

CHAPTER V : RESEARCH AND DEVELOPMENT ORGANISATION

41. Nugatory expenditure on indigenisation of a Rocket

Army HQ went ahead with indigenous production of 122 mm grad rockets with diluted acceptance criteria leading to suspension of production of the rockets mid-way despite holding of inventory valuing Rs 25 crore at Ordnance factory.

The failure of the Armament Research and Development Establishment, Director General Quality Assurance and the Army HQ in deciding on indigenous production of the rockets not meeting acceptable criteria as per Range Table resulted in suspension of production mid-way after incurring expenditure of Rs 49.41 crore.

122 mm Grad rocket of Russian origin is a high explosive fired from a self propelled multi-barrel launcher (BM-21). Shelf life of these rockets is 20 years.

Standard acceptance criteria was worked out after users' trial in 1978

Armament Research and Development Establishment Pune under Defence Research and Development Organisation, indigenously developed the rocket and users trial was carried out in 1978. During this trial, probable error was 1.5 to 2 times the Russian Range Table. Armament Research and Development Establishment in consultation with the Director General Quality Assurance worked out a criteria that no rockets in a series of five should be away from the Mean Point of Impact beyond distance of 750 metres in range and 400 metres in line as the standard for acceptance of rockets being produced.

AHQ placed indents for supply of 25,000 rockets

Accordingly, Army HQ decided in August 1979 to commence production of rockets through an Ordnance factory under Ordnance Factory Board. Army HQ placed initial indent on the Ordnance Factory Board in September 1979 for supply of 5000 rockets followed by another indent in April 1982 for 20,000 rockets.

AHQ placed an indent in May 1984 on BDL for 5000 rockets

As the Ordnance factory did not produce the rocket till November 1983, Army HQ decided to place an immediate order on Bharat Dynamics Ltd, Hyderabad for supply of 5000 rockets. Army HQ had, however, placed the order only in May 1984.

OFC and BDL supplied 7467 and 5079 rockets respectively by 1991

Meanwhile, the Ordnance factory commenced the supply and completed delivery of 7467 rockets upto 1991. Bharat Dynamics Ltd. also supplied 5079 rockets between 1987 and 1991. The unit cost of production of the rocket by the Ordnance factory and Bharat Dynamics Ltd. was Rs 29,374 and Rs 25,000 respectively. Armament Research and Development Establishment as the Authority Holding Sealed Particulars, accepted the rockets produced by the

ARDE accepted the rockets produced by OFC and BDL

Ordnance factory and Bharat Dynamics Ltd. for issue to Army. While 6144 rockets were accepted only for training, 2294 were rejected and 4075 were within General Staff criteria.

Indigenous rockets exceeded the dispersion limit laid down in the RRT

AHQ suspended in March 1991 further production of the rockets

Director General Quality Assurance pointed out to the Army HQ in September 1990 that the acceptance criteria based on which the rockets were produced and cleared for acceptance by Armament Research and Development Establishment were found to be exceeding the 'dispersion' laid down in the Russian Range Table. Director General Quality Assurance himself had been associated with the Armament Research and Development Establishment in formulating the acceptance standard. Army HQ suspended in March 1991 further production of rockets by the Ordnance factory Chanda. At this point of time Ordnance factory Chanda held components/materials valued at Rs 25 crore.

OFB stated that the rockets were produced as per acceptance standard

The Chairman, Ordnance factory Board stated in February 1993 that production of rockets by the Ordnance factory was as per the design/ acceptance standard made available by the Armament Research and Development Establishment. He added that the rockets could be used for training purposes. Army HQ did not subscribe to this view as it would affect the confidence of the users and therefore be counter productive.

Two accidents took place in October 1995

8844 rockets were banned from use since July 1996

Despite this, Army HQ issued the indigenous rockets to a Regiment for its course shooting. During course firing in October 1995 two accidents occurred. Consequently, 8844 rockets, valued at Rs 24.41 crore, were segregated and banned from use in July 1996 even for training.

AHQ imported 23,500 rockets in 1996

Army HQ had to import 23,500 rockets at Rs 72.21 crore in 1996 to meet the bottom line requirements.

Thus, decision to clear bulk production despite rockets not meeting Range Table resulted in rejection of 2294 rockets valuing Rs 6.33 crore and blocking of inventory worth Rs 25 crore at Ordnance factory Chanda. Rockets worth Rs 24.41 crore are lying segregated since July 1996.

The matter was referred to the Ministry in May 1999; their reply was awaited as of December 1999.

CHAPTER VI: BORDER ROADS ORGANISATION

Review

42. Delay in construction of bridges by Director General of Border Roads

Highlights

- **Initial selection of unsuitable sites, inadequate sub-soil investigation, frequent changes in design and drawing after conclusion of contracts/ commencement of works and not synchronising inter-dependent works resulted in inordinate delays in construction of bridges, affecting socio-economic purpose as well as defence requirements. These issues require to be addressed by the Bridging Directorate.**

42.1 *Introduction*

Border Roads Development Board was set up in March 1960 by the Government of India with the objective of developing roads in the border areas for faster economic growth and facilitating movement and operation of the Defence Forces. Over the years its activities diversified into construction of bridges, airports, hospitals and schools. To cope up with increased activities of bridging work, a full fledged Bridging Directorate under Director General Border Roads was created in August 1983.

42.2 *Organisational Set up*

Border Roads Development Board, which includes the Defence Secretary and Secretary Surface Transport, is under the administrative control of the Ministry of Defence. The Board exercises all powers of a Department of Union Government. Director General Border Roads is assisted by 13 project divisions headed by Chief Engineer and 30 task forces. Officers and personnel of the organisation belong to General Reserve Engineer Forces and are also drawn from Army on deputation. Bridging Directorate is responsible for planning, monitoring and designing of bridges constructed by various Chief Engineers.

42.3 *Audit Objectives*

Review of construction of bridges by Director General Border Roads was conducted to assess the performance of the Bridging Directorate in completing the bridges; identifying causes for time and cost over runs and adverse effects thereof.

The review was conducted between May and June 1999 through a test check of records and documents of the Bridging Directorate of HQ Director General Border Roads and nine out of thirteen project Chief Engineers' offices.

42.4 Execution of Bridge Works

Sanctions did not stipulate time frame for completion of bridges

Sanctions accorded by Director General Border Roads and Ministry of Surface Transport for construction of bridges did not stipulate the time required for their completion, hence delays in completing the bridges could not be quantified.

However, a scrutiny of 124 bridges of various span under execution between April 1996 and March 1999 disclosed that the time taken in executing the construction of bridges did not bear any relevance to the length.

A test check of 45 completed and 61 bridges still in progress as of March 1999 revealed the position as given in the table below:

Span (In meters)	Completed Bridges			In Progress		
	No. of Bridges	Percentage of progress	Time taken for completion from date of sanction (in months)	No. of Bridges	Range of percentage progress	Range of time taken from date of sanction (in months)
Upto 50	24	100	24 to 96	23	Nil to 99	1 to 160
51-100	15	100	36 to 120	21	Nil to 97	4 to 162
101-150	3	100	24 to 132	7	2 to 99	4 to 166
151-200	3	100	48 to 120	2	11 to 70	29
201-250	-	-	-	3	18 to 36	50-272
301-350	-	-	-	1	17	29
401-450	-	-	-	1	67	99
451-500	-	-	-	2	2 to 64	21-65
Over 500	-	-	-	1	61	138
Total	45			61		

Stipulating time frame in sanctions is pre-requisite to monitor progress

In light of the above, laying down specific time frame for completion of bridges of different span will help in monitoring timely completion of the bridges.

42.5 Standard schedule of rate for bridges

No starndard schedule of rates was prepared by DGBR

Although Bridging Directorate started functioning under Director General Board Roads in 1983, no standard schedule of rates has been prepared so far. On this being pointed out in Audit, Director General Border Roads stated in July 1999 that estimates are priced based on rates of major permanent bridges, which have been completed. He added that draft standard schedule of rates was under finalisation for three project Chief Engineers and for other project Chief Engineers it might take a year more to finalise the schedules of rates.

42.6 Analysis of delays

In 39 out of 124 bridges, which were either completed or at various stages of progress as at the end of March 1997 to March 1999, there were avoidable delays on account of initial selection of unsuitable sites, inadequate sub-soil investigation, frequent changes in design and drawing after conclusion of contracts/commencement of works, and failure to synchronise inter-dependent works, affecting the socio-economic purpose as well as Defence requirements. A few illustrative cases are dealt with in the succeeding paragraphs.

42.6.1 Initial selection of unsuitable sites and inadequate sub-soil investigation

Selection of unsuitable sites caused delay in execution of work and cost over-run of Rs 2.08 crore

Initial selection of unsuitable site and inadequate sub-soil investigation in three cases resulted in revision of design and increase in bridge length with attendant delays in execution and cost escalation of Rs 2.08 crore.

Case I

Director General Border Roads sanctioned in August 1995 construction of 320 meter span permanent bridge across the river 'Naodhing' at Rs 7.62 crore. The bridge was to be located at 1.175 km from Deban to connect National Highway – 38 on the South bank of the river.

Chief Engineer (Project) Vartak concluded a contract for construction of the bridge after two years in August 1997 at Rs 8.96 crore for completion by August 2001. The Director General Border Roads took two years for issue, receipt and scrutiny of tenders and obtaining clarifications on design and drawings from the tenderers.

Site selected was found unsuitable after commencement of work

On laying the central line of the bridge, the Chief Engineer found that the site was not suitable for construction of the bridge as the soil strata at the site of abutment was different from that classified in the sub-soil investigation report of 1986-88 conducted by the Director General Border Roads through an agency, and non-availability of ledge[1] for placing abutment of the bridge.

Site was relocated twice and the work was yet to commence

The Chief Engineer selected another site 92 meter down-stream for construction of the bridge in December 1997 by resting abutments on well foundation. Director General Border Roads approved this change. However, the Director General decided in February 1999 to construct the bridge at yet another site 162 meter down-stream as the most appropriate, technically viable and within the contract provisions. Accordingly, the Chief Engineer issued an amendment to the contract for change of site in February 1999. The work had not commenced as of May 1999.

[1] Ledge: a raised edge

Finalisation of drawings and conclusion of contract based on inadequate soil investigation had thus resulted in change of site on two occasions holding up the work for about two years.

Construction of the bridge that was needed as early as in 1995 was yet to commence even after about four years as of May 1999, adversely affecting the link between Deban and National Highway-38, besides cost over run, which can be worked out only after completion of the work.

Case II

Ministry of Surface Transport sanctioned in February 1993 Rs 85.13 lakh for construction of 35 meter span Reinforced Cement Concrete bridge at 0.46 km on Haa-Gasekha-Damthang-Road in Bhutan and approach road.

Chief Engineer (Project) Dantak commenced the work on Haa-side abutment in September 1993 and completed it in August 1994. The Chief Engineer suspended the work on the Gasekha-side abutment in March 1995 due to land slides caused by excavation. To mitigate the problem, Director General Border Roads modified the design in November/December 1995 to two span 'skew'[2] bridges of 35 meter and 15 meter with one intermediate pier and dummy abutment with open foundation. This arrangement was also found not workable, because of further slides.

A technical Board of Officers, which examined the problem, observed that the Gasekha-side abutment be constructed at the location of intermediate pier. Director General accepted this suggestion in September 1996. The sub-structure was thus completed by October 1998 save for the last lift of the abutment. Contract for super-structure for skew bridge was not concluded as of May 1999, pending finalisation of drawing and sanction for change in the scope of work at Rs 2.09 crore.

Delay in completion of sub-structure caused delay in commencement of super-structure

Failure of the Director General Border Roads to assess the site condition resulted in adoption of inadequate design and repeated modifications to overcome land slides. This, in turn, led to delay of two years in completing the sub-structure, without which super-structure work could not be taken up. Consequently, the purpose of constructing a permanent bridge stands compromised as of December 1999.

Case III

Director General Border Roads sanctioned in March 1997 provision of 24.75 meter permanent bridge across the river 'Nautikud' 10 meter up-stream of the existing old bailey bridge for Rs 28.75 lakh.

[2] skew-bridge: a bridge having its arch or arches set obliquely on its abutments

Unsuitable soil strata forced closure of the work at original location and relocation with increased span

During construction, desired soil was not found and the hill slope just before the approach became unstable and the height of abutment required increase by more than two times. Construction of the bridge at this location was given up in March 1999 after incurring expenditure of Rs 13.09 lakh. Director General Border Roads, proposed in March 1999 that the existing bailey bridge be shifted 10 meter up-stream and in its place the permanent bridge be constructed of 32 metres span. Cost of these works was estimated at Rs 1.13 crore.

Thus, provision of a permanent bridge is yet to commence as of December 1999.

42.6.2 Frequent changes in design, drawings and specifications

Frequent changes in designs resulted in delayed execution with cost escalation of Rs 19.84 crore

Finalisation of drawings and design are an integral part of technical planning, which is pre-requisite for execution of work. In eight cases, Director General Border Roads prolonged execution of work by frequently changing the design and drawings. This involved considerable time and cost over-run. The cost over run worked out to Rs 19.84 crore. The cases are as under:

Case-I

Ministry of Surface Transport sanctioned in May 1988 construction of 33 meter span permanent bridge at `Tandi' 107.98 km on Manali-Sarchu-Road, at Rs 49.50 lakh.

Bridging Directorate failed to address de-watering problem when design of abutment was adopted

Director General Border Roads designed the abutment foundation for the bridge inside the river-bed, without addressing the constraints involved in dewatering. On commencing the abutment work, the Director General realised the dewatering problem and in order to overcome it, he increased the span of the bridge to 45 meters in September 1989 at Rs 67.50 lakh so that the abutment would be well outside the river bed. This decision could have been taken at the designing stage itself thereby avoiding the delay of over one year.

To overcome de-watering problem, a coffer-dam had to be constructed

Construction of the bridge was undertaken departmentally for completion by October 1995. When the work progressed up to 24 per cent in October 1992, the Chief Engineer (Project) Deepak proposed further increase in the span up to 60 meter so that the abutment could be on dry land well beyond the water line of the river. Director General Border Roads did not agree to the proposal. Consequently, a coffer dam at Rs 16.27 lakh was constructed to overcome the de-watering problem. Contract for construction of super-structure could be concluded only in August 1997 for Rs 93.22 lakh, pending completion of the sub-structure. Super-structure work progressed up to 77 per cent with booked expenditure on the entire work at Rs 1.77 crore as of April 1999. The cost of the bridge was estimated at Rs 2.05 crore and the revised sanction was awaited as of May 1999.

Director General Border Road's decision to construct the abutment inside the river bed instead of on dry land resulted in prolonged execution of the sub-structure and attendant delay in conclusion of the contract for the super-structure.

Thus, the bridge sanctioned in 1988 for completion by October 1995 was still under progress as of December 1999.

Case II

Ministry of Surface Transport sanctioned in April 1987 construction of 180 meter span steel truss cantilever type bridge across the river 'Teesta' at 28.343 km on road, Sevoke Rangpo-Gangtok national highway-31-A at Rs 2.20 crore.

Chief Engineer (Project) Swastik concluded a contract in March 1988 for Rs 3.92 crore based on contractor's design for an 'Arch-type' bridge for completion by September 1990. The sanction was accordingly revised to Rs 4.00 crore in March 1991.

Bridging Directorate kept changing design of the bridge at contractor's instance causing delay in completion

During execution in March 1991, the contractor suggested that considering the soil condition, construction of the bridge to cantilever design with well foundation in place of Arch type catered for in the contract, was only possible. Accordingly, the Chief Engineer amended the contract in January 1992 for completion by March 1993. The contractor completed the cantilever bridge after three years in April 1996 at Rs 6.53 crore, including Rs 2.10 crore towards escalation beyond the original date of completion in September 1990.

Despite the sanction accorded in April 1987 for construction of the bridge with cantilever design, Director General Border Roads changed the design to 'Arch type' on the first occasion and reverted to cantilever type at the later stage, both at the instance of the contractor. This lapse resulted in prolonging the execution of the bridge beyond the original date of completion by six years.

Case III

Ministry of Surface Transport sanctioned in March 1988 construction of 300 Meter Span Bridge on the river 'Kaladan' on Lungleh-Tuipang road of National highway-54 at Rs 3.66 crore in supersession of their sanction of August 1986.

Chief Engineer (Project) Pushpak had concluded a contract in March 1987 at Rs 3.59 crore for completion by June 1990. The work progressed up to 89.39 per cent with booked expenditure of Rs 5.36 crore as of March 1999. Revised sanction for Rs 6.46 crore was awaited as of May 1999.

Tardy progress was mainly due to frequent changes in design/ drawings

An analysis of the delays disclosed that out of total delay of 105 months, 65 months were due to frequent changes in drawings and design on account of different soil strata encountered during execution than those in the tender document. The delay had involved extra expenditure of Rs 2.80 crore including escalation of Rs 1.63 crore beyond the original date of completion viz. June 1990.

Thus, the bridge work that was desired as early as in 1986 was not ready even after about 13 years as of March 1999 despite additional expenditure of Rs 2.80 crore.

Case IV

Super structure was held up for over three years owing to frequent changes in the design of the bridge

Ministry of Surface Transport sanctioned in January 1994 construction of a 40 meter span permanent Pre-Stressed Concrete bridge over river Twangchu at 287 km on Road Chardurar-Tawang at an estimated cost of Rs 99 lakh. The work on sub-structure commenced in March 1994 was completed in February 1996 at Rs 61.65 lakh. Director General Border Roads revised in February 1996 the type of super structure from Pre-Stressed Concrete to Steel. Accordingly, the Chief Engineer (Project) Vartak called tenders in April 1996. As the tendered amount of Rs 99 lakh was beyond variance limit of the sanction, the Chief Engineer initiated a case in August 1997 at the instance of Director General Border Roads for revision of sanction. However, the Director General Border Roads reverted back to the original design of Pre-Stressed Concrete super structure to be executed departmentally. The Task Force Commander opined in May 1998 that the cost of both types of super structure would be same at Rs 1.45 crore. Director General Border Roads was yet to take a final decision as of May 1999.

Thus, the Director General Border Road's indecision in deciding the type of super structure led to holding back the super structure work over three years.

Case V

Ministry of Shipping and Transport sanctioned construction of 230 metre span bridge across river Chenab Akhnoor at Rs 77 lakh in May 1977. Chief Engineer (Project) Sampark concluded a contract in July 1978 with firm 'A' for Rs 59 lakh for completion by December 1981.

Dispute over pneumatic sinking without cost led to cancellation of contract

Subsequent contractor also stopped the work on the same ground

During execution in April 1981 the firm sought permission for pneumatic sinking of well No 3 under pier No.4 of the bridge. The Chief Engineer allowed it at no extra cost. The firm refused to use the pneumatic sinking method without extra cost. As the dispute was not resolved the firm stopped the work after the work had progressed up to 25.27 per cent. The Chief Engineer cancelled the contract after about four years in June 1985. For executing the leftover work, the Chief Engineer concluded risk and cost contract with firm 'B' in December 1986 for Rs 2.12 crore for completion by May 1989. After tardy progress, firm 'B' stopped the work in June 1994 when it had progressed 21.89 per cent, further expressing difficulties in executing foundation in the river bed and construction of Pre-Stressed Concrete super structure. On referring the matter to a technical committee, it opined in November 1995 that no foundation in the main stream be provided and bridge constructed with composite type super structure. Bridging Directorate approached various firms for obtaining technical report on this issue in March 1998. Bridging Directorate was yet to take a decision in the matter. No further work on the bridge was taken up pending final decision by the Bridging Directorate.

Bridging Directorate adopted an unviable design leading to cancellation of contracts on two occasions and delay in execution of the bridge

The Bridging Directorate adopted an unviable design for the bridge without fully appreciating the site condition. Both the firms expressed difficulties in laying the foundation with the type of design given in the contract, yet the Bridging Directorate insisted the contractors to execute the work. This led to stoppage of work by both the contractors. Thus, the execution of the bridge which commenced in December 1978 was yet to reach even the sub-structure stage after twenty one years as of May 1999. Besides Rs 1.94 crore incurred on the construction did not yield any value for money.

Case VI

Ministry of Surface Transport sanctioned in Aprill 1977 construction of three minor bridges at Muthiwala Khud, Nagbani Khud and second Damana Khud at Rs 20.69 lakh. The works were to be executed departmentally.

Third bridge was not completed due to inadequate design even after 22 years

Two bridges were completed in November 1980. The third bridge at second Damana Khud was not started due to inadequate design. The bridge redesigned in November 1981 was also found unsuitable. On conducting further soil test the third design was finalised and sanctioned in July 1994, after 17 years for Rs 69.42 lakh as against initial cost of Rs 9.33 lakh. The work was commenced in September 1996 after further delay of over two years. The bridge was yet to be completed as of May 1999.

The inordinate delay in finalising a viable design resulted in non-availability of the bridge even after 22 years, besides considerable cost over run.

Case VII

Bridging Directorate's indecision in finalising the type of the bridge caused delay in concluding contract for over 2 years

Ministry of Surface Transport sanctioned a bridge over the river Sumdo at Km 483.13 on Hindustan-Tibet road for Rs 1.38 crore in January 1993. In response to tenders issued in May 1993 one of the tenderers gave proposal for steel super structure as alternative to Pre-stressed-concreate super structure. Directorate of contracts entered into correspondence from July 1993 to March 1995 with other tenderers for steel super structure bridge which was most suited taking into account the cold climate, low working period and remoteness of the area. The lowest quotation for steel super structure was Rs 1.25 crore. But the Directorate of Contracts decided to construct PSC bridge due to aesthetic appearance and lower maintenance cost. Chief Engineer finally concluded a contract after two years in May 1995 for Pre-stressed-concrete super structure at Rs 1.25 crore. The contractor commenced the work in July 1995 but stopped it after it progressed up to 88 per cent in December 1997. The expenditure booked against the job was Rs 1.28 crore. Directorate of Contracts had not concluded any risk and cost contract to complete the left over work as of May 1999.

Even though the steel structure bridge could have been constructed at the same cost but with lesser lead time, the decision of the Director General Border Roads to go ahead with Pre-stressed-concrete structure was not prudent.

Case VIII

The work was not commenced even after 8 years in May 1990 pending finalisation of drawings

Bridging Directorate took 5 years to approve the drawings

Ministry of Surface Transport sanctioned in September 1982 construction of a 106 meter span permanent bridge across the river Dalai at km 96.20 on road Tezu-Hayuliang for Rs 43.25 lakh. The estimate which was unrealistic had to be increased to Rs 1.48 crore. Chief Engineer (Project) Vartak concluded a contract for Rs 1.45 crore in June 1985 with firm 'C'. The work did not commence till May 1990 pending submission of general arrangement drawing by the contractor and clearance thereof by the Bridging Directorate. After starting the work in June 1990, the contractor proposed pneumatic sinking of well. The Bridging Directorate took 5 years to approve the proposal in May 1995. In the meanwhile, the contractor had withdrawn his resources from the site. The contractor resumed the work after further delay of two years in April 1997 and the work progressed up to 47.73 per cent as of May 1999. The expenditure booked against the job as of May 1999 was Rs four crore. The Chief Engineer initiated revised estimate for Rs 7.93 crore in March 1999.

The work that was contracted for in 1985 commenced almost after 12 years in 1997, and was yet to be completed as of May 1999.

42.7 Non-synchronisation of the bridge work with road works and vice-versa

Construction of roads and bridges are required to be planned in such a way that both are completed simultaneously, lest one completed work remain unutilised, pending completion of the other.

Bridge was completed in March 1996

Ministry of Surface Transport sanctioned in October 1988 construction of a 142 meter span permanent bridge across the river Katakhal for Rs 1.31 crore later amended to Rs 2.02 crore. Chief Engineer (Project) Puskpak concluded a contract in August 1992 for Rs 1.98 crore and the work was completed in March 1996 at Rs 2.49 crore.

Approach Road is expected to be completed by March 2001

The Bridge will remain idle till 2001

The Director General Border Roads sanctioned in February 1996 construction of approach roads at Rs 19.25 crore after eight years from the sanction and four years after conclusion of the contract for the bridge, even though it involved acquisition of land. The approach roads were scheduled for completion by March 2001. The bridge was damaged in the May 1997 earthquakes. The Bridging Directorate observed that completion of approaches would have acted as cushion to absorb the shocks and reduced the effect of the earthquake. The cost of damages had been assessed at Rs 38.86 lakh.

Thus, pending construction of approach road the bridge constructed during March 1996 at a cost of Rs 2.49 crore has been lying unutilised.

42.8 Other instances

Case I

Ministry of Surface Transport sanctioned in October 1993 construction of 270 meter span bridge over the river Naoding on road sector Dirak-Chawkham of National Highway – 52 for Rs 8.61 crore including 492 meters guide bunds to protect bank erosion by floods.

Encountering different soil strata at site led to change in foundation

Chief Engineer (Project) Udayak concluded a contract for construction of 271.20 meter bridge in November 1995 for Rs 10.35 crore. During execution the contractor encountered heavy coarse sand with pebbles and gravels as against non-erodable rocky strata based on which the Director General Border Roads designed the bridge. The Chief Engineer recommended adoption of well foundation instead of open foundation for one of the abutments. This was approved by the Directorate General of Border Roads.

Bank erosion by floods in the absence of protective work necessitated increase in span

The banks of the river eroded during the floods of 1996-97 and 1997-98 since protective work i.e. guide bund to arrest bank erosion during floods had not been carried out even though this was sanctioned. As a result, span of the bridge had to be increased to 341.40 meter, which was further increased to 477 meter with total financial effect of Rs 6.60 crore. The progress of work as of January 1999 was 271.73 meter with booked expenditure of Rs 11.19 crore. Extra expenditure due to increase in span of bridge was Rs 6.60 crore.

Case II

The Ministry of Surface Transport sanctioned in December 1983 construction of a permanent bridge of 86 meter span over river Naushehra Tawi at an estimated cost of Rs 65.79 lakh. Chief Engineer (Project) Sampark concluded contract in October 1986 for Rs 80 lakh. The construction was based on the contractor's design and drawings duly approved by the Directorate of Bridging.

Site engineers allowed the contractor to construct the abutment contrary to DGBR's directives

The work was to commence in November 1986 for completion by May 1989. When the abutment work on one side was yet to commence, the site engineers expressed reservations about the construction partly on hard rock and partly on compacted back-fill rock. The Director General Border roads decided the construction of abutment on properly compacted back-fill rock to avoid differential settlement. Despite the specific directions of the Director General Border Roads, the site engineers allowed the contractor to construct the abutment partly on hard rock and partly on back-fill rock. The work was thus completed after four years in April 1993 at a cost of Rs 89 lakh.

Bridge tilted at abutment leading to its closure to traffic for 4 years

The bridge was opened for traffic in April 1993 but was closed in July 1994 as the abutment wall of one side of the bridge had tilted towards the main stream thereby endangering the main span of the bridge. The bridge had to be rehabilitated by increasing the span by 18 meter at no extra cost. The bridge was opened to traffic in April 1998.

The failure of the site engineers in not adhering to the construction of the abutment on properly compacted back-fill rock as specified by the Director General Border Roads resulted in tilt of the abutment due to differential settlement necessitating rehabilitation of the bridge; besides keeping the bridge closed for four years.

The matter was referred to the Ministry in November 1999, their reply was awaited as of December 1999.

43. Deliberate delay in award of contract to favour a contractor

The Chief Engineer deliberately delayed the award of a contract until lower offers became invalid in order to favour a particular contractor.

The decision of the Chief Engineer (Project) Himank to enter into correspondence with a contractor after receipt of the tenders resulted in expiry of the validity period of offer of other bidder and conclusion of contract at a higher rate.

Tenders were received on 5 April 1994 with validity period up to 4 May 1994

Chief Engineer failed to take decision within the validity period of offer

Failure to resolve the issue within the validity of offer led to conclusion of uneconomical contract

Chief Engineer (Project) Himank invited tenders for handling and conveyance of stores of any description from Pathankot to Leh and adjoining areas of Leh. Five priced tenders were received on 5 April 1994. Firm 'A' had quoted 334.98 *per cent* above schedule `A' rates for Pathankot to Leh and 30 *per cent* extra on the above rate for the areas adjoining Leh which worked out to 435.47 *per cent*. Firm 'B' had quoted 339.43 *per cent* for Leh as well as areas adjoining Leh. Thus, the rate quoted by firm 'A' for handling and conveyance of stores from Pathankot to areas adjoining Leh was much higher. However, the Chief Engineer entered into correspondence with firm 'A' requesting them to withdraw the 30 *per cent* extra for areas adjoining Leh for which there was no response within the validity period of 4 May 1994. Firm 'B' did not extend the validity period on the plea that the communication seeking extension of validity period was received after the original validity period was over. Firm 'A' who had not responded within the validity period of tender offered one *per cent* reduction i.e. from 30 *per cent* to 29 *per cent* extra for the areas adjoining Leh on 1 June 1994. Thus, their rate for areas adjoining Leh amounted to 432.12 *per cent* above schedule to the tender against 339.43 *per cent* quoted by firm 'B'. Chief Engineer concluded the contract on 3 June 1994 with firm 'A'.

Acceptance of higher tender resulted in additional expenditure of Rs 11.82 lakh

The action of the Chief Engineer in entering into correspondence with firm 'A' delayed the decision until the validity of other tenders had expired. This effectively shut out the lowest tenderer from undertaking the work resulting in an additional expenditure of Rs 11.82 lakh.

The matter was referred to the Ministry in August 1999; their reply was awaited as of December 1999.

CHAPTER VII : ORDNANCE FACTORY ORGANISATION

44. Performance of Ordnance Factory Organisation

44.1 *Introduction*

Thirty nine ordnance factories, with a manpower of 1.50 lakh are engaged in production of arms, ammunition, equipment, clothing, etc. primarily for the Armed Forces of the country. In order to utilise available spare capacities, ordnance factories have started manufacturing items for civil trade also, as a measure of diversification. At the apex level, ordnance factories are managed by a "Board" which is responsible for policy formulation, supervision and control. Director General of Ordnance Factories is the ex-officio chairman of the Ordnance Factory Board. He is assisted by nine Members/Addl Director General of Ordnance Factories, who are in charge of various staff and line functions.

The broad grouping of ordnance factories with reference to their production is as under:

	Divisions	No. of factories
(i)	Materials and Components	9
(ii)	Weapons, Vehicles and Equipment	10
(iii)	Ammunition and Explosives	10
(iv)	Armoured Vehicle	5
(v)	Ordnance Equipment Factories	5

On the basis of the product the factories are also classified as metallurgical (6), engineering (17), filling (6), chemical (4), and ordnance equipment (6).

44.2 *Revenue expenditure*

The expenditure under revenue head during 1994-95 to 1998-99 is given in the table below :

(Rs in crore)

Year	Total expenditure incurred by ordnance factories	Receipts against products supplied to Armed Forces	Other receipts and recoveries	Total receipts	Net expenditure of ordnance factories
1994-95	2347.94	1868.85	473.74	2342.59	(+) 5.35
1995-96	2775.90	2114.82	484.98	2599.80	(+) 176.10
1996-97	3272.30	2416.22	433.06	2849.28	(+) 423.02
1997-98	4050.47	2852.93	517.06	3369.99	(+) 680.48
1998-99	4461.72	3854.92	598.59	4453.51	(+) 8.21

44.3 Analysis of performance of OFB

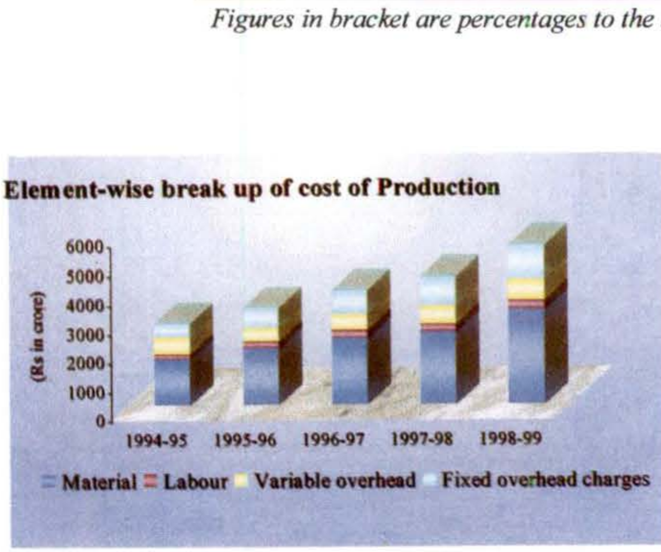
44.3.1 General

In 1998-99, turnover of Heavy Vehicles Factory Avadi was highest at Rs 658.19 crore with 76.64 per cent material components while that of Ordnance Cable Factory, Chandigarh was the lowest at Rs 22.79 crore with material components at 49.14 per cent.

44.3.1.1 The following table indicates element-wise cost of production during the last five years :

Element	Value of production (Rs in crore)				
	1994-95	1995-96	1996-97	1997-98	1998-99
(a) Direct Material	1580.79 (56.30)	1962.48 (58.77)	2299.79 (58.53)	2502.08 (57.07)	3268.98 (60.08)
(b)Direct labour	168.16 (5.99)	213.26 (6.39)	272.48 (6.94)	264.94 (6.04)	319.93 (5.88)
(c)Variable overhead	607.85 (21.65)	488.78 (14.64)	548.21 (13.95)	651.47 (14.86)	707.56 (13.00)
(d)Fixed overhead charges	450.99 (16.06)	674.46 (20.20)	808.56 (20.58)	966.09 (22.03)	1144.66 (21.04)
Total	2807.79	3338.98	3929.04	4384.58	5441.13

Figures in bracket are percentages to the total cost of out turn.



Whereas the share of labour in the cost of production has been varying between 5.88 and 6.94 *per cent*, that of the fixed overhead has shown an upward trend increasing from 16.06 *per cent* in 1994-95 to 21.04 *per cent* in 1998-99. The element of fixed and variable overheads in the total cost of production varied widely from factory to factory during 1998-99 being 82.25 *per cent* in Grey Iron Foundry Jabalpur and 10.23 *per cent* in Ordnance Factory Khamaria.

44.3.2 Issue to users

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

(Rs in crore)

	1994-95	1995-96	1996-97	1997-98	1998-99
Army	1492.58	1690.97	1964.99	2427.02	3339.46
Navy	28.02	37.41	46.56	60.39	62.49
Air Force	54.12	98.89	107.47	106.12	89.42
MES, Research and Development (Other Defence Department)	39.55	54.16	65.31	59.23	79.61
Total Defence	1614.27	1881.43	2184.33	2652.76	3570.98
Civil Trade	371.88	404.33	381.55	417.96	441.08

44.3.3 Production planning and performance

44.3.3.1 Production programme vis-a-vis progress

Production of several items for which targets had been fixed by Ordnance Factory Board was behind schedule. Details showing the number of items for which the demands existed, number of items for which target was fixed and number of items manufactured and the number of items for which target was fixed but production of items was behind schedule during the last five years are furnished in the table below :

Year	*No of items for which demands existed*	*No of items for which target fixed*	*No. of items manufactured as per target*	*No. of items for which target fixed but production was behind schedule*
1994-95	296	250	167	83
1995-96	323	289	220	69
1996-97	331	289	195	94
1997-98	284	234	161	73
1998-99	353	288	222	66

44.3.4 Capacity utilisation

The capacity utilisation of a factory is assessed in terms of standard *man-hours and machine hours. The tables below indicate the extent to which the capacity had been utilised in terms of SMH and machine hours during the last five years:

* Standard Manhour (SMH) means the average output expected of an average skilled worker as per the grades provided for in the estimates engaged in production activities in the ordnance factory for one hour. This does not include factors like setting time, fatigue allowance etc.

(Capacity utilisation in terms of machine hours)
(Unit in lakh hours)

Year	Machine hours available	Machine hours utilised
1994-95	1199	894
1995-96	1235	947
1996-97	1271	936
1997-98	1341	972
1998-99	1266	959

(Capacity utilisation in terms of SMH)
(Unit in lakh hours)

Year	*Capacity in SMH*	*Utilisation in SMH*
1994-95	2040	1359
1995-96	1914	1485
1996-97	1848	1558
1997-98	1650	1539
1998-99	1436	1639

44.3.5 Export and civil trade

The capacity created in ordnance factories was not being utilised to the full extent because of diminishing orders from Armed Forces. The Ministry decided in July 1986 to diversify and enter the civil market within the country and tap the export potential of ordnance factories to utilise their capacity.

44.3.5.1 Export

The following table shows the achievement with reference to target in export from 1994-95 to 1998-99.

Year	Number of factories involved	Target (Rs in crore)	Achievement (Rs in crore)	Percentage of achievement
1994-95	14	35.00	7.15	20.42
1995-96	11	25.00	18.94	75.76
1996-97	8	25.00	3.22	12.88
1997-98	13	25.00	23.83	95.32
1998-99	13	25.00	13.46	53.84

There has been a sharp decline in the performance on the export front during 1998-99 as compared to the previous year. Ordnance Factory Board attributed the decline in the performance on the export front to:-

(i) Economic crisis in South East Asia resulting in non-receipt of orders from their potential customers;

(ii) Non-availability of spare capacity in existing ordnance factories and

(iii) Non-receipt of major orders from countries from whom repeated orders are received.

44.3.5.2 Civil trade

The turnover from civil trade other than supplies to Ministry of Home Affairs and State Government Police Departments during 1994-95 to 1998-99 was as under:

Year	Number of factories involved	Target (Rs in crore)	Achievement (Rs in crore)	Percentage of achievement
1994-95	38	224.30	112.03	49.45
1995-96	38	141.49	140.45	99.26
1996-97	38	180.00	137.96	76.64
1997-98	38	180.00	168.34	93.52
1998-99	38	185.00	178.74	96.67

The realisation from civil trade in absolute terms has been showing an upward trend except during 1996-97.

44.3.5.3 Non-realisation of amount towards civil trade

According to the directive issued by Ordnance Factory Board in June 1985, all civil indentors are required to pay in cash or through demand draft in advance with the order in full or irrevocable letter of credit. Ordnance Factory Board stated in November 1999 that in certain cases advance payment is not insisted upon in the case of supplies to Government departments. The payment terms are also modified in the case of supplies made to reputed private sector firms but in such cases the supplies are covered by letter of credit. Rs 34.28 crore was outstanding against civil indentors for supply of different items to them as on 31 March 1999. This has as of October 1999 come down to Rs 13.56 crore which included mainly a sum of Rs 10.26 crore outstanding against M/s Bharat Heavy Electricals Limited, Trichi.

44.3.6 Utilisation of manpower

44.3.6.1 Employees of the Ordnance Factory Organisation are classified as (i) "Officers", who man senior supervisory levels, (ii)"Non-Gazetted" (NGO) or "Non-Industrial" employees (NIEs) who man junior supervisory levels & 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. This reveals that the strength of the officers as percentage to total manpower as well as in absolute terms has been showing a steady increasing trend .

(In number)

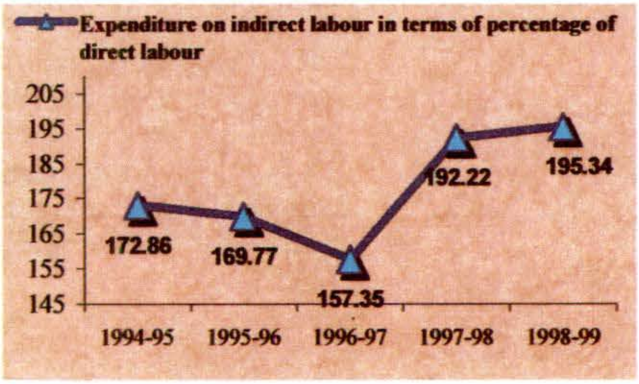
Category of employees	1994-95	1995-96	1996-97	1997-98	1998-99
Officers	2856	3286	3331	3579	4140
Percentage of officers to total manpower	1.76	2.01	2.14	2.33	2.76
NGO/NIEs	43167	45641	49462	42920	42483
Percentage of NGO□/NIEs to total manpower	26.69	28.03	31.81	27.94	28.31
IEs●	115702	113865	102675	107137	103444
Percentage of IEs to total manpower	71.54	69.94	66.03	69.73	68.93
Total	161725	162792	155468	153636	150067

44.3.6.2 The expenditure on labour is charged to production in two ways - 'direct labour' representing expenditure on labour relating directly to production and 'indirect labour' representing other expenditure on labour like maintenance and other activities incidental to production etc. The expenditure on direct and indirect labour for the last five years is shown below :

(Rs in crore)

	1994-95	1995-96	1996-97	1997-98	1998-99
(a) Total indirect labour	316.73	387.29	410.52	557.34	675.61
(b) Total direct labour	183.23	228.13	260.89	289.94	345.86
(c)Percentage of indirect labour to direct labour	172.86	169.77	157.35	192.22	195.34

Percentage of indirect labour to direct labour varied between 157.35 *per cent* and 195.34 *per cent* during the years 1994-95 to 1998-99. It was 195.34 *per cent* in 1998-99.



□ NGO means non-gazetted officers serving in ordnance factory organisation. NIE means non-industrial employees serving in ordnance factory organsiation.

● IE means industrial employees serving in ordnance factory organisation.

44.3.7 Inventory management

44.3.7.1 Stock holdings

As per the existing provisioning policy, the ordnance factories are authorised to hold stock of different types of stores as under:

Sl.No.	Types of stores	Months requirement to be held in stock
1.	Imported items	12 months
2.	Difficult indigenous items	9 months
3.	Other indigenous items	6 months

During 1998-99 average stock holdings in six factories, as given below ranged between 10 and 19 months' requirements which exceeded the existing norms.

(Rs in crore)

Sl. No.	Name of Factory	Opening Balance as on 01 April 1998	Closing Balance as on 31 March 1999	Average holding of stock	Average monthly consump-tion	Holding of stores in terms of numbers of months consumption
1.	Ordnance Factory Ambajhari	5.94	8.85	7.40	0.70	10.57
2.	Ordnance Factory Kanpur	47.84	52.74	50.29	4.52	11.13
3.	Heavy Vehicles Factory Avadi	372.50	443.02	407.76	39.59	10.30
4.	Ordnance Factory Medak	197.47	153.99	175.73	16.34	10.75
5.	Engine Factory, Avadi	35.82	48.26	42.04	3.02	13.92
6.	Opto Electronics Factory Dehradun	13.42	17.70	15.56	0.81	19.20

44.3.7.2 The average stock holdings for 1998-99 in terms of number of days consumption as compared to 1997-98 show a downward trend. Yet it was more than the prescribed norm of 180 days.

(Rs in crore)

Sl. No.		Particulars	1994-95	1995-96	1996-97	1997-98	1998-99
1.		**Working stock**					
	a.	Active	736.51	1020.59	1245.90	1462.38	1433.41
	b.	Non-moving	103.75	109.21	77.93	109.69	146.25
	c.	Slow moving	126.08	122.10	148.39	133.56	149.45
		Total Working Stock	966.34	1251.90	1472.22	1705.63	1729.11
2		Waste & Obsolete	13.12	8.47	8.09	10.56	10.94
3.		Surplus/ Scrap	35.29	33.34	41.21	39.87	36.14
4.		Maintenance stores	93.84	76.00	72.82	79.80	92.80
		Total	**1108.59**	**1369.71**	**1594.34**	**1835.86**	**1868.99**
5.		Average holdings in terms of number of days' consumption	247	214	209	232	200
6.		Percentage of total slow-moving and non-moving stock to total working stock	23.78	18.47	15.37	14.26	17

44.3.7.3 Finished stock

There has been a steady build up in the total holding of finished components since 1994-95.

(Rs in crore)

Year	1994-95	1995-96	1996-97	1997-98	1998-99
Finished component holdings	197.85	247.51	303.83	439.60	486.36
Holding of finished components in terms of number of days consumption	96	90	99	123	150

The holding of finished components in terms of number of days consumption had also increased from 96 days in 1994-95 to 150 days in 1998-99.

44.3.7.4 Work in progress

The General Manager of an ordnance factory authorises a production shop to manufacture an item in the given quantity by issue of warrant whose normal life is six months. Unfinished items pertaining to different warrants lying at the shop floors constitute work-in-progress.

There was a steady increase in the value of work-in-progress from 1994-95 as shown in the table below :

(Rs in crore)

As on 31 March	Value of work in progress
1995	714.00
1996	855.00
1997	1038.00
1998	1194.00
1999	1214.00

As on 31 March 1999, 12047 warrants with value Rs 372.16 crore were more than one to 13 years old against the normal life of six months. Old warrants need to be reviewed at regular intervals so that the items under production may not become obsolete by the time they are completed and the expenditure rendered infructuous.

44.3.8 Losses written off

The table below depicts losses written off by competent financial authorities.

(Rs in lakh)

Sl. No.	Particulars	1994-95	1995-96	1996-97	1997-98	1998-99
1	Over issues of pay and allowances and claims abandoned	12.66	3.45	2.44	2.38	3.20
2.	Losses due to theft, fraud or neglect	0.20	0.52	0.92	1.29	2.57
3.	Losses due to deficiencies in actual balance not caused by theft, fraud or neglect	0.40	3.97	18.73	4.16	0.17
4.	Losses in transit	16.80	21.18	15.82	13.99	8.41
5.	Other causes (e.g. conditioning of stores not caused by defective storage, stores, scrapped due to Obsolescence etc.)	19.75	17.01	22.70	10.43	9.12
6	Defective storage loss	-	-	-	2.36	0.74
7.	Manufacturing Losses	377.77	394.07	527.64	893.97	399.37
8.	Losses not pertaining to stock	-	7.85	5.48	-	-
9	Total	427.58	448.05	593.73	928.58	423.58

NOTE : The figures incorporated in this paragraph are mainly based on Annual Accounts of Ordnance and Ordnance Equipment Factories and records of the Ordnance Factory Board.

Review

45. Indigenous manufacture of 155 mm ammunition

Highlights

- Out of seven types of shells of 155 mm ammunition required to be delivered during 1991-93, ordnance factories developed four types of shells during 1992-93 to 1997-98. Remaining three types of shells could not be developed even after a lapse of seven years.

- Against Army's requirement of 5.85 lakh shells of 155 mm ammunition they placed demand for only 2.37 lakh shells of seven types on Ordnance Factory Board since development of two types of shells got delayed and three types of shells had not been developed. Ordnance Factories supplied 2.23 lakh shells to Army up to March 1999.

- A shell is not useable without fuze, primer and propellant. Due to mis-match in supply of these components Army could have used only 38,239 shells out of 2.23 lakh issued to them.

- Delayed execution of civil works by Military Engineer Services and delayed commissioning of imported filling plant worth Rs 29.36 crore by a foreign supplier led to non-production of three types of shells during 1995-96 to 1997-98 at Ordnance Factory Badmal.

- 1173 filled shells 77B valuing Rs 79.50 lakh were rejected in proof due to premature clearance of bulk production of empty shells by Controller of Quality Assurance (Ammunition) Kirkee before carrying out filled proof.

- Shell illuminating could not be developed due to non-commissioning of one oil hydraulic press costing Rs 38.70 lakh at Ordnance Factory Dehu Road even after a lapse of five years.

- Out of four types of fuzes required, Ordnance Factory Khamaria developed only fuze PDM572 after a delay of two years. Remaining three types viz. fuze zelar, DM153 and DM163 were declared obsolete, but their substitutes were yet to be developed as of March 1999.

- **Due to delayed development of shell HEER by five years and non-development of shell illuminating by ordnance factories Army concluded contract with a foreign supplier in March 1997 for import of 80000 shells and 20000 fuzes at a cost of Rs 188.10 crore with free transfer of technology.**

- **Stores worth Rs 23.25 lakh for manufacture of shell illuminating became infructuous at Ordnance Factory Ambajhari due to shifting of production line from Ordnance Factory Ambajhari to Ordnance Factory Kanpur.**

45.1 Introduction

Ministry of Defence imported 410 guns(155 mm) and 5.27 lakh rounds of ammunition from A.B. Bofors, Sweden during March 1986 to January 1990. Ministry also concluded a license agreement with Bofors in March 1986 for indigenous manufacture of guns and ammunition without any additional fee. In January 1990, Ministry decided that no further steps would be taken to operationalise the licence agreement till Bofors disclosed the names and full details of recipients of commission paid in connection with the contract and returned the amount paid. Army imported the ammunition required to meet initial requirement of war wastage reserve and annual training. Indigenous development of filling and finishing of 155 mm ammunition was planned at the existing factories having limited capacity till facilities at a new ordnance factory at Badmal came up to the required level.

45.2 Scope of Audit

A review was conducted during January -April 1999 to assess the progress of manufacture of 155 mm ammunition with reference to Army's requirements and actual demand on the basis of records maintained by Ordnance Factory Board and the concerned ordnance factories.

45.3 Army's projection of requirement for creation of facilities

Army's requirement was reduced from 1.79 lakh rounds as of June 1989 to 0.73 lakh rounds as of February 1993

In August 1986, Army had projected requirement of 4.61 lakh rounds of 155 mm ammunition which was revised downward to 2.94 lakh rounds per annum in July 1988. While sanctioning the project in June 1989 the requirement was further revised downward to 1.79 lakh rounds. However, Army's representative on the Project Management Board stated in December 1992 that requirement of 1.79 lakh ammunition per annum was no longer valid as production of guns was not undertaken, and in February 1993 stated that they had reassessed the annual requirement as 73000 rounds of ammunition, taking into account the existing level of resources at full scale of training ammunition and certain percentage of reduction.

45.4 Delay in creation of facilities

It was planned to manufacture empty shells at Ordnance Factory, Ambajhari, Ordnance Factory, Kanpur, Gun and Shell Factory, Cossipore and filling of shells at Ordnance Factory, Chanda, Ordnance Factory, Khamaria and Ordnance Factory, Dehu Road. Manufacture of matching quantities of propellant was entrusted to Cordite Factory Aruvankadu, of primer to Ammunition Factory, Kirkee and of fuze to Ordnance Factory, Khamaria with their existing facilities.

New investment of Rs 114 crore for a new ordnance factory at Badmal and of Rs·53 lakh at Ordnance Factory, Dehu Road was considered towards procurement of plant and machinery and civil works. The delay in creation of facilities at Ordnance Factory, Badmal and Ordnance Factory, Dehu Road are discussed below:

45.4.1 Ordnance Factory Badmal

Ordnance Factory Badmal delayed production of shells M107, 77B and HEER due to delayed commissioning of a imported plant worth Rs 29.36 crore

Ministry sanctioned Ordnance Factory Badmal project in June 1989 at Rs 664.73 crore with planned date of completion as June 1993 in two phases. While Phase I was meant for common facilities for three types of ammunition, phase II was meant for 155 mm ammunition. Phase II was held up for more than three years due to delay in taking a decision on adoption of Bofors technology after the ban imposed on licence agreement and finalisation of scope of production of the ammunition. Government cleared phase II in November 1992. A Project Management Board was constituted in November 1984 for giving policy direction, and monitoring the progress of the project. In November 1994 the Board revised the project cost to Rs 544.06 crore which included Rs 114 crore meant exclusively for creation of facilities for 155 mm ammunition. Project Management Board kept revising the planned date of completion, which was finally fixed as July 1998 in view of delay in procurement and commissioning of imported plants and completion of civil works. Ordnance Factory Badmal commenced trickle production in 1998-99.

The delay in completion of the project was mainly due to delay in installation of a vital plant as discussed below:

Ordnance Factory Badmal concluded a contract with a foreign firm in May 1994 for design, supply and commissioning of 155 mm filling plant with a capacity of 50000 rounds per annum on single shift at a cost of Rs 29.36 crore including foreign exchange content of US $ 6.88 million. At that time the planned date of completion of the project was June 1996, but as per contract the plant was scheduled to be commissioned by December 1996. The machinery was received in six consignments from October 1995 to June 1997 as against the contracted date of May 1996. It was commissioned in May 1998. The delay in commissioning, apart from the late receipt of the machinery, was also due to the fact that the building which was to have been handed over in February 1996 to the supplier, was actually handed over in May 1997 and according to the contract, installation and commissioning could proceed only thereafter.

For execution of civil works, Ordnance Factory Board issued three administrative approvals aggregating to Rs 16.25 crore during March and May 1995, with planned date of completion as June 1996 for construction of building, air-conditioning and external electrification. Though the building ought to have been ready for handing over in February 1996, the planned date of completion of civil works was June 1996. The civil works were completed in January 1997 but certain rectifications at the instance of the supplier of the machine were completed only in May 1997. The slippage of eleven months in satisfactory execution of civil works was on account of factors like delay in handing over of drawings for various fittings by the supplier, restriction of working hours imposed by Ordnance Factory Badmal, and delay in conclusion of contract and execution of work by Military Engineer Services.

Besides, commissioning of the filling plant involved trial runs with shells supplied by Ordnance Factory Badmal. But the supplier complained that empty shells and explosives were of poor quality. This led to delay in commissioning and subsequent delay in establishment of production of shell M107, 77B and HEER.

45.4.2 Ordnance Factory Dehu Road

Non-commissioning of hydraulic press led to non-development of shell illuminating and non-utilisation of stores worth Rs 40.36 lakh

Ordnance Factory Board sanctioned in September 1993 procurement of one oil hydraulic press for Ordnance Factory Dehu Road. This press was required for pressing the candle of illuminating shell. In August 1994, Ordnance Factory Dehu Road placed an order on firm 'X' for supply of the press in August 1995 at a basic price of Rs 38.70 lakh plus taxes and other charges. The factory received the press in March 1997 and recovered liquidated damage of Rs 2.29 lakh from the firm due to delayed delivery. The press had not been commissioned as of March 1999.

The delay of erection and commissioning of the press was due to following factors:

a) Ordnance Factory Dehu Road sanctioned in October 1994 modification of an existing building to install the press at a cost of Rs 14.06 lakh with planned date of completion as June 1996. But the factory management handed over the building to Military Engineer Services in August 1996 i.e. after the planned date of completion; the delay was due to shifting of an existing production line to another building which was also under modification. The execution of work by Military Engineer Services was also delayed due to contractor's default in rectifying certain defects/discrepancies in press foundation pit, main switch, ventilation holes, panel board etc. The work was completed in February 1999.

b) Commissioning of the press was delayed due to failure to achieve the requisite specifications during trial runs. Furthermore the General Manager stated in January 1999 that they were not in a position to make use of the press due to non-supply of serviceable mould by the supplier of the press. The supplier could not rectify the defects and supply the moulds as of March 1999.

Non-commissioning of the press resulted in following consequences.

- 193 empty illuminating shells valuing Rs 13.40 lakh received from Ordnance Factory Kanpur during 1993-94 and 1994-95 were held up for inert filling as of March 1999.

- Stores worth Rs 40.36 lakh procured by Ordnance Factory Kanpur during 1995-96 for manufacture of empty illuminating shell were lying unutilised as of March 1999 as production at Ordnance Factory Kanpur was kept in abeyance.

45.5 Delay in development and production of shells

There was delayed development of four types of shells and non-development of three types of shells

Army placed its first order in August 1990 on Ordnance Factory Board for manufacture and supply of shell M107, 77B, HEER, smoke 24 Km, illuminating, cargo and smoke infrared of 155 ammunition with scheduled delivery period of 1991-93.

The technical documents from Bofors were available for indigenisation of five types of shells. Technical documents for shell cargo and smoke infrared were not available due to imposition of ban on Bofors in January 1990. The delay in establishment and manufacture of various shells are discussed below:

45.5.1 Shells M 107 and 77B

Ordnance Factories developed and commenced supplies of shells M 107 and 77B from 1992-93 and 1994-95 respectively. The empty shells were produced at Ordnance Factory Ambajhari and filling was carried out at Ordnance Factory Badmal and Ordnance Factory Chanda.

45.5.2 Shell HEER

Ordnance Factory Board placed order in September 1992 on Ordnance Factory Chanda for establishment of production of filled shell HEER by 1992-93 though Army placed first order in August 1990 on Ordnance Factory Board for 2268 shells. Ordnance Factory Chanda in turn placed order on Ordnance Factory Ambajhari in January 1993 for manufacture of empty shell. Ordnance Factory Ambajhari sent 20 empty shells as proof sample to Ordnance Factory Chanda in December 1994 for inert filling and assembly. However, Ordnance Factory Chanda established filling of shell only in 1996-97 and issued 975 shells to Army. Delayed establishment of filling was due to delay in conducting empty proof, filled proof and fragmentation trials. Further filling of shells was held up in 1997-98 pending acceptance by Army after user's trial.

Army cleared bulk production of the shell in July 1998 only after conducting trials between February and March 1998. Ordnance Factory Board also placed order on Ordnance Factory Badmal in November 1998 for filling of shell HEER and the factory started production in 1998-99. The delay was due to delayed creation of facilities at the factory as discussed in previous subparagraph. Details of Army's requirement, demand of the shell and issue of the same by ordnance factories are shown below:

Year	Army's requirement	Army's demand	Issue to Army	Remarks
1991-92	27194	1134	Nil	(A)It is 1/3rd of 18707 shells which were to be delivered during 1998-99 to 2000-01.
1992-93	27194	1134	Nil	
1993-94	27194	Nil	Nil	
1994-95	27194	Nil	Nil	
1995-96	27194	Nil	Nil	
1996-97	27194	Nil	975	
1997-98	27194	Nil	10	
1998-99	27194	6235 (A)	3154	
Total	217552	8503	4139	

Supply of filled shells for user trials were made available to the Army only in 1996-97 against the target date of 1992-93. This delay was compounded by the delay on the part of the Army by a year in completing user trials.

45.5.3 Shell Smoke 24 KM

Ordnance Factory Board entrusted Ordnance Factory Dehu Road in December 1990 for filling and issue of shell smoke 24 km by 1991-93. Ordnance Factory Dehu Road placed order on Ordnance Factory Ambajhari in April 1991 for manufacture of empty shell. However, the responsibility for manufacture of empty shell and filling of shell were subsequently transferred to Gun and Shell Factory Cossipore in January 1992, and Ordnance Factory Chanda in October 1993 respectively as these factories did not need any new investment for the job.

Gun and Shell Factory Cossipore established empty shell during 1995-96 using forgings received from Ordnance Factory Ambajhari. Ordnance Factory Chanda established filling of the shell in 1997-98 and issued only 40 shells to Army for user's trial. Army accorded clearance for bulk production in September 1998. Ordnance Factory Chanda produced 3000 filled shells but issued 235 to Army during 1998-99. Balance 2765 shells were awaiting proof at Proof and Experimental Establishment due to failure of fuze and problems in gun as of March 1999. Details of Army's requirement, demand of the shell and issue of the same by ordnance factory are shown below:

Year	Army's requirement	Army's demand	Issue to Army
1991-92	4482	1814	Nil
1992-93	4482	1814	Nil
1993-94	4482	Nil	Nil
1994-95	4482	Nil	Nil
1995-96	4482	Nil	Nil
1996-97	4482	Nil	Nil
1997-98	4482	Nil	40
1998-99	4482	Nil	235
Total	35856	3628	275

The delay in establishment of empty shell at Gun and Shell Factory Cossipore was due to defective forging received from Ordnance Factory Ambajhari. Delay by Ordnance Factory Chanda was due to delay on the part of Proof and Experimental Establishment in conducting filled proof, and receipt of user's clearance.

Thus, the delay was of over five years in establishment of production of shell smoke 24 Km with reference to Army's required delivery schedule.

45.5.4 Shell Illuminating

Stores worth Rs 23.25 lakh became infructuous due to shifting of production line

Army placed order for 1512 illuminating shells on Ordnance Factory Board in August 1990 against its annual requirement of 2994 shells. Ordnance Factory Board placed order on Ordnance Factory Dehu Road in December 1990 for filling and issue of 1512 shells to Army by 1991-93. Ordnance Factory Dehu Road placed order in April 1991 on Ordnance Factory Ambajhari and Ordnance Factory Kanpur for manufacture of 500 and 200 empty shells respectively.

Ordnance Factory Ambajhari procured 337.50 tonnes of steel billets for manufacture of empty shell at a cost of Rs 78.47 lakh during March 1992 to February 1993. But the factory failed to establish empty shell even after a lapse of three years as machining of shell was complicated. Hence, Ordnance Factory Dehu Road cancelled the order on Ordnance Factory Ambajhari in May 1994 and the order on Ordnance Factory Kanpur was increased to 1512 empty shells. As a result Ordnance Factory Ambajhari held 100 tonnes of surplus billets valuing Rs 23.25 lakh since April 1993. However, Ordnance Factory Kanpur did not accept this surplus material as their requirement was of different dimension and procured 162 tonnes of steel billets valuing Rs 49 lakh from trade during November 1993 to October 1995 to meet full requirement. Ordnance Factory Kanpur manufactured 193 empty shells during 1993-94 and 1994-95 and issued the same to Ordnance Factory Dehu Road for inert filling and proof. But filling and assembly of the shell was held up at Ordnance Factory Dehu Road due to non-commissioning of hydraulic press as of March 1999.

Thus, Ordnance Factory Dehu Road failed to establish production of shell illuminating even after a lapse of seven years.

45.5.5 Shell Cargo

Against Army's requirement of 3873 shells cargo per annum they placed an order in August 1990 on Ordnance Factory Board for supply of 756 shells during 1991-93. Ordnance Factory Board decided in December 1993 to manufacture shell cargo indigenously and placed order on Ordnance Factory Khamaria in March 1994 for filling and issue of 756 shells cargo to Army by 1994-95. In turn, Ordnance Factory Khamaria placed order on Ordnance Factory Kanpur in April 1994 for manufacture of 850 empty shells. Ordnance Factory Kanpur procured requisite material worth Rs 30.02 lakh during March 1995 to January 1997 before establishment and clearance for bulk production of the empty shell. However, the factory produced 20 empty shells utilising stores worth Rs 4.93 lakh and sent them to Proof and Experimental Establishment for trials in February 1998. The proof trial was not conducted till May 1999 due to defects in gun. Though the proof trial was conducted in June 1999, the result was unsatisfactory due to malfunctioning of fuze.

Thus, shell cargo could not be productionised even after a lapse of seven years.

45.5.6 Shell Smoke Infrared

Army placed order in August 1990 on Ordnance Factory Board for supply of 908 shells smoke infrared during 1991-93. As technological documents were not supplied by Bofors due to ban imposed on licence agreement, indigenous development of the shell has not yet been undertaken by ordnance factories.

45.6 Development and production of Fuze, Primer and Propellant

45.6.1 Fuze

Only one type of fuze out of four types was developed with the help of imported components

Four types of fuze (PDM572, zelar, DM153 and DM163) were required to be developed for different types of 155 mm ammunition. Against Army's first order of August 1990 for 40,000 fuze PDM572, Ordnance Factory Board assigned to Ordnance Factory Khamaria in December 1990 the production and supply of the fuze to Army during 1991-93. The factory could not indigenously develop the fuze due to non-establishment of detonator M 24 required for the fuze. However, the factory started production since 1995-96 with the help of imported detonators.

Thus there was a delay of two years in development of fuze PDM572 at Ordnance Factory Khamaria which led to shortfall in production as shown in the table below:

Year	Army's requirement	Army's demand	Issue to Army
1991-92	37034	20000	Nil
1992-93	37034	20000	Nil
1993-94	37034	60268	Nil
1994-95	37034	Nil	Nil
1995-96	37034	Nil	2000
1996-97	37034	Nil	20000
1997-98	37034	Nil	15950
1998-99	37034	1366	289
Total	296272	101634	38239

Ordnance Factory Badmal was also entrusted with establishment of filling of fuze PDM572. But the factory could not commence production of the fuze even as of October 1999 due to non-availability of empty detonator components from Ordnance Factory Khamaria which expressed its inability in June 1999 to supply the same due to huge target for production of the fuze at their end.

Against Army's annual requirement of 24686 fuze zelar and 11059 fuze DM153 and DM163, Army placed order in August 1990 on Ordnance Factory Board for supply of 10130 fuze zelar and 6804 fuze DM153 and DM163 during 1991-93. Fuze zelar was not developed due to non-availability from trade of electronic part of the fuze. But Army decided in December 1996 to accept fuze universal VT in place of zelar as the technology of the latter had become obsolete. As regards fuze DM153 and DM163, indigenisation could not be started due to non-availability of transfer of technology from Bofors. In December 1996 Army selected fuze M762 in replacement of fuzes DM153 and DM163.

A PSU was entrusted with the responsibility of manufacturing empty fuze universal VT and M762 in December 1996 after getting technology from foreign collaborator at the behest of the Army. Filling and issue of these fuzes was the responsibility of Ordnance Factory Badmal. Production of the fuzes was yet to be established as of October 1999.

45.6.2 Primer

There was huge shortfall in production of primer

Against Army's first order of August 1990, Ordnance Factory Board placed order in December 1990 on Ammunition Factory Kirkee for manufacture and supply of primer to Army during 1991-93. The factory established production of primer in 1993-94 i.e. after a delay of one year. Details of Army's requirement, demand of primer and issue of the same by Ammunition Factory Kirkee are shown below:

Year	Army's requirement	Army's demand	Issue to Army
1991-92	80,277	31601	Nil
1992-93	80,277	31601	Nil
1993-94	80,277	66295	15000
1994-95	80,277	Nil	29000
1995-96	80,277	Nil	5000
1996-97	80,277	Nil	5000
1997-98	80,277	Nil	5000
1998-99	80,277	Nil	Nil
Total	642216	129497	59000

The reasons for shortfall in production of primer are as follows:

(i) Technical problems encountered in one operation in the manufacturing process;

(ii) The factory faced difficulties in establishing source for aluminium foil bag for packing of primer.

45.6.3 Propellant

There was huge shortfall in production of propellant

Ordnance Factory Board placed orders in November/December 1990 on Cordite Factory Aruvankadu for development and manufacture of propellant for charges M3, M4, 8 and 9. The production of propellant for charge M3 was suspended since 1993-94 due to change in policy of utilisation of the same by Army. Against Army's annual requirement of 19157 charges M4, 38314 charges 8 and 19157 charges 9 details of Army's demand of propellant for charges and issue of the same by Cordite Factory Aruvankadu are shown below:

Year	Charge M3		Charge M4		Charge 8		Charge 9		Remarks
	Demand	Issue	Demand	Issue	Demand	Issue	Demand	Issue	(A) 50 per cent of 34547 was to be delivered in 1998-99. (B) 50 percent of 85000 was to be delivered in 1998-99.
1991-92	11113	Nil	11947	Nil	6589	5612	516	Nil	
1992-93	11113	5000	11947	10000	6589	7566	516	1600	
1993-94	Nil	Nil	Nil	15000	6822	6822	Nil	Nil	
1994-95	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	
1995-96	Nil	Nil	8000	Nil	2000	2000	Nil	Nil	
1996-97	Nil	Nil	54309	2000	60000	Nil	Nil	Nil	
1997-98	Nil	Nil	Nil	7966	Nil	20000	Nil	Nil	
1998-99	Nil	Nil	17274 (A)	10000	Nil	9010	42500 (B)	15000	
Total	22226	5000	103477	44966	82000	51010	43532	16600	

45.7 Shortfall in issue of ammunition to Army

There was shortfall in issue of shells with reference to Army's requirement

Against Army's eight orders placed between August 1990 and August 1998 Ordnance Factory Chanda and Ordnance Factory Badmal together issued the following 155 mm shells as of March 1999:

Type of 155 mm shells	Army's		Issue to Army	Shortfall in issue with reference to requirement	Percentage of shortfall
	Requirement	Demand			
Shell P	1,11,880	1,22,932	1,18,560	Nil	Nil
Shell 77B	1,64,336	98,952	99,991	64,345	39
Shell HEER	2,17,552	8,503	4,139	2,13,413	98
Shell Smoke 24 Km	35,856	3,628	275	35,581	99
Shell Illuminating	23,952	1,512	Nil	23,952	100
Shell Cargo	30,984	756	Nil	30,984	100
Shell Smoke Infrared	-	908	Nil	908	100
Total	5,84,560	2,37,191	2,22,965		

Army's demand of shells on Ordnance Factory Board was 59 per cent less than its requirement due to delayed development and production of shell HEER and smoke 24 Km, non-development of shell illuminating, cargo and smoke infrared by ordnance factories and delayed establishment of filling facilities at Ordnance Factory Badmal. The shortfall in issue of shells led to import of the same by Army as discussed in subsequent paragraph 9.

The shortfall in issue of fuze, primer and propellant was in the range of 53 to 68 per cent with reference to Army's demand

Army's requirement, demand of fuze, primer and propellant and issue of the same by ordnance factories up to March 1999 are shown in the table below:

Item	Army's requirement	Army's demand	Issue to Army	Shortfall with reference to demand	Percentage of shortfall
Fuze					
i)PDM572	2,96,272	1,01,634	38,239	63,395	
ii)Zelar	1,97,488	10,130	Nil	10,130	
iii)DM153	59,088	6,048	Nil	6,048	
iv)DM163	29,384	756	Nil	756	
Total :	5,82,232	1,18,568	38,239	80,329	68
Primer	6,42,216	1,29,497	59,000	70,497	54
Propellants	6,13,024	2,51,235	1,17,576	1,33,659	53

The reasons for shortfall were non-development of fuze zelar, DM153 and DM163 and delay in development of fuze PDM572, primer and propellant for charges. This led to mismatch in components of complete ammunition and import of fuze by Army as discussed in the subsequent paragraphs.

Only 38,239 shells out of 2.23 lakh issued to Army could have been used due to mis-match in quantity of shell, fuze, primer and propellant issued to Army

45.8 Mismatch in components for a complete ammunition

Army stressed in a meeting held in October 1990 that they would accept the ammunition as complete set and not as components. Directorate of Quality Assurance (Armaments), New Delhi also intimated to Ordnance Factory Board in November 1990 that supply of ammunition should be in matching quantity of shells, charges, primers and fuzes to make the ammunition complete and therefore useable by Services. But issue of different components of the ammunition to Army up to March 1999 were not in matching quantities as discussed in previous paragraph.

Thus, only 38,239 shells out of 2.23 lakh issued to Army by ordnance factories could have been used as complete rounds since fuze, primer and propellant issued were not in numbers matching with the shells.

45.9 Import

Army imported shells and fuzes at a cost of Rs.188.10 crore due to delay in productionisation of the same by ordnance factories

In April 1995 Ministry decided to import 155 mm ammunition as ordnance factories supplied only 49,257 shells against Army's demand of 1.36 lakh shells as of March 1995. Accordingly Ministry concluded contract for import of 80,000 rounds of ammunition (shell 77B, HEER and illuminating) and 20,000 fuzes at a cost of Rs.188.10 crore in March 1997 from another foreign firm to off-set existing deficiencies of 86,955 shells due to inordinate delay in production of the ammunition by ordnance factories. Ministry also concluded contracts for import of 9000 rounds of Smoke and 7300 rounds of Illuminating ammunition in August 1999 and January 2000 respectively at a total cost of Rs 107.67 crore for operation Vijay.

45.10 Premature clearance for production of shell 77B

Filled shells 77B valuing Rs 79.50 lakh were rejected due to premature clearance of bulk production

Ordnance Factory Board placed order in January 1991 on Ordnance Factory Ambajhari for manufacture of 2268 empty shells 77B against Army's first order of August 1990. The factory supplied pilot lot of empty shells in October 1991 for empty proof. Controller of Quality Assurance (Ammunition) Kirkee accorded bulk production clearance in May 1992 based on satisfactory performance in empty proof but before carrying out filled proof. Ordnance Factory Ambajhari manufactured and supplied 1243 empty shells to Ordnance Factory Chanda for further filled proof. Out of 1243 shells, 1003 filled shells were rejected in several proofs conducted during November 1992 to September 1993. Besides, the shell damaged the muzzle brakes of the gun. In addition, 170 filled shells were also rejected in ultrasonic and hydraulic pressure test during investigation firing conducted since June 1994 onwards.

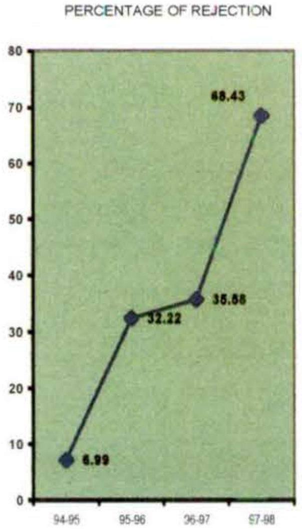
Thus, 1173 filled shells 77B valuing Rs 79.50 lakh were rejected due to premature clearance of bulk production by Controller of Quality Assurance (Ammunition) Kirkee who accorded clearance for bulk production before carrying out filled proof.

45.11 The matter was referred to the Ministry in September 1999; their reply was awaited as of December 1999.

46. Continuance of production of ammunition despite high rejection

Failure of General Manager Heavy Alloy Penetrator Factory Trichy to take remedial measures to control the rising rejections and to continue with production led to a waste of Rs 12.19 crore on account of rejected shots as well as repairs despite holding of inventory valued at Rs 19.77 crore.

Rejection of 105 mm anti tank ammunition produced at Heavy Alloy Penetrator Factory Trichy showed a sharp upward trend from 1994-95 as depicted in the chart. Despite this, the General Manager of the factory continued production until it was suspended by Ordnance Factory Board during 1997-98 at which time the level of rejection had risen to 68 *per cent* of the quantity manufactured. This brings into question the ability of the factory to supply/ manufacture anti-tank ammunition, and also caused waste of rejected shots and ammunition. The Heavy Alloy Penetrator Factory now holds Rs 19.77 crore of idle inventory.



Heavy Alloy Penetrator Factory set up in March 1990, commenced manufacture of empty shots of 105 mm ammunition in 1990-91. Though the rejection of empty shots produced by the Factory was negligible up to 1993-94, the rejection abruptly increased to 7 per cent in 1994-95 and continued to rise sharply to 32.22 and 35.59 per cent during 1995-96 and 1996-97 respectively in quality inspection. Ultimately 68.43 per cent empty shots produced during 1997-98 were rejected. The factory manufactured a total of 24548 empty shots during 1994-98, of which 6594 valued at Rs 12.19 crore constituting 26.86 per cent of the total shots manufactured were rejected. Out of which 3381 were reworked at Rs 1.17 crore. These reworked shots had, however, not been issued as of December 1999.

Abnormal rejection of shots manufactured in 1997-98 in inspection

During 1992-93, out of 15308 shots issued for filling to Ordnance Factory Khamaria, 2368 shots valued at Rs 3.07 crore were rejected in proof and were backloaded to Heavy Alloy Penetrator Project, Trichy for rectification/rework. Heavy Alloy Penetrator Project Trichy reworked 2368 shots during 1994-95 to 1997-98 at an additional cost of Rs 51.10 lakh, out of which 720 shots were rejected in proof, rendering the entire expenditure of Rs 1.21 crore in manufacture and subsequent reworking infructuous.

Even out of accepted empty shots many failed in the filling factory

Ordnance Factory Board constituted a failure analysis committee in May 1996 but decided to continue production even though rejection had gone up from 7 per cent in 1994-95 to 32.22 per cent in 1995-96. This committee failed to pinpoint reasons for spurt in rejections. Ordnance Factory Board suspended further manufacture of empty shots in September 1997.

The Heavy Alloy Penetrator Factory had an outstanding demand for 22615 empty shots as of April 1998 and raw material, rejected shots and components costing Rs 19.77 crore. The total value of rejected shots, ammunition, repair cost and accumulated inventory aggregated to Rs 28.13 crore.

Ordnance Factory Board stated in August 1999 that since Army gave nil requirement for 1998-99, efforts to rework and salvage the rejected lots were abandoned. The reply did not indicate reasons for not meeting the outstanding demand of 22615 empty shots.

The case was referred to the Ministry of Defence in June 1999; their reply was awaited as of December 1999.

47. Injudicious production of boxes

The decision of the Ordnance Factory Board to productionise two types of ammunition boxes at Gun Carriage Factory was without proper appreciation of the technical implications.

Ordnance Factory Khamaria placed demand on Gun Carriage Factory for packing box of two ammunition

Ordnance Factory Khamaria had been procuring packing boxes required for packing 23mm Ghasha and 30 mm Sarath ammunitions from trade. However in November 1992 General Manager Ordnance Factory Khamaria in order to utilise spare capacity and develop source in a sister factory placed an order on Gun Carriage Factory Jabalpur for supply of 3000 such boxes which was enhanced to 5000 boxes in June 1994 with a stipulation to supply by December 1994. Since Gun Carriage Factory Jabalpur was to manufacture such boxes for the first time, productionisation of these boxes involved developmental cost for re-tooling and trials apart from components, materials and labour.

Gun Carriage Factory could not productionise packing boxes successfully

To meet this order, Gun Carriage Factory Jabalpur spent Rs 36.12 lakh on procurement of raw material and components and processing but could supply only 14 boxes to Ordnance Factory Khamaria at Rs 1412 per box in November 1996. Ordnance Factory Khamaria procured these boxes from trade in 1996-97 at Rs 900 each to meet the production target. As the manufacture of boxes at Gun Carriage Factory Jabalpur was yet to stabilise the factory was saddled with semis costing Rs 35.93 lakh.

Gun Carriage Factory could not prepare tools for lid

Ordnance Factory Board stated in September 1999 that certain tools for lid were still under modification and repeated trials were required to achieve correct dimension causing the delay in supply of boxes.

The Procedure Manual of the Ordnance Factory Board provides for two types of warrant: "developmental" and "regular". Where the production of a completely new item is involved, the correct procedure is to undertake the work under a developmental warrant for limited numbers, till satisfactory production is attained. However, the fact that the production of 3000 boxes was undertaken under a regular warrant, and the demand was raised to 5000 boxes even before a single box had been produced indicates failure to properly appreciate the technical processes involved before deciding on the matter.

The matter was referred to the Ministry of Defence in July 1999; their reply was awaited as of December 1999.

48. Short closure of indents resulting in blocked inventory

Adoption of unrealistic scale of ammunition pouch to be carried by jawans by the Director General Ordnance Services resulted in avoidable accumulation of inventory costing Rs 6.29 crore at Ordnance Equipment Factory Kanpur and Ordnance Clothing Factory Avadi.

Army placed indents for 5.62 lakh ammunition pouches based on two pouches per jawan

Placement of indent based on unrealistic scale of pouches ammunition to be carried by jawans led to short closure of indents by Director General Ordnance Services after inventory valuing Rs 6.29 crore was blocked at Ordnance Equipment Factory Kanpur and Ordnance Clothing Factory Avadi.

OEF Kanpur supplied 2.90 lakh ammunition pouches to the Army

On introduction of an improved version of Infantry Combat Kit which included two ammunition pouches, Director General Ordnance Services placed two indents in September 1994 and December 1994 on Additional Director General, Ordnance Equipment Factory, Kanpur who entrusted the manufacture of 5.62 lakh pouches of ammunition to Ordnance Equipment Factory, Kanpur. Out of this one lakh pouches were offloaded to Ordnance Clothing Factory Avadi in April 1996. Ordnance Equipment Factory Kanpur supplied 2.90 lakh pouches to Central Ordnance Depot Kanpur during 1995-96 to 1997-98. Ordnance Clothing Factory Avadi did not undertake manufacture of ammunition pouches.

Revision of scale of ammunition pouches led to short closure of indents

During user's trials, Army realised that two ammunition pouches could not be put on by the jawans. Accordingly scale of ammunition pouch was reduced from two pouches to one pouch and in August 1996, Army short-closed its indent of pouches. As a result of revision in the scale and short closure of indents at outstanding quantity of 2.72 lakh pouches, Ordnance Equipment Factory Kanpur sustained financial repercussion of Rs 3.06 crore and Ordnance Clothing Factory Avadi was left with blocked inventory of Rs 3.23 crore.

Ordnance Factory Board stated in September 1999 that left over material would be utilised against indents likely to be placed for modified equipment as intimated by Army Headquarters in January 1999.

The reply did not indicate whether any indent had actually been received and action taken to avoid similar cases in future.

Thus, placing a bulk order of 5.62 lakh ammunition pouches without ascertaining through user's trial whether a jawan could put on two ammunition pouches led to short closure of order resulting in blocking up of inventory of Rs 6.29 crore.

The matter was referred to the Ministry of Defence in July 1999; their reply was awaited as of December 1999.

49. Uneconomical manufacture of a chemical

Manufacture of Strontium Nitrate at High Explosives Factory Kirkee was highly uneconomical as the end product was available from trade at cheaper rates.

HEF manufactured Strontium Nitrate by using Strontium Peroxide

High Explosives Factory Kirkee manufactured Strontium Nitrate at an average cost of Rs 620 per kg whereas Strontium Nitrate of the same specification was available from trade at rates ranging from Rs 52 to Rs 69 per kg around the same time. This resulted in extra expenditure of Rs 77.72 lakh as brought out below:

Strontium Nitrate was available from trade at cheaper rates

High Explosives Factory Kirkee manufactures Strontium Nitrate which is supplied to sister factories for use in the manufacture of pyrotechnic compositions. It was noticed that during 1993-94 to 1997-98 High Explosives Factory Kirkee manufactured 9867 kgs of Strontium Nitrate at an average cost of Rs 613 per kg and issued the same to the Ordnance Factory Khamaria, Ordnance Factory Chanda and Ordnance Factory Varangaon whereas Ordnance Factory Dehu Road procured Strontium Nitrate directly from trade at rates ranging from Rs 52 to Rs 69 per kg during the same period. The uneconomic manufacture of Strontium Nitrate resulted in extra expenditure of Rs 54.65 lakh in comparison to cost of procurement from trade.

The reasons for the high cost of manufacture at High Explosives Factory Kirkee were the high cost of raw material i.e. strontium peroxide and very high incidence of overheads.

Even though the factory had reduced the material cost by Rs 118 per kg in 1998-99 by using a cheaper raw material i.e. strontium carbonate , the overall cost of manufacture when compared to trade remained uneconomical as can be seen from the fact that High Explosives Factory manufactured 3343 kg Strontium Nitrate at unit cost of Rs 759 when compared to trade cost of Rs 69 per kg resulting in extra expenditure of Rs 23.07 lakh.

Ministry of Defence attributed in September 1999 high cost of Strontium Nitrate manufactured at High Explosives Factory to type of raw material used, besides technology employed for manufacture. Ministry further stated that since the requirement of the sister factories was extremely urgent the production was established quickly using high purity and costlier raw material i.e. Strontium Peroxide and the product met the customer's requirement fully.

The contention of the Ministry is not tenable as Strontium Peroxide is a costlier chemical than Strontium Carbonate. Also, pyrotechnics manufactured at Ordnance Factory Dehu Road using Strontium Nitrate procured from trade were passed in proof, and were supplied to the army without complaints.

The Ministry also contended that the grain size required by different factories differed from that used in Ordnance Factory Dehu Road.

50. Loss due to defective manufacture

Defective manufacture of brass cup by Ordnance Factory Ambernath resulted in a loss of Rs 2.24 crore.

General Manager Ordnance Factory Ambernath failed to manufacture the brass cups conforming to acceptable quality parameters leading to rejection of cups costing Rs 2.24 crore at Ammunition Factory Kirkee as brought out below :-

537.50 tonne brass cups supplied by OFA not used by AFK due to variation in wall and dome thickness

Ordnance Factory Ambernath manufactures brass cups KF 30 A for supply to Ammunition Factory Kirkee for use in the manufacture of cartridge cases of 5.56 mm ammunition.

Decision of OFA and AFK officers to segregate the brass cups and backload rejected ones to OFA

Ordnance Factory Ambernath supplied 160 tonne cups during March 1993 to May 1994 after inspection by its quality control wing. These were not subjected to check by Quality Assurance Establishment on the ground that they were development items. Out of this 18 tonne cups had been lying unused at Ammunition Factory due to wide variation in dome thickness as well as wall thickness. Ordnance Factory Ambernath supplied further 1980 tonne from June 1994 to March 1998 after quality audit check. Despite wall thickness and dome thickness not being as per drawings General Managers of Ordnance Factory Ambernath and Ammunition Factory Kirkee agreed in November 1994 that these parameters would be settled mutually by them and that Quality audit would be limited to visual and metallurgical checks. This led to continued production of cups not meeting laid down dome and wall thicknesses. Out of 2140 tonne costing Rs 42.96 crore, 537.5 tonne brass cups were rejected during March 1996 – March 1997 by Ammunition Factory Kirkee due to wall thickness and dome thickness being outside limits and were therefore not utilised in the manufacture of cartridge cases.

In a meeting held in April 1997 it was decided to send 18 tonne cups valuing Rs 35.84 lakh back to Ordnance Factory Ambernath and segregate unacceptable cups out of the remaining 519.50 tonne supplied during 1996 and 1997.

183.40 tonne brass cups were rejected finally and loss calculated at Rs 1.93

Ammunition Factory Kirkee sent back 18 tonne cups to Ordnance Factory Ambernath in February 1998, four years after their receipt for reprocessing the cups. Further, of 519.50 tonne brass cups subjected to segregation by a joint team of Ordnance Factory Ambernath and Ammunition Factory Kirkee, 165.40 tonne cups were finally rejected and were awaiting backloading to Ordnance Factory Ambernath as of October 1999. Total loss due to rejection of 183.40 tonne brass cups would be to the tune of Rs 1.93 crore after deducting realisable value of scrap.

Ministry of Defence stated in October 1999 that 165.40 tonne cups were under segregation by a team of Ordnance Factory Ambernath and cups were being produced in T&C presses which had process capability limitations and there was no further rejection of brass cups at Ammunition Factory Kirkee besides 183.40 tonne. Ministry added that Ordnance Factory Ambernath was now producing cups in Fritz-Werner Presses.

It was noticed in audit that 12.5 tonne brass cups produced in the new Fritz-Werner Press in November/December 1998 at a cost of Rs 31 lakh were also rejected by Ammunition Factory Kirkee in June 1999 due to low dome thickness which puts question mark on Ministry's hypothesis of machine limitations.

Thus, manufacture of defective brass cups at Ordnance Factory Ambernath coupled with lapses of Quality Assurance Officer and quality inspection wing of the factory resulted in their non utilisation and rejection of 196 tonne at Ammunition Factory Kirkee involving a loss of Rs 2.24 crore.

51. Raising permissible rejection limit to cover up defective production

General Managers can lower the standard of production in their factories by allowing higher acceptable levels of rejection, they are not explicitly required by the rules to seek prior approval of the Board.

In the course of audit it was noticed that General Managers in three different Factories raised the acceptable levels of rejection pertaining to particular items so as to cover the levels of rejection that actually occurred. These cases are narrated below:

Case I

General Manager Metal and Steel Factory instead of taking remedial measures to control the rejections camouflaged the abnormal rejections by enhancing the normal rejection percentage.

Inherent defects in the basic material and persistent rolling mark on the surface of the blanks of 30mm ammunition led to rejection of 32385 steel cartridge cases valuing Rs 1.79 crore over and above the prescribed norm at Metal and Steel Factory Ishapore. General Manager enhanced the unavoidable rejection percentage to cope up with high rejections without justifying the increase.

Abnormal rejection of empty cartridge cases noticed at MSF

Upward revision of estimate for provision of normal rejection

Metal and Steel Factory Ishapore manufactured 1.37 lakh empty steel cartridge cases of 30 mm ammunition, an established item of production since 1991, during July 1992 to October 1996 in five warrants* issued during July 1992 to September 1995 for supply to Ordnance Factory Khamaria. The estimate prepared by Metal & Steel Factory in November 1990/March 1991 provided for a normal rejection of 10 to 15 per cent. Actual rejections in the five warrants were between 16.77 and 28.70 per cent which led to abnormal rejection of 18491 cartridges valuing Rs 82.67 lakh. After value engineering and concerted efforts rejections came down to 22-23 per cent as of 8 October 1996.

Abnormal rejection attributed to inherent defects in material and persistent rolling marks in the blanks

General Manager arbitrarily revised the norm of unavoidable rejection upward to 15-25 per cent in October 1996 in view of high rejection occuring over and above the normal rejection provided in the estimates. The factory further manufactured 1.48 lakh cartridges between October 1995 and January 1998 against another five warrants issued during October 1995 to August 1996 wherein actual rejections ranged between 18.03 and 24.15 per cent but the General Manager camouflaged the abnormal rejection of 13,894 cartridges valuing Rs 96.42 lakh when compared with earlier permissible rejection limit through upward revision of estimate.

Board of Enquiry constituted only after pointed out in audit

Eventhough the five warrants placed up to September 1995 had been completed during March 1994 to October 1996, General Manager constituted three Boards of Enquiry in December 1997 and March 1998 for investigation of the reasons leading to abnormal rejections in excess of 15 per cent only after it was pointed out in audit in September 1997. Boards of Enquiry in their report of August 1998 and September 1998 opined that rejections were mainly due to manifestation of inherent defects in the basic material, inferior quality of blanks used by the factory and persistent rolling mark on the surface of the blanks and suggested remedial measures like improvement in quality of steel, removal of line marks of the blanks, use of vacuum processed steel, etc.

Belated constitution of Boards of Enquiry did not serve any purpose other than formalising the loss of Rs 82.67 lakh since rejection limit had already been enhanced.

Ministry of Defence stated in September 1999 that the formation of Board of Enquiry was delayed and that increase of unavoidable rejection percentage in the estimate was based on process capability and quality requirement of the store and not to camouflage the abnormal rejection.

The contention of Ministry of Defence is not acceptable as the Board of Enquiries finalised in 1998 suggested remedial measures to control the rejections in excess of 15 per cent even after the General Manager had enhanced the unavoidable rejection to 25 per cent in October 1996 after value engineering study. The reply

* Warrant is the authority to undertake the work placed on the production shop by the General Manager of the factory.

did not explain as to why the revision of October 1996 was implemented in five more warrants issued prior to the upward revision.

Case II

Machining of body and boat tail forgings in bulk by Ordnance Factory Kanpur before they are fully developed resulted in rejection of Rs 47.48 lakh.

Abnormal rejection observed during machining of forging at OFC

Out of 2500 body forgings processed by Ordnance Factory Kanpur during December 1995 to January 1998, 1196 body forgings were rejected. Thus the rejection was 48 per cent as against 20 per cent provided as unavoidable rejection. The value of abnormal rejection ammounted to Rs 39.19 lakh. Similarly out of 2200 boat tail forgings machined during the same period, 440 were rejected. Thus the total rejection was 20 per cent against 10 per cent provided for as unavoidable rejections. The value of abnormal rejection in this case amounted to Rs 8.15 lakh.

Board of enquiry suggested upward revision of rejections

General Manager Ordnance Factory Kanpur, constituted a Board of Enquiry in December 1996 to analyse the causes of abnormal rejection in these two cases. The Board of Enquiry, in their findings of March 1997, observed that bulk productionisation of the two items was undertaken before their production was fully developed through developmental warrants. One of the main reasons for rejection was defect in forgings eventhough these had been cleared in inspection in producing factory. It suggested upward revision of unavoidable rejection to 30 per cent and 20 per cent in respect of machining of body forging and boat tail forging respectively. It also suggested certain remedial measures on implementation of which the level of rejections in the case of body forgings came down between 30 to 35 per cent.

General Manager enhanced the rejection percentage beyond the level suggested by Board of enquiry

The General Manager Ordnance Factory Kanpur, however, increased the norm for unavoidable rejections in the case of body forgings from 20 to 48 per cent in July 1997 and for boat tail from 10 to 20 per cent in May 1997. It is seen that these percentages coincided exactly with the level of rejection actually occurring in the production of these items.

Upward revision of UAR requires prior approval of competent authority

It is observed that in the case of the "Ammunition and Explosive" group of factories which are under the supervision of the Ordnance Factory Board, instructions exist that the level of unavoidable rejections should be raised only after approval by the concerned Member. However, these instructions do not apply to the Ordnance Factory Kanpur. On the matter being brought to the notice of Ordnance Factory Board and Ministry of Defence, instead of considering application of similar provisions to all factories under the Ordnance Factory Board, Ministry stated that revision of unavoidable rejection was within the powers of the General Manager.

In the absence of any check, the General Manager, who is himself responsible for production norms being observed in his factory, is liable to take recourse to ratifying existing levels of inefficiency instead of seeking to improve the quality of output.

In reply to the audit observation, the General Manager of the factory stated that defects in the forgings came to light only during machining. This view was endorsed by the Ministry of Defence which did not consider it necessary to examine the adequacy of quality assurance procedure adopted while inspecting the forgings at the finished stage in the producing factory.

Case III

In manufacturing barrels for 9 mm Auto Pistol there was abnormal rejection of 11327 barrels at Rifle Factory Ishapore during 1990-97; rejections were yet to be brought within reasonable limits.

Abnormal rejection in manufacture of barrels at RFI

Recurring rejections encountered in the manufacture of barrels for 9 mm auto pistol over the years at Rifle Factory Ishapore resulted in rejection of 11327 barrels beyond acceptable levels during 1990-97, and continues unabated around the same level.

Rifle Factory Ishapore manufactured 1.02 lakh barrels of 9 mm Auto Pistol and issued these between February 1991 and October 1996. During manufacturing process the rejection of barrels ranged from 18 per cent to 36.98 per cent against normal rejection of 12 per cent provided in the estimate. This resulted in rejection of 11327 barrels over the acceptable level. Ordnance Factory Board regularised the loss of only 1605 barrels costing Rs 9.48 lakh between March 1995 and April 1999.

General Manager Rifle Factory Ishapore attributed abnormal rejections to intricate dimension, high quality lap of finished bore and inherent defects like cracks, blow holes, pit marks etc in the raw material.

Despite recurring abnormal rejections over the years, no Board of Enquiry as required under Ordnance Factory Board's instruction of January 1987 was constituted by General Manager Rifle Factory Ishapore to investigate the reasons leading to such abnormal rejection of barrels and to suggest remedial measures.

On the matter being raised by audit in August 1997, General Manager Rifle Factory Ishapore constituted a Board of Enquiry in September 1997 to inquire into the reasons of abnormal rejection of barrels. The Board consisting of Works Manager as Chairman and Junior Works Manager as Member attributed the abnormal rejections to the unavoidable rejection rate provided in the estimate being unrealistic, and to old and outdated rifling machines and bad material.

Board of Enquiry attributed rejections to outdated machines and bad material

To remedy the situation the Board suggested to the factory that it should explore the technical and economic feasibility of producing rifle groove through cold swaging route and to revise the unavoidable rejection percentage upward to 22 per cent. The unavoidable rejection was raised upward to 22 per cent by the General Manager Rifle Factory Ishapore in April 1998. The cold swaging route for rifle groove had not been adopted as of October 1999.

On the matter being brought to its notice, the Ministry of Defence in December 1998 advised Ordnance Factory Board to constitute a fresh Board of Enquiry headed by an officer of the rank of atleast Additional General Manager with one Accounts member to go into all the questions relevant to the abnormal rejection.

Though the Deputy Director General Ordnance Factory Board constituted a Board of Enquiry headed by Additional General Manager Metal & Steel Factory Ishapore in May 1999 as per the instruction of Ministry of Defence of December 1998 with the stipulation to complete the proceedings by June 1999, the Board of Enquiry report was awaited as of November 1999. In the meantime the rejections continued to occur in the range of 20 per cent during 1997-98.

Ordnance Factory Board stated in November 1999 that their instruction of 1987 was not endorsed to Rifle Factory Ishapore and action to arrest higher rejection would be taken as per recommendation of Board of Enquiry, if feasible. Ordnance Factory Board did not indicate reasons for not endorsing their instruction of 1987 to Rifle Factory Ishapore.

Thus, despite being pointed out by Audit in 1997 Ordnance Factory Board has not taken any remedial measures to stop abnormal rejection of barrels of 9 mm auto pistols which continue since 1991. As suggested by the Board of Enquiry General Manager Rifle Factory Ishapore raised the unavoidable rejection limit which only served to regularise losses arising out of the failure of the factory to institute remedial measures to restore standard of production prior to 1990, upto which time such consistently high levels of rejection did not come to notice.

The matter was referred to the Ministry in August 1999; their reply was awaited as of December 1999.

52. Repowering of Vijayanta Tank

Failure of factory 'A' to repower Vijayanta tank up to users' satisfaction rendered stores worth Rs 15.17 crore surplus apart from creation of assets worth Rs 82.42 lakh for repowering of tanks.

Ministry decided to repower Vijayanta Tank with engine of T-72 tank

In his Report No.8 of 1991 on the Defence Services, the Comptroller and Auditor General of India had commented upon the delay in modernisation of Vijayanta tank. The comments included a mention of the Ministry's statement made in October 1990 that Vijayanta tank was likely to be fitted with the same engine as

T-72 tank after confirmatory trials during May/June 1991. In July 1992, a Technical Evaluation Committee of the General Staff Branch, chaired by the Additional Director General (Mechanised Forces) reported unanimously that the design submitted by the factory 'A' should be selected for repowering of Vijayanta tank. The report, however, mentioned 15 shortcomings that would have to be removed prior to commencement of the repowering. These included crucial system such as air filtration system, cooling system and the drive lines.

Trials on repowered tanks disrupted due to breakdown and damages to the tanks

Army short-closed repowering project

In view of the deficiencies identified by the Technical Evaluation Committee, a decision was taken in January 1994 that five repowered tanks should be made available for accelerated user trials by June 1994. Only two repowered tanks could be supplied to the Army by July 1995. These tanks were subjected to trial in October 1995, but trials were disrupted due to overheating, breakage of compressor cylinder head and breakdown of air starting system. Since Army could not rectify the damages at site, further trials were shelved in December 1995. Trials on two more repowered tanks carried out in August-November 1996 also resulted in certain persistent problems. Consequently the Army expressed its inability in July 1997 to procure repowering kits and in September 1997 short-closed the repowering project.

Premature procurement before successful trials rendered kits, etc. surplus

Despite the fact that no repowered tank had been successful in user trial, General Manager of factory 'A' commenced procurement of materials and components for 135 modification kits in 1994-95 and by February 1998 an expenditure of Rs 12 crore had been incurred on this account. Out of these, materials/ components worth Rs 6.30 crore were identified as being capable of utilisation in manufacture of T-72 tank. However materials worth Rs 4.17 crore meant exclusively for repowering of Vijayanta tank are not suitable for alternative utilisation.

Subject to successful outcome of the plans to repower Vijayanta tank, Army had also placed an order on factory 'A' for nine tanks 'Z' mounted on chassis of Vijayanta tank, in respect of which procurement of materials and components was also undertaken by the factory. The subsequent cancellation of the order placed by the Army arising out of the failure of the repowering of project, resulted in the accumulation of stores worth Rs 11 crore on this account.

Before successful trials, sanction for infrastructure was accorded

Ministry had also sanctioned in October 1995 for provision of an additional storage shed and associated facilities at a Base Workshop for Rs 82.42 lakh to carryout overhaul and re-powering of the tanks, without waiting for successful completion of trials of the re-powered tanks.

Contracts to provide infrastructure concluded between 1996 and 1997

Two Commander Works Engineers and two Garrison Engineers at Delhi Cantonment concluded between February 1996 and May 1997 six contracts aggregating Rs 69.12 lakh for construction of an additional storage shed and associated work services at the Base Workshop.

Total expenditure of Rs 90.13 lakh was booked against the job as of September 1999

All the civil works, except provision of crane at the Base Workshop, were completed between August 1996 and September 1997. Even after foreclosure of the re-powering project in September 1997, a Commander Works Engineer Delhi Cantonment concluded a contract in June 1998 for provision of air-conditioning plant at the Base Workshop for Rs 12.74 lakh. The air-conditioning plant was installed in May 1999. Total expenditure incurred on the project was Rs 89.39 lakh excluding a booked liability of Rs 0.74 lakh as of September 1999.

Staff authorities/ users did not inform to the CE, DZ about the foreclosure of the project

Chief Engineer, Delhi Zone stated in October 1999 that no intimation regarding foreclosing of the project was received from staff authorities/users and hence the infrastructure works remained in progress and had been completed.

Thus, premature procurement action in respect of the project that had not successfully passed user trials led to acquisition of stores of Rs 15.17 crore for which there is no alternative use and creation of assets at Rs 82.42 lakh for repowering of tanks which was shelved.

The matter was referred to the Ministry in August/September 1999; their reply was awaited as of December 1999.

53. Extra expenditure in procurement of stores from ineligible firms

Registration of ineligible firms as Defence Vendors and consequent procurement of various welding wires, electrodes and flux cored wires from them resulted in extra expenditure of Rs 4.96 crore.

Owing to registration of ineligible firms as defence vendors by the Technical Committee (Armament Stores) of Department of Defence Production and Supplies, Ministry of Defence Ordnance Factory Medak and Heavy Vehicles Factory Avadi suffered an extra-expenditure of Rs 4.96 crore on procurement of flux cored wires and various welding wires/electrodes.

Joint Services Guide of Defence Ministry prohibited registration of sole selling agents

Technical Committee (Armament Stores) appointed selling agents as supplier of stores to Defence Services

As per the provisions of Joint Services Guide on capacity verification, vendor grading, vendor rating and registration of manufacturing firms for defence purchases issued by the Ministry of Defence in 1992, sole selling agents of prime manufacturers are not eligible for consideration as defence vendors. Despite this, Technical Committee (Armament Stores) Department of Defence Production and Supplies, New Delhi, had registered firm 'A' and firm 'B' as suppliers of welding electrodes and flux cored wires even though they were the selling agents of prime manufacturers firm 'C' and firm 'D' respectively. Both these firms had also been approved as defence vendors in August 1990 and November 1993 for supply of welding wires/electrodes.

Procurement of welding wires/ electrodes from selling agents involved extra burden of Rs 4.96 crore

Supply orders were placed on these two firms by Ordnance Factory Medak between April 1995 and April 1997 and eight supply orders placed on them by Heavy Vehicles Factory Avadi between June 1997 and March 1998 for procurement of flux cored wires/welding wires/electrodes, it was noticed that Ordnance Factory Medak sustained an extra-expenditure of Rs 39.68 lakh as compared to the rates of the prime manufacturers which were reflected in the documents supporting reimbursement of excise duty. Similarly, Heavy Vehicles Factory Avadi also sustained an extra-expenditure of Rs 4.56 crore on procurement from these two firms. Thus, Ordnance Factory Medak and Heavy Vehicles Factory Avadi together suffered an extra-expenditure of Rs 4.96 crore as a result of registration of selling agents instead of prime manufacturers.

When the matter was objected to in Audit in September 1996, Ordnance Factory Medak placed orders on the prime manufacturers and obtained supplies at lower rates. This clearly indicates that the deliberate flouting of Joint Services Guide by Technical Committee (Armanent Stores) led to an avoidable loss of Rs 4.96 crore which benefitted the sole selling agents.

The matter was referred to the Ministry of Defence in May 1999/August 1999; their reply was awaited as of December 1999.

54. Avoidable import of indigenously developed store

Import of 105 distribution panel during 1996-97 and 1997-98 by General Manager Heavy Vehicle Factory, Avadi despite its successful development indigenously in 1995-96 resulted in extra expenditure of 37.86 lakh besides involving avoidable outgo of foreign exchange.

Successful indigenous development of distribution panel in 1995-96

Heavy Vehicle Factory Avadi imported distribution panel for T-72 tank in 1998 resulting in outgo of precious foreign exchange and extra expenditure of Rs 37.86 lakh although firm 'A' had successfully developed distribution panel in 1995-96 as brought out below:-

Ministry of Defence, Department of Defence Production and Supplies concluded two development orders in October 1993 with firm 'A' and Bharat Electronics Limited Chennai in February 1994 for indigenous development and supply of 63 sets and 64 sets respectively of distribution panel for T-72 tanks at Rs 35,000 each. Both of them successfully developed distribution panel and supplied entire ordered quantity to Heavy Vehicle Factory Avadi during 1995-96 which were utilised at latter's end in 1996-97.

Importation of distribution panel despite its development indigenously

Despite availability of distribution panel indigenously, General Manager, Heavy Vehicle Factory Avadi did not place orders on indigenous firms during April 1996 to October 1997. Instead, to meet the requirement for 1996-97 and 1997-98 General Manager placed two import orders on firm 'B' and firm 'C' in July 1996 and September 1997 for procurement of 55 and 50 sets respectively of distribution panel at US $ 1650 and US $ 3100 each. Although firm 'B' was required to supply the item by December 1996, they could do so only in July 1998. Firm 'C' supplied entire quantity of 50 sets within the proposed delivery period of March/April 1998 which were utilised within June 1998.

To offset the delay, the Ministry placed in December 1997 an order to supply of 271 sets on firm 'A' at a cost of Rs 48,200. Firm 'A' supplied these sets within the stipulated delivery period. Importation of distribution panel at higher price even though it was available from established indigenous sources at cheaper rate led to extra expenditure of Rs 37.86 lakh besides avoidable outgo of foreign exchange.

Ordnance Factory Board stated in August 1999 that Heavy Vehicle Factory imported the item since Department of Defence Production and Supplies accorded clearance for import in the absence of continued indigenous supplies during the period under review. This contention of Ordnance Factory Board is not tenable since firm 'A' and Bharat Electronics Limited had supplied the items successfully within the delivery schedule earlier and there was no doubt regarding continued indigenous supply.

The matter was referred to the Ministry of Defence in June 1999; their reply was awaited as of December 1999.

55. Extra expenditure due to purchase of search lights from a public sector undertaking

Heavy Vehicle Factory Avadi imported search lights through Bharat Electronics Limited, Machilipatnam instead of importing directly and sustained an extra expenditure of Rs 59.95 lakh.

OFB identified BEL as supplier of search light of T-72 tank

Ordnance Factory Board identified Bharat Electronics Limited, Machilipatnam as an indigenous source for supply of certain opto electronic items including search lights required for T-72 tanks manufactured at Heavy Vehicle Factory Avadi.

Import of search lights by Heavy Vehicle Factory through BEL

Heavy Vehicle Factory Avadi placed a supply order in January 1998 on Bharat Electronics Limited for supply of 186 search lights at unit price of Rs 1.75 lakh on the ground of keeping the indigenous source alive, non-availablity of alternative indigenous source and after sale services. The supply materialised by December 1998.

In fact Bharat Electronics Limited, Machilipatnam imported the equipment from a foreign firm at unit price of US $ 3380 equivalent to Rs 1.42* lakh and supplied

* US $ 1 = Rs 42.01

them to Heavy Vehicle Factory Avadi during June-August 1998 at Rs 1.75 lakh each, without carrying out any further manufacturing activity.

Import through BEL involved extra expenditure of Rs 59.95 lakh

As the supply by Bharat Electronics Limited, Machilipatnam did not involve any indigenisation or value addition the Heavy Vehicle Factory could have directly imported the search lights from the same foreign firm and made a savings of Rs 59.95 lakh.

Ministry of Defence stated in September 1999 that the difference between landed cost ex-factory import and Bharat Electronics Limited's contract was approximately 21 per cent of notional cost had the factory imported directly and that considering Bharat Electronics Limited's 15 per cent financing costs and cost for inspection and after sale service the margin was explainable.

This contention of Ministry is not tenable since General Manager Heavy Vehicle Factory had also placed an order in April 1998 directly on a firm in the Czech Republic for procurement of 50 search lights at US $ 3500 equivalent to Rs 1.47 lakh each and received the same in November 1998.

56. Unnecessary procurement of a machine

Procurement of a costly imported machine by the General Manager Machine Tool Prototype Factory Ambernath was avoidable since the existing capacity was sufficient to meet the production requirement of components of Infantry Combat Vehicle.

Ordnance Factory Board allowed a High precision four Axes Turning Machine costing Rs 1.09 crore to be contracted for BMP project in April 1991 despite reduction in requirement of BMP from 500 to 200 in 1990, which could be met with existing machine. The machine commissioned in October 1997 at Machine Tool Prototype Factory Ambernath, was put to use only for 187 shifts from March to July 1998 and thereafter was under breakdown awaiting repair as of December 1999. The production in the factory remained unaffected despite its limited use as brought out below :-

Import order placed by DGSD in April 1991

Factory went ahead with purchase despite reduction of requirement of BMP

Delayed commissioning of Machine in October 1997

Based on an indent placed by Ordnance Factory Board in February 1989, the Director General Supplies and Disposal concluded a contract for import of the machine with firm 'A', the agent of a foreign firm in April 1991 at a cost of Rs 1.09 crore. The machine was required for manufacture of 500 numbers each of five components of Infantry Combat Vehicle – BMP-II per annum at Machine Tool Prototype Factory Ambernath. Though the Army had reduced their requirement of Infantry Combat Vehicle - BMP-II from 500 vehicles to 200 vehicles per annum in June 1990 the General Manager of Machine Tool Prototype Factory Ambernath went ahead with procurement of this machine. The contract for supply of this machine stipulated shipment of machine in December 1991. However, the machine was commissioned only in October 1997.

OFB's direction for review of procurement of Machine

MTPF's confirmation for requirement of machine

In the meantime General Manager Machine Tool Prototype Factory Ambernath had imported another similar machine in November 1992 from the same foreign supplier in replacement of four old machines against his Renewal and Replacement demand of February 1987. This machine was commissioned in February 1994. With the commissioning of this machine and reduction in requirement of vehicles by the Army in 1990 the Ordnance Factory Board had asked the General Manager Machine Tool Prototype Factory Ambernath in January 1995 to review the requirement of machine to be procured against order of April 1991 keeping in view the ability of the factory to establish the production of Infantry Combat Vehicle – BMP-II components with the existing facilities. However the General Manager Machine Tool Prototype Factory Ambernath insisted on procuring the machine ordered against supply order of April 1991. The machine so procured and commissioned since October 1997 could be put to production only for six months from March 1998 to August 1998 and that too for 187 shifts after which the machine had been under breakdown awaiting repair as of December 1999.

Ministry of Defence stated in December 1999 that the machine procured against an order of April 1991 is versatile one having features which are not available in any machines and non-availability of this machine would adversely affect the production capability in terms of quantity and technical requirement.

This contention of Ministry is not tenable since even after procurement of the machine it was practically not available for production purpose except for a short period of six months from March 1998 to August 1998. Moreover the Machine Tool Prototype Factory Ambernath has never indicated the non-availability of this machine as a bottleneck in production.

57. Non-commissioning of imported grinding machine

A costly imported machine installed at Vehicle Factory Jabalpur in November 1993 was yet to be commissioned for grinding of crankpins of one out of two crankshafts for which it was imported.

Crank pin grinding machine procured by Vehicle Factory Jabalpur at a cost of Rs 1.97 crore was not fully commissioned as of August 1999 by the supplier even after six years of its receipt as brought out below :-

Based on Ordnance Factory Board's indent Director General Supplies and Disposals, New Delhi placed an order on an agent of foreign firm in September 1987 for procurement of a crank pin grinding machine at a cost of £4.53 lakh for grinding of the crank pins at one loading of crankshafts of Shaktiman Vehicle and Nissan Vehicle. The machine was required due to augmentation of production of Shaktiman and Nissan Vehicles to 10,000 per annum sanctioned in January 1982.

VFJ imported a machine against an augmentation project

Vehicle Factory Jabalpur received the machine in March 1993 after inspection at foreign firm's premises by the Inspection Wing of Director General of Supplies and Disposal in April/May 1992. The machine was installed by firm's engineers in November 1993.

Foreign firm could not prove the machine for Nissan Crankshaft

Payment of Rs 1.97 crore already made to foreign firm

In the trials carried out between February and March 1994 the foreign firm could not prove the machine for production of Nissan crankshaft due to non-achievement of angular variation and surface finish although they could prove the same for production of shaktiman crankshaft. In the meantime a sum of Rs 1.97 crore being 90 per cent of the contract value and agency commission was paid to the foreign firm. Despite protracted correspondence on the matter by Vehicle Factory Jabalpur and Director General Supplies and Disposals with the foreign firm the machine was yet to be proved for Nissan Crankshaft.

Ordnance Factory Board stated in August 1999 that the matter had been taken up with the Indian agent of the foreign firm for final commissioning of the machine and that the overseas principals have agreed to depute their application engineer, and the machine was expected to be commissioned shortly.

Thus, a costly machine for which a payment of Rs 1.97 crore was made has not been fully commissioned even after lapse of six years of its receipt.

It is recommended that the Ordnance Factory Board/Ordnance Factories insist on inclusion in the supply agreement of a definite time frame of commissioning of machines to be procured through imports or otherwise, to be enforced through a bank guarantee .

The matter was referred to the Ministry of Defence in June 1999; their reply was awaited as of December 1999.

58. Procurement of defective stabilizers

Failure of Senior Quality Assurance Establishment Hastings led to acceptance of defective Stabilizer units of an ammunition procured from trade by Gun and Shell Factory Cossipore at Rs 23.17 lakh.

Senior Quality Assurance Establishment (Armaments), Hastings inspected and cleared 2709 units of stabilizer assembly of 125 mm ammunition between April 1992 and March 1993 received from a private firm against two supply orders placed by General Manager Gun and Shell Factory Cossipore. The factory sent the stabilizers with the empty shells of the ammunition which were passed by Senior Quality Assurance Establishment (Armament), Cossipore for assembly and filling to Ordnance Factory Chanda in three lots between June 1992 and April 1993.

Stabilizers inspected by the inspectorates failed in proof

General Manager, Ordnance Factory Chanda rejected 1624 out of the 2709 filled shells costing Rs 23.17 lakh in 1993 as they failed in consistency proof and recovery proof. During analysis of failure in proof, it was opined that stabilizers of a particular lot be replaced. General Manager Gun and Shell Factory requested the supplier in July 1995 to replace 1624 stabilizers due to defects in fins and high thread in major dia causing escape of hot gas.

General Manager, Ordnance Factory Chanda backloaded the rejected stabilizers to Gun and Shell Factory between April 1995 and April 1998.

Gun and Shell Factory used the rejected stabilizers in dummy ammunition

Since the supplier did not replace defective stabilizers, Gun and Shell Factory Cossipore used 154 rejected stabilizers for assembling with dummy ammunition as of July 1999 even though these were not purchased for use in dummy ammunition, and remaining 1470 rejected stabilizers valuing Rs 20.97 lakh were lying unused for the last 6-7 years.

Ministry of Defence stated in September 1999 that elaborate inspection of stabilizers by Gun and Shell Factory's quality control was not felt necessary since these were duly inspected by Director General Quality Assurance staff, but, Ministry did not comment on adequacy of such inspection.

59. Non disposal of cobalt despite no prospect of utilisation

Despite no prospect of utilisation General Manager Metal and Steel Factory Ishapore was holding cobalt worth Rs 6.72 crore in stock for 26 years.

Security lapse led to pilferage of cobalt at MSF

Metal and Steel Factory Ishapore has been holding huge quantity of cobalt valuing Rs 6.72 crore at December 1996 rates for over 26 years despite no prospect of utilisation. In the mean time the factory suffered losses due to pilferage of cobalt and one case of attempted theft also took place.

Attempted theft of cobalt and constitution of BE in November 1994

Mention was made in paragraph 14 of Report of the Comptroller and Auditor General of India (Defence Services) for 1981-82 about huge stock of cobalt at Metal and Steel Factory Ishapore. Yet the Metal and Steel Factory Ishapore was still holding 27.32 tonne cobalt as of September 1999. Audit scrutiny disclosed that verification by actual weighment of cobalt under taken for the first time in March 1981 had revealed shortage of 275 kgs of cobalt which was regularised in January 1993. Besides there was also an attempt of theft of 6.3 kgs cobalt in October 1994 by an employee of the factory which led to constitution of a Board of Enquiry in November 1994 by General Manager Metal and Steel Factory Ishapore. The board reported a net shortage of 1.391 tonne cobalt in May 1995, held a store keeper and two others responsible for loss and opined that pilferage was due to failure of security intelligence. The Board of Enquiry suggested tightening of security intelligence and early disposal of cobalt in view of non-requirement of metal.

Another BE constituted by MSF in April 1997 observed net shortage of only 1.512 tonne cobalt

Another Board set up by Metal & Steel Factory Ishapore in April 1997 arrived at the shortage at 1.512 tonne valuing Rs 37.18 lakh. Despite risk of pilferage and no prospect of utilisation General Manager Metal and Steel Factory did not take effective steps to liquidate the stock of cobalt except selling 2 tonne of cobalt to a private firm at Rs 27.21 lakh per tonne in April/May 1996.

Ordnance Factory Board in response to audit observation stated in September 1997 that three employees who were prima facie found responsible for the loss of cobalt had been suspended. Ministry of Defence stated in November 1999 that action to dispose off the cobalt lying at Metal and Steel Factory Ishapore had been taken up with a Public Sector Undertaking in July 1999 whose response was awaited.

Thus, despite continuous risk of pilferage of the metal and Board of Enquiry's recommendation of May 1995 for early disposal of cobalt the General Manager was yet to dispose off the 27.32 tonne cobalt valuing Rs 6.72 crore lying in the stock for more than 26 years.

It is recommended that in view of no prospect of its utilisation and risk of pilferage, effective steps be taken to transfer the cobalt to DRDO or Public Sector Undertakings like Midhani for possible use by them.

60. Over payment of electricity charges

Four Ordnance Factories over paid Rs 99.45 lakh towards electricity charges to the Maharashtra State Electricity Board.

General Managers of four Ordnance Factories at Varangaon, Chanda, Ambajhari and Bhusawal made excess payment of electricity charges amounting to Rs 99.45 lakh to the Maharashtra State Electricity Board. Only Ordnance Factory Ambajhari could get excess payment adjusted in December 1998/January 1999 against a subsequent bill and refund of Rs 89.19 lakh over paid by other three Ordnance Factories was not yet received.

Tariff of Maharashtra State Electricity Board was same for electricity consumed by domestic and commercial consumers who were receiving electricity through high tension source up to June 1994. The Board revised the tariff in July 1994 according to which the rates for commercial and domestic consumers were revised to Rs 2.64 and Rs 1.60 per unit respectively. The tariff was further revised in July 1996 to Rs 3.59 and Rs 2.20 per unit for commercial and domestic consumers.

General Manager paid for domestic consumption at the rates applicable for commercial consumers

Scrutiny in audit disclosed that though tariff was revised downward in respect of domestic consumers General Managers of these factories continued paying at higher rates applicable to the commercial consumers in respect of supply of electricity to the residents of factories estates. As a result, an excess amount of

Excess payment of Rs 99.45 lakh made by OFs to the MSEB

Rs 99.45 lakh was paid to the Maharashtra State Electricity Board during the period from July 1994 to August 1998. General Manager Ordnance Factory Ambajhari had requested Electricity Board in December 1994 for refund of Rs 10.26 lakh.

MSEB refunded only Rs 10.26 lakh to OF Ambajhari

On being pointed out in audit the General Managers of the four Ordnance Factories approached Maharashtra State Electricity Board between January and October 1998 for refund of excess amount paid. The Maharashtra State Electricity Board adjusted Rs 10.26 lakh over charged from Ordnance Factory Ambajhari for the period July to December 1994 in the latter's electric bill of December 1998 and January 1999. The decision of State Electricity Board for refund of excess amount of Rs 89.19 lakh to the remaining three Ordnance Factories was awaited as of September 1999.

Ministry stated in November 1999 that circular for revision of rates was either received very late or not received at all and the three factories are in constant touch with the State Electricity Board.

It is recommmended that suitable procedure is introduced to ensure that whenever there is tariff revision, Ordnance Factories get the information promptly and pay the electricity bills at correct rates.

61. Suppression of defects in inter factory supplies

Ordnance Factory Varangaon suppressed acceptance of defective components worth Rs 38.49 lakh by raising non-recurring rate material forms.

In order to provide for exceptional circumstances involving sundry jobs of non-recurring nature, materials consumed over and above that provided in the standard estimates, which prescribe a particular percentage of unavoidable rejections, can be drawn through non-recurring rate forms of materials.

OFV consumed charger clips and carrier in excess of estimated quantities

During February and March 1997, Ordnance Factory Varangaon drew charger clips and carrier 6 A/L in excess of standard estimates through non-recurring rate forms of materials. These items were received from sister factories and stored at Ordnance Factory Varangaon, and were used for packing the ammunition produced in that factory. The value of excess drawal was to the extent of Rs 38.49 lakh over that provided in the standard estimates.

Instead of taking corrective action to control excess wastages, GM allowed their accumulation

When the matter was brought to the notice of the Ministry of Defence it stated, in December 1999 that the excess over the standard estimates, which were sought to be covered by the non-recurring rate forms of materials in question, represented accumulated rejections, and rejections cannot be identified warrant-wise when materials against 3/4 warrants are being used in various stages of continuous production. The Ministry of Defence added that the Abhyankar Committee had recommended the use of this procedure in cases of sub-standard supply from trade or inter-factory sources.

The reply of the Ministry of Defence clearly indicates that the level of the defective supplies in respect of these materials received from sister factories exceeded what was prescribed as acceptable in the standard estimates which led to consequential unavoidable rejections. The reply of the Ministry of Defence is silent on whether the recommendations of the Abhyankar Committee were complied with in terms of taking necessary preventive/corrective action and whether proper examination was carried out and specific reasons for excess rejections recorded.

The present case illustrates that wastage in excess of that involved in the standard estimates is covered up by the Factory management in the shape of non-recurring rate forms of materials, and that such action has the support of the Ordnance Factory Board/Ministry of Defence.

62. Response of the ministries/departments to Draft Audit Paragraphs

On the recommendations of the Public Accounts Committee, Ministry of Finance (Department of Expenditure) issued directions to all ministries in June 1960* to send their response to the Draft Audit Paragraphs proposed for inclusion in the Report of the C&AG of India within six weeks.

The Draft Paragraphs are always forwarded by the respective Audit Offices to the secretaries of the concerned ministries/departments through Demi Official letters drawing their attention to the audit findings and requesting them to send their response within six weeks. It was brought to their personal notice that since the issues were likely to be included in the Audit Report of the CAG, which are placed before Parliament, it would be desirable to include their comments in the matter.

Draft Paragraphs proposed for inclusion in the Ordnance Factory section of the Report of the C&AG of India for the year ended March 1999 : Union Government (Defence Services) : No. 7 of 2000 were forwarded to the Secretary Department of Defence Production and Supplies, Ministry of Defence between May 1999 and September 1999 through Demi Official letters.

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* (*) No.F 32(9) EG.I/60 dated 3 June 1960.

The Secretary Department of Defence Production and Supplies did not send replies to 8 Draft Paragraphs out of 18 paragraphs in compliance to above instructions of the Ministry of Finance issued at the instance of the Public Accounts Committee. Thus, the response of the Ministry could not be included in them.

Ministry/Department	**Total No. of Paragraphs on the Ministry/ Department included in the Report**	**No. of Paragraphs in which reply not received from respective Secretaries**	**Paragraph Number**
Ministry of Defence, Department of Defence Production and Supplies Ordnance Factory Board	18	8	45, 46, 47,48, 52, 53, 54 and 57

Sudha Rajagopalan

(SUDHA RAJAGOPALAN)
Director General of Audit
Defence Services

New Delhi
Dated:

Countersigned

V. K. Shunglu

(V.K.SHUNGLU)
Comptroller and Auditor General of India

New Delhi
Dated:

ANNEXURE

Position of outstanding ATNs *(Referred to in paragraph 18)*

Sl.No.	Report No. and Year	Para No.	Subject
1.	Audit Report, Union Government (Defence Services) for the year 1985-86	34*	Loss due to delay in pointing out short/defective supply.
2.		69**	Failure to recover charges for use of Defence siding.
3.	No.2 of 1988	9**	Purchase of Combat dress from trade.
4.		41**	Loss in procurement of wax special.
5.	No.2 of 1989	11*	Purchase and licence production of 155mm towed gun system and ammunition.
6.		18*	Undue delay in rectification of defects in guns.
7.		81*	Review on utilisation of equipment in Defence Research and Development Organisation.
8.	No. 12 of 1990	9*	Contracts with Bofors for (a) Purchase and licence production of 155mm gun system and (b) Counter trade.
9.		10*	Induction and de-induction of a gun system.
10.		15**	Repair facilities for a weapon system.
11.		17**	Import of fire control system for tank.
12.		19*	Import of ammunition of old vintage.
13.		46**	Ration article-Dal.
14.	No. 8 of 1991	1.7*	Non-verification of credits for stores.
15.		10*	Procurement of stores in excess of requirement.
16.		13*	Central Ordnance Depot, Agra.
17.		15**	Extra expenditure due to wrong termination of meat contract.
18.		17**	Infructuous expenditure on procurement of dal chana.
19.	No.8 of 1992	12*	Procurement of computer.
20.		18*	Supply of sub-standard timber softwood.
21.		20**	Procurement of sub-standard goods in an Ordnance Depot.

Sl.No.	Report No. and Year	Para No.	Subject
22.		28**	Avoidable payment of maintenance charges for Defence tracks not in use.
23.		58	Procurement of stores in excess of requirement.
24.		72**	Delay in construction of storage accommodation
25.		81**	Redundant payment of service charges to a Cantonment Board
26.		91**	Delay in investigation into untraceable/missing items of furniture
27.	No. 13 of 1992	Part I*	Recruitment of Other Ranks
28.		Part II	Training of Other Ranks
29.	No. 14 of 1992	Entire* Report	Army Base Workshops
30.	No. 8 of 1993	7**	Extra expenditure due to delay in issue of allotment letters
31.		13*	Infructuous expenditure on development of radar
32.		16*	Procurement of rubber bushes
33.		19*	Court of Inquiry proceedings
34.		25*	Holding of surplus target sleeves
35.		29*	Import of mountaineering equipment and sports items
36.		31*	Avoidable payment of detention charges
37.		33*	Additional expenditure due to rental of an exchange
38.		68*	Civil works for a Naval Air Station.
39.		69*	Non-utilisation of assets created for a computer centre
40.		74 * (Case II)	Provision of training sheds
41.		75**	Extra expenditure due to delay in according financial concurrence
42.	No. 8 of 1994	10**	Establishment of a National War Museum
43.		17*	Import of defective equipment
44.		18*	Non-commissioning of a plant
45.		23*	Avoidable payment of customs duty.
46.		64*	Infructuous expenditure due to inadequacies in design and execution of works
47.		67**	Construction of married accommodation and its re-appropriation
48.		68**	Extra expenditure due to delay in finalisation of a water supply scheme

Sl.No.	Report No. and Year	Para No.	Subject
49.		72**	Procurement of an item at higher rate
50.		73**	Extra expenditure due to failure in timely submission of revised estimates
51.		76*	Establishment of an Army Public School
52.		78**	Short recovery of electricity charges
53.		80**	Non-utilisation of assets due to defective construction
54.		82**	Loss of revenue due to non-completion of works of external electrification and water supply
55.		85*	Provision of defective gravent ventilation system
56.	No. 8 of 1995	12*	Working of the Department of Defence Supplies
57.		13*	Delay in repair of defective imported ammunition
58.		17*	Import of radar
59.		22** (Case II)	Recovery at the instance of Audit
60.		29	Manufacture of defective parachutes
61.		30	Non-utilisation of parachutes
62.		81**	Under-utilisation of assets
63.		84**	Avoidable extra expenditure due to defective construction
64.		85*	Avoidable hiring of accommodation due to delay in completion of married accommodation
65.		87**	Collapse of an overhead water tank
66.		88*	Review on equipment, manpower and material management in six Research and Development Establishments
67.	No. 8 of 1996	12*	Inordinate delay in repair of imported ammunition
68.		18*	Extra expenditure due to delay in placing orders
69.		22*	Hiring of vehicles
70.		24*	Wasteful expenditure on injudicious procurement of tyres
71.		25*	Avoidable procurement of mounting tripods
72.		26*	Loss on account of procedural lapse
73.		28**	Loss from life expired oil
74.		63*	Nugatory expenditure due to lack of planning
75.		67**	Savings at the instance of audit
76.		68**	Delay in construction of married accommodation for sailors

Sl.No.	Report No. and Year	Para No.	Subject
77.		69*	Irregular expenditure on a public School
78.		70*	Supply of sub-standard high strength cement
79.		73**	Overpayment to a firm
80.		75**	Unauthorised construction of squash courts
81.		76*	Infructuous expenditure on design and development of half track multirole vehicle
82.	No. 7 of 1997	7	Losses awaiting regularisation
83.		10**	Non-recovery of general damages from defaulting firms
84.		11*	Unnecessary procurement of engines
85.		12*	Excess provisioning of steel cases
86.		14*	Loss due to improper despatch of imported equipment
87.		15	Over provisioning of seats and cushions for vehicles
88.		17*	Procurement and utilisation of medical stores and equipment
89.		18*	Management of Defence Land
90.		19**	Defective mines
91.		20**	Irregular payment to Indian Oil Corporation to avoid lapse of fund
92.		21*	Loss due to formation copper azide in fuzes
93.		24*	Undue favour to a firm
94.		26	Procurement of defective steering assembly
95.		28*	Under-utilisation of manpower in an Army Base Workshop
96.		29**	Delay in procurement of bin steel portable
97.		32	Irregular payment of charges
98.		33*	Infructuous expenditure due to erroneous despatch of vehicles
99.		69**	Defective construction of blast pens and taxi track
100.		70**	Unfruitful expenditure due to delay in completion of work
101.		72*	Escalation in cost due to delay in according Financial Concurrence
102.		74**	Avoidable construction of perimeter wall
103.		75*	Unauthorised expenditure on procurement of cast iron pipes of higher specification

Sl.No.	Report No. and Year	Para No.	Subject
104.		76*	Non-recovery of excess issue of departmental stores from contractors
105.		78*	Non-recovery of extra expenditure from a defaulting contractor
106.		79*	Non-utilisation of assets due to faulty planning
107.		80*	Avoidable payment of load violation charges
108.	No. 7 of 1998	9	Loss of stores
109.		12*	Authorisation and Expenditure
110.		14*	Extra expenditure on modification of radar
111.		15	Loss of ammunition due to improper storage
112.		16	Questionable deal
113.		17*	Procurement of defective radars
114.		18	Extra expenditure on procurement of rifles and ammunition due to failure to adequately safeguard Government interest
115.		19**	Import of defective parachutes
116.		20*	Excess procurement of barrels
117.		21	Extra expenditure due to non-adherence of contract provision
118.		22*	Import of defective missiles
119.		23*	Non-utilisation of imported testing equipment
120.		24** (Case-I)	Recovery at the instance of audit
121.		25*	Follow up on Audit Reports
122.		27*	Development of mini remotely piloted vehicle
123.		28*	Working of Military Farms
124.		30	Avoidable payment of container detention charges
125.		32*	Infructuous expenditure on procurement of substandard cylinders
126.		33*	Unauthorised payment of special duty allowance to non-entitled persons
127.		34	Unauthorised issue of free rations
128.		36*	Procurement of batteries at higher rates
129.		37*	Avoidable expenditure on manufacturing of head percussion
130.		38*	Extra expenditure on the procurement of charging sets

Sl.No.	Report No. and Year	Para No.	Subject
131.		39*	Extra expenditure due to inordinate delay in the execution of a married accommodation project
132.		40*	Avoidable expenditure due to inadequate design
133.		41*	Premature failure of tubewells
134.		42*	Extra expenditure due to indecision in selecting site
135.		43*	Non-utilisation of a building due to defective workmanship
136.		44*	Avoidable expenditure due to delay in completion of a contract
137.		45*	Inordinate delay in construction of indoor gymnasium
138.		46*	Avoidable expenditure due to improper construction of a boundary wall
139.		47	Non-occupation of married officers quarters due to faulty planning
140.		48*	Non-utilisation of residential accommodation
141.		49	Avoidable payment due to delay in availing of concessional tariff
142.		50**	Avoidable payment of electricity charges
143.		51*	Excess payment of electricity charges
144.		52*	Loss of revenue
145.		53*	Payment of conservancy charges
146.		55	Extra expenditure due to acceptance of higher rates
147.		56*	Extra expenditure due to wrong preparation of tender
148.		57*	Unauthorised use of air-conditioners
149.		58*	Extra expenditure due to revocation of tender
150.		59*	Extra expenditure due to delay in according financial concurrence
151.		60*	Non-utilisation of newly constructed quarters
152.		61*	Infructuous expenditure on a non-functional laboratory
153.		62**	Infructuous expenditure on import of high speed video recording system
154.		63*	Avoidable payment of customs duty
155.		64*	Unfruitful expenditure on procurement of substandard hot mix plants

Sl.No.	Report No. and Year	Para No.	Subject
156.		65*	Infructuous expenditure on development of a machine
157.		66*	Non-utilisation of a bridge
158.		67*	Infructuous expenditure on re-alignment of a road
159.		68*	Injudicious procurement of stores

*** Action Taken Note awaiting final settlement/vetting**
Without * marks - Action Taken Notes not received even for the first time

****Copy of the finalised ATN/Corrigendum to the finalised ATN awaited, from Ministry, after being duly vetted by Audit**