REPORT OF THE

COMPTROLLER AND AUDITOR GENERAL

OF INDIA

FOR THE YEAR ENDED 31 MARCH 1990
NO.8 OF 1991

UNION GOVERNMENT-DEFENCE SERVICES
(ARMY AND ORDNANCE FACTORIES)

MGIPF (FDP)—43/CAG/ND/91—2000—(F-1)

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PREFATORY REMARKS

This Report for the year ended 31 March 1990 has been prepared for submission to the President under Article 151 of the Constitution. It relates mainly to matters arising from the Appropriation Accounts of the Defence Services for 1989-90 together with other points arising from the test audit of the financial transactions of the Defence Services (Army and Ordnance Factories). Points relating to the Air Force and the Navy have been incorporated separately in Report No.9 of 1991.

2. This Report includes, among others, reviews on

Army

(a) Delay in modernisation of a tank

(b) Central Ordnance Depot, Agra

Ordnance Factory Organisation

(c) Indigenous production of an ammunition

(d) Working of the Grey Iron Foundry, Jabalpur

Research and Development Organisation

(e) Armament Research and Development Establishment

3. The cases mentioned in this Report are those which came to notice in the course of audit during 1989-90 as well as those which came to notice in earlier years but could not be dealt with in the previous Reports; matters relating to the period subsequent to 1989-90 have also been included, wherever considered necessary.

OVERVIEW

The Audit Report for the year ended 31 March 1990 contains 96 paragraphs including five reviews. The points highlighted in the Report are given below:

I Accounts of the Defence Services

The total grant for the Defence Services for the year 1989-90 was Rs. 14963.99 crores. The actual expenditure was Rs.14889.31 crores as against Rs.13718.55 crores in 1988-89. The supplementary grant of Rs.50 crores obtained for the Air Force proved inadequate to the extent of Rs.15.24 crores. Out of the supplementary grant of Rs.931.21 crores obtained for the Army, Rs.20.08 crores remained unutilised. Similarly against the supplementary grant of Rs.69.35 crores obtained for the Navy, a sum of Rs.17.81 crores also remained unutilised. The supplementary grant of Rs.104.49 crores obtained for the Ordnance Factories, could not be utilised to the extent of Rs.39.25 crores.

While there was excess under the Air Force grant, there was under utilisation of Rs.74.68 crores in the Defence budget.

(Chapter I)

MINISTRY OF DEFENCE

II Procurement of crash fire tenders

Two separate orders,one for 26 crash fire tenders (CFTs) and the second for 25 CFTs were simultaneously placed in June 1988 on a private firm. The first order was placed under the option clause of an extant contract with a provision for adjustment of the unit price with reference to customs duty actually payable while the other was a fresh order without any such provision. The firm imported all the 51 CFTs in one stroke paying uniform customs duty. While the difference between the customs duty included in the unit price and that actually paid was adjusted in respect of 26 CFTs, the same could not be done in the case of 25 CFTs due to absence of suitable provisions in the contract resulting in unintended benefit of Rs.62.50 lakhs to the firm due to the customs duty paid being less than that included in the unit price.

(Paragraph 2)

III Non-realisation of sale proceeds

Under an agreement (January 1985) with a private firm for sale of 2536 items of certain surplus spares at Rs.1.02 crores, the spares were to be released in three phases. The sale proceeds were to be remitted to Government in three instalments of Rs.34.05 lakhs each. Default in making available 30 items valued at Rs.4.30 lakhs by the department resulted in non-realisation of the third instalment of sale proceeds of Rs.34.05 lakhs.

(Paragraph 3)

IV Non-return of trailers by a private firm

Out of 126 trailers supplied to a private firm from June 1977 to March 1983 for mounting generating sets ordered on that firm, 43 trailers costing Rs.21.50 lakhs could not be retrieved (October 1990). This was due to inadequate safeguards in the contract for ensuring their return. As the firm had gone into liquidation, a claim for Rs.48.69 lakhs lodged with the official liquidator towards cost of the unreturned trailers, repair charges for 12 trailers received back etc. was pending.

(Paragraph 4)

ARMY

V Delay in modernisation of a tank

The basic idea of modernising a tank to make it available for battle field environs of nineties and beyond was drawn up in 1979-80 but comprehensive sanction for the project had not been issued (October 1990). It was decided in August 1990 that the expenditure on modernisation would be met from the maintenance budget. In April 1990, the cost of modernisation had been estimated at Rs.593.24 crores. It is now scheduled for completion by 1996.

Expenditure of Rs.66.21 crores had been incurred for supplies received upto April 1990. Various systems procured at Rs.47.19 crores had been lying unutilised.

Piecemeal sanctions for different components of the scheme were obtained for Rs.136.32 crores during 1981 to 1988 for procurement of six systems, instead of going in for a comprehensive sanction. The nodal workshops have not yet been equipped for undertaking the modernisation programme.

Despite failure in trials held in 1982, Simplified Fire Control Systems were imported at Rs.8.7 crores in 1983-84. These were found to be defect prone and non-functional.

Effective guidance for implementation of modernisation programme from the Steering Committee had not been available as it had not met after Ist October 1985.

Final decision regarding vital elements in modernisation viz. a new power pack was yet to be taken.

(Paragraph 5)

VI Logistics and transport

In May 1989, 952.37 tonnes of grease procured at Rs.153 lakhs from a firm in 1988-89 was found defective after inspection within the warranty period and was lying in stock awaiting replacement.

(Paragraph 6)

Against the target of 690 ambulances to be fabricated from 1987-90, only 77 had been completed. 599 chassis ordered and received from ordnance factories under this programme, valuing Rs.11.48 crores were held unutilised in storage since 1987-88. There were frequent changes in the selection of Army workshops involving shuttling of these chassis from one place to another leading to an avoidable expenditure of Rs.39.38 lakhs.

(Paragraph 7)

Incorrect application of Government orders in regard to provision of wooden sleepers not only resulted in over provisioning of 1048 cubic metres of wooden sleepers valued at Rs.59.35 lakhs; but also led to their utilisation for purposes other than for which they had been authorised. Further, acceptance of 601.01 cubic metres of sub-standard sleepers led to unproductive expenditure of Rs. 36.11 lakhs. Rupees 32.87 lakhs incurred on account of risk and expense purchases awaited recovery from the defaulting firm.

(Paragraph 8)

175 sets of tyres, tubes and flaps against a contract were airlifted from abroad in February 1987 as the requirement was stated to be urgent, involving payment of Rs.10.91 lakhs towards air-freight. All the tubes and flaps were found defective. In order to meet the requirement, indigenous ones had to be used. While the cost incurred on air-freight was infructuous, the refund of the cost of the defective stores had not yet been realised. The towing vehicles remained off-road for over one year, negating the very urgency.

(Paragraph 9)

Delay in intimating the change/reduction in demand by Army Headquarters to the supply wing of an Indian Mission resulted in procurement of surplus spares worth Rs.5.34 lakhs.

(Paragraph 10)

VII Workshop equipment

Procurement of a gear grinding machine of higher specification than required at Rs.46.06 lakhs despite the users' timely indication about its restricted utility led to its gross under-utilisation from April 1988.

(Paragraph 11)

VIII Ordnance stores

Central Ordnance Depot, Agra

A review of a Central Ordnance Depot indicated among others that three imported radars costing Rs.90 lakhs continued to be held as unserviceable, for periods ranging from three to seven years. Advances paid to two public sector undertakings to the extent of Rs.5.67 crores remained unadjusted for periods from five to fifteen years. Delay in inspection of a target drone system and failure to provide complete information resulted in non-rectification of defective items costing Rs.12.80 lakhs. 12221 items of indigenous stores and 161 items of imported stores had not been accounted for. Due to delay in disposal of surplus stores, 4335 square metres of storage accommodation remained occupied while 7488 tonnes of current items had to be stored in the open. Discrepancies between book balance and ground balance remained unreconciled.

(Paragraph 13)

IX Inspection

900 sets of parachutes were imported in January 1986 at a cost of Rs. 89.97 lakhs. Inspection on receipt revealed that they did not conform to specifications laid down in the contract. Although the contract envisaged that defects found on inspection would be replaced free including freight and handling charges within two months, there was delay in initiating defect reports. Consequently, the parachutes imported for operational requirement were held in unserviceable condition and awaiting replacement and/or repairs even after about four years.

(Paragraph 14)

X Ration articles

Failure to place orders for 2400 tonnes of vanaspati within the validity period of an offer and non-availing of lower rates against another offer for 1800 tonnes of vanaspati resulted in an extra expenditure of Rs.19.47 lakhs.

(Paragraph 16)

A Supply Depot had 308.78 tonnes of dal chana in stock on 1st September 1986. On 2nd September 1986, the depot purchased an additional quantity of 148.01 tonnes of dal chana at a cost of Rs.8.07 lakhs. Out of the total, a quantity of 101.83 tonnes was declared unfit for human/ animal consumption between December 1986 and July 1987 resulting in loss of Rs.6 lakhs.

(Paragraph 17)

XI Clothing

Procurement of 1,78,300 pairs of boots during 1986-87 from a public sector undertaking (PSU) at an abnormally high rate resulted in an extra burden of Rs.84.43 lakhs to the Defence budget even after allowing 10 per cent price preference to the PSU. Further, the PSU could not supply boots by the scheduled date and the delivery period was extended in the first instance upto March 1988 and finally upto June 1988.

(Paragraph 18)

XII Pay and allowances

Omissions on the part of 33 officers over a period of eight years in the issue of certificates required under rules resulted in unauthorised payment of Rs.16.66 lakhs towards compensation in lieu of quarters to Army personnel at a station.

(Paragraph 20)

XIII Performance of the Ordnance Factory Organisation

Ordnance Factory organisation consists of 38 ordnance factories. Government had set up a working group in 1985 to review the extent of achievement of objectives by the Ordnance Factory Board (OFB) and to examine the effectiveness of decision-making process.The recommendations of the working group submitted in March 1986 were not unanimous and have not been accepted by the Government so far.

A review of the progress of computerisation brought out that maintenance management data are being generated only in respect of 11 factories and production progress reporting have been implemented only in five factories. In 10 factories priced stores ledgers have not been computerised fully and material and labour abstracts are being generated by microprocessor in only 22 factories.

The target fixed by OFB for the manufacture of 222 items were achieved, however, progress of achievement in respect of 40 items were behind schedule. Main reasons were non-availability of stores, defective purchases and delay in proof clearance.

While the volume of civil trade had come down, the foreign exchange earnings reached a negligible level.

(Paragraph 23)

XIV Indigenous production of an ammunition

For the indigenous manufacture of an ammunition under a licence agreement at a cost of Rs.76 lakhs with a foreign firm, a project was undertaken in September 1986 at a total estimated investment of Rs.37.65 crores. Phase-I of the project was expected to be completed by September 1988. The detailed project report was available after the approval of the project. There were delays in receipt and commissioning of machines, assemblies and sub-assemblies. Due to delay in completion of the project, the requirements till March 1990 were met through imports. Had Phase-I of the project been completed as per schedule, imports worth Rs.2.75 crores could have been avoided.

(Paragraph 24)

XV Grey Iron Foundry

The Grey Iron Foundry, established in 1972 to manufacture castings failed to attain even its derated capacity of 7000 tonnes per annum after fresh investment of Rs.2.78 crores between December 1981 and July 1988. The indentor factory (Vehicle Factory Jabalpur) resorted to imports (Rs.17.58 crores) and open market procurement (Rs.7.92 crores) of castings due to non-attainment of capacity by the foundry. Castings valued Rs.6.83 crores were rejected at machining stage during 1984-89. Production of castings in the foundry was uneconomical compared with trade cost.

(Paragraph 25)

XVI Development and Production

An extra expenditure of Rs.4.83 crores was incurred due to production of picrite continuing at an old plant while a new plant capable of meeting the total requirement was allowed to function at a lower capacity.

(Paragraph 26)

The need for a new small arms weapon system in keeping with the tactical and technical requirements of the Army was felt in April 1978 and a development project at a cost of Rs. 180.24 lakhs, to be completed in a time-frame of three to four years, was sanctioned in November 1982. No monitoring system exclusively to the project was, however, laid down and the project was yet to be completed. Delay of more than four years in the completion of the project has led to cost over-run by Rs.69 lakhs and the requirement projected since 1978 remains unfulfilled.

(Paragraph 27)

Continuance of development effort on a superseded model of a combat vehicle, even after a switch-over to an advanced model was decided, led to an avoidable expenditure of Rs. 31.75 lakhs.

(Paragraph 28)

A production loss of Rs.147 lakhs, expenditure of Rs.8.23 lakhs on repairs and loss of life and injuries to six workmen could have been averted if safety considerations had not been ignored in a steel melting shop of the Metal and Steel Factory.

(Paragraph 30)

In-house production of 183 assemblies needed for a specialised vehicle, in preference to market purchase proved to be uneconomical to the extent of Rs. 108.87 lakhs.

(Paragraph 31)

Preparation for manufacturing 116 guns without a formal indent resulted in the waste of resources and efforts and a liability of Rs.77.52 lakhs a large portion of which may eventually have to be borne as loss.

(Paragraph 32)

Defective manufacture led to the abnormal rejection of shell forgings valuing Rs. 63.61 lakhs at the user's end and rejection persisted due to the failure of the user in investigating into the reasons of rejection.

(Paragraph 33)

Due to the short-closure of indents by Air Force, materials valued at Rs. 53.44 lakhs procured by Ordnance Parachute Factory became surplus without any prospect of utilisation. Short-closure was due to tardy production owing to faulty design and approval of inferior materials.

(Paragraph 34)

Due to use of unsuitable packing boxes, 15200 cartridge cases were damaged and had to be rectified and re-issued involving an extra expenditure of Rs. 47.29 lakhs.

(Paragraph 36)

Lack of coordination between the progress of the project for developing an ammunition component, manufacturing technology and the serviceability of the ammunition itself, led to unco-ordinated development effort involving a needless expenditure of Rs.39.67 lakhs.

(Paragraph 37)

Laying down the complete production line for 150 numbers of a night observation device without taking into account the complexities involved in the testing and approval of the development item resulted in the accumulation of unusable surplus components and materials worth Rs. 34.34 lakhs when the demand was scaled down.

(Paragraph 38)

An omission in the issue of operating instructions combined with lack of co-ordination between design changes and provisioning action resulted in the continuance of an uneconomic packaging practice involving an extra expenditure of Rs.18.86 lakhs.

(Paragraph 39)

Efforts, spanning a decade, for developing an illuminating ammunition, were wasted due to lack of adequate coordination between design and manufacturing agencies and lack of an immediate productionisation agency. Accessories acquired for Rs. 18.31 lakhs became surplus.

(Paragraph 42)

XVII Provisioning

Detection of insufficient quantity of propellant in two lots of cartridges valuing Rs.14.97 lakhs, by the Army resulted in total loss of the material supplied. The materials had been cleared before despatch by the Quality Assurance Establishment.

In yet another instance failure of inspection by Quality Assurance Establishment led to the certification of defective stores worth Rs.5.40 lakhs. In another case, deficiency/ failure of inspection by Inspectorate of Armaments led to the certification of defective stores involving Rs.4.84 lakhs.

(Paragraphs 43, 55, 56)

As a result of short-closure of an order for production of gun barrels by an ordnance factory, forgings valued at Rs.6.64 crores and semi-finished barrels valuing Rs.1.49 crores were lying surplus without any prospective use.

(Paragraph 47)

Delay in processing the offer of a firm for the procurement of a machine resulted in the withdrawal of the offer and subsequent purchase of the machine at an extra cost of Rs.1.11 crores. In another case, delay in decision making relating to the selection of a supplier for a machine resulted in the acceptance of an extra liability of Rs.41.63 lakhs in procurement of the machine. In yet another case, delay in processing a proposal for the purchase of another machine involved an extra expenditure of Rs.20.17 lakhs.

(Paragraphs 48, 50, 60)

There was an unnecessary procurement of modified tracks valued at Rs.86.20 lakhs as the procurement was done without conducting a technical review before placing the order.

(Paragraph 49)

Conclusion of a contract without any price analysis led to the purchase of a store at inflated rate involving an extra expenditure of Rs.36.33 lakhs.

(Paragraph 51)

Extra expenditure of Rs.19.80 lakhs was incurred in the repetitive purchase of some stores due to non-inclusion of buyer's option clause in the purchase order and failure to take rate advantage offered by the supplier.

(Paragraph 53)

XVIII Plant and machinery

An extrusion press imported in February-June 1988 for Rs.2.52 crores to augment production of a rocket could not be commissioned so far (November 1990) due to non-supply of certain electrical items by the supplier and the press building not meeting the safety requirements.

(Paragraph 58)

A vehicle costing Rs. 72.83 lakhs caught fire while starting due to the violation of the operating instructions and non-observance of safety parameters.

(Paragraph 59)

A special purpose eccentric forging machine procured in February 1971 for Rs. 16.81 lakhs, in anticipation of requirement could not be used due to non-availability of anticipated work/loads, rendering its procurement as infructuous.

(Paragraph 62)

A crane procured at Rs. 12.17 lakhs during October 1984 - September 1985 could not be erected for want of suitable site till March 1990. Expenditure of Rs. 2.80 lakhs on building a gantry structure at a site and on structural modification also proved to be infructuous.

(Paragraph 63)

A pressure testing equipment procured by a factory in August 1985 at Rs.2.50 lakhs for testing oil passage in Nissan cylinder block failed during installation. The supplier also could not rectify the defects. As a result, during 1985-89 an extra expenditure of Rs. 17.45 lakhs had to be incurred to check oil leakage by dismantling the assembled engines and their reassembly.

(Paragraph 64)

An ordnance factory procured five PVC tanks at Rs.14.91 lakhs and erected them in February 1987. Soonafter erection, one tank failed in August 1987 and by December 1989 four tanks failed/cracked. A joint inspection revealed the cause of failure as faulty design and bad workmanship.

(Paragraph 65)

An equipment imported in February 1984 at Rs.38 lakhs, for testing engines, rejected twice at the inspection stage. But later, it was cleared without carrying out performance test and was lying unutilised since its receipt.

(Paragraph 66)

XIX Other cases

75,000 wooden packing boxes costing Rs.1.05 crores, received in Ordnance Factory Kanpur for repair and reutilisation were condemned without any investigation. This included 55,000 missing boxes presumed to have been used as fire wood in the last ten years.

(Paragraph 68)

Out of court settlement of a dispute with a foreign firm due to loss of documents and non-availability of evidence resulted in the payment of

Rs.51.68 lakhs by the firm to the Government in September 1985, against a claim of Rs.74.50 lakhs. Interest from the date of filing of suit in the court (January 1969) to September 1985 amounting to Rs.55.03 lakhs was not claimed by the Government. The out of court settlement thus resulted in the foregoing of claims totalling Rs.77.85 lakhs.

(Paragraph 69)

An excess payment of customs duty amounting to Rs.51.23 lakhs was made due to non-verification of the nomenclature of the currency before release of payments. In the place of French Francs/Belgium Francs value of goods were reckoned in Pound Sterling.

(Paragraph 70)

XX Works and Military Engineer Services

Provision of false ceiling to an existing hangar, without considering its adverse effect on the structural stability coupled with defective planning and poor maintenance, led to its collapse. The expenditure incurred on repair to the damaged aircraft till October 1990 was Rs.2.83 crores. The damage to the hangar was assessed at Rs.12.75 lakhs.

(Paragraph 73)

Construction of an airfield remains suspended from 1986 after incurring an expenditure of Rs.220.87 lakhs on civil works and jungle clearance. The engineers had gone on record that much of the roads would disappear unless the work was completed and that the cleared jungle will regenerate.

(Paragraph 74)

Accommodation constructed at Rs.52.57 lakhs to run a school was not authorised as per Government orders. It was actually sanctioned as single accommodation for troops violating the basic provision of the Defence Works Procedure.

(Paragraph 75)

Five senior officers' quarters were constructed in a class 'A' city adopting independent and duplex type of structure as against the sanction for double storeyed buildings. This resulted in avoidable use of extra land measuring 4698 square metres costing Rs.117.44 lakhs.

(Paragraph 76)

Requirement of floor area for class rooms was incorrectly worked out by a Board of Officers inspite of association of a representative of Military Engineer Services responsible for preparation of accommodation statement. This resulted in construction of excess floor area of 730 square metres and consequential avoidable expenditure of Rs.27.45 lakhs.

(Paragraph 77)

In five cases, excess/ avoidable payment of Rs.386.51 lakhs was made by MES to three State Electricity Boards due to non-observance of the contractual provisions, non-adherence to power cuts when required and delay in replacement of capacitors.

(Paragraph 78)

A scheme to augment the water supply at an Air Force Station sanctioned in October 1983 and due for completion in 1986 was still in progress. Though Rs.31.85 lakhs was paid to Tamil Nadu Water Supply and Drainage Board (Board) in June 1983 for participation in the combined scheme launched by the Board, failure to conclude a proper agreement to this effect resulted in huge recurring payment towards cost of water supplied as against payment of only maintenance charges. A new pipeline laid at a cost of Rs.6.04 lakhs had not been commissioned owing to defective pipes costing Rs.55.10 lakhs procured through Director General Supplies and Disposals and issued by Military Engineer Services to the contractor.

(Paragraph 79)

A Water supply scheme sanctioned in 1981 at a cost of Rs.134 lakhs and completed in 1985 could not be tested, commissioned and established at the specified pressure so far due to procurement and use of sub-standard CI pipes by the Engineers. Value for money was thus not realised.

(Paragraph 80)

In February 1984, Army Headquarters sanctioned works for provision of airconditioned accommodation for storage of armament at an ammunition depot at a cost of Rs.66.68 lakhs, to be completed by March 1986. The works were completed in November 1988 at Rs.72.66 lakhs. The construction was found unfit/unsuitable for storage of armament due to defects. The expenditure incurred was yet to serve the desired purpose.

(Paragraph 85)

Buildings worth Rs.39.74 lakhs were constructed at Nowgong after the three Army units for whom they were intended had moved out from the station in 1986.This resulted in further expenditure of Rs.32.43 lakhs on maintenance and watch and ward of the vacant buildings during 1987-90.

(Paragraph 86)

Lack of coordination between the users and the executing authorities in finalising the design and drawings for installation of an imported equipment costing Rs.8.82 lakhs coupled with attendant delays in conclusion of the contract led to cost overrun by Rs.16.96 lakhs. Besides, tardy progress of the work resulted in non-installation of the equipment evenafter five years of its procurement.

(Paragraph 89)

XXI Research and Development Organisation

Armament Research and Development Establishment (ARDE)

During the ten-year period from April 1978 to March 1988, 89 staff projects involving investment of Rs.8076 lakhs and 81 Research and Development (R&D) projects involving investment of Rs.2053 lakhs were sanctioned for execution by ARDE. Out of 89 staff projects, 33 were successfully completed while 14 were dropped and 42 were still in progress. Out of 81 R&D projects, 49 were successfully completed, 8 were dropped and 24 were still in progress. In many cases, projects successfully completed overran the time and cost parameters. Incorrect assessment of requirement and difficulty in productionisation led to short-closure or dropping of projects. Delay in the completion of projects led to their becoming redundant in terms of technological requirement. Out of the projects in progress, 18 have been delayed for more than two years and 7 have been delayed for more than five years.

(Paragraph 92)

Government sanctioned setting up of indigenous production facililty for 100 tonnes per year of titanium sponge to be completed in 1984. Expenditure incurred against three sanctions issued for the purpose amounted to Rs.633.68 lakhs. Total production achieved during the period March 1985 to March 1990 was only 25.13 tonnes. The production facility had not been taken over by the production agency for commencement of regular production as envisaged.

(Paragraph 93)

The objectives of a need based research project were to standardise/freeze drying conditions and propose specifications for various types of freeze dried foods like fruit beverages of mango, pineapple, grapes and mousambi, soups like meat, mushroom, tomato, mixed vegetable, etc. as also composite dishes, desserts and fruit snacks for the Armed Forces. The project, was, however closed after incurring an expenditure of Rs.26.59 lakhs, having developed only tentative standards for pineapple and mango.

(Paragraph 94)

Against a project for development of three types of batteries for the services conceived in August 1985, a substantial expenditure of Rs.58 lakhs had been incurred by Defence Research and Development Organisation till August 1990, the development work had been progressed upto 70 per cent. The project was continued though there was no immediate outlet and there was no requirement for such type of batteries from the Services.

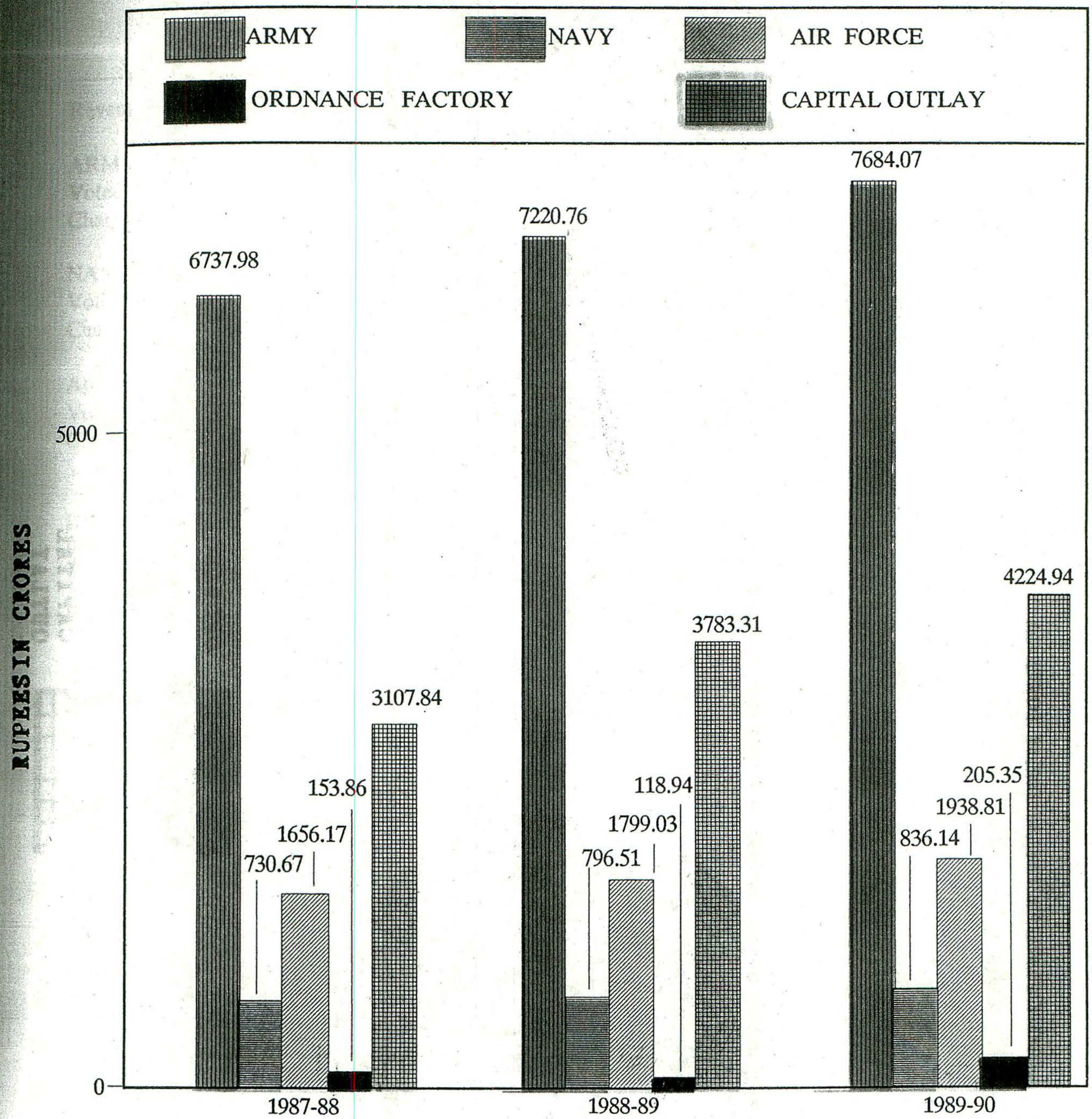
(Paragraph 95)

CHAPTER I

ACCOUNTS OF THE DEFENCE SERVICES

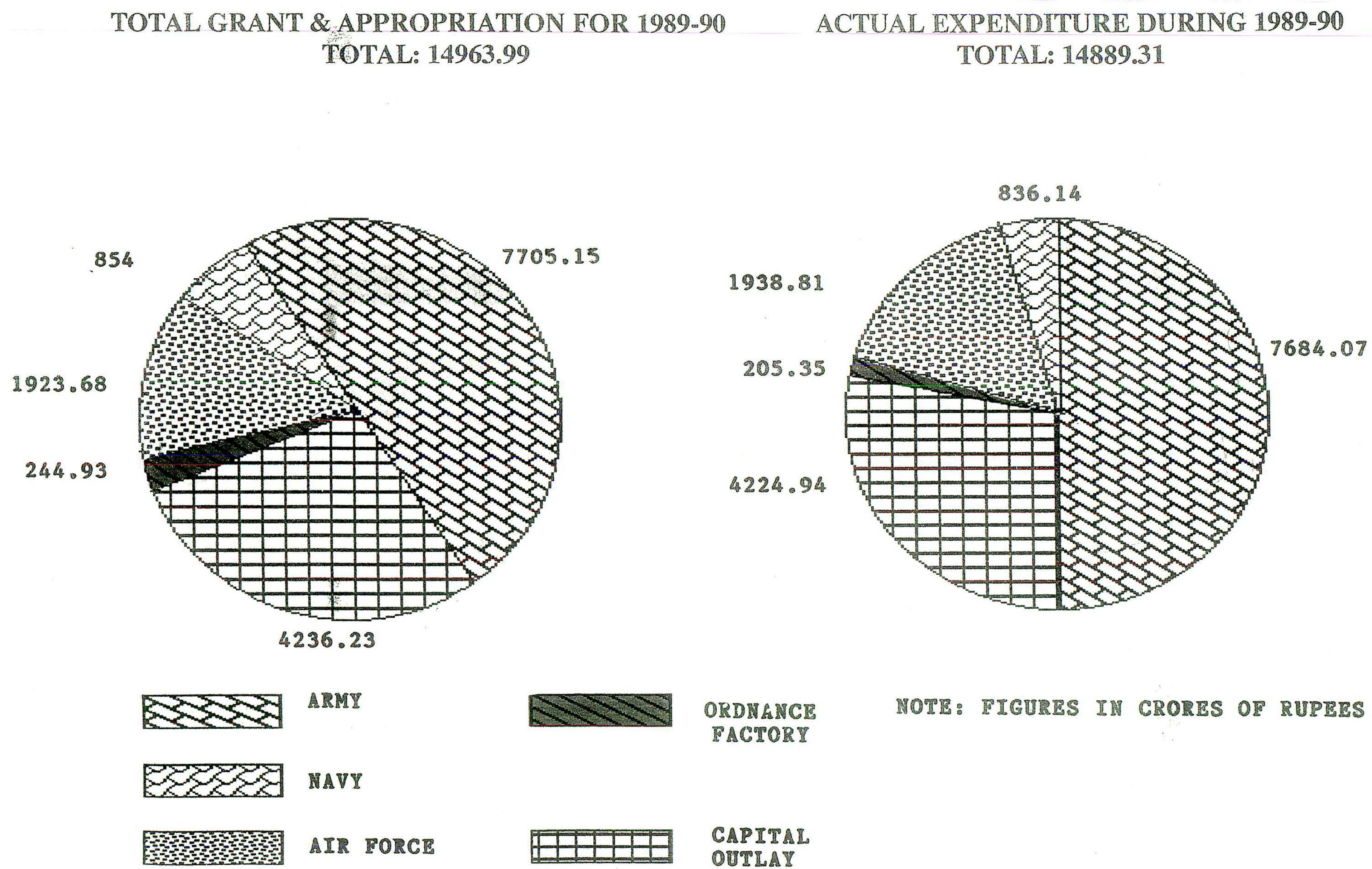
1.1 Defence expenditure

The expenditure on the Defence Services has increased from Rs.12386.52 crores in 1987-88 to Rs.14889.31 crores in 1989-90.



Note: The expenditure on ordnance factories does not include value of supplies made to Army, Navy, Air Force etc. which is reflected as expenditure under respective service grants. Booked expenditure for supplies made were as under:

	(Rs.in crores)
1987-88	1142.56
1988-89	1352.67
1989-90	1400.37


TOTAL GRANT & APPROPRIATION FOR 1989-90
TOTAL: 14963.99
854
7705.15
1923.68
244.93
4236.23
ACTUAL EXPENDITURE DURING 1989-90
TOTAL: 14889.31
836.14
1938.81
7684.07
205.35
4224.94
ARMY
NAVY
AIR FORCE
ORDNANCE FACTORY
CAPITAL OUTLAY
NOTE: FIGURES IN CRORES OF RUPEES

1.2 Budget and Actuals

The summarised position of expenditure during 1989-90 against grants/appropriations was as follows :-

(Rs.in crores)

	Original grant/appropriation	Supplementary	Total	Actual expenditure	Variation Excess(+) Saving(-)
Revenue:					
ARMY:					
Voted	6771.55	931.21	7702.76	7682.68	(-)20.08
Charged	1.28	1.11	2.39	1.39	(-) 1.00
NAVY:					
Voted	784.50	69.35	853.85	836.04	(-)17.81
Charged	0.15	-	0.15	0.10	(-) 0.05
AIR FORCE:					
Voted	1873.53	50.00	1923.53	1938.77	(+)15.24
Charged	0.15	-	0.15	0.04	(-) 0.11
DEFENCE ORDNANCE FACTORIES:					
Voted	140.09	104.49	244.58	205.33	(-)39.25
Charged	0.35	-	0.35	0.02	(-) 0.33
Capital:					
CAPITAL OUTLAY ON DEFENCE SERVICES:					
Voted	3894.47	328.86	4223.33	4222.23	(-) 1.10
Charged	12.90	-	12.90	2.71	(-)10.19
TOTAL	13478.97	1485.02	14963.99	14889.31	(-)74.68

While the supplementary grants obtained for the Army,Navy,Ordnance Factories and Capital Outlay proved to be surplus to the requirement, the supplementary grant obtained for the Air Force was inadequate.

There were persistent savings under Ordnance Factories (both under Revenue and Capital) from 1987-88; saving amounted to Rs. 39.25 crores during 1989-90 under Revenue. Despite reappropriating Rs. 11.77 crores, there was saving of Rs.19.68 crores under sub-head A.4(2) Machinery and Equipment.

1.3 Excess over grant

In the revenue section under Grant No.17 - Defence Services -Air Force, against the total amount of Rs. 1923.53 crores(original plus supplementary), the actual expenditure was Rs.1938.77 crores resulting in excess expenditure of Rs.15.24 crores (Rs.15,24,11,683) which requires regularisation under Article 115 of the Constitution.

Despite obtaining supplementary grants, excess expenditure indicates that the requirement of funds was not assessed properly.

The excess was mainly under:

(i) 'Pay and Allowances', due to booking of local allowances and other expenditure at the end of the year more than anticipated;

(ii) 'Transportation',due to increased movement of Air Force personnel on account of certain operations and higher booking of rail charges than anticipated;

(iii) 'Stores' mainly due to deliveries towards the end of the year; and

(iv) 'Works', due to higher departmental charges and higher payments as a result of hike in the prices of stores and tariff rates for water and electricity.

1.4 Control over expenditure

Some of the instances of defective budgetary control are indicated below:-

(a) In the following cases the supplementary grant was wholly or partially inadequate/surplus:

(Rs. in crores)

Grant No. Sub-Head	Original grant	Supple-mentary grant	Amount re-appro-priated	Final grant	Actual expendi-ture	Excess(+) Saving(-)	Percen-tage Col.7 to 5
1	2	3	4	5	6	7	8
16-DS-Navy							
A.4 Trans-portation	41.79	15.21	(-)5.00	52.00	62.36	(+)10.36	19.92
A.5 Stores	371.43	8.57	(-) 6.00	374.00	350.95	(-) 23.05	6.16
18-Defence Ordnance Factories							
A.4 Machinery and Equipment	1.16	1.13	(+)2.71	5.00	2.55	(-) 2.45	49.00
19-Capital Outlay on Defence Services							
A.2 Navy							
A.2(2) Cons-truction works	101.99	3.40	(-) 5.49	99.90	93.92	(-) 5.98	5.98

(b) In the following cases, reappropriations made during the course of the year were wholly or partially unnecessary which resulted in excess/saving:

(Rs. in crores)

Grant No. Sub-Head	Sanctioned grant	Amount re-appro-priated	Final grant	Actual expen-diture	Excess(+) Saving(-)	Percent-age Col.6 to 4
1	2	3	4	5	6	7
16-DS-Navy						
A.4 Transpor-tation	57.00	(-) 5.00	52.00	62.36	(+)10.36	19.92
18-Defence Ord-nance Factories						
A.4 Machinery and Equipment	2.29	(+)2.71	5.00	2.55	(-) 2.45	49.00

19-Capital outlay on Defence Services						
A.1 Army						
A.1(5) Aircraft and Aeroengines	18.57	(-)3.19	15.38	16.82	(+) 1.44	9.36
A.3 Air Force						
A.3(2)Constru -ction works	103.70	(+)6.15	109.85	103.89	(-) 5.96	5.42
A.4 Defence Ordn-ance Factories						
A.4(3)Suspense	Nil	(+) 8.00	8.00	6.87	(-) 1.13	14.12

1.5 Persistent excess

During the years 1985-86 to 1989-90 there were persistent excess under the sub-head Transportation except for the year 1988-89 as per details given below :

(Rs. in crores)

Grant Sub-Head	1985-86	1986-87	1987-88	1988-89	1989-90
Revenue					
Army	14.00	2.32	33.37	3.38	20.54
Navy	0.74	0.21	5.57	(-) 2.18	10.36
Air Force	2.86	0.62	4.55	(-) 1.18	4.72

1.6 Loss of stores

The amount of store losses due to theft, fraud or gross neglect amounted to Rs.37.24 crores during 1989-90 which was Rs.27.83 crores (296 per cent) more than the loss in 1988-89. A comparative statement of losses from 1985-86 onwards is as given below:

(Rs.in crores)

Year	Total losses including losses due to theft, fraud or gross neglect	Losses due to theft, fraud or gross neglect
1985-86	16.57	10.19
1986-87	23.94	15.09
1987-88	14.46	5.36
1988-89	15.75	9.41
1989-90	46.89	37.24

1.7 Non-verification of credit for stores

Mention is made in section III of the certificate given by Controller General of Defence Accounts in the Appropriation Accounts, Defence Services every year regarding the position of non-availability of Certified Receipt Vouchers and resultant non-verification of stores in the consignee's ledgers.

Comments were also made in paragraph 1.20 of the 226th Report of the Public Accounts Committee (1984-85) regarding non adherence to the prescribed procedure to be followed in respect of imported stores which had created difficulties in ensuring their actual receipt as invoiced and paid for.

However, the number of cases where specification certificates of imported stores were not made available to internal audit had gone up from 629 (value: Rs.89.94 crores) during 1983-84 to 1994 (value:Rs.1390.31 crores).

The yearwise details of the specification certificates outstanding as on 31st March 1990 are as shown below:

Year	No.of certificates	Value (Rs. in crores)
Upto 1984-85	126	64.02
1985-86	33	4.65
1986-87	192	48.09
1987-88	219	89.00
1988-89	629	123.48
1989-90	795	1061.07
	1994	1390.31

The above position clearly indicates that the procedure followed in regard to linking of invoices in respect of imported stores is unsatisfactory and requires adherence to the prescribed procedure.

1.8 Rush of expenditure

The Public Accounts Committee in paragraph 1.42 of their 147th Report (1988-89) had commented that the rush of expenditure at the fag end of the year vitiates budgetary control and also sometimes leads to excess expenditure. Efforts should be made to reduce the time lag between incurring of the expenditure and its booking.

Despite the above recommendations, heavy booking of expenditure at the end of the financial year has been continuing as in Appendix 'I' to this Report.

CHAPTER II

MINISTRY OF DEFENCE

2. Procurement of crash fire tenders

In September 1985, Department of Defence Production and Supplies (DDPS) placed an order on an Indian firm for procurement of 44 crash fire tenders (CFT) at a unit price of Rs.21.65 lakhs (as amended). The unit price included an element of customs duty at 177.8 per cent on CIF value of Rs.4.55 lakhs. According to the supply order, any statutory variation in the customs duty would be to the purchaser's account. The order also catered for enhancement of the quantity by 26 numbers at the same price and terms and conditions during the currency of the contract. Since the customs duty actually paid by the firm was less than 177.8 per cent on CIF value of Rs.4.55 lakhs, the final price for the supply of 44 CFTs was revised at Rs.20.44 lakhs inclusive of customs duty element of Rs.6.88 lakhs. The supply of 44 CFTs was completed by middle of November 1987.

As there was a further requirement of 51 CFTs, the DDPS, approached the firm in September 1987 for supply of 26 CFTs under option clause of the contract and to confirm its willingness to supply 25 CFTs also at the same price and terms and conditions. During negotiations the firm represented that the CIF price of Rs.4.55 lakhs quoted in the supply order of 1985 had since increased to Rs.6.63 lakhs due to devaluation of the Indian rupee, but agreed to absorb the increase in CIF price provided the increase in the customs duty on account of the increase in CIF value be treated as statutory variation and the liability for that borne by the Government. Alternatively, the firm should be offered a firm and fixed price at the existing level of Rs.20.44 lakhs per CFT without any provision for variation in customs duty. As the proposal was not acceptable further negotiations were held in March 1988. The firm finally agreed (March 1988) to supply only the 26 CFTs under the option clause at the existing price level of Rs.20.44 lakhs per CFT (inclusive of Rs.6.88 lakhs towards customs duty element) with the provison that in the event the actual customs duty paid was less than that amount, corresponding amount would be reduced from the unit price. As regards the additional 25 CFTs, the firm offered a firm and fixed price of Rs.20.45 lakhs per CFT plus excise duty and sales tax and without any provision for variation on account of customs duty. The agreement on the rate of Rs.20.45 lakhs per CFT was on the basis of Rs.6.63 lakhs towards CIF value, Rs.3.13 lakhs on account of customs duty and Rs.10.69 lakhs towards indigenous content including profit. Accordingly, two separate orders, one for supply of 26 CFTs at Rs.20.44 lakhs each with a provision for adjustment of unit price with reference to customs duty actually payable under the option clause of the earlier contract and the other for supply of 25 CFTs at Rs.20.45 lakhs each without any provision for adjustment of unit price towards customs duty with an option for purchase of additional seven CFTs were finalised in June 1988. An analysis of the price quoted and accepted for supply of 26 CFTs and 25 CFTs and the actual payments made there against revealed the following position:

The firm imported the entire 51 CFTs in one stroke (December 1988/January 1989). The CIF value, customs duty and the indigenous content/profit as per the two orders vis-a-vis the actuals thereof are tabulated below:

Elements included in the unit price	For supply of 26 CFTs			For supply of 25 CFTs		
	Price as per the contract	Price paid by the firm	Difference (+)/(-)	Price as per the contract	Price paid by the firm	Difference (+)/(-)
				(Rs. in lakhs per CFT)		
CIF value	4.55	6.01	(-) 1.46	6.63	6.01	(+)0.62
Customs duty	6.88	1.47	(+)5.41	3.13	1.47	(+)1.66
Indigenous content/profit	9.01	9.01	-	10.69	10.69	
Total	20.44	16.49	(+)3.95	20.45	18.17	(+)2.28
Deduct refunds made by the firm towards customs duty	5.41	-	(-) 5.41	-	-	-
Net	15.03	16.49	(-) 1.46	20.45	18.17	(+)2.28

The table would indicate the following:

though all the 51 CFTs were imported in one stroke, against simultaneous orders, the CIF value,customs duty and the indigenous content /profit were at variance with each other;

while the savings in the customs duty was refunded by the firm in the case of supply of 26 CFTs, no such refund was, made in that of 25 CFTs in the absence of a suitable provision;

the net loss of Rs. 1.46 lakhs per CFT on account of payment of increased CIF value on import of 26 CFTs was more than compensated by the increased margin of Rs.1.68 lakhs towards indigenous content/profit in the second order. The net gain on this account works out to Rs.0.22 lakh per CFT; and

further a gain of Rs. 2.28 lakhs per CFT accrued to the firm by way of CIF value and customs duty on the order of 25 CFTs. Thus, the total gain that ought not to have accrued to the firm works out to Rs.62.50 lakhs as under:

Analysis of gain made per CFT		Amount (Rs. in lakhs)
1.	By way of margin in the indigenous content and profit in the order for 25 CFTs,	0.22
2.	By way of CIF value and customs duty actually paid	2.28
	Total	2.50

Therefore, total gain made on order for supply of 25 CFTs	2.50 x 25 62.50 lakhs

The Ministry stated (November 1990) that at the time of taking purchase decision it was not envisaged that the firm would be able to get concessional rate of customs duty at 25 per cent per CFT,which was not agreed to by the Ministry of Finance when the department had approached them; the department's purchase decision was thus based on reasonable assumptions based on the information available at that point of time.

Since payment of customs duty is obligatory by statute, the proper course should have been to assign customs duty to the purchaser's account. As far as indigenous content and profit elements were concerned no analysis was available.

3. Non-realisation of sale proceeds

Ministry of Defence (Ministry) entered into an agreement with a private firm in January 1985 for sale of 2536 items of surplus spares of certain tanks at Rs.1.02 crores representing 16.7 per cent of the book value of Rs.6.10 crores. The default in supply of 30 items of book value of Rs.25.74 lakhs and sale price of Rs.4.30 lakhs resulted in non-realisation of third instalment of the sale proceeds amounting to Rs.34.05 lakhs for over four years (November 1990). The case is dealt with below:

According to the agreement, the spares were to be released in three instalments on opening of irrevocable letter of credit for one third of the value of spares i.e. Rs.34.05 lakhs each time; the firm should export items worth at least 50 per cent of the value of spares released within six months failing which the security deposit lodged by the firm to ensure export would be forfeited. The firm had deposited Rs.10.22 lakhs in early 1985 as security deposit.

The Ministry issued release order in April 1985 for supply of 320 items under the first instalment; in July 1985 for 2113 items under the second and in January 1986 for 103 items under the third and final instalment.

There was shortfall in supply of 30 items in all (21 items against the first and second instalments and 9 items against the third). The book value of these 30 items was Rs.25.74 lakhs and the sale price worked out at Rs.4.30 lakhs. The reasons attributed for the shortfall were non-availability of the items either in totality or to the full extent of the numbers specified in the release orders in respect of 22 items and part numbers/ nomenclature of eight items indicated in the release order did not tally with those available with the concerned Central Ordnance Depot. In fact, when the Army Headquarters proposed in July 1986 amendment to the agreement, correcting the part number/nomenclature in respect of the eight items, the Ministry declined to accept the proposal in August 1986 indicating that the tender document and the release orders were thoroughly checked and found that there was no discrepancy in part number of the items and change could not be made at that stage. The default in supply of 30 items at the sale price of Rs.4.30 lakhs thus resulted in non-realisation of a third of the sale proceeds amounting to Rs.34.05 lakhs.

It was obligatory under the agreement that the firm should export atleast 50 per cent of the value of its offer within six months of issue of each release order. As the first release order was made in April 1985 for Rs.34.05 lakhs, according to the agreement export of stores worth Rs.17.03 lakhs was obligatory within six months (October 1985). The obligation vis-a-vis the second release had to be discharged by the firm by January 1986 and for the last release by July 1986. As against stores worth Rs.51.08 lakhs in all required to be exported within the time limit prescribed, the firm was stated to have exported stores worth only Rs.19.79 lakhs representing 38.74 per cent of the total export commitments,indicating a shortfall of Rs.31.29 lakhs. Although, the contract stipulated that failure to export 50 per cent of the spares released within six months of release orders would entitle the department to forfeit the security deposit of Rs.10.22 lakhs lodged by the firm; this was not done. There was thus no monitoring of the terms of the agreement by the Ministry regarding export commitments.

The Ministry stated in November 1990 that the firm had been seeking extension of time to fulfil the total obligation on their exports, adducing the reasons of the shortfall in supplies; the firm has been asked to complete the total obligation without defaulting; efforts are also in hand to make up the short supply and to obtain the payment of the last instalment; and the case is being closely monitored and followed up to reach a satisfactory resolution according to the contractual provision.

4. Non-return of trailers by a private firm

Ministry of Defence (Ministry) supplied 126 numbers of one ton trailers to a firm for mounting the generating sets ordered on that firm, during June 1977 to March 1983 and could not retrieve 43 of the trailers costing Rs.21.50 lakhs (October 1990).The non-retrieval of Government property was due to inadequate safeguards for ensuring their return. There was only an indemnity bond obtained from the firm for the safe custody of the trailers and that the trailers shall be deemed to be the property of the Government.

Department of Defence Production and Supplies (DDPS) placed, in October 1975, an order on a private firm for supply and mounting of 73 generating sets at Rs. 68,450 each on one ton trailers.The trailers were to be supplied by the department to the firm.

Seventy three trailers were issued in June 1977 to the firm for mounting the generating sets. A conditional bulk production clearance was issued in July 1977 subject to carrying out certain modifications to the generating sets. Subsequently, as a result of high altitude trials on the production samples submitted by the firm, final bulk production clearance was given by the Department in June 1978 with delivery schedule of 15 completed sets by September/ October 1978 and the remaining 58 sets by February 1979 at 15 sets per month. The firm could not adhere to the schedule due to financial problems and 19 completed sets were supplied upto July 1980. The delivery schedule was, therefore, revised (October 1980) to September 1981. The firm, however, supplied only one more set by July 1981.

Though the firm did not adhere to the delivery schedule, another order for supply and mounting of additional 53 sets at an increased rate of Rs.1.22 lakhs each was placed on the firm by amending the supply order in December 1981. The delivery period for the outstanding 53 sets against the original order and the additional 53 sets were rescheduled at 15 to 20 completed sets per month, commencing six weeks after receipt of trailers.

Fifty three trailers for mounting the additional generating sets were issued to the firm during 1982-83. The firm supplied only 51 out of the 106 sets till March 1983.

As the firm declared lock out at their factory in November 1983, the supply order for the balance quantity of 55 sets had to be short-closed eventually in October 1985. The firm was directed to return the trailers to the department. Twelve out of 55 trailers could only be retrieved from the firm till June 1990. The firm went into liquidation in March 1990.The cost of 43 trailers that could not be retrieved from the firm worked out to Rs. 21.50 lakhs.

Ministry stated (October 1990) that due to financial and other problems, the firm could not fulfil the obligation of the contract and therefore the supply order for the balance quantity of 55 numbers was shortclosed in October 1985 and they were asked to return the 55 trailers issued to them. After concerted efforts only 12 trailers could be retrieved. It was further indicated that, the firm had gone into liquidation and an official liquidator has also been appointed and in November 1990,a claim had been lodged with the official liquidator for Rs. 48.69 lakhs including cost of repair charges of 12 trailers which were received back and cost of 43 trailers, etc. The Ministry also stated that a new firm has partially taken over the premises of the firm and that the new firm was agreeable to hand over the trailers after taking over the complete control. Ministry further stated that conditions of supply orders have since been revised to provide for furnishing bank guarantee in the prescribed form from a scheduled commercial bank.

The fact, however, remains that Rs.21.50 lakhs being the cost of 43 trailers had not been recovered (October 1990).

CHAPTER III

ARMY

Review

5. Delay in modernisation of a tank

5.1 Introduction

Tank 'L' based on the imported technologies of 1950 was being produced by factory 'A' since 1965. Delay in development and indigenous production of 'Main Battle Tank' (MBT) necessitated rethinking on phasing out of tank 'L' which continued to be manufactured till 1986. Although improvements were attempted in the design since introduction, they were not adequate to convert it into a contemporary tank. It was therefore felt necessary to upgrade the existing 'L' tanks with modern features to make them battle worthy in the field environs of the nineties and beyond.

5.2 Scope of Audit

The overall planning, processing, approval, co-ordination, monitoring and completion of various schemes were examined in audit.

5.3 Organisational set up

A project team was appointed in March 1984 for implementation of the project. A monitoring group was also formed in 1984 to oversee the execution of the modernisation plan.

A steering committee was constituted in March 1985 to examine the various problems arising in the modernisation of the tank system covering all aspects like spares management, documentation, improvements of engines, repair and overhaul of tanks, etc. The modernisation was to be undertaken in five nodal workshops.

5.4 Highlights

- **The basic idea of modernising the tank to make it available for battle field environs of the nineties and beyond was drawn up in 1979-80 but comprehensive sanction for the project was not issued (October 1990). It was ruled belatedly in August 1990 that the expenditure on modernisation would be met from maintenance budget.**

  Piecemeal sanctions for different components of the schemes were issued for Rs.136.32 crores during 1981 and 1988 for procurement of six systems.

- **The nodal workshops were yet (October 1990) to be equipped for undertaking the modernisation programme. Sanction issued in July 1986 at Rs.1.97 crores for equipping the nodal workshops could not be operated because of non-release of funds.**

- **The project was to be completed in 1990-91 but the same is expected to be completed by 1996.**

- **Effective guidance from the steering committee for implementation of modernisation programme was not available as it had not met after 1st October 1985.**

- **Due to reduction in the scope of modernisation programme at a later stage (July 1988), there was excess provisioning of Passive Night Vision device and financial repercussions to the tune of Rs.18.35 lakhs on account of short-closure of indent.**

- **Despite failure in trials held in 1982, Simplified Fire Control Systems were imported at Rs.8.7 crores under modernisation programme in 1983-84, these were found to be defect prone and non-functional.**

- **For want of sanction for procurement of engineering store package required for maintenance cover, Tank Fire Control System IA and IB costing Rs.28.80 crores could not be exploited fully.**

- **Final decision in selection of new power pack for repowering the tank was still awaited (October 1990). Expenditure of Rs.66.21 crores had been incurred for supplies received upto April 1990.**

- **Items valuing Rs.47.19 crores received under modernisation pro-**

grammes were not fitted in the tank and have remained unutilised (October 1990).

- Eventhough two items had been productionised these were not incorporated in tanks produced in [illegible].

5.5 Scope of the modernisation programme

During the Sixth Army Plan 1980-85 various schemes were approved by the Cabinet Committee on Political Affairs (CCPA) for modernisation of a certain number of tanks 'L' at Rs.[illegible] crores. At that time it was visualised that the suggested modernisation would meet Army's requirements. Funds provided during the Sixth Plan were utilised only to the extent of Rs.[illegible] crores. Necessity arose to revise the earlier modernisation plan with a view to enhancing the mobility, protection and first round hit probability of tank 'L' to make it compatible with the contemporary MBTs. In October 1985, Army Headquarters (HQ) submitted a revised proposal (cost: Rs. 501.50 crores) to the Ministry of Defence (Ministry) indicating that a certain number of tank 'L' will have to be continued in service in view of delay in production of the Main Battle Tank and interim tank 'M'. Five nodal workshops on the basis of concentration of tank arisings at different geographical locations were identified for undertaking modernisation programme. These would cost Rs.1 crore each.

The proposal submitted by Army HQ in 1985 was not progressed due to problems in identification of certain specific schemes, determination of a clear cut time frame, data relating to the current cost of various items, drawing up of realistic time schedule, etc.

The Ministry intimated Army HQ in February 1988 that the practice of seeking revised approvals for earlier cabinet approved schemes was objectionable and requested them to reexamine the schemes and prepare concrete proposals for the schemes which were considered absolutely essential. In July 1988, Army HQ submitted to the Ministry a revised modernisation programme alongwith expected time frame for completion of trials, negotiations and placing of orders, productionisation, approximate rate of induction into service and likely cost, etc. Total number of tank 'L' to be modernised was reduced. The updated cost of modernisation of tank 'L' was worked out as Rs.518.20 crores excluding the cost of Gun Control Equipment (GCE), Low Level Light TV (LLLTV) and Kanchan Armour for a category of tanks which was estimated to cost another Rs.60.75 crores. The cost of other overheads such as spares, special maintenance tools (SMT), special test equipments (STE), technical literature, plant and machinery, engine pool etc. was estimated at Rs.175 crores as against Rs.146 crores estimated in 1985.

Provision of GCE, LLLTV and Kanchan Armour provided in the proposals of July 1988 for a category of tanks estimated at Rs.60.75 crores was proposed to be made as and when funds would be available.

The modernisation of three categories (LA, LB and LC) of tanks were scheduled for completion by 1989-90 to 1990-91 and 1992-93 respectively.

5.6 Status of modernisation programme

5.6.1 CCPA approval

The revised draft proposal submitted by the Army HQ in July 1988 was yet to be sanctioned (October 1990), in the absence of which individual schemes were sanctioned. The total value of such schemes approved between February 1981 and January 1988 was Rs.136.32 crores. Army HQ stated in April 1990 that obtaining sanction to each modernisation scheme individually was time consuming and problematic.

The Ministry stated in October 1990 that according to a ruling given in August 1990, the expenditure on modernisation would be met from maintenance budget and sanction of CCPA was not being pursued.

5.6.2 Nodal workshops

The modernisation programme was to be implemented in five nodal Army workshops. It was indicated by Army HQ in October 1985 that the nodal workshops would have to be equipped before commencement of the modernisation programme. A sanction for equipping four nodal workshops at Rs.1.97 crores was issued in July 1986. However, the funds were not released till October 1990. The Ministry stated in October 1990 that the aspect regarding equipping of nodal workshops was under deliberation of a study group.

5.6.3 Implementation schedule

Time schedule indicated in October 1985 as 1990-91 was revised in July 1988 to 1992-93. According to a reassessment by the Army HQ in April 1990 the project is now likely to be completed by 1996.

The reasons attributed by the Ministry for slippages in the implementation schedule of the modernisation programme were failure of power pack tested so far, non-materialisation of supply of equipment from public sector undertakings (PSU), ordnance factories and trade.

Thus, there is uncertainty as regards the completion schedule for modernisation considered vital from the point of view of Defence preparedness.

5.6.4 Monitoring

5.6.4.1Project team: A project team was formed in March 1984, initially for a period of one year, to monitor the modernisation programme. The life of the project team was extended from time to time upto March 1990.

5.6.4.2Monitoring group: A monitoring group was also formed in 1984 to oversee the execution of the modernisation programme. It is headed by Director General, Mechanised Forces (DGMF).The Monitoring Group met on 13 occasions between April 1984 and April 1990. In the monitoring group meeting held in May 1989 the project manager informed the group that a firm policy decision on modernisation of tank was still awaited. He also highlighted that it was necessary to retain a reliable tank fleet after 1995 for which the modernisation should be planned immediately. This involved finalisation of a realistic bottom line and allocation of resources.

In the monitoring group meeting held in December 1989, the DGMF, further brought out that a detailed survey of various inputs vis-a-vis requirements and perennial financial crunch established that some tanks would definitely stay with the Army till 2000 AD or beyond. He was of the opinion that fresh appreciation/rethinking on modernisation of 1B category was desirable and based on such appreciation the quantities on order should be reconsidered. The DGMF directed that all schemes be evaluated in totality and time bound implementation programme drawn up.

The deliberations in the monitoring committee meetings indicated uncertainty about the implementation of the modernisation programme.No material change in the position with regard to a comprehensive decision has taken place since then.

5.6.4.3Steering committee: A steering committee was constituted in March 1985 under the chairmanship of the Defence Secretary to examine various problems arising in the implementation of modernisation of the tank system covering all aspects like spares management, documentation, improvements, engine, repair and overhaul, etc. The steering committee met only on two occasions, in May 1985 and October 1985.

In the minutes of monitoring group meeting held on 11th February 1988, the DGMF stated that they were not able to convene meetings of the steering committee as some of the high level decisions were still pending.

Thus, effective guidance from an apex body constituted to oversee the project was not available for the speedy implementation of the modernisation plan of tanks as no meeting of the steering committee was held after October 1985. Ministry stated in October 1990, that subsequent steering committee meetings have not been held.

5.7 Progress of various modernisation schemes

The progress made in the modernisation is given below:

5.7.1Thermal insulation jacket : This component is mounted on gun barrel to prevent barrel bend due to differential heating with a view to improve firing accuracy. This item, fitted on all marks of tanks was developed by a Defence Research Laboratory.Order for only 70 per cent of the requirements was placed in March 1983 at a cost of Rs.110 lakhs. However, these could not be fitted in the tanks due to non-availability of the counter balance weight and pouch. These items were designed by another Defence Research Laboratory.

The Ministry stated in October 1990 that efficacy of the weight pouch and counter balance weight was being ascertained during trials.

5.7.2Passive night vision device: The existing infra-red night vision device for the driver was to be replaced with passive night vision device (PNVD) working on the image intensifying principle which was successfully developed by another Defence Research Laboratory. According to the revised programme of July 1988, PNVD was to be fitted only on category 1C tanks. However, the quantity actually received as in April 1990 exceeded the number to be fitted on category IC tanks. The actual fitment had been carried out on 84 per cent of category 1C tanks till October 1990. The value of PNVD not fitted on the tank held in stock was Rs.3.64 crores (October 1990).

Mention was made in paragraph 16 of the Report of the Comptroller and Auditor General of India for the year ended 31 March 1989 (No.12 of 1990) of excess provisioning of PNVD and the financial repercussions to the tune of Rs.18.35 lakhs due to short-closure of the indent on the Ordnance Factory Board.

The Ministry stated in October 1990 that bulk supplies against the indent were yet to commence and in case financial repercussions are not significant, suppliers might be pressed for cancellation of indent.

5.7.3 Simplified fire control system (SFCS):In February 1981, 70 numbers of SFCS-600 were ordered for import at Rs.8.7 crores. Out of 70 sets ordered 69 sets were supplied during 1983-84 eventhough trials held in December 1982 had not been satisfactory.

It was stated by Army HQ in April 1990 that SFCS equipment imported was defect prone and was not being utilised.

A study group was formed to suggest means to overcome difficulties being encountered with the system. One set was sent to Bharat Electronics Limited(BEL) for investigation of defects and for modification. The BEL alongwith Quality Assurance wing of Ministry, was able to identify the corrective measures required to be taken in the system.

Mention was made in paragraph 17 of the Report of the Comptroller and Auditor General of India for the year ended 31 March 1989 (No.12 of 1990) about import of defective SFCS costing Rs.8.58 crores which had been lying unutilised for four to six years. The Ministry stated in October 1990 that the case was under litigation and payment of Rs.4 crores is withheld and 25 modified sets were undergoing firing trials.

5.7.4 Tank Fire Control System: The necessity of improving the tank fire control system (TFCS) was indicated in the sixth Army plan 1980-85. Orders for import of the SFCS mentioned above were placed in 1981. Owing to further refinements in the system and shortcomings of the SFCS, two improved categories of TFCS mark 1A and 1B were recommended for application in the modernisation of tanks.

5.7.4.1TFCS 1A: In February 1986 indent for TFCS 1A was placed on BEL at Rs.6.55 crores and the entire quantity was received by March 1990. Fitment depended on the rate of supply of modified night sights by a workshop which was stated to be having a limited capacity. Only 99 numbers had been fitted to the tanks, the fitment of the remaining was likely to be completed by March 1991. Thus, TFCS 1A costing Rs.5.26 crores have not been fitted so far.

5.7.4.2TFCS 1B: This is designed to increase the first round hit probability in a reduced time of engagement.

Against a certain quantity indented on BEL in February 1986, only 157 numbers were received and only 31 numbers with improvised tools were fitted till October 1990. The total value of the indented quantity was Rs.82.46 crores. The supplies were expected to be completed by March 1992.

It was mentioned in the monitoring group meeting held in April 1990 that owing to non-availability of integrated night sights, TFCS 1B could not be usefully employed at night. TFCS 1B, could not also be exploited by the field forces for want of Engineering Support Package (ESP). Thus, 126 numbers of TFCS 1B had remained unutilised on account of failure in timely procurement of ESP.

The Ministry indicated in October 1990 that sanction for related ESP costing Rs.2.52 crores out of Rs.23.14 crores required for testing and fitting the TFCS, had been accorded in August 1990. The materialisation of supplies against indents for ESP takes 18 to 24 months.

5.7.5 Power pack: Repowering of the tank is the key modernisation scheme on which depends the entire future of the tank.

In order to improve mobility of tank 'L' sanctions were accorded during 1981-85 for import/ procurement of four types of engines A, B, C and D.

The evaluation of engine 'A' was carried out and it was not considered suitable. The user trials for 'B' and 'C' engines were carried out from June 1983 to December 1984. Because of numerous drawbacks, the engines were not recommended for introduction into service. These two engines, alongwith engine 'D', were again subjected to trials from September 1985 to June 1987. However, none was recommended. The tanks were at present being subjected to technical user's trials with engine of an interim tank 'M'. Expenditure on the trials of these engines amounted to Rs.133.84 lakhs (June 1989).

The Ministry stated in October 1990 that engine of the interim tank 'M' was likely to be accepted for fitment in tank 'L' after the confirmatory trials proposed during May/June 1991.

5.7.6 Kanchan armour: Kanchan armour was to provide enhanced protection to the tank 'L'. Provision of the armour was closely linked to successful repowering, as it imposed additional weight of 3.5 tonnes approximately on the tanks.

A project for development of composite armour material, to be undertaken by a laboratory was sanctioned in January 1981 at an estimated cost of Rs.122.05 lakhs and expected to be completed within three years from the date of sanction. The estimated cost was subsequently revised to Rs. 198.05 lakhs in May 1984 and the probable date of completion (PDC) was extended to July 1984. The project was completed in March 1986 and thereafter another sanction was accorded in February 1987 for production/supply of armour panel using the Kanchan armour material developed by the laboratory for 10 tanks at an estimated cost of Rs.199 lakhs with PDC as October 1988.

This project was to be undertaken as a joint development project by the laboratory and a PSU. The facilities for production of Kanchan panel was set up by the PSU in October 1988. However, the PDC for fabrication of Kanchan panels on tank 'L' for evaluation trials was extended twice to October 1989 and October 1990 on account of decision of the project authorities in July 1989 to reduce the number of tanks on which Kanchan armour should be evaluated from ten to five. Modifications were suggested in the design of panel after user trials. The cost of the project was reduced from Rs.199 lakhs to Rs.150 lakhs on account of reduction in the number of tanks. Orders for bulk production were yet to be placed (April 1990).

The Ministry stated in October 1990 that Kanchan armour developed proved to be effective during firing trials and other issues such as mobility, effects on crew functions and changes in the fitment of external stowages were being tried out. It added that introduction of Kanchan armour was interlinked with approval of new power pack and cannot be proceeded with independently.

5.7.7 Gyro land navigation system (GLNS):It was noticed from the status report of the programme placed before the monitoring group in April 1990 that a certain number of GLNS had been indented for in 1985, out of which 82 had been received till April 1990 at a unit cost of Rs.6.48 lakhs. The quantity indented was proposed to be reduced.

Only ten GLNS were fitted on the tanks (October 1990). It was stated by Army HQ in May 1990 that ESP details for GLNS were yet to be finalised. In the absence of special maintenance tools / special test equipment and training, it was not possible for the Electrical and Mechanical Engineers (EME) to provide effective repair and maintenance cover and only 60 additional bracketry, which should be supplied matching with the GLNS, had been supplied. Thus, the GLNS first indented in 1985 had not been fitted on the tanks and 72 numbers valued at Rs.4.67 crores had remained unutilised (October 1990).

5.7.8 Non-incorporation of components of modernisation while under production: It was seen that production of tank was carried out in an ordnance factory upto 1986-87. Two items viz. PNVD and Thermal Insulation Jacket (TIJ) were already productionised and the concerned factory was requested in December 1985 to undertake fitment of PNVD in the last batch of tanks produced in 1986. But the factory could not do so as it had already completed provisioning action for tanks and it had doubts whether approval of the Authority Holding Sealed Particulars had been issued. No action was,however, taken to get the TIJ fitted at the production stage.

5.8 Financial progress

The estimated cost of the modernisation scheme proposed during 1985 was Rs. 501 crores excluding an estimated expenditure of Rs.146 crores on allied activities. The estimated cost was subsequently raised to Rs. 578.95 crores in July 1988 excluding estimated expenditure on allied activities which also increased to Rs.175 crores. Piecemeal sanctions had been accorded for procurement of six systems at an estimated cost of Rs.136.32 crores between 1981 and 1988. The project, thus, suffered from certain amount of indecision and uncertainty in matters of provision of funds, slippages in different schemes, etc. An expenditure of Rs.66.21 crores had been incurred upto April 1990 being the value of supplies received against indents placed for six systems of modernisation for which piecemeal sanctions had been issued.

Logistics and transport

6. Procurement of defective grease

In May 1989, 952.37 tonnes of grease procured for Rs.153 lakhs during 1988-89 from a firm after inspection was found defective within the warranty period and continues to remain in stock awaiting replacement.Grease worth Rs.51 lakhs supplied earlier by the same firm was also declared unfit. Details of the case are as under:

In October 1988, Director General of Supplies and Disposals (DGSD) placed an acceptance of tender (A/T) based on the indent of Army Headquarters (HQ) on a firm for the supply of 250 tonnes of SG-240 and 814.824 tonnes of LG-280 grease at a total cost of Rs.170.44 lakhs. The grease was to be supplied to four Reserve Petroleum Depots (RPD) and two other depots. In terms of the A/T, the Army Petroleum Contract Unit (PCU) at Calcutta, being the inspecting officer, based on the test results conducted by Senior Quality Assurance Establishment (SQAE) also located at Calcutta, directed the firm in November 1988/ January 1989 to despatch the grease at the earliest as it had been found suitable.

A quantity of 196.455 tonnes of SG-240 and 810.37 tonnes of LG-280 grease, valuing Rs.161.36 lakhs, was supplied by the firm between November 1988 and February 1989. The grease supplied was rejected during the standard check carried out by Controllerate of Quality Assurance, Petroleum Products, Kanpur in May 1989. Army HQ, therefore,requested DGSD in June, August and September 1989 to withhold payment against the A/T and advised the firm to replace the rejected stock. In September 1989, DGSD advised Army HQ that the grease may be rejected under the warranty clause of the A/T and the firm failed to replace the stores.

Despite repeated requests, the firm did not take any action to replace the defective stocks. In October 1989, PCU requested DGSD to instruct the firm to replace the stock. The total quantity of rejected stock of grease SG-240 and LG-280 was 180.13 tonnes and 772.24 tonnes respectively costing Rs.153 lakhs. The percentage of defective stock with reference to the quantity supplied was 91.69 for grease SG-240 and 95.29 for grease LG-280. Acceptance of defective grease was stated to be under investigation by a Court of Inquiry and the Central Bureau of Investigation. The rejected grease was yet to be replaced (October 1990).

The Ministry of Defence while accepting the facts stated in October 1990 that the samples were tested at Calcutta and declared fit and despatched to Army depots. Subsequently, the Controllerate of Quality Assurances, Kanpur declared the stock as not conforming to specification. Army HQ had approached DGSD for enforcing the contract clause and the comments of DGSD were awaited. Further, grease costing Rs.51 lakhs supplied against two earlier A/T was also declared unfit after the warranty period. The requirement of grease was met by restricted issué and increased periodicity of changing of grease.

7. Delay in fabrication of ambulances

Against the target of 690 ambulances to be fabricated during 1987-90, only 77 had been fabricated. Since 1987, 599 chassis valuing Rs.11.48 crores had been held in storage leading to expenditure on their preservation and maintenance. The frequent changes in the body building programme led to avoidable expenditure of Rs.39.38 lakhs on transportation of the chassis from one depot to another. The details are given below.

A provision review carried out by Army Headquarters (HQ) in October 1985 indicated deficiency of 1157 numbers (later reduced to 1153 in October 1986) of one ton ambulances for military hospitals. Accordingly, it was decided in September 1986/October 1986 that Electrical and Mechanical Engineering(EME) workshops would undertake the fabrication of the body of the ambulances on one ton chassis, to be provided by the Director General of Ordnance Factories (DGOF).

In April 1986, Army HQ raised three indents on DGOF for supply of 1157 chassis. As per the fabrication programme drawn up in September 1986 by the EME, 230 bodies were to be built every year during 1987-91 and 237 bodies in 1991-92.

Ministry of Defence (Ministry) approved, in March 1987, fabrication of bodies for the full number of ambulances at a cost of Rs.4.79 crores by the EME. An indent for fabrication of 1153 bodies at a total cost of Rs.4.77 crores was raised by the Army HQ on the EME in June 1987. In 1987, the DGOF supplied 623 chassis valuing Rs.11.94 crores. 53 chassis valuing Rs.1.02 crores were delivered in February 1988. Since sufficient number of chassis were available for fabrication, Army HQ advised DGOF in January 1988 to suspend further production of chassis, to avoid accumulation and deterioration in storage.

Ambulance bodies were not built during 1987-88 as originally contemplated, as the indent could be placed on EME only in June 1987 after issue of Government sanction. The fabrication programme was revised in May 1988 by the EME according to which the body building was to commence only from 1989-90 at 225 per year at Army Base Workshop 'A'. In June 1989, it was, however, decided that two workshops 'A' and 'B' would be entrusted with body building in order to enhance the fabrication output to meet the user's requirements. While workshop 'B' would fabricate 300 bodies in 1989-90 and 303 in 1990-91, workshop 'A' would undertake building of 100 and

225 bodies in the corresponding years and another 225 in 1991-92. In April 1990, the EME further revised the body building programme, extending the completion period upto 1993-94.

During 1989-90,only 77 bodies (76 by workshop 'A' and one by workshop 'B') against 400 scheduled earlier were fabricated leaving 599 chassis valued at Rs.11.48 crores unutilised. Army HQ, therefore, advised EME in May 1989 to step up body building work. It was also observed that there had been deterioration of the chassis in storage in various depots, pending fabrication of the bodies and 221 chassis were being held in repairable condition. Owing to frequent changes in the body building programme undertaken by the two workshops, a number of chassis had to be shuttled between one depot and another,(272 numbers from Jabalpur to Kirkee and from Kirkee to Allahabad, 231 from Jabalpur to Bombay) involving avoidable expenditure of Rs.39.38 lakhs on transportation. In March 1989 Army HQ confirmed that material for fabrication of 325 chassis had already been made available.

The Ministry stated (October 1990) that:

(a) As there was no sufficient lead time to procure materials for fabrication, the programme was postponed to 1989-90. Keeping in view the limitations in the existing design of the ambulance, fabrication of a new model was contemplated and therefore only 77 ambulances could be fabricated during 1989-90, to the extent chassis and material were available so that the in-process material does not go waste.

(b) Initially the chassis were moved to depots located at Kirkee and Bombay as the earlier batch of ambulances were manufactured at the Army Base workshop at Kirkee. However, due to the modernisation project of the Base workshop, the above commitment could not be undertaken and therefore the chassis were stock moved from Kirkee. The chassis held at Bombay will be moved to the depot nearest to the designated Army Base workshop undertaking the commitment.

(c) No deterioration in the unutilised chassis has occurred as these have been preserved properly. However, 221 chassis had rusted fuel tanks which were being replaced by DGOF.

While it was stated that 77 ambulances could be fabricated during 1989-90 to the extent of chassis and material available in order to avoid the material going waste, chassis and material for fabrication of 325 ambulances had been confirmed as made available to the workshops in March 1989. There was delay to assess and modify the requirement of ambulances keeping in view the limitations in the existing design and the need for fabrication of a better model, which resulted in the non-utilisation of chassis. That the movement of chassis from Kirkee due to the inability of Army Base workshop at Kirkee to undertake the fabrication on account of the modernisation project has to be viewed in the light of the fact that the modernisation of the workshop for this purpose was sanctioned by Government as early as in May 1986 itself, and this fact was known before the receipt of chassis from the DGOF in 1987.

To conclude, only 77 ambulances against the target of 690, were completed till March 1990. Due to lack of co-ordination between the two activities of construction of chassis and fabrication of bodies, a large number of chassis had already been built, resulting in holding of 599 chassis valuing Rs.11.48 crores in storage since 1987 leading to expenditure on their preservation and maintenance. Moreover, the frequent changes in the body building programme by the EME, also led to avoidable expendiutre of Rs.39.38 lakhs on transportation of the chassis from one depot to another.

8. Unnecessary/substandard procurement of timber

In April 1978, Ministry of Defence (Ministry) authorised use of wooden sleepers (timber deodar) for bridging the gap between railway wagons for loading/unloading of tanks from wagons. A total quantity of 1453 cubic metres of wooden sleepers were authorised for this purpose. In addition, 291 cu.m. of sleepers were authorised for training purposes. In May 1980, the Army Headquarters (HQ) also issued clear directions that these sleepers were not to be utilised for normal use at any cost. The life of sleepers being 34 years, Government authorised annual provisioning only for replacement of unserviceable sleepers as certified by the competent inspection authority.

In November 1978, Army HQ provisioned 1831 cu.m. of wooden sleepers for Rs.20.45 lakhs.This included 87 cu.m. as anticipated replacement for one year provisionally worked out at 30 per cent of the training stock of 291 cu. m.

Although, further annual demands were to be projected based on the actual consumption of wooden sleepers during training, Army HQ made further provision in August 1980 for 870 cu. m. of sleepers for three years anticipated wastage, instead of 261 cu.m.(87x3) according to the scales devised by Army HQ. The actual consumption during 1979-80 was reported to be only 0.5 cu. m. in one Command; other Commands had indicated nil wastages.

The next review for this item was carried out by Army HQ in October 1984. Instead of working out the requirement on the basis of wastages, a requirement of 1690 cu. m. was projected in November 1985 on Director General of Supplies and Disposals(DGSD) (which included a special requirement of 640 cu. m. for manufacture of skid boards needed for air dropping of supplies) whereas it should have been 87 cu. m. according to scale laid down, even if there was full wastage of 30 per cent taken into account plus the requirement of 640 cu. m. for a different purpose.

Against this indent of 1690 cu. m., DGSD concluded two contracts (i) with firm 'A' for 1000 cu. m. of sleepers at Rs.59.40 lakhs in September 1986 to be supplied by January 1987 and (ii) with a State Government Forest Department for 690 cu. m. at Rs.40.13 lakhs in November 1986 to be supplied by December 1986. As firm 'A' failed to supply, DGSD cancelled the contract in May 1987 and concluded a risk and expense contract in October 1987 with firm 'B' for a total amount of Rs.52.50 lakhs to be supplied by 15th February 1988. As firm 'B' failed to furnish the security deposit and refused to supply the stores within the delivery period, DGSD cancelled the contract in January 1988 and concluded another risk and expense contract in March 1988 with firm 'C' at Rs. 87.47 lakhs to be supplied by July 1988. Firm 'C' effected the supplies in October 1988. Recovery of the extra cost of Rs.32.87 lakhs on risk and expense purchase from the defaulting firm was yet to be effected (September 1990).

Out of 690 cu.m. of sleepers ordered on the State Government Forest Department, supply was made for 601.01 cu. m. (value: Rs.36.11 lakhs) in December 1986. The consignee depot rejected (February-April 1987) the entire quantity as the stock was found defective. A joint inspection of the stock was carried out in October 1987 by the representatives of the consignee depot who did not have enough timber expertise and of the Chief Conservator of Forest of the State Government, when 584.78 cu. m. was accepted and only 16.23 cu.m. of sleepers (value: Rs.0.98 lakh) was rejected. Immediately thereafter the consignee depot refused to accept the findings of the inspection stating that those were unrealistic and inadequate owing to non-availability of enough expertise with them. The stock of 601.01 cu. m. procured at a cost of Rs.36.11 lakhs has been lying in the depot since December 1986 without any use (September 1990).

Based on the quantum decided by Government the stock of timber sleepers available for wastage requirements during training in the years 1980/1981 after taking into account the nil wastages during 1979-80 was 957 cu. m. which covered the theoretical wastage requirements (87 cu.m. per year) for 11 years. As in September 1990, the subsequent provisioning after 1980-81 (deducting the special requirement of 640 cu. m. for air-dropping of supplies) resulted in a surplus of 360 cu. m. even after reducing the defective quantity of 601 cu.m. confirmed as lying in the depot. If the defective quantity is taken into account, as in September 1990, the net over provisioning was 1048 cu. m. valued at Rs.59.35 lakhs.

The Ministry stated in September 1990 that excess provisioning was based on an erroneous interpretation of Government orders. Further no surplus holding exists as on date due to adjustment against other liabilities where this item is also used. It added that DGSD had been expedited to ascertain the latest position in regard to recovery of extra expenditure of Rs.32.87 lakhs from the defaulting firm'B'.

The case revealed that:

- erroneous interpretation and application of the Government orders of April 1978 had led to over provisioning of 1048 cu. m. of wooden sleepers valued at Rs.59.35 lakhs.This resulted in utilisation of timber deodar for purposes other than for which they had been authorised;

- acceptance of 601.01 cu.m. of substandard wooden sleepers had led to unproductive expenditure of Rs. 36.11 lakhs; and

- the recovery of extra expenditure of Rs. 32.87 lakhs from the defaulting firm 'B' on account of risk and expense purchases was yet to be made (September 1990).

9. Procurement of tyres, tubes and flaps

Against a contract concluded with a foreign firm, a consignment of 175 sets of tyres, tubes and flaps were airlifted by incurring Rs.10.91 lakhs on air freight to meet urgent requirements. These were issued to various units in March 1987 without inspection. Inspection carried out in June 1987 revealed that tubes and flaps were defective. The requirement had to be met by using indigenous ones rendering the expenditure on airlifting infructuous. Due to procurement of defective tubes and flaps the towing vehicles were off-road for over one year, negating the very urgency. The case is dealt with in detail below:

Ministry of Defence (Ministry) concluded a contract in December 1986 with a foreign firm for supply of 700 sets of tyres, inner tubes and flaps, required for certain towing vehicles, at a cost of US $ 3,01,000 (Rs.37.90 lakhs).

In terms of the contract, 200 pieces were to be supplied before 31st January 1987 and 500 pieces before 31st March 1987. The warranty applicable as per the contract was 24,000 Kms coverage in India and the defects, if any, noted would be brought to the notice of the supplier within 30 days from the date of noticing the defects.

In view of the urgency of the requirement, sanction was accorded by the Ministry in February 1987 for airlifting of the 700 sets of tyres, tubes and flaps at an expenditure not exceeding Rs.30 lakhs. When the supplier informed in February 1987 that only 178 sets were immediately available it was decided to airlift this quantity as they were needed urgently.The firm despatched 175 sets of tyres, tubes and flaps by air on 17th February 1987. The airlift charges amounted to Rs.10.91 lakhs. They were received by the Central Ordnance Depot (COD), Delhi in March 1987 and were issued to various units immediately without inspection. Inspection by the Controller of Inspection, Vehicles (CIV) in June 1987,revealed that the tyres were acceptable but the tubes and flaps were to be returned for replacement as they were found to be of incorrect dimensions resulting in a gap when fitted inside the tyre after inflation. Moreover, the tubes were of a different origin and the flaps were without any size marking. In July 1987, the firm was asked to replace the defective tubes and flaps free of cost.

Army Headquarters (HQ) stated in March 1988 that owing to non-availability of tyres and tubes, a large number of the vehicles were off road. The second consignment of 525 sets of tyres, tubes and flaps was shipped in March 1988 and received by the COD, Bombay in July 1988. Out of these, three tyres were short-received and three tyres and 148 tubes were found defective. In August 1988 the COD, Bombay forwarded the claim for replacement of the defective tyres and tubes under the second consignment to the Army HQ.

As regards replacement of the defective tubes and flaps under the first consignment, the firm offered to refund the cost thereof i.e. US $ 7432. This was yet to be realised (December 1990). With regard to the short supply/defective tyres and tubes under the second consignment, it was decided during discussion with the firm in March 1990 that the defective tyres (3) and tubes (148) costing US $4895 would be offset by supply of 12 sets of tyres, tubes and flaps valued at US $ 5160.

The Ministry stated in July 1990 that all the vehicles were put to use by using the tyres, tubes and flaps which were developed by an indigenous source by 1988. This materialised from December 1988 onwards. In December 1990, the Ministry further stated that the foreign firm had since despatched the 12 sets.

10. Procurement of stores in excess of requirement

Based on an indent raised by the Army Headquarters (HQ) in November 1981, the Supply Wing of an Indian Mission abroad concluded a contract with a foreign firm in March 1982 for procurement of 69 items, comprising of 735 numbers in all of spares for a missile system at Rs.14.21 lakhs. The contract envisaged delivery of the stores by July 1983.

In April 1983, after about 13 months of conclusion of the contract Army HQ intimated the Supply Wing that 336 out of 431 numbers in respect of 33 items of the stores, infra, were not required and the quantity might, therefore, be not procured. By then, 346 numbers of the items had already been shipped (January 1983) by the firm. The balance quantity of 85 numbers of the items had also been procured in August 1983 as the firm did not accept cancellation without financial liability. Thus 236 numbers of the items worth Rs.5.34 lakhs were still held in stock as surplus to the requirement (October 1990).

The matter was referred to the Ministry of Defence in December 1989 and their reply has not been received (December 1990).

Workshop equipment

11. Over-design and under-utilisation of gear grinding machine

A gear grinding machine imported at a cost of Rs.46.06 lakhs in April 1988 remained underutilised in an Army Base Workshop. During the 22 months since its erection in August 1988 it was utilised on an average to the extent of 12 per cent only. Analysis of the purchase and utilisation revealed the following.

The workshop proposed in April 1983 to the Headquarters, Technical Group Electrical and Mechanical Engineering (EME) procurement of two precision gear grinding machines (one for themselves and one for another workshop) in connection with modernisation as well as improvement of capability. It was stated that the proposed machines were eminently suitable for the task of manufacture of gears.

Army Headquarters (HQ) placed an indent on Director General Supplies and Disposals (DGSD) in January 1986 for procurement of one gear grinding machine from a foreign firm.

In December 1986, after a lapse of 43 months from the date of the proposal, the Commandant of the workshop intimated the Army HQ that the gear grinding machine indented was of superior specification in that it was suitable for high volume production whereas the machine actually required should be a versatile one, which could also meet the requirements of small volume production being undertaken by them. It was further stated that procurement of a machine with superior specifications might saddle the workshop with an obsolescent/obsolete machine, maintenance of which might prove difficult at a later stage. In reply thereto, the Army HQ stated in December 1986 that procurement of the gear grinding machine, to the original specifications, had been finalised by DGSD and supply order was under issue. This was not correct as DGSD placed an order only in February/March 1987 on the local agent of the foreign firm for supply of one gear grinding machine at Rs.43.81 lakhs in foreign exchange excluding five per cent commission payable to the Indian agent. The machine was shipped by the foreign firm in January 1988 and received in the workshop in April 1988. It was commissioned in August 1988.

A scrutiny of the machine utilisation card maintained by the workshop indicated that the machine had been utilised to the extent of only 7.75 per cent in 1988, 15.12 per cent in 1989 and 8 per cent in 1990 (upto 26th May 1990) of its capacity. Thus, there had been gross under-utilisation of the machine.

The Ministry stated (October 1990) that the specification of the machine procured had been vetted by the inspection authority concerned and that the machine was procured pursuant to the recommendation made by the Committee appointed for the study of establishment of experimental factories. Further, as adjuncts to selected workshops, the opinion expressed by the workshop that the machine would not meet the requirement was only the subjective assessment of the Commandant. The reply of the Ministry, however, did not take into account that the Committee did not give any specific recommendation for a particular type of machine and vetting by the inspection authority was only with reference to the specification of a model supplied to them. Army HQ indicated to the workshop in September 1989, that they may approach public sector organisations to obtain some job for the machine.

To conclude, procurement of the gear grinding machine of higher specification than required at a cost of Rs.46.06 lakhs including Indian agent's commission despite the user's timely indication in December 1986 regarding the restricted utility of this machine led to its gross under-utilisation. No action was taken to review the position and defer/cancel the acceptance of the order which was placed on the firm only in February/March 1987.

12. Procurement of defective diesel injection testers

Director General of Electrical and Mechanical Engineering (DGEME) raised an indent in January 1986 on the Director General of Supplies and Disposals (DGSD) for procurement of 100 sets of diesel injection testers. The DGSD concluded a contract in November 1986 with an Indian firm for import of the 100 sets at a total cost of Yens:151.30 lakhs or Rs.12.27 lakhs inclusive of 5 per cent agency commission (Yens:7.56 lakhs or Rs.0.61 lakh) payable in rupees to the Indian firm. The Indian firm was to handover the sets to the ultimate consignee after installation, commissioning and making them functional.

As per the conditions of the contract, the stores were to be accepted under firm's guarantee. Inspection was to be carried out at ultimate consignee's end by the Army Chief Quality Control Engineer (EME) or his representative and if the stores were not found to be in accordance with the specifications and rejected, the supplier would rectify/replace the stores. The Indian firm would also extend guarantee as to the quality of the sets for a period of 12 months from the date of inspection/installation and making them functional.

The 100 sets of injection testers were received by an Army Base Workshop in March 1988 without the maker's original test certificate and the standard guarantee in contravention of the conditions of the contract. This apart, out of the 100 sets received, only five sets were inspected by a Board of officers which assembled at the Army Base Workshop along with firm's representative in March 1988 for use on Shaktiman and TMB vehicles. As all the five sets were found defective (leak in the sensor units) and the inspecting authority presumed that the remaining 95 sets would also have similar defects as they were having identical sensors.

The firm attempted on "couple of occasions" to make the equipment functional by replacing the sensors and resorting to certain modifications without success. The matter regarding the defects was under protracted correspondence between the firm, the Base Workshop, Army Headquarters (HQ) and the DGSD from March 1988 to August 1989, when the firm finally declined to accept the defects/rejection stating that the problem of leaking in the sensor unit was due to change in the adapter sizes of piping from one model to another and not due to high compression pressure as pointed out by the Inspecting Authority. Further, the firm stated that the sensor units supplied were of standard size and conformed to the technical specifications envisaged in the contract; however, to obviate the problem, they would approach their principal manufacturer in Japan to design the requisite spacers that could be used alongwith the sensor units for which purpose Army HQ should advise them the sizes and fittings. Incorporation of the modification by providing spacers was studied by Army HQ and it was found not practicable as the sensors provided by the supplier were meant for use with 8 mm OD pipes, whereas the requirement was for 6 mm OD high pressure injector pipes. In May 1990, Army HQ,therefore, approached the Indian Embassy in Japan to advise the principal supplier to make the testers functional at the earliest.

In the meantime, the DGEME issued instructions in September 1989 to all user EME units not to collect the sets from the Army Base Workshop till they were repaired and made functional by the contractor.

The Ministry stated (August 1990) that the principal manufacturer had since regretted inability on the part of their Indian agent to rectify the defects and had provided a new model of tester of 6 mm dia for use in lieu of the testers supplied earlier. The trial of the new model sensor was under progress at the Army Base Workshop and if the new tester was found suitable, the old ones would be replaced.

The fact, however, remains that without ensuring the size and fittings of the sensor units, 100 diesel injection testers at a total cost of Rs.12.27 lakhs less the Indian agents commission of Rs.0.61 lakh were lying unused from March 1988.

Ordnance stores

13. Central Ordnance Depot, Agra

13.1 Introduction

The Central Ordnance Depot (COD), Agra is the highest store holding echelon in the ordnance hierarchy for stocking and issue of signal, test and line equipment, power generating equipment, fire control and survey instrument radars, electronic and signal stores. Its main functions are:

- to act as a central inventory point for these stores/equipment and related spares from sources both in India and abroad;
- to issue stores/equipment to Army, Air force and Navy,as also to para military and police forces on receipt of requisition;
- to ensure maintenance reserve stock as authorised;
- to repair/overhaul equipment through Army Base Workshops (ABWs);
- to receive stores returned by units;
- to repair/fabricate items in the depot workshop and
- to initiate action for disposal of unserviceable and redundant inventory.

13.2 Scope of Audit

The COD Agra was holding about 1.15 lakh items weighing 1,16,492 tonnes valued at Rs.2994.26 crores as in March 1990. A review of the COD was conducted in 1989/1990 by Audit covering aspects relating to provisioning, receipts and issues of stores, stock verification, losses and disposal activities for the period 1987-88 to 1989-90.

13.3 Organisational set up

The functional control over the COD is exercised by Director General of Ordnance Services (DGOS) at Army Headquarters (HQ). The Major General, Army Ordnance Corps of the Central Command oversees the administrative aspects viz. security, training, losses, works, fire fighting, etc.

13.4 Highlights

- Three defective radars costing Rs.90 lakhs continued to be stocked in repairable condition for a period ranging from three to seven years.

- Delay in inspection of target drone system and failure on the part of the COD to provide complete information to the Supply Wing of an Indian Mission abroad resulted in the non-rectification of defective items costing Rs.12.80 lakhs.

- Advances to the extent of Rs.5.67 crores paid to Bharat Electronics Limited (BEL) and Indian Telephone Industries (ITI) on account of orders placed on them, remained unadjusted for periods ranging from 5 to 15 years.

- Acceptance of higher rates demanded by BEL due to increase in the cost of production of spares of communication equipment resulted in additional expenditure of Rs.17.17 lakhs.

- Placement of orders by COD for spares for guns after the period of validity of the quotation, resulted in extra expenditure of Rs.19.92 lakhs on account of revision of prices by the manufacturer.

- 1269 cabin fans stated to have been urgently required for ambulances procured from a private firm during May to December 1983 and valuing Rs.2.40 lakhs were held as unserviceable due to manufacturing defects.

- As on 31st March 1990, 161 items (10.66 tonnes) and 12,221 items (967 tonnes) of imported and indigenous stores respectively were yet to be taken into account.

- As many as 155 items were held in stock as unidentified for periods ranging up to five years.

- Delay in disposal of surplus stores led to occupation of 4338 sq. mtrs of covered storage accommodation despite considerable shortage of covered accommodation for current items. Consequently engineering, signal and non-perishable stores weighing 7488 tonnes had to be stored in the open.

- Sixteen cases of losses amounting to Rs.15.14 lakhs have not been regularised during the last ten years.

- A number of discrepancies found on stock verification, between book balance and ground balance continued to remain unreconciled for several years.

- Sixteen railway claims amounting to Rs.30 lakhs preferred by the COD were pending from 1986-87. This included two claims for Rs.4 lakhs rejected by the railways as they were time barred. Due to non-payment of risk charges to the railways as per the existing rules, claims worth Rs.12.65 lakhs were also rejected out of which Rs.8.56 lakhs was indicated as pending. A claim for Rs.11.28 lakhs was also rejected by the railways due to non-supervision of unloading by the railway staff.

- Despite the COD holding more than one lakh items, there was no computerised stores accounting system.

13.5 Provisioning and procurement

Major and minor equipments, vehicles and ammunition are classified as class 'A' stores. Spares, accessories and items of general stores are termed class 'B' stores. While class 'A' stores are procured centrally through Army HQ, provisioning for class 'B' stores is undertaken by the COD. The three key elements taken into consideration for provisioning are the monthly maintenance figures, authorised reserves and interim period for which liability is assessed. These elements are further conditioned by trends of issues and changes in the commitment patterns.

Provisioning involves assessment of stores required normally for a financial year. For this purpose, a provision review is conducted on annual basis. Special reviews are also undertaken as and when deemed necessary.

COD receives stores from diverse sources, foreign and indigenous trade sources, ABWs, Supply Wings abroad, Director General of Ordnance Factories (DGOF), public sector undertakings (PSUs) and Director General of Supplies and Disposals (DGSD). The COD also resorts to local purchases to meet urgent requirements.

13.5.1 Class 'A' stores

13.5.1.1 Radars

In February 1983, while unloading from the wagon, a radar was damaged due to tilting of the vehicle. Based on the recommendations of the court of inquiry assembled in August 1983, a loss statement for Rs.0.17 lakh for the damaged radar was prepared by the COD and the same was sanctioned by Army HQ in August 1987. The radar was still lying in the COD in repairable condition (March 1990). Two serviceable radars in stock were also downgraded as repairable (April 1987). The Ministry stated (June 1990) that the two serviceable radars were downgraded during stock inspection by the technical authorities and have been included in the five year repair programme. The fact, however, remains that three radars imported at a cost of Rs.90 lakhs had been lying in repairable condition for periods ranging from three to seven years.

13.5.1.2 Target drone system

Based on the demand placed by Army HQ, the Ministry of Defence (Ministry) entered into a contract with a foreign firm in March 1985 for supply of the target drone system at \$53.60 lakhs (Rs.648.56 lakhs). The delivery of stores was to be made within 16 months after the effective date of agreement. The equipment was subject to a functional test trial in India by the buyer. Any defect becoming apparent to the buyer within 20 months after the date of availability of material for movement from sellers plant or 18 months after delivery in India, whichever was earlier, was to be replaced/ repaired free of cost by the seller on having received written notice concerning the nature of the defects from the buyer within 60 days after the defect became apparent.

The first consignment containing 14 packages was despatched in May 1986 for which delivery order for 12 packages was handed over to COD in July 1986. COD preferred a claim (September 1987) for Rs.3.10 lakhs on the carrying agency for two packages which was accepted in April 1988 for Rs.3.04 lakhs.Another consignment of 224 packages was received by Embarkation HQ in December 1986. Of these, 217 packages were received by COD in May 1987. The remaining seven packages received in damaged condition, which were under marine survey at the port of disembarkation, were despatched to COD in January 1988. Meanwhile in September 1987, COD found two items unserviceable as also certain discrepancies in spares and a discrepancy report was raised in May 1988 to Army HQ for taking up the matter with the foreign firm. The Supply Wing of the Indian Mission could not take up the matter with the firm as details of the contract were not furnished by COD alongwith discrepancy report. The discrepancies were finally notified by COD in July 1988 with details. Rectification of defective items costing Rs.12.80 lakhs had not materialised (April 1990).

The Ministry stated (June 1990) that initially only 217 boxes were received by the COD by May 1987 which was only a part consignment. Though a Board of Officers was convened in May 1987,the Board could assemble only in September 1987 due to the absence of the representative of the firm. The Ministry further added that a discrepancy report was raised on 6th/9th May 1988 after the receipt of the balance consignment in February 1988, which was within the warranty period. The fact, however, remains that the COD failed to furnish the details of the contract alongwith the discrepancy report to Supply Wing to enable them to take up the matter with the supplier in time.

13.5.2 Class 'B' stores

According to existing procedure, 36 months are allowed for materialisation of indents placed on PSUs which supply most of the class 'B' stores.

13.5.2.1 Materialisation of indents and outstanding advances:

With increasing stress on indigenisation, BEL and ITI are the major suppliers of stores to COD Agra. Financial assistance is made available to PSUs by way of a 20 per cent advance on the value of the order immediately on placement of the indent and "on account payment" to the extent of 65 per cent of the value of orders for purchase of materials.

A test check of the position of indents valued more than Rs.5 lakhs due to have materialised between 1987-88 and 1989-90 placed on BEL and ITI,indicated the following :-

(In crores of rupees)

Year	Indents due for materialisation		Indents materialised			Indents outstanding	
	No.	Value	Fully	Partly	Value	No.	Value
1987-88	51	23.66	29	13	16.43	22	7.23
1988-89	60	22.82	15	34	8.34	45	14.48
1989-90	85	29.53	12	40	8.82	73	20.71

Some of the significant points relating to the materialisation of purchase orders as observed in audit were as under:-

Of the total indents due for materialisation as shown above,only 57 per cent in 1987-88, 25 per cent in 1988-89 and 14 per cent in 1989-90 materialised fully. Further 25 per cent in 1987-88, 57 per cent in 1988-89 and 47 per cent in 1989-90 materialised partly. PSUs had not been able to meet their commitments fully, resulting in inadequate availability of relevant stores with the COD for timely issue to the users.

A test check of advances made to the PSUs revealed that advances to the extent of Rs.5.67 crores in respect of eleven indents placed on BEL and ITI during March 1975 to March 1985 (Rs.0.66 crore pending for ten years, Rs.2.55 crores pending for over three years and Rs.2.46 crores for less than one year) were lying unadjusted in the books of the Controller of Defence Accounts, Central Command, Meerut upto March 1990. Apart from the impact of non-supply of the equipment, it constituted blocking of funds with consequent loss of interest as well as unintended cash flow to PSUs.

The Ministry stated (June 1990) that the PSUs being the only source of supply, there was no alternative except to grant extension. Liquidated damages could be levied but the supplier customer relationship has to be maintained. The reply of the Ministry overlooked the fact that these PSUs continue to fail to adhere to the dates of delivery,despite granting them advances and extension of time.

13.5.2.2 Spares for communication equipment

Based on a quotation of July 1982, initially valid upto November 1982 and extended to June 1983, the COD placed in May 1983,a supply order on BEL for the procurement of seven items of electronic stores/spares at a total cost of Rs.94.99 lakhs. This was not accepted by BEL without price revision, as the cost of production for these items had gone up. BEL indicated (August 1983) that it was willing to conform to the original price if the items were restricted to four numbers. The COD did not agree. At the instance of Army HQ, the rate was revised in August 1984 increasing the total cost to Rs.112.16 lakhs involving extra expenditure of Rs.17.17 lakhs.

Ministry stated (June 1990) that the paramount consideration was not to reduce the quantities. Higher rates were accepted as the equipment was a current and vital communication set. They were not a one time requirement and escalation being a continuous phenomenon, the items were purchased at higher rates. This reply has to be viewed in the light of the fact that as current and ongoing requirement,delay in placing of the order resulted in the extra expenditure.

13.5.2.3 Spares for L-70 gun

In February 1984, a supply order for the procurement of spares for three items was placed on BEL at a cost of Rs.49.80 lakhs at March 1983 prices valid up to 15th June 1983.

BEL did not accept the order being placed after expiry of the validity period (90 days) of the quotation. Their revised rates increased the cost to Rs.69.72 lakhs. This was accepted and approval was accorded by the Ministry (January 1985). Thus, owing to delay in placement of order on the firm, Government was put to an extra expenditure of Rs.19.92 lakhs.

Although, the probable date of supply indicated for the three items on indent was March 1987, extension of time was granted upto September 1989 despite which only 46 per cent of supply of the stores had materialised till March 1990.

Ministry stated (June 1990) that the reasons for the delay was in obtaining the sanction which involved protracted correspondence between Army HQ and the COD.

13.5.2.4 Sub-standard cabin fans

Based on COD's indent (October 1981) DGSD, concluded a contract in April 1982 for the supply of 1651 cabin fans at Rs.3.12 lakhs (at the unit rate of Rs.189) for fitment in ambulances. The entire quantity pre-inspected by Defence Inspector, Jabalpur was accepted after visual inspection by COD (May to December 1983).

Based on further indents from COD, two more contracts were concluded with the same supplier (December 1983 and February 1984) for 778 and 365 fans respectively at Rs.250 each. The supply was completed in November 1984 after inspection. Out of 1149 issued to an ABW between May 1983 and April 1984, 652 were found defective in October 1984. Out of 1176 fans issued by the COD in February 1985, 617 were declared unserviceable by the workshop in July 1985. Thus, out of 2325 fans issued by COD, 1269 fans which related to supplies under the contract of April 1982 valuing Rs.2.40 lakhs were rejected and backloaded to COD in December 1985. The Controllerate of Inspection Power (CIP), Bangalore to whom the matter was referred, confirmed that these 1269 fans were totally unserviceable.

The supplier to whom the matter was referred to stated (July 1986) that the fans were despatched duly pre-inspected as per the procedure and there could be no question of replacement. The Ministry stated that it had been decided (November 1989) in consultation with DGSD that the firm would provide replacement of defective fans, as defects were attributed to bad workmanship and substandard material. However, this was yet to be done (April 1990) and the defective fans (value Rs.2.40 lakhs) continued to be held by COD.

13.6 Receipt of stores

The position of accounting of stores (imported as well as indigenous) received in the COD during 1987-88 to 1989-90 (31st March each year) was as under :-

		Imported					
		1987-88		1988-89		1989-90	
		No.of items	Tonnage	No.of items	Tonnage	No.of items	Tonnage
1.	Un-accounted balance from the previous year	620	130.42	130	12.09	1540	46.56
2.	Receipt	4422	2865.18	7005	237.48	3275	191.01
3.	Receipt taken to account	4912	2983.52	5595	203.00	4654	226.91
4.	Receipt not taken to account	130	12.09	1540	46.56	161	10.66
		Indigenous					
1.	Un-accounted balance from the previous year	4671	939	2582	1099	5066	2058
2.	Receipt	65200	23275	72869	19741	77328	13808
3.	Receipt taken to account	67299	23115	70385	18782	70173	14899
4.	Receipt not taken into account	2582	1099	5066	2058	12221	967

It would be seen from the above table that considerable stock of stores imported as well as indigenous were lying unaccounted for in the COD. The oldest unaccounted store lying in the depot since October 1986 was 994 numbers of an item "Punched Tape Concertine Coil" valuing Rs.4.11 lakhs (January 1990).

The Ministry stated (June 1990) that COD had been receiving a large number of equipment, spares, recently introduced into service and as such a number of items remained unidentified in the initial stage. It was, however, observed that there was a general downward trend of 'receipt' as well as 'receipt taken to account'. No reply was forthcoming as to the value of such stores.

As many as 150 items were held in stock unidentified for periods ranging upto five years. It was not clear as to how their inspection was carried out and how payments were authorised. Non-identification of stores over a considerable period may result in denial of the concerned stores to the users.

In reply, the Ministry stated (June 1990) that identification of stores held under the nomenclature not known (NNK) heading is an 'on going' process. Some items at any particular point of time are bound to remain as unidentified as it takes considerable time for allotment of catalogue and part numbers. It was admitted that it was only after this was done that the cost of items could be linked. The system therefore does not lend itself to assessment of the value of stores unidentified over a considerable period.

13.7 Covered storage accommodation

As against the projected requirement of 2.77 lakh sq.metres of covered storage accommodation, COD was in possession of 1.43 lakh sq. metres. Inadequate accommodation (48 per cent) has led to storage of engineering, signal and non-perishable stores weighing 7488 tonnes in the open. The COD held 1166 items of surplus and obsolete stores weighing 4565 tonnes valued at Rs.9.92 crores despite the fact the disposal through auction was a regular process. It was also indicated that there were about 9892 items classified as non- moving for the last ten years (value not indicated). The surplus obsolete stores,according to the depot authorities themselves occupied 4335 sq.metres of covered accommodation.

The Ministry stated (June 1990) that a period of 10 years of non-issue was the requirement to classify items as non-moving. Accordingly 9892 items were identified as non-moving for 10 years or more and action for their disposal was stated to be in different stages of processing. The Ministry's reply did not, however, take into account the fact that the actual disposal of sto-res was negligible when compared to the tonnage of surplus stores held.

13.8 Losses

The loss statements initiated from 1980-81 to 1989-90 and awaiting regularisation as on 31st March 1990 were 16 involving Rs.15.14 lakhs. Yearwise break-up is given below :-

(Rupees in lakhs)

Period	Number of loss statements	Value
Pre-1980	2	1.77
1984-85	6	7.27
1987-88	4	4.67
1988-89	3	0.80
1989-90	1	0.63

Despite being several years old, in none of the cases had the loss been finally regularised so far (March 1990) after fixing responsibility.

A case of pilferage of 5193 ball bearings and 719 hand set cover assemblies amounting to Rs.3.10 lakhs was noticed during verification in August 1986. After inquiry, the concerned store keeper was removed from service in July 1988. An amount of Rs.0.16 lakh was proposed to be recovered from him. Though the loss occurred in July 1986 and the inquiry was finalised in June 1988, COD held that in terms of the existing orders,imposing of monetary recovery against the delinquent official was not in order. The matter was still pending (April 1990).

Ministry stated in June 1990 that remedial measures were taken to avoid any theft or pilferage of the stores and that the greatest importance was given to settlement of all the cases of loss without any delay in investigation. It was observed from the reply that in most of these cases action had been taken in May and June 1989.

13.9 Stock verification

All items of stock are physically verified annually. The programme for verification is drawn up quarterly. Items which could not be verified in one quarter are included in the programme of the subsequent quarter. According to the existing instructions, all discrepancies should be investigated and reconciled within a period of two months from the date of stock verification. The result of such stock verification test were test checked in COD and the following position emerged:-

During 1988-89, 1,14,451 items were verified in stock taking out of which 411 items were found to be discrepant. As at the end of March 1990, 320 numbers of these discrepant items still remained unadjusted. Similarly,during the year 1989-90, 1,15,651 items were verified and there were 1467 discrepant items of which 1465 items remained unadjusted as at the end of March 1990.

The Ministry stated that a large number of new equipment and spares were introduced in the last ten years. Taking these stores on charge involved identification, preparation of new bin cards etc. The surpluses are directly related to them. It added that inventory was held with ancient storage facilities and untrained manpower and it is agreed that in the normal course the discrepancies should not be as high as indicated.

13.10 Disposal of stores declared surplus

COD was holding surplus stores awaiting disposal worth Rs.9.92 crores as on 31st March 1990 as against Rs. 4.31 crores as on 31st March 1989 and Rs.6.57crores as on 31st March 1988. The actual disposal made during 1987-88 was of the book value of Rs.1.45 crores. Progress in disposal during 1988-89 was mainly on account of transfer of the surplus stores (Rs.2.17 crores) to salvage section, the book value of stores actually disposed of being Rs.0.63 crore.

It was stated by the Ministry (June 1990) that the role of COD in the disposal of stores is limited to the extent of preparation of auction catalogues and submission of the same to higher authorities and thereafter the responsibility for slow disposal/auction does not lie with the COD. This establishes the fact that the existing working system is not satisfactory as the COD themselves indicated that progress of disposal is retarded due to inherent procedural bottlenecks.

13.11 Railway claims

13.11.1 Time barred claims

There were 16 railway claims amounting to Rs.30 lakhs as on 31st March 1990 pending from 1986-87. A test check of these claims brought out the following position :

The COD preferred a claim against the railways on 25th July 1988 for Rs.1.10 lakhs on account of non-receipt of full consignment of 577 packages, which was rejected by the railways on the plea that it was not preferred within the stipulated time (six months). Another claim preferred by COD in December 1988 for Rs.2.90 lakhs on account of short receipt of one package was also rejected on similar grounds (time barred).

Ministry stated (June 1990) that provisional claims as per rules were preferred well before the expiry of the stipulated time limit of six months and that the matter was stated to be in correspondence with Army HQ and railways.

The authority quoted in support of preferring provisional claims does not seem to be correct, as it stipulates that claims against railways are required to be preferred within three months from the date of despatch of stores. Thus, the COD was unable to recover two claims worth Rs.4 lakhs by not adhering to the stipulated period for preferring the claims.

13.11.2 Non-payment of risk charges

Five railway claims pertaining to 1984-85 (value: Rs.3.79 lakhs), two claims pertaining to 1985-86 (value: Rs.0.31 lakh) and one claim pertaining to 1986-87 (value: Rs.8.56 lakhs) (included in Rs.30 lakhs) were rejected by railways due to non-payment of risk charges under the rules.

Army HQ issued instructions in October 1986 to all concerned to avoid further losses on this account by paying risk charges as per existing rules of Military tariff. Ministry stated (June 1990) that the railways were also simultaneously requested to treat all military stores as "Excepted articles" covering all transit risks, but the matter was not acceptable to the Railways.

13.11.3 Non-supervision of unloading by the Railway staff

One railway claim pertaining to 1986-87 (value : Rs.11.28 lakhs included in Rs.30 lakhs) for short receipt of stores was rejected by the railways on the plea that unloading was not supervised by the railway staff. The regularisation action was still pending (March 1990).

13.12 Computerisation of accounts/inventory

COD handles more than one lakh items. The entire system of accounts is maintained manually. Neither the accounts nor the inventory management of the depot have been computerised despite the fact that there were large number of discrepancies between the book balances and ground balances, non-accountal of stores in proper time, unlinked vouchers etc. and the obvious necessity of introducing efficient inventory control.

The Ministry confirmed (June 1990) that automation of the inventory will definitely bring in quick processing of work at each stage.

Inspection

14. Procurement of defective imported parachutes

A set of man-dropping parachutes consists of one main and one reserve. The reserve parachute fitted with the main chute enables the paratrooper to switch over to the former in the event of failure of the latter.

In a case of procurement of 900 such sets of parachutes imported in January 1986 from a foreign firm it was revealed that the entire main and reserve parachutes (value:Rs.89.97 lakhs) were found not conforming to specifications laid down in the contract during inspection on receipt. Although the contract stipulated that defects found on inspection would be replaced free including freight and handling charges within two months of the defect reports notified by the Ministry of Defence (Ministry), there was delay in initiating defect reports. Consequently, the parachutes imported for operational requirement in January 1986 at a cost of Rs.89.97 lakhs were held in storage in unserviceable condition (November 1990), awaiting replacement and/or repairs even after a lapse of about five years. The case is dealt in detail below:

The Ministry concluded a contract in December 1985 with firm 'A' for procurement of 900 sets of parachutes, based on global tenders at Rs.89.97 lakhs for immediate operational purpose.

The contract provided for a joint inspection of the parachutes by the purchaser and the supplier on arrival in India.Those found defective were to be replaced/repaired free of cost including freight charges within a period of two months from such arrival. The warranty for the parachutes was applicable for hundred descents or a shelf-life of ten years, whichever was earlier.

A Board of Officers comprising representatives of the users and Inspection Directorate, convened in January 1986 to inspect the parachutes observed that log cards, technical manuals and inspection schedule were not received alongwith the consignment. In the absence of these particulars it was not possible to ascertain the date of manufacture or the state of serviceability. Further, some of the reserve parachutes had been withdrawn from user units of the foreign country and the company's representative was not aware of any technical details of the parachutes.

The Board, recommended that one set of each parachute (main and reserve) be got tested in the Director General of Inspection (DGI) laboratory for ascertaining their serviceability. The laboratory test on sample basis conducted in March 1986 revealed failures in metal components and deficiencies in breaking strength of pack inner, harness material etc. The parachutes, both main and reserve, were recommended for rejection.

A joint inspection of the parachutes, carried out in June 1986 in the presence of the firm's representative indicated similar defects and the parachutes again failed in proof load test. They were again recommended for rejection.

In July 1986, the firm offered two alternatives, viz. to replace the defective components with new ones of US origin or to compensate an amount of US $ 35108 for acceptance of the defects without repair/rectification "as a goodwill gesture". The DGI preferred (July 1986) the first alternative with the proviso that the parachutes rectified should withstand dummy drop trials.

During September 1986 to February 1989 the matter regarding replacement and repair to the defective parachutes was under correspondence between Army Headquarters (HQ), DGI, Ministry and the firm. No action either to claim full compensation from the firm or to work out the cost of repairs to ensure whether the cash compensation offered towards repairs would be adequate was taken by the Army HQ.

In March 1989,the firm intimated that they had no technical ability to replace the defective components as their sub-contractor had become bankrupt. The offer of cash compensation against the defective supply and seeking exemption from warranty obligations were renewed by them, the amount having been reduced from US $ 35,108 to $ 33,652.

In August 1989,Army HQ proposed that Canopy Rigging Lines (CRLs) of category 'E' (beyond economical repair) parachutes held in an Air Force unit could be used for the purpose of undertaking modification to the defective parachutes.Accordingly, instructions were issued to the unit for retrieval of CRLs and forwarding them to Ordnance Parachutes Factory (OPF) Kanpur for undertaking the modification. However, the entire 900 sets of parachutes (value: Rs.89.97 lakhs) were held in storage without any modification having been carried out.

According to the Ministry (October 1990) the main parachutes have been found acceptable subject to the replacement of CRLs and the reserve parachutes should be accepted as the extent of failure were within safety limits; the foreign supplier has been asked by the Ministry to make payment of compensation of US $ 33,652 which is expected to be made shortly by the firm; all the 900 parachutes have been taken on operational stock by the Army HQ.

Ration articles

15. Extra expenditure due to wrong termination of a meat contract

Tenders of a firm for supply of dressed meat at Jodhpur for the period 1st July 1988 to 31st March 1989 at Rs.1867 per 100 Kgs. was accepted by Quarter Master General (QMG). Accordingly, acceptance of the tender was communicated to the firm by the executive officer on 24th June 1988 with a request to lodge the security deposit of Rs.1.57 lakhs before 10th July 1988. Security deposit (Photocopy of fixed deposit receipts) against the contract was held in the office of the Controller of Defence Accounts, Southern Command. The firm requested in June 1988 for extension of the date of commencement of contract between 7th and 11th July 1988 implying its express consent to perform the contract. Accordingly, the executive officer extended the date of commencement of contract to 10th July 1988. The firm, however, failed to commence the supplies. Show cause notice was served on the firm on 28th July 1988 and on the basis of the recommendations of the executive officer,the QMG terminated the contract on 4th August 1988. However, the correct course of action in such a situation would have been to rescind the contract and make the firm liable to compensate the department for the extra expenditure, if any, incurred in making alternative arrangements for supplies as clarified by Army Headquarters in their instructions issued in 1978.

An extra expenditure of Rs.16.19 lakhs was incurred by the department on local purchase of meat during 13th July 1988 to 31st March 1989. As against this, earnest money of Rs.0.55 lakh was forfeited. Recovery of the balance amount of Rs.15.64 lakhs could not be enforced due to non-adoption of correct procedure (i.e. rescinding the contract) by the department.

The Ministry stated in July 1990 that the mere fact that the contractor requested for extension of time limit for commencing the contract, may be disputable and may not imply his express consent/ intention to perform the contract.This contention is not tenable. The lodging of security deposit by the firm conveyed its express consent to perform the contract. In December 1990, the Ministry further stated that HQ Southern Command had intimated that a copy of the firm's letter alongwith photocopy of the security deposit was being held in the office of the Controller of Defence Accounts, Southern Command. The case was being enquired into, the outcome of which was awaited.

16. Purchase of vanaspati

Vanaspati required for the armed forces is procured by the Army Purchase Organisation (APO), of the Ministry of Defence (Ministry) who call for tenders from Government cooperatives/ undertakings. Due to acute shortage of tin plate containers during 1988 there was considerable backlog in supply of vanaspati. In order to tide over the crisis, a meeting was held in May 1988 between the suppliers who had responded to tender enquiries floated in January-March 1988, representatives of the Ministry and Army Headquarters. Four out of the nine suppliers participated. The suppliers offered to supply 11,400 tonnes of vanaspati up to August 1988 at rates ranging from Rs.20,350 to Rs.20,855 per tonne as mentioned below against Rs.20,600 to Rs.21,000 per tonne under the existing contracts:-

Firm	Quantity-wise delivery schedule (tonnes)	Rate per tonne Rs.
'A'	7000 (June 3000, July 4000)	20,855
'B'	2400 (July 1200, August 1200)	20,350
'C'	1000 (July 500, August 500)	20,500
'D'	1000 (July 1000)	20,800

APO availed of (May 1988) the offer of firm 'A' for supply of 3000 tonnes at Rs.20,855 per tonne in June 1988. The others who had quoted lower rate indicated that they would be able to commence supply only after June 1988.

In reply to audit queries, the APO stated that the offers to commence supply after June 1988 were not accepted with a view to giving equal opportunity to all suppliers including those who could not attend the meeting. All the four firms were requested on 23rd May 1988 to send their offers keeping their validity up to the end of June 1988. Firm 'B' whose earlier offer for 2400 tonnes was valid upto May 1988 did not extend the validity of its offer.

The revised offers received from other firms for delivery during July and August 1988 were as under:

Firm	Quantity -wise delivery schedule (tonnes)	Rate per tonne (Rs.)
'A'	6000 (July 3000, August 3000)	21,030
'C'	1000 (July 500, August 500)	20,500
'D'	1000 (July)	20,800

APO covered a quantity of 8000 tonnes for delivery upto August 1988 at the above rates placing the supply orders on the three firms on 30th June 1988. As against 4,500 tonnes covered by APO for delivery in July 1988, 1200 tonnes could have been ordered on firm 'B' within the validity period of their offer viz. 31st May 1988;1000 tonnes on firm 'D' and 500 tonnes on firm 'C'. The remaining quantity of 1800 tonnes could have been ordered on firm 'A' at the original rate of Rs.20,855 per tonne,at which rate firm 'A' was agreeable to supply 4000 tonnes in July 1988. Similarly offer of firm 'B' for supply of 1200 tonnes in August 1988 was not availed of.

Ministry stated in October 1990 that firm 'B' did not agree to keep their offer open till 30th June 1988 and in response to a telegram of 23rd May 1988 inviting offers for supply of vanaspati from July 1988 onwards they intimated that due to shortage of tin plates they were not in a position to quote for supply of any further quantity.

Failure to order 2400 tonnes offered in all by firm 'B' within the validity of its offer resulted in extra expenditure of Rs.16.32 lakhs. Failure to order 1800 tonnes on firm 'A' for delivery in July 1988 at the lower rate of Rs.20,855 per tonne resulted in a further extra expenditure of Rs.3.15 lakhs. Thus an extra expenditure of Rs.19.47 lakhs was incurred on purchase of vanaspati during the period July-August 1988.

17. Infructuous expenditure on procurement of dal chana

An Advance Base Supply Depot (ABSD) had 308.78 tonnes of dal chana in stock on 1st September 1986. On 2nd September 1986 the depot purchased an additional quantity of 148.01 tonnes at a cost of Rs.8.07 lakhs as sanctioned by the Ministry of Defence (Ministry). Out of the total, a quantity of 101.83 tonnes of dal chana was declared unfit for human /animal consumption resulting in loss of Rs.6 lakhs (December 1986 to July 1987). Salient features of the case are mentioned below.

The estimated storage life of 456.88 tonnes of dal was December 1986 as fixed by the Composite Food Laboratory, Calcutta. On further sampling, the storage life was extended upto March 1987 by them. In October 1986, the depot despatched 81.13 tonnes of dal to a Supply Depot (depot), out of which 50.35 tonnes were received by the latter in October 1986 and 30.78 tonnes in December 1986. On receipt, the dal was found heavily infested. Samples were sent to Army HQ who declared 50.35 tonnes and 29.83 tonnes of dal as unfit for human consumption in December 1986 and May 1987 respectively.Out of the damaged stock of 81.13 tonnes, 53.29 tonnes was declared as unfit even for animal consumption in March and July 1987. Out of the damaged stock, 80.12 tonnes valued at Rs.5.68 lakhs was disposed of through auctions held in October 1987 and September 1988 at a cost of Rs.0.86 lakh by the depot.

On receipt of complaints about the dal which was sent to other units, samples were again sent to Army HQ who declared 21.65 tonnes of dal chana as unfit for human consumption in March 1987 and for animal consumption in April 1987 as certified by the Veterinary Laboratory,Meerut. The unfit stock valued at Rs.1.18 lakhs was yet to be disposed of (April 1990).

Two Courts of Inquiry were ordered; one for issues made to Supply depot and the other for issues made to other units. As a result of investigation by the Court of Inquiry into the circumstances under which the dal issued to other units was purchased by the ABSD resulting in over-stocking and being unfit for human and animal consumption, the General Officer Commanding (GOC) of the Area concluded in April 1989 that the ABSD failed to impress upon Area HQ the excess holding of dals when former was ordered to carry out local purchase. Further samples of dal chana for local purchase with short storage life of four months were accepted by Composite Food Laboratory, Calcutta in contravention of existing instructions. There was also delay in giving verdict on subsequent samples sent by depot for extension of storage life.

In August 1990, the Army Commander recommended administrative action to be taken against four officers for their lapses and regularisation of loss amounting to Rs.1.18 lakhs which occurred due to gross neglect.

The Court of Inquiry in regard to the damaged stock of 81.13 tonnes involving loss of over Rs.4.82 lakhs was stated to be still in progress according to the Ministry (October 1990).

Clothing

18. Un-economical purchase of boots

Boots DMS (Direct Moulded Sole) are authorised to Army personnel. The supplies are arranged through ordnance factories and trade. Tannery and Footwear Corporation of India Limited, Kanpur (TAFCO), a public sector undertaking, one of the trade source, has also been supplying them. Considering the financial constraints of the undertaking the Committee of Secretaries concluded in a meeting held in November 1985 that TAFCO should be paid a price comparable to the cost of production of footwear in the ordnance factories.

In October 1986 an order for supply of 1,78,300 pairs of boots DMS was placed by Army Headquarters (HQ) on TAFCO at a provisional rate of Rs. 92 per pair at a total cost of Rs. 1.64 crores. The rate was later revised to Rs.114.51 per pair (provisional) in March 1988. As per the supply order, delivery was to be completed by 31st March 1987. Since TAFCO could not supply the boots by the scheduled date due to diversion of supplies to export, the delivery period was extended to 31st March 1988. The delivery date was further extended upto 30th June 1988, subject to recovery of liquidated damages. TAFCO completed the supplies during the extended period of delivery and the liquidated damages for the delayed supplies was claimed (Rs.20,472) by Army HQ in September 1990. As decided in the meeting of the Committee of Secretaries in November 1985, the Government sanctioned in February 1989 payment of Rs.101.95 lakhs to TAFCO, constituting the difference between the provisional rate and the ordnance factory rate of Rs.171.69 per pair.

In terms of the Ministry of Finance, Bureau of Public Enterprises, orders issued in October 1980, a price preference of 10 per cent over the lowest tendered rates is admissible to public sector undertakings though such preference is not to be taken for granted and every effort is to be made to bring down the cost and achieve competitiveness. In fact during 1985-86 and 1986-87, boots DMS had also been procured through Director General of Supplies and Disposals (DGSD), Department of Defence Production and Supplies (DDPS) and tender purchase committee (TPC) under the Army HQ and the average rates worked out as under :

Source	Year of purchase	Quantity purchased	Average rate (Rs.)
DGSD	April 1986	2,62,576	112.35
DDPS	January 1986	60,000	104.20
TPC under Army HQ	October 1986	1,19,375	113.04
TAFCO	October 1986	1,78,300	171.69

As would be evident from the table above, that the rates allowed to TAFCO were substantially higher compared to the lowest average rates at which the item was procured through trade during 1985-86 and 1986-87.

The Ministry stated (October 1990) that the decision to pay ordnance factory rates to TAFCO was taken at a meeting of the committee of secretaries held in November 1985. Further, liquidated damages have not been levied on the firm till date as TAFCO has not preferred their final claim for the balance five per cent payment on the Controller of Defence Accounts (CDA) and the same will be imposed on receipt of the final claim.

In accordance with the rules, the claim for liquidated damages was to be worked out as soon as supplies were completed and extended period of the contract regularised and intimated to the firm/CDA for recovery from the final bill. However, the Ministry's contention did not take this into account since this was done only in September 1990,after a lapse of more than two years from the date of completion of supplies. Similarly the explanation regarding the adoption of ordnance factory rates overlooks the fact that a price preference of 10 per cent over the lowest tendered rate was admissible to public sector undertakings; neither was there any tender in this case nor was the comparison with ordnance factory rate related to that of public sector undertakings covered under the orders of Government regarding price preference.

The case thus reveals that :

- Procurement of 1,78,300 pairs of boots during 1986-87 from a public sector undertaking at a rate considerably higher than the average rate of such boots prevailing at that time had resulted in an extra expenditure from the Defence budget to the extent of Rs.84.43 lakhs.

- Liquidated damages for the delayed supplies have not been recovered from TAFCO (October 1990).

19. Extra expenditure on procurement of capes water proof

Cape water proof olive green (rain coat conforming to Defence specification) is issued to troops. The supply, though inadequate, came from the ordnance factories till April 1985 when it was decided to explore trade sources. Limited tenders were invited by Army Headquarters (HQ) in May 1985 from 96 firms. The lowest bids of Rs.86.43, Rs.91.43 and Rs.101.79 for small, medium and large sizes were rejected as unrealistic by comparing it with the estimated rate of Rs.178.91 of the ordnance factories. The tender committee negotiated (July 1985) a rate of Rs.156 with 13 bidders out of 42 who had responded, and placed orders valued at Rs.3.34 crores in August 1985. Pursuant to a decision in April 1986, to procure this item through Department of Defence Production and Supplies (DDPS) and another in November 1986 to off-load the entire purchase to trade through Director General Supplies and Disposals (DGSD), orders were placed on these agencies in July-August 1988 and September 1989, at Rs.134.34 and Rs.139.46 per piece for a total value of Rs.1.52 crores and Rs.0.83 crore respectively.

The rate of Rs.156 negotiated with the firms based on which orders were placed in August 1985, was on the high side when compared with the subsequent average purchase rates of only Rs.134.34 and Rs.139.46 through DDPS and DGSD in 1988 and 1989 respectively.

The Ministry stated (October 1990) that prior to this, the item had never been procured through trade and the rate available with the Army HQ was the ordnance factory rate, which was Rs.151.35 and that too of 1983-84. Applying the escalation factor, the rate then agreed to by the firms appeared to be reasonable. Further as the item was to be procured through trade for the first time, it seemed that the firms who quoted the rates would have included the developmental costs as well as initial costs of laying production line, as it was to be developed for the first time. Moreover the procurement was of emergent nature and retendering for getting realistic rates would have lost the very purpose of procurement and getting higher rates would also not be ruled out.

The reply of the Ministry that the rates quoted by the firms in 1985 would have included the developmental costs as well as initial cost of laying production line overlooks the fact that the supply orders placed did not include a clause for the submission of prototype for approval before bulk production. Further none of the firms have supplied the entire quantities ordered on them, within the original stipulated delivery date.

Thus, there was an extra expenditure of Rs.46.35 lakhs on procurement of 2.14 lakh capes water proof by Army HQ in 1985 at Rs.156 each, which was high compared to Rs.134.34 each at which the same item was procured by DDPS in 1988.

Pay and allowances

20. Irregular payment of compensation in lieu of quarters

Lapse on the part of 33 officers over a period of eight years resulted in an unauthorised payment of Rs.16.66 lakhs towards compensation in lieu of quarters (CILQ) to Army personnel at a station. The case is as under:

In accordance with existing orders, CILQ to Army personnel below the rank of officers is admissible if married accommodation is not available for allotment at their duty station and their family resides at a station other than the duty station. The CILQ is not admissible to those who refuse allotment of entitled government accommodation at the duty station.

At a station, the authorised married accommodation for Junior Commissioned Officers (JCOs) and Other Ranks (ORs) was 65 and 335 quarters respectively against which the station was deficient, as in June 1986, to the extent of 12 JCOs quarters and 10 ORs quarters.

In January 1989, Audit observed that from December 1987 to May 1988 an amount of

Rs.1.74 lakhs had been paid as CILQ to about 353 Army personnel of the depot without regard to the availability of accommodation at the station. The grant of CILQ was discontinued from June 1988. Depot authorities were advised by Audit to review the payments of CILQ made in the past, assess the total payments involved and examine if an enquiry should not be instituted to fix responsibility for irregular payments made. A court of inquiry which assembled in September 1989, assessed irregular payment of Rs.16.66 lakhs as CILQ paid during April 1980 to May 1988 for the station as a whole.

The Ministry stated in October 1990 that the reason for such overpayment to the extent of Rs.16.66 lakhs had been found to be clerical omission on the part of 33 officers against whom administrative action was being initiated. The Ministry further added that the loss to Government would be regularised in consultation with Controller of Defence Accounts concerned.

21. Irrecoverable overpayment of pay and allowances

Based on the recommendations of the expert classification committee in terms of the Third Pay Commission and of the Committee on common category jobs, the Ministry of Defence (Ministry) issued orders in October 1981 on fitment of the existing industrial workers in the Military Engineer Services (MES). While indicating the fixation of initial strength of the higher grades of scales of pay of Rs.330-480 and Rs.380-560 it was enjoined that apportionment of posts should be carried out on the basis of works study and with the approval of the Government.

A Command Chief Engineer (CE), however, issued instructions in September 1982 for revising the pay scales of refrigerator/vehicle mechanics to Rs.330-480 from Rs.260-350 from 16th October 1981 in accordance with the orders of October 1981.

In May 1983, the Ministry issued orders in supersession of their earlier order of October 1981 on fitment of industrial workers in the MES. In terms of these orders, the pay scales of refrigerator/vehicle mechanics of MES were fixed at Rs.260-400 in lieu of the earlier suggested grade of Rs.330-480.

In August 1983, the personnel affected by the revised orders, filed an appeal in the Calcutta High Court. Before the appeal was heard, the CE refixed the pay of the two categories in the scale of pay of Rs.260-400 in February/May 1987 retrospectively from 16th October 1981. The case filed in the Calcutta High Court was transferred to Central Administrative Tribunal (CAT) Bench Calcutta who delivered their judgement in September 1988. A similar case was also filed by another group of aggreived personnel in CAT, Guwahati Bench, who delivered their judgement in May 1989. The Calcutta Bench of CAT, in their judgement maintained that pay of refrigerator/ vehicle mechanics should be fixed in the scale of Rs.260-400 but no recovery of the amount overpaid owing to erroneous fixation of pay by the department should be made. The Guwahati Bench of CAT, besides asking the department not to enforce recovery of the amount overpaid, instructed the department further to decide the issue of grant of the pay scale of Rs.330-480 to these categories sympathetically although they had no legal right. The total amount overpaid amounted to Rs.10.38 lakhs out of which Rs.0.68 lakh had been recovered by the department upto the date of judgement.

The Ministry admitted (October 1990) that premature fixation of pay, without work study having been completed, has resulted in over payment of Rs.9.70 lakhs. The loss occurred due to misinterpretation of the authority letter. It added that guilty officers had been identified for action.

Thus, the erroneous fixation of pay due to following incorrect instructions issued by a Command CE resulted in irrecoverable overpayment of Rs.9.70 lakhs.

Other cases

22. Procurement of sand bags

In April 1988, Army Headquarters issued instructions to ammunition depots for storage of certain type of ammunition by providing traverses with sand bags or empty ammunition boxes filled with earth, if covered accommodation was not available.

Due to paucity of covered accommodation, an ammunition depot, obtained 1.30 lakh sand bags valued at Rs.6.49 lakhs in May 1988. Of these, 10500 bags (value: Rs.0.52 lakh) were utilised for constructing traverses for storage of ammunition in the depot. The traverses did not withstand the rains. Consequently, the remaining 1.19 lakh sand bags valued at Rs.5.97 lakhs were held in the depot without any use (April 1990).

The Ministry of Defence stated (April 1990) that efforts to explore a better system for construction of traverses plinth had failed.

The unutilised sand bags had, therefore, been declared for disposal.

Thus, the expenditure of Rs.6.49 lakhs incurred did not serve the intended purpose.

CHAPTER IV

ORDNANCE FACTORY ORGANISATION

23. Performance of Ordnance Factory Organisation

23.1 Introduction

The Ordnance Factory Organisation consists of 38 factories which produce more than 800 items of arms, ammunitions, equipments and components. Grouped on the basis of the type of products and the nature of operations, the factories are categorised into six metallurgical factories, twelve engineering factories, five filling factories, four chemical factories, five equipment factories, four armoured vehicle factories and two miscellaneous factories. The Ordnance Factory Organisation has grown to its present stature primarily in response to the needs of the Defence Services and the policy objective of self-reliance in defence production.

23.2 Organisation

An apex management body titled 'Ordnance Factory Board' (OFB) was created in 1979 with a view to strengthening the multi-focal decision making process and enhancing the effectiveness of organisational control. The Board includes seven members and a Chairman,who functions as the ex-officio Director General of Ordnance Factories and the Chief executive of the organisation. The factories are headed by General Managers.

23.3 Growth of systems

Government set up a working group in 1985 to review the extent of achievement of objectives by the OFB and to examine the effectiveness of the decision-making process. The recommendations of the working group, submitted in March 1986, were not unanimous. Members of the group representing the Ordnance Factory Organisation and the finance wing of the Ministry of Defence differed from the majority members of the group in respect of the basis of assessment of the working of the organisation and the structure of financial management respectively. The recommendations have not yet been accepted by the Government.

23.4 Decision-making within delegated powers

Government authorised the Board in 1986 to redelegate necessary powers to the General Managers of the factories and the process of redelegation is currently in progress. During 1989, the Board met 24 times in the ordinary course of business and met once for a special purpose. 202 items involving 307 matters were placed before the Board during the year. Only 46 items involved decision-making, while 25 matters involved consideration of proposals,95 matters were disposed of with the issue of directions and 34 matters were noted as information only.

23.5 Computerisation

In December 1985, Government sanctioned the procurement of five main-frame computers for the Ordnance Factory Organisation at a total cost of Rs.4 crores including a foreign exchange component of Rs.1.50 crores. It envisaged the installation of large-frame computers at the OFB headquarters and four medium-frame computers at the regional offices. The medium-frame computers at the regional level were to be fed by micro-processors installed in the factories in replacement of existing punch and verifier machines. This three-tier computerisation scheme could not, however, be implemented as an advanced two-tier system appeared to be a more economical and practical alternative. Thus, it was decided in July 1988 to introduce the two-tier system of computerisation involving the installation of 33 mini computers in the factories and a main frame computer at the OFB headquarters, connected by a network arrangement. Since the sanction had already been issued for five main-frame computers under the three-tier computer system, a revised proposal was submitted by the OFB in December 1988. Revised Government sanction was, however, issued in March 1989 for 23 mini computers, civil installation and system study for Rs.3.78 crores while allowing the OFB to provide for the main-frame computers and 10 mini computers out of its grant for renewal and replacement. Evidently, the attempt was to keep the revised sanction within the financial limits of the earlier sanction or else the total cost of the system would have been for Rs.6.95 crores. Covering the main-frame computer and the 10 mini computers under renewal and replacement head amounted to splitting of the sanction and circumventing the norms of project sanction. Since the mini computers will now be taking over data-processing at the factory level, the utility of micro-processors purchased at a cost of Rs.1.41 crores will be marginal. A study of proposed utilisation of micro-processors revealed that those will now be used for generation of static data in the area of pay rolls and personnel accounting etc.

A review of progress in computerisation brought out the following:

- While personnel information data are being processed fully by the micro-processors, processing of pay roll data are not complete in respect of all functions in all factories.

- In 10 factories Priced Store Ledgers have not been computerised fully.

- Material and labour abstracts are being generated by the micro-processors in only 22 factories.

- Maintenance management data are being generated only in respect of 11 factories.

- Production progress reporting has been implemented only in five factories.

- In respect of two-tier computerisation scheme, design specification and software developments are in progress, while hardware for the main-frame computer has been delivered to the OFB Headquarters and mini computers have been delivered to 20 factories. Sites are stated to be ready for installation and installations expected to be completed by May 1990, have not, yet been completed. The delay was explained by the OFB as due to delay in the demonstration of packages by the vendors.

23.6 Indigenisation

Since 1947, 30 major arms and ammunition systems were productionised by the ordnance factories. Out of these, 18 were based on foreign collaborations and 12 were based on indigenous development of technology. Productionisation in major areas continue to be based on foreign collaboration and indigenously developed designs are confined to comparatively low-technology items.

23.7 Working of ordnance factories

23.7.1 Coverage of indents:

The Services normally raise indents on the OFB four years in advance, the leadtime required for production planning. A scrutiny of coverage of indents during 1980-81 to 1987-88 (after allowing 1 1/2 years for developmental extracts) showed that 5854 indents had been placed on the OFB. Of these, supplies against 2426 indents were to be completed by March 1990. The position of supplies of the uncovered indents were as under:

Period of placing of indents	No. of indents outstanding as on 31st March 1990	Supplies made			
		Nil	1% to 25%	25% and above but below 50%	50% and above
1980-81	64	24	10	12	18
1981-82	106	41	19	12	34
1982-83	287	131	32	32	92
1983-84	265	72	32	45	116
1984-85	331	107	47	57	120
1985-86	542	179	83	95	185
1986-87	579	207	113	101	158
1987-88	252	113	48	37	54
Total	2426	874	384	391	777

23.7.2 Capacity utilisation:

As per the Management Information System adopted by the OFB capacity utilisation of a factory is assessed in terms of standard manhours (SMH). Capacity utilised during 1986-89 was as follows:

Year	Rated Capacity in SMH	Capacity utilisation in SMH	Percentage of capacity utilisation
	(in lakhs)		
1986-87	2123	2216	104.37
1987-88	2123	2235	105.25
1988-89	2123	2127	100.16

It was noticed in audit that the piece work earnings decreased from Rs.45.31 crores in 1987-88 to Rs.41.11 crores in 1988-89 and incentive bonus paid to maintenance workers decreased from Rs.2.35 crores in 1987-88 to Rs.2.28 crores in 1988-89. The details for the three years from 1986-87 to 1988-89 are given in the table below:

Year	Number of day worker	Number of piece worker	Percentage of piece workers to total number of workers	Piece work earn-ings	Incentive bonus paid to mainte-nance workers	Total cost of production
						(In crores of rupees)
1986-87	4618	77164	94.35	46.09 @	2.73 @	1609.36
1987-88	2119	78441	97.37	45.31	2.35	1846.25
1988-89	1949	78381	97.47	41.11	2.28	2242.44

@ Increased due to fixation of piece work rates on the basis of revised pay scale effective from 1st January 1986.

Although the capacity utilisation has come down by 4.83 per cent in 1988-89 when compared with 1987-88, the piece work earnings has come down by 9.27 per cent.

23.7.3 Production performance: 308 items were manufactured by the factories in 1989-90. Of these, 185 items were covered by 361 indents and no indent could be located in respect of 123 items. While the targets fixed by the OFB for manufacture of 222 items were achieved, progress of achievement in respect of 40 items were behind schedule. Reasons for non-achievement of targets are analysed below:

	Number of items
- Non-availability of stores	: 18
- Defective stores procured from trade	: 4
- Awaiting proof clearance	: 3
- Non-availability of qualified manpower	: 2
- Tehnical problems	: 2
- Accident	: 1
- Erratic behaviour of lots in flight proof	: 1
- Non-availability of stores from sister factories	: 1
- Development of stores	: 1
- Emergent requirement for another items	: 1
- Import not permitted	: 1
- Short closed	: 1

Twelve items for which no targets were

fixed by the OFB were also manufactured by the factories and supplied to the Services. Even though orders for manufacture and supply of 31 items were available, no manufacture was undertaken by the factories as no production programmes for these items had been fixed by the OFB.

The report of the production performance of the ordnance factories in respect of 84 special items weapons and ammunitions during 1988-89 showed the achievement with reference to production programmes as follows:

100 per cent and above	:	75 items
75 to 100 percent	:	2 items
50 to 75 percent	:	3 items
25 to 50 percent	:	2 items
1 to 25 percent	:	1 item
Nil	:	1 item

Shortfall in production of 7 items where achievement was below 75 per cent was explained to be mainly due to non-availability of empties and components (six items) and failure in accuracy proof (one item).

23.7.4 Rejections in manufacturing process: The value of abnormal rejections kept out of total cost of production during 1988-89 compared to the previous year was as under:

(In crores of rupees)

Year	Total cost of production	Value of abnormal rejections
1984-85	1163.03	5.69
1985-86	1359.28	5.17
1986-87	1609.36	4.51
1987-88	1846.25	8.34
1988-89	2242.44	4.40

During the period 1984-85 to 1988-89 the total value of such rejections worked out to Rs.28.11 crores.

23.7.5 Accumulation of finished goods and components:

Finished goods valuing Rs.9.64 crores manufactured during 1952-53 to 1987-88 could not be issued to the indentors by the end of 1988-89 and these were still lying in the factories (March 1989).

Finished components valuing Rs.11.23 crores manufactured during 1961-62 to 1987-88 could not be utilised in production till the end of 1988-89 and were lying in the factories.

There was a discrepancy of Rs.6.12 crores between ground balance and the physical balance of finished components.

Finished goods valuing Rs.8.23 crores, though issued to the indentors, continued to be reflected as finished goods in hand due to non-linking of production issue vouchers.

23.7.6 Civil trade:

The value of civil trade, profits generated and the amounts of foreign exchange earned during the five years were as under:

(Rupees in lakhs)

	1984-85	1985-86	1986-87	1987-88	1988-89
Value of civil trade	3255.59	3803.55	3997.90	3392.57	3073.03
Amount of profit	159.80	187.85	251.43	266.00	372.14
Foreign exchange earned	87:37	121.10	646.25	441.10	0.25

The value of civil trade during 1988-89 compared to two previous years decreased by 23.13 and 9.42 per cent while profit increased over the preceding two years by 45.01 and 39.90 per cent. Foreign exchange earnings dropped to a negligible low due to lack of export orders.

23.7.7 Services rendered on payment: Outstanding dues on account of stores supplied and services rendered on payment by the ordnance factories upto March 198[illegible] to outside parties including other departments, State Government, Railways, private parties etc. amounted to Rs.[illegible] crores at the end of June 1989 as follows:

	Value of outstanding dues (Rupees in crores)
Central Departments (excluding Railways)	: 0.20
Foreign governments	: [illegible]
State Governments	: [illegible]
Railways	: 0.001
Public sector undertakings	: 1.40
Private parties	: [illegible]
Total	: [illegible]

[illegible] ing for nearly two decades. Of the total outstandings, the amount due for recovery for more than one year [illegible] of which Rs.[illegible] crore were outstanding for more than three years, the oldest due pertaining to 1970-71.

As per OFB's instructions, no issue without payment was to be made to the indentors other than those under the Ministry of Defence from April 1986. However, it was observed in Audit that stores worth Rs.[illegible] crores had been issued to the indentors other than those under the Ministry of Defence without pre-payment during 1986-89 and this amount was outstanding till June 1989.

23.7.8 Losses:

Losses in the working of the ordnance factories (excluding losses on account of rejections) amounted to Rs.11.98 crores during 1988-89. The losses are analysed under the following heads :

		(Rupees in crores)
On sale of surplus stores	:	0.08
On sale of waste and scraps	:	2.29
Loss on stores on charge	:	1.98
Other losses on stores	:	7.45
Other losses not pertaining to stores	:	0.18
		11.98

A comparative statement for the preceding five years showed the following trend:

	(Rupees in crores)
1984-85	5.97
1985-86	5.70
1986-87	5.65
1987-88	8.34
1988-89	11.98

The trend of losses would indicate that during the last five years losses have multiplied two-fold. An analysis of the incidence of losses by Audit showed that the largest volume of losses were incurred on stores related transactions which were not specified. The analysis offered in the Annual Accounts categorised these cases under 'other losses'. Substantial losses on sale of waste and scrap (Rs.8.87 crores) and on stores in transit (Rs.18.74 crores) continued as a recurring feature during 1984-89.

23.7.9 Incorrect pricing:

Consequent on the separation of the ordnance factory budget from army budget, with effect from first April 1987, it was agreed to in principle by the Ministry of Defence that issues to the Army were to be so priced that the Army is neither overcharged nor under-charged. It was, however, observed in Audit that during 1988-89 articles whose manufacturing cost was Rs.1404.20 crores were issued to the Army at Rs.1411.42 crores, thereby overcharging the Army to the extent of Rs.7.22 crores. This was not objected to by internal audit.

23.8 Budget grants and expenditure

Budget grants and actual expenditure for the period 1985-86 to 1989-90 were as under:

Year	Revenue		Capital	
	Budget grant	Actual	Budget grant	Actual
			(In crores of .rupees)	
1985-86	960.41	1007.02	126.88	133.22
1986-87	1202.22	1192.15	198.75	181.04
1987-88	* 1355.80	1296.33	253.85	237.96
1988-89	* 1504.65	1471.45	307.88	310.38
1989-90	* 1586.37	1605.70	342.00	317.68

* Includes recoveries on account of supplies made to Army, Navy and Air Force

It will be seen from the above that revenue expenditure has grown by 59.45 per cent over the base year 1985-86. The capital expenditure has risen by 138.46 per cent over the base year 1985-86.

23.9 Overall statistical data

The overall statistical data in respect of the ordnance factories for the period 1986-87 to 1988-89 is shown below:

	1986-87	1987-88	1988-89
Average value of fixed capital assets (Rs. in crores)	584.62	623.69	661.40
Man-power (number in lakhs)	1.81	1.78	1.77
Net cost of production (excluding inter-factory demands) (Rs. in crores)	1224.89	1441.82	1890.15
Capital output ratio	1:2.10	1:2.31	1:2.86
Factory cost analysis in terms of percentage of gross value of production:			
Material	64.76	63.67	67.30
Labour	6.94	7.06	6.24
Others	28.30	29.27	26.46
Gross contributed value (Value of production less materials and outside supplies and services) (Rs. in crores)	567.06	670.70	733.23
Wages (Rs. in crores)	111.60	130.30	139.87
Net contributed value (Gross contributed value less wages) (Rs. in crores)	455.46	540.40	593.36
Net contributed value per Rs.1 crore of fixed capital assets (Rs. in crores)	0.78	0.87	0.96

Average earnings per employee (Rs.)	23,225	27,301	29,024
Net contributed value per employee (Rs.)	25,133	30,328	33,601
Value of abnormal rejection (Rs. in crores)	4.51	8.34	4.40
Percentage of abnormal rejection on gross value of production	0.28	0.45	0.20
Customer Composition (Percentage of total issues met of inter-factory demands):			
(i) Army	90.08	91.08	92.82
(ii) Navy, Air Force and others	4.15	4.25	3.48
(iii)Civil trade	3.67	2.80	2.02
(iv) Own stock and capital works	2.10	1.87	1.67
Extent of requirement of stores (armament, ordnance clothing, mechanical transport) met by ordnance factories in terms of percentage			
(i) Army	42.44	53.22	68.88
(ii) Navy, Air Force and others	30.25	22.76	20.07
Value of inventories (Rs. in crores)	772.36	909.36	1032.81
Surplus, obsolete, slow-moving and non-moving inventories (Rs. in crores)	92.49	99.77	140.34
Norms of general inventory holdings in terms of months requirement	6 months	6 months	6 months
Inventories in terms of months consumption	8.05 months	8.00 months	6.99 months
Number of warrants pendency:			
(i) Total number of warrants pendency as on 31st March 1987/1988/1989	45,201	39,058	33,780
(ii) Number of warrants more than one year old onwards on 31st March 1987/1988/1989	21,915	20,327	14,894
Normal manufacturing cycle/ normal life of manufacturing warrants	6 months	6 months	6 months
Value of components and products in stock (Rs. in crores)	144.90	153.06	171.42
Components and products holding in terms of months production	1.08 months	0.99 month	0.92 month

23.10 The above observations were referred to the Ministry in August 1990 and their reply has not been received (January 1991).

Reviews

24. Indigenous production of an ammunition

24.1 Introduction

The ammunition requirements of two types of guns currently in service are being met through regular imports. In 1981, the requirements of ammunition for these guns for a period of eight years was assessed as 123.87 lakh rounds.In October 1982, Government decided to set up capacity for indigenous production of eight lakh rounds of ammunition in two varieties ('X' and 'Y') per annum in the Ordnance Factories and sanctioned a project in September 1986 at a cost of Rs.37.65 crores. The project was to be completed in two phases (I and II) in two factories ('A' and 'B').

24.2 Scope of Audit

A review of production of the ammunition under phase I was conducted by Audit to assess the state of fulfilment of physical and financial targets in the background of the twin needs of import substitution and strategic concern.

24.3 Organisational set up

Factory 'A' was considered suitable to undertake the job of technology transfer, as capacity for production of another ammunition (ammunition 'P') was already manufactured in that factory. It was contemplated that development of ammunition 'X' and 'Y' in factory 'A' would be done, by utilising the existing capacity for production of ammunition 'P' to the maximum extent and by providing only inescapable balancing facilities.

24.4 Highlights

- **An agreement for licence production was concluded in November 1982 with a foreign firm before the feasibility and economic viability of indigenous production could be established. The detailed project report was available after the approval of the project. Technical documents were received by September 1983 on payment of a licence fee of Rs.76 lakhs.**

- **There were delays in the receipt and commissioning of machines, assemblies and sub-assemblies. Machines costing Rs.6.73 lakhs for the project were subsequently transferred to other establishments as these were not required.**

- **As against production programme of 2.60 lakh rounds of ammunition, only 2.25 lakh rounds could be supplied till March 1990 by assembling imported Completely Knocked Downs (CKD).**

- **Import of CKDs worth Rs.5.74 crores had been made till April 1989. Had phase I been completed as per schedule, imports worth Rs.2.75 crores could have been avoided.**

24.5 Project sanction

24.5.1 Pending preparation of a detailed project report (DPR) by OFB the Government concluded a licence agreement with a foreign firm in November 1982 for the transfer of technology and licence for production. Technical documents were received by September 1983 on payment of a licence fee of Rs.76 lakhs in foreign exchange. Another agreement was also concluded with the same foreign firm in December 1984 for supply of proof items, special tools, special machines and components of the ammunition in CKD condition at a cost of Rs.136 lakhs in foreign exchange for bridging the gap in productionisation. OFB prepared (June 1984) the DPR and submitted their proposal in January 1985. The DPR contemplated production of eight lakh rounds of ammunition ('X' and 'Y') in two factories in two phases with a capital investment of Rs.163.53 lakhs under phase I and Rs.4093.41 lakhs under phase II and a deferred revenue expenditure of Rs.54.75 lakhs and Rs.37 lakhs for the two phases respectively.

24.5.2 The investment output ratio of 1:0375 was not cost-effective and was likely to be more adverse if the costs of manpower requirements (excluded from DPR) were included. In order to keep the capital investment low, a component of the ammunition was decided to be procured from trade. Though not cost-effective, the Government, on strategic consideration sanctioned the project in September 1986, with a total capital investment of Rs.37.65 crores, and deferred revenue expenditure of Rs.72 lakhs.

24.6 Status of completion

Phase I of the project aimed at attaining production of 1.3 lakh rounds of ammunition per annum by September 1988 and balance 6.7 lakh rounds per annum under phase II by September 1991.

Against the stipulated date of September 1988, phase I of the project was completed in

October 1989. Phase II of the project scheduled to be completed by September 1991 was in progress.

24.7 Plant and machinery

Seven agreements were concluded with the foreign firm during December 1984 to April 1989 for the supply of CKDs plant and machinery (machines), equipments and fixtures. Out of 18 machines ordered, 17 were received between July 1986 and April 1989 and erected/commissioned between November 1986 and October 1989. One machine (cost:Rs.0.80 lakh) received in November 1989, was to be transferred to proof establishment (October 1990). A few instances of delay in the receipt and commissioning of the machines are detailed below:-

(a) A 50 ton capacity double action press worth Rs. 5.40 lakhs was received in the factory in July 1988. The erection/commissioning of the press was taken up by the supplier between December 1988 and January 1989 when certain defects were noticed. After rectification of the defects the press was finally commissioned in July 1989.

(b) A bonderising unit was received in July 1988 but could be commissioned in June 1989 after rectification of the defects. Prior to commissioning of the machine it was decided in February 1989 to transfer the machine to another factory for augmentation of the production capacity of cartridge cases.

(c) As per orders placed on the foreign firm in December 1984, 54 items of components and subassemblies were to be delivered within four months, 15 items of special tools and fixtures and six numbers of special machines in 12 months from the date of opening of the letter of credit. Though the letter of credit was opened in April 1985, these were delivered between June 1985 and March 1986. Under another agreement of May 1987 certain components/subassemblies were delivered in April 1988 against October 1987 as scheduled.

24.8 Manpower

917 posts of different categories were sanctioned under the project. No fresh recruitment was allowed. The requirement was to be met by internal adjustment. Internal adjustment, however, did not materialise which affected the execution of the project seriously.

24.9 Production

Assembly of the ammunition out of imported CKDs was continuing by using the capacity created under Phase I from 1987-88. Regular production under Phase I has not yet commenced (October 1990).Development orders for 50,000 rounds each of two varieties of the ammunition and regular orders 18.54 lakh rounds were placed by the Army on the OFB in July 1984 and May 1985 respectively.

OFB programmed for a total production of 2.60 lakh rounds of ammunition during 1987-88 to 1989-90 and produced 2.25 lakh rounds even after assembling from CKDs. Had the production programme been optimised in conformity with capacity created, 3.90 lakh rounds could have been produced during the period. An analysis of the reasons for the shortfall even from the lower target, showed that there was delay in receipt of CKDs and in respect of ammunition 'Y' there was a setback during 1988-89 and 1989-90 due to the non-availability of a special purpose machine for the assembly of the ammunition. The need for this machine was not projected at the time of the formulation of the project. This machine was subsequently fabricated in another ordnance factory which became ready for trial in October 1989.

OFB, however, stated in October 1990 that a major reason for non-utilisation of the created capacity was that the assumption of utilising the created capacity of production of ammunition 'P' for the production of ammunition 'X' and 'Y' did not materialise as the production of ammunition 'P' itself could not be established. Further, development of empty fuzes of the ammunition by the trade envisaged in the project could not be achieved. In regard to the fixing lower production programme OFB stated (October 1990) that the targets were fixed in conformity with the requirements projected by the Army. The contention of the OFB that the targets were in conformity with the requirements is not tenable as regular orders from the Army totalling 19.54 lakh rounds were already outstanding.

24.10 Imports

During 1987-88 to 1989-90 CKDs and accessories worth Rs.5.74 crores were procured from the foreign firm against five agreements concluded during December 1984 and April 1989. Had phase I been completed as per schedule the imports worth Rs. 2.75 crores could have been avoided.

These observations were referred to the Ministry in July 1990. Their reply has not been received (November 1990).

25. Working of the Grey Iron Foundry, Jabalpur

25.1 Introduction

The Grey Iron foundry (foundry), until then an integral part of the Vehicle Factory, Jabalpur (VFJ) became a separate factory in 1972 with the basic objective of manufacturing the castings required mainly by VFJ.

25.2 Scope of Audit

A review of the working of the foundry covering a period of five years ending 1988-89 was conducted by Audit. The five-year period included three years of working of the foundry at old capacity and two years of its working with a derated capacity.The principal areas of investigation included impact of the project on production, consequences of shortfall in production, production losses and cost of production.

25.3 Highlights

- **The balancing project sanctioned in December 1981 at an estimated cost of Rs.2.78 crores to be completed by December 1984 was actually completed in July 1988.**

- **Level of production achieved (4346 tonnes) in 1988-89 after completion (July 1988) of commissioning of all the plants and machinery did not show any significant improvement over the preproject record.**

- **Machining rejection of the castings was high. Value of rejected machined castings was Rs. 683.31 lakhs during five years 1984-89.**

- **Due to non-attainment of the capacity by the foundry, VFJ had to resort to imports and open market procurement of castings valuing Rs.1757.64 lakhs and Rs.792.38 lakhs respectively during the years 1984-89.**

Cost of production of major items of the factory was much higher than the trade cost of comparable items.

25.4 Project planning

The foundry commenced production of castings in July 1976 with an installed capacity of 11,960 tonnes of castings per annum. During 1976-77 to 1980-81 the foundry could achieve a maximum annual production level of 3954 tonnes. In September 1981, the Ordnance Factory Board (OFB) sought the approval of Government for the investment of Rs.2.78 crores on a project for correcting the imbalance in plants and equipment in the foundry with a view to augmenting the achievable capacity upto 7000 tonnes per annum. OFB conceded while making the project proposal that it would not be possible for the foundry to achieve the level of the installed capacity and correction of imbalance would enhance the level of production to the level of 7000 tonnes from the existing achievable level of 4000 tonnes.

25.5 Execution of the project

25.5.1 The project involving an investment of Rs.2.78 crores for balancing plants and equipment was sanctioned in December 1981. The statement of case provided a period of three years for the completion of the project from the date of sanction. Accordingly the project was to be completed by December 1984. It was subsequently revised to October 1987 subject to the completion of the civil works.

25.5.2 Civil works:

The progress of civil works aggregating to Rs.57.52 lakhs was as follows:

Name of the works and the cost	Meeting of Recce-cum-siting Board/ approval by OFB	Month of issue of administrative approval	Planned date of completion	Month of actual completion
Construction of melting platform-Rs.7.17 lakhs	January 1982 June 1982	March 1983	March 1984	October 1985
Construction of lean to shed by the side of 01 building- Rs.6.45 lakhs	January 1982 June 1982	March 1984	September 1985	October 1986
Construction of additional bay in building No.02 - Rs.43.90 lakhs	January 1982 August 1982	December 1984	January 1987	July 1988

There was a delay of more than one to three years in the issue of administrative approval from the date of recce-cum-siting board. OFB explained (November 1990) that the delay was due to protracted correspondence with the executing agency Military Engineer Services (MES) regarding increase in cost and delayed receipt of estimates. Analysis of the reasons of delay by Audit showed that there was a delay of six months by OFB in the approval of the proceedings of the recce-cum-siting board in the first two cases and in the third case,it was delayed by eight months. Estimates had been submitted by MES in May 1983 but these were referred back repeatedly to MES for rectification of rates and processing of the cases from the financial angle took a long time. Delay in the completion of melting platform was due to delay in the finalisation of the supply order (October 1983) for an induction furnace and time taken by the firm in supplying the foundation drawings (January 1984).

Ministry of Defence (Ministry) explained (January 1991) that another reason for delay in the completion of civil works was seepage of sub-soil water in the basement of the melting platform. It is, however, not forthcoming from the records as to why adequate precautionary measures could not be taken on the basis of data on the ground conditions. The last of the civil works was completed in July 1988.

25.5.3 Plant and machinery:

Sixteen plants and machinery were required as per the project for increasing the melting, moulding and fettling capacities of the foundry and four machines were required for rendering support services. The details of their ordering, receipt and commissioning are given below:

Machines	Numbers	Date of ordering	Date of receipt	Date of commissioning
Melting and Moulding machine	11	January 1982 to October 1983	August 1984	March 1986
Fettling machines	8	October 1983 to November 1984	September 1986	January 1987
Mono Rail Shot Blasting machine	1	February 1984	March 1988	July 1988

Ordering and commissining of machines required in different processes and phases of balancing of capacity were not synchronised. Ministry stated in January 1991 that eventhough action for ordering the machines for different processes had been taken up simultaneously, placement of orders necessitated different time-frames for different machines depending on the nature of the machines and the sources of supply. Further, erection and commissioning times varied from machine to machine depending on the installation requirements. Contention of the Ministry is not acceptable in view of the fact that all the machines were required, in any case, to be in position for commencing the production process. Further, there was no synchronisation between the ordering of plants and machinery and the progress of civil works in the case of Mono Rail Shot Blasting machine. There was delay in the installation of this machine due to non-completion of the civil works.

25.6 Capacity utilisation

Utilisation of the capacity of the foundry during the last five years ended 31st March 1989 vis-a-vis the installed and derated capacity available was as follows:

	1984-85	1985-86	1986-87	1987-88	1988-89 (In tonnes)
Installed capacity	11,960	11,960	11,960	11,960	11,960
Derated capacity	-	-	-	7,000	7,000
Capacity achieved	3,801	4,001	4,533	4,700	4,346

Thus utilisation of capacity prior to the completion of the project was 31.78, 33.45 and 37.90 per cent of the installed capacity. OFB contended (November 1990) that during 1984-85 to 1986-87 the actual achievable capacity was 4500 tonnes per annum and the installed capacity was unrealistic.

In respect of the period 1987-88 and 1988-89, even after the installed capacity was derated to the level of 7000 tonnes per annum,the achievement was only of the order of 67 per cent in 1987-88 and 62 per cent in 1988-89. The shortfall is valued at Rs.2093.52 lakhs. OFB stated in November 1990 that the plant could not be operated at full capacity due to non-availability of the full complement of manpower on account of embargo placed on fresh recruitment. Examination by Audit, however,revealed that the level of manpower sanctioned for the foundry with an installed capacity of 11,960 tonnes per annum remained more or less unchanged despite the derated capacity of 7000 tonnes per annum and further there were heavy production losses due to abnormal rejections.

25.7 Production loss

During 1984-89 castings worth Rs.683.31 lakhs supplied by the foundry were rejected by the VFJ at the machining stage, as detailed below:

Year	Amount (Rs. in lakhs)
1984-85	145.84
1985-86	221.25
1986-87	107.74
1987-88	100.26
1988-89	108.22
Total	683.31

These rejections were beyond the permissible rejection limit. Examination by Audit of the reasons of the rejections brought out that rejections were due to bad material.Some of the major types of castings rejected on account of bad material constituted about 67 per cent of the total value of rejection during the period 1984-85 to 1988-89 as detailed below:

Name of castings	Year	Quantity rejected	Value (In lakhs of rupees)
Crank case Shaktiman	1984-85	630	46.88
	1985-86	1091	97.41
	1986-87	-	-
	1987-88	113	20.48
	1988-89	91	17.03
		Total	181.80
Cylinder head-Shaktiman	1984-85	1927	71.75
	1985-86	1388	59.49
	1986-87	730	22.83
	1987-88	539	8.05
	1988-89	75	2.50
		Total	164.62
Cylinder block-Nissan	1984-85	Nil	Nil
	1985-86	116	12.18
	1986-87	486	50.90
	1987-88	267	25.12
	1988-89	70	6.72
		Total	94.92
Flywheel housing Shaktiman	1984-85	679	5.52
	1985-86	214	2.35
	1986-87	184	1.96
	1987-88	232	2.51
	1988-89	260	3.46
		Total	15.80

It may be seen that the limit of permissible rejection percentage was raised from uniform 12 to 27 per cent, 32 per cent and 26 per cent in respect of the three major items of production viz. Shaktiman crank case, Shaktiman cylinder head and Nissan cylinder head respectively. Heaviest rejections were recorded in respect of castings in crank cases and cylinder heads, two vital components of the Shaktiman vehicles.

Ministry stated (January 1991) that all the castings produced in the foundry were subjected to inspection at the foundry but internal defects could not be noticed till these were machined. Although no specific investigation into the reasons for heavy rejections was conducted, Ministry maintained (January 1991) that a general mechanism existed to control rejections and improve overall quality of castings.

25.8 Imports

Due to shortfall in production by the foundry VFJ had to resort to import of castings valuing Rs.1757.64 lakhs and to trade purchase worth Rs.792.38 lakhs during 1984-89, as detailed below:

Year	Import	Trade
	(In lakhs of rupees)	
1984-85	219.29	44.16
1985-86	1068.80	68.44
1986-87	306.60	273.78
1987-88	70.98	406.00
1988-89	91.97	-
Total	1757.64	792.38

25.9 Cost of production

Cost of production of three major items of engine block castings at the foundry and their trade purchase rates during 1985-86 to 1988-89 were as under :

Year/unit cost in rupees

	1985-86		1986-87		1987-88		1988-89	
	Ex-trade	Factory	Ex-trade	Factory	Ex-trade	Factory	Ex-trade	Factory
Shaktiman crank castings	4475	10601	No procurement	10826	No procurement	11193	No procurement	13357
Shaktiman cylinder head castings	446	972	499	1087	-do-	930	-do-	1206
Nissan cylinder block	No procurement	8412	2820	10528	2865	9740	-do-	11320

Thus, manufacture of above items in the foundry was uneconomical. In January 1991, the Ministry stated that this was due to priority given for production of Shaktiman crank case to save foreign exchange because of limitation of manpower.

Development and Production

26. Extra expenditure on production of picrite

Ministry of Defence (Ministry) had informed the Public Accounts Committee during the consideration of Paragraph 11 of the Report of the Comptroller and Auditor General of India for the year 1979-80, Union Government (Defence Services), that the picrite plant of 1937 vintage set up in Ordnance Factory, Bhandara (factory 'A') would be refurbished with additional replacements during the next two years to ensure a sustained production of explosives per year. The Committee in their 106th Report (7th Lok Sabha) 1981-82 had observed that the economics of working of the plants which had by then outlived its useful life should be carefully examined in the context of the decision to set up a new plant at another place before incurring any further expenditure on the reconditioning of the old plant.

A new picrite plant was set up at Ordnance Factory, Itarsi (factory 'B') in April 1983 and commenced production from 1983-84. At the same time, the old picrite plant at factory 'A' was reconditioned at a cost of Rs.11.09 lakhs and production continued without assessing the total requirement and relative economy.

It was seen by Audit that the capacity utilisation of the new plant began with around 20 per cent in the first year and peaked at 78 per cent in the sixth year. Keeping in view the trend of production during a span of five years by both the factories, the actual requirements could have been met by efficient managing of the new plant operating between 55 and 88 per cent of its installed capacity. The cost of production per tonne of picrite in factory 'A' during 1983-84 to 1988-89 ranged between Rs.96,931 and Rs.1,15,033 while that in factory 'B' during the same period was between Rs.54,134 and Rs.99,737.

Ministry sought to justify (November 1990) the continuance of production at the old plant on the grounds that the new plant required time to stabilise and the technology of production at the old plant was to be kept alive for meeting unforeseen needs. The contention of the Ministry is not tenable as the new plant took six years to reach a peak level of production and token production in the old plant was maintained only from 1987-88. Had the new plant been operated at peak capacity, the need for maintaining the normal production at the old plant at high cost could have been avoided. During 1983-84 to 1986-87, an extra expenditure of Rs.4.83 crores was incurred due to continued production of picrite at the old plant calculated at the rate differences ranging from Rs.15,000 to Rs.55,000 per tonne with reference to the production cost per tonne in factory 'B'.

27. Development of a weapon system

A small arms weapon system comprising three weapons has been in use in the Army for over two decades. This weapon system has certain drawbacks and shortcomings like the weapons and ammunition being heavy and not sufficiently lethal, not being cost-effective due to non-commonality of ammunition and components/parts of the weapons etc. Hence its improvement was being considered by the user and Defence Research and Development Organisation (DRDO) since 1978. Keeping in view the tactical and technical requirements, it was then decided to develop an altogether new weapon system comprising three weapons to replace the existing system. The new weapon system was to have maximum commonality of parts and the weapons were to fire the same indigenous ammunition. Accordingly the General Staff (GS) branch of the Army Headquarters floated a draft Qualitative Requirements (GSQR) in April 1978 for development of the new weapon system.

In June 1979, the Armament Research and Development Establishment (ARDE) which was to design and develop the new weapon system undertook two study projects at a cost of Rs.0.13 lakh. Based on the results of the studies made, it was decided (November 1979) by the Army, in consultation with DRDO, Director General Inspection and Director General Ordnance Factories to develop a lighter weapon system comprising three weapons (I,II and III) with smaller calibre in conformity with the trends in other advanced countries, within a reasonable time. Consequently, the Army issued a fresh draft GSQR in May 1980 which was eventually finalised in March 1982. Meanwhile, pending finalisation of the GSQR, a development project for the new weapon system was allotted to ARDE in April 1981 at a cost of Rs.10 lakhs to be merged with the main project when sanctioned. In November 1982, the Ministry sanctioned the development project for the new weapon system and its ammunition at Rs.180.24 lakhs to be completed in a time frame of three to four years. No monitoring system exclusive to the project was laid down.

The progress of the project till December 1989 was examined by Audit which revealed the following.

After exhaustive development works, and fabrication of a number of prototypes, the designs of the three weapons in the system were finalised. Prototypes as per finalised design were put to technical trials in September 1987 by ARDE. Exhaustive user's trials of the three weapons were conducted in five phases during November 1987 to February 1988 and the user recommended certain modifications and improvements to weapons I and II. Weapon III developed as per GSQR, did not satisfy the changed tactical requirements and necessitated redesigning.

Weapon I manufactured as per modified design as recommended by the user, was put to exhaustive technical trials, in October 1989 by ARDE and drawings affecting 19 components required modification.Confirmatory trials of weapon I as per modified drawings were taken up in March 1990 when the results were found to be satisfactory. After fabrication, weapon II with all modifications and improvements was put to user's trials when certain defects were observed which were being rectified. The Ministry stated (November 1990) that the modified weapons would be offered for user's trials in December 1990.

ARDE fabricated weapon III as per the new design and the weapon was subjected to technical trials during November/December 1989. More number of weapon III were under user's trials.

Ball powder propellant for the ammunition to be used in the new weapon system was cleared in November 1989 for use in the production. However, due to variation in behaviour of propellant further development work was needed which was in progress (October 1990). Though the results of 'ball' and 'blank' ammunition developed, were found satisfactory in confirmatory trials development of 'tracer' version of the ammunition was in progress.

In June 1989 the completion date of the project was extended upto March 1990 and the project cost was increased from Rs.180.24 lakhs to Rs.249.27 lakhs. Expenditure booked against the project till December 1989 was Rs.219.18 lakhs including Rs.6.05 lakhs in foreign exchange.

The Department of Defence Research and Development stated in November 1990 that the projects on development of new small arms are of very complex nature and 10 to 12 years period is considered normal. It added that a comparison of the cost of this project with development expenditure incurred by other countries on similar projects, the expenditure (on this project) was negligible.

Audit would like to point out that it was the Ministry which had anticipated the development project to be completed within a time frame of three to four years from November 1982 but which was yet to be completed (October 1990). It has also resulted in enhancements of the project costs by Rs.69 lakhs.

28. Development expenditure on a superseded model

In 1976, Ministry of Defence (Ministry) procured some Infantry Combat Vehicles Mark (Mark I vehicle) from a foreign country to evaluate their suitability for introduction into service and the feasibility of their indigenous manufacture under licence. In May 1977, the General Staff(GS) branch of the Army allotted a project to Combat Vehicle Research and Development Establishment (CVRDE) to study the feasibility of converting Mark I vehicle into various specialist role vehicles (variants). The feasibility studies carried out revealed that conversion of Mark I vehicle into seven different variants was feasible with major/ minor modifications to the basic vehicle.

In May 1981, Government sanctioned a project at a total cost of Rs.229 lakhs for design and development of seven variants on Mark I vehicle. The cost was revised to Rs.264 lakhs in April 1982 providing additional staff and transport. The project was to be completed in five years from the date of sanction.

When the development of variants on Mark I vehicle was in progress, Government signed a protocol with a foreign Government in December 1984 for indigenous production of Mark II vehicle, an improved version of Mark I vehicle under licence. In December 1986 a decision was taken to develop the seven variants on Mark II vehicles instead of Mark I vehicle. However, no decision was taken to discontinue the development of variants on Mark I vehicle until December 1987. By that time Rs.193.92 lakhs had already been incurred on the development of the variants on Mark I vehicle, of which Rs.31.75 lakhs were incurred during February 1985 to December 1987.

Ministry while confirming the facts stated (October 1990) that the entire amount was not infructuous as 80 per cent of the hardwares developed for the fitment in Mark I are being utilised in the development of Mark II variants. While Audit agrees that the entire expenditure was not infructuous it is pointed out that Rs.31.75 lakhs incurred in continuing the development process in Mark I vehicle between December 1985 and December 1987 could have been avoided since a decision was taken to switch over to Mark II vehicle in December 1985. Further parts worth Rs.8.32 lakhs were discarded and there was a waste of effort on the preparation of 2200 drawings.

Thus, had a timely decision been taken to discontinue the developmental work on Mark I vehicle consequent on change over to Mark II vehicle a considerable part of the expenditure incurred on the developmental works on Mark I vehicle could have been avoided.

29. Manufacture of defective brass cups

For manufacturing an ammunition, factory 'A' (Ordnance Factory,Varangaon) was regularly procuring brass cups (cups) from factory 'B' (Ordnance Factory, Ambarnath).In February 1988, factory 'A' placed a demand on factory 'C' (Ordnance Factory,Katni) for the first time for supply of 500 tonnes of cups by May 1988. The inspection of the cups produced by factory 'C', was to be done by its Quality Control section before despatch. The quality audit and surveillance of the products was to be conducted by the Quality Assurance Establishment Metal (QAE) under Director General, Quality Assurance. As per specification, for wall thickness variation, the acceptable quality level was 0.005 inch (maximum).

During March to October 1988, factory 'C' supplied 295 tonnes of cups, but due to dimensional defects, like wall thickness variation being beyond acceptable limit, 237 tonnes valued at Rs.168.72 lakhs were rejected by factory 'A'. On 12th November 1988, factory 'A' proposed to shortclose the demand as factory 'C' could not supply cups of desired quality. On 24th November 1988, a meeting was held between the officers from factories 'A' and 'C' and Ordnance Factory Board (OFB) in which it was decided that factory 'C' would segregate 237 tonnes of rejected cups lying in factory 'A' for visual inspection of defects. It was also decided that the cups awaiting despatch in factory 'C' should be made free from all defects and for wall thickness variation, a relaxation upto 0.011 inch (maximum) against 0.005 inch (maximum) specified would be granted till March 1989. Though bulk of the supplies made till October 1988 were rejected due to dimensional defects, factory 'C', nevertheless, continued to supply and till March 1989 supplied a total quantity of 625 tonnes of cups,valued at Rs.445 lakhs, against 500 tonnes ordered. The excess supply of 125 tonnes was to meet the target for production of cups, fixed by OFB for 1988-89. The transportation cost for 625 tonnes was Rs.1.18 lakhs.

Out of 625 tonnes supplied only 177.50 tonnes were accepted in the first instance. 105.82 tonnes out of a balance of 447.50 tonnes were segregated for further examination and 341.68 tonnes valued at Rs.246.90 lakhs were awaiting further segregation. Out of 105.82 tonnes segregated in the first instance, 66.48 tonnes were accepted and 39.33 tonnes valuing Rs.28.43 lakhs were rejected. The total accepted quantity of 243.98 tonnes had so far not been utilised in bulk production (December 1990).

Meanwhile factory 'A' backloaded 23.19 tonnes of defective cups visually segregated, in 1988 to factory 'C' for rectification. Factory 'C', however, returned the entire quantity back to factory 'A' without rectification, stating that visual defects could not be rectified and the cups should be treated as scrap.Factory 'A' again backloaded these cups to factory 'C'. In March 1990, factory 'A' again backloaded a further quantity of 40 tonnes of rejected cups to factory 'C' who returned the same to factory 'A' in April 1990. The total freight charges involved in to and fro transportation of rejected cups worked out to Rs.0.13 lakh. OFB intimated Audit in January 1991 that strict adherence to the laid down, acceptable, qualitative level for cups was not possible with worn out plant and machinery specially the cupping press. QAE, however, intimated Audit (September 1989) that from the commencement of production of cups in factory 'C' defects were noticed and the quality was not upto the specification and did not satisfy the accepted level. They further stated that defects noticed in the cups during quality audit and surveillance conducted by them was brought to the notice of factory 'C' from time to time. But factory 'C' continued production of cups beyond acceptable quality level and its quality control section had accepted such cups on a regular basis.

The case reveals that although factory 'C' was aware that its worn out plant and machinery were not suitable for production of cups of required specification, they undertook the bulk production. Despite the fact that defects were observed in the cups from the commencement of production and the same were pointed out, the factory continued its production, and supplied 625 tonnes of cups of which 39.33 tonnes valued at Rs.28.43 lakhs were rejected outright due to defective manufacture. Besides 341.68 tonnes valued at Rs.246.90 lakhs were yet to be segregated for salvaging usable material.

30. Compromise in safety standard

Production was suspended in the steel melting shop of the Metal and Steel Factory for 63 days in November/December 1988. Production loss was of the order of Rs.147 lakhs and the repair of the building and the pit cost Rs.8.23 lakhs. This development was a sequel to an accident to the 15 ton arc furnace. The Board of Enquiry,that investigated the cause of the accident, attributed it to leakage of molten metal into the pit through the porous plug area of the ladle fitted with the furnace and the resultant explosion to the molten metal coming into contact with accumulated water at the bottom of the pit. The Board opined that it was a risky practice to have allowed water accumulation into the pit and that the accident might not have occurred if the porous plug positioning and tightening of the plate ring in the bottom were checked after every heat.

The production loss of Rs.147 lakhs, expenditure on repair to the tune of Rs.8.23 lakhs, loss of life and injuries to six workmen could have been averted if safety considerations were not ignored.

31. Uneconomical production of winch assemblies

Winch assemblies were being procured from trade by Vehicle Factory Jabalpur (VFJ). Production of 183 assemblies during 1987-90, undertaken by Gun Carriage Factory, Jabalpur (GCF), proved uneconomical to the extent of Rs.108.87 lakhs as compared to the highest trade cost. Details of the case are as under:-

'Winch complete' an assembly required for the production of a specialised vehicle by the VFJ, was being regularly purchased from trade. Supply orders placed on trade during 1983 to 1987 indicated that the cost of each assembly ranged from Rs.15,345 to Rs.19,000. In July 1985, VFJ however, placed for the first time an Inter Factory Demand (demand) on GCF for supply of 300 assemblies by January 1986 without assessing the financial repercussions and relative economy. As no supply was being received from GCF, VFJ reduced the demand from 300 to 150 assemblies in May 1987 and placed an order in August 1987 on a firm for 280 assemblies at Rs.18,900 each to meet urgent requirements. GCF commenced supply of the assemblies in November 1987. In February 1988, VFJ placed another demand on GCF for 33 assemblies thereby raising the total quantity to 183. The supplies made by GCF from 1987-88 to 1989-90 were as under:

Year	Price per assembly in rupees	Number of assemblies supplied
1987-88	70,765	61
1988-89	77,703	71
1989-90	88,475	51
		183

The production of 183 assemblies by GCF proved uneconomical to the extent of Rs.108.87 lakhs reckoned against the highest trade cost.

The case was referred to Ministry in June 1990 and their reply has not been received (December 1990).

32. Production action without formal indent

Army Headquarters (HQ) communicated in October 1986 to the Ordnance Factory Board (OFB) their requirement of 116 guns to a span of four years commencing from 1988-89 and also informed that indent will be placed on receipt of financial sanction from the Ministry of Defence (Ministry). The OFB informed Army HQ in November 1986 that guns would be delivered from 1989-90 onwards in four years and that the factories were being directed to go ahead with pre-planning and material procurement action. The OFB, without waiting for the formal indent, informed factory 'A' in December 1986 for the manufacture of 116 guns and instructed to take material procurement/manufacturing action for the entire quantity though the first lot of 12 guns was to be delivered in 1988-89 to be followed by 36 guns in 1989-90 as per Army HQ's communication.

In December 1987, the Army HQ declined to place a formal indent due to non-availability of financial sanction from the Ministry to the entire quantity and indicated that the requirement was under review. OFB, instructed factory 'A' in December 1987 to stop further procurement/manufacturing action immediately. In the Production Review Committee meeting held in April 1988, OFB stated that on the basis of letter of intent received from Army HQ, action had been taken to procure components from trade as well as other ordnance factories for 116 guns and they would not like to start a line for production of 24 guns. The reduction of order would have a financial impact of about Rs.4.5 crores. It transpired in the Production Review Committee meeting held in April 1988 that the requirement projected by the Army earlier was inflated and the total requirement was actually for 24 guns. A formal indent for 24 guns was placed on the OFB in June 1988 but OFB decided not to accept the indent for the manufacture of only 24 guns as a production line could not be started for such a small quantity. In July 1988, OFB assessed that by the time further manufacturing action was stopped (December 1987) liabilities to the extent of Rs.374.82 lakhs had already been incurred by way of manufactured items, supplies against orders on trade firms and inter-factory demands.

An extract for manufacture of 24 guns was, however, placed by OFB in August 1988 on factory 'A'. OFB stated (October 1990) that after taking into account the extracts placed in August 1988 and adjusting the inter-factory demands and supplies from trade source, the net liability stood at Rs.77.52 lakhs.

Thus, preparation for manufacturing 116 guns without a formal indent resulted in the waste of both resources and efforts and a liability of Rs.77.52 lakhs a large portion of which may eventually have to be borne as loss.

The case was referred to Ministry in June 1990 and their reply has not been received (December 1990).

33. Abnormal rejection

Forgings for shell body of an ammunition were being manufactured and supplied by Ordnance Factory, Ambajhari (OFA) after clearance by its inspectorate to Gun and Shell Factory, Cossipore (GSF) for machining. During 1986-89, the factory, while machining,sustained abnormal manufacturing losses amounting to Rs.63.61 lakhs against four warrants issued between December 1982 and March 1987 due to bad material.

Investigation carried out by GSF at the shop level, revealed that the forgings supplied by OFA were rejected as bad material due to presence of pit marks in the cavity of the shell forgings. These defects were detected in GSF at different stages of manufacture.Since the forgings were received in finished cavity condition, no rectification work was possible to set right the defects. It was, however, observed by Audit, that GSF brought the fact of rejection of the forgings as bad material to the notice of OFA from time to time as a routine matter without indicating the reason for which the forgings were treated as bad material. Copies of the reference of GSF to OFA in this regard were also not sent to the inspectorate at OFA who cleared the forgings before despatch. No reply from OFA to the references made by GSF was available in the records of GSF and they also did not pursue with OFA for comments for supply of defective shell forgings.

As per directives issued by Ordnance Factory Board (OFB) in January 1987, all cases of abnormal rejection should be investigated by a Board of Enquiry. The loss of Rs.60.60 lakhs due to abnormal rejection in the above cases was, however, regularised by GSF during February 1988 to December 1989 without investigation. GSF intimated Audit, in May 1989, that shop level investigations for the rejections were adequate hence no Board of Enquiry was held. This was in contravention of the directive of OFB. This failure of GSF in not identifying the reasons of rejections through a Board of Enquiry led to further abnormal rejections in subsequent years and remedial measures could not be devised in time.

Thus, while defective manufacture led to the abnormal rejection of shell forgings valuing Rs.63.61 lakhs at the user's end, failure of the user in investigating into the reasons of rejection led to the persistence of such rejections without timely remedial measures being devised.

The case was referred to Ministry in July 1990 and their reply has not been received (December 1990).

34. Short-closure of an order

During August 1967 to December 1970 Director General, Ordnance Factories (DGOF) placed three orders on Ordnance Parachute Factory (factory) for manufacture and supply of 5000 numbers of a type of parachute against indents placed by the Air Force.

During 1972-74, the factory manufactured 1784 parachutes, of which 1600 were issued. Certain defects like inadvertent opening of parachutes due to defective 'rip cord handle' were reported by the user.

According to the factory, the defects were due to faulty design and inferior material approved by Controllerate of Inspection Textile and Clothing (CITC) who was the Authority Holding Sealed Particulars (AHSP). However, a rectification order was placed by Additional DGOF in August 1977 and the factory issued a total of 1784 parachutes by March 1978 after rectification. During 1978-82, the factory supplied a further quantity of 1450 parachutes and thereafter there was no production during 1982-85. During 1985-87 production was revived and fifteen sample parachutes were supplied for user trials. Thus, the factory supplied a total of 3234 parachutes during 1971-89 against 5000 ordered during 1967-70. In September 1989, Air Force shortclosed their indents as the requirement for these parachutes had ceased to exist. Due to short-closure of the indents by Air Force, materials valued at Rs.53.44 lakhs procured by the factory became surplus without any prospect of utilisation. Possibility of Army requiring the model discarded by the Air Force is remote, eventhough this figured in the target-setting meeting in March 1990.

Additional DGOF stated in August 1990 that the production of the balance quantity of parachutes could not be undertaken as besides faulty design and inferior material approved by AHSP, priority was accorded to the production of another variety of parachute.

The case was referred to the Ministry of Defence in June 1990. Their reply has not been received (December 1990).

35. Provisioning without proven technical specifications

In May 1980 Army Headquarters (HQ) placed an indent on Additional Director General, Ordnance Factories (Ordnance Equipment Factories Group) (DGOF) for supply of 1036 numbers of case parachutists individual weapons (case) without providing the drawings and specifications. The number was increased to 2036 in June 1980. The item was urgently required for operational and training purposes by January 1981. Detailed drawings and specifications were not available and the indent was vetted by the Authority Holding Sealed Particulars (AHSP) with reference to paper particulars and technical specifications. An order was placed on Ordnance Parachute Factory, Kanpur (factory) by Additional DGOF in January 1981, citing a provisional drawing number.

Before bulk production was undertaken, a sample was produced by the factory on the basis of the provisional drawings without proven technical specifications and was subjected to user's trial. Pending confirmatory trials, Army HQ suggested in May 1983 to withhold bulk production. Users suggested modifications to the specifications and desired fresh samples incorporating the modifications for further trials. Five samples incorporating the modifications were submitted to AHSP in December 1986. The Army HQ cancelled the indents in December 1987 on the ground of manufacturer's inability and without any financial repercussions. The records of the factory, however,showed that materials and accessories valued at Rs.7.04 lakhs procured for fulfilling the indent of May 1980 were lying surplus without any alternative use. A scrutiny of the provisioning particulars showed that most of the materials had been acquired during June 1981 to June 1984 while the specifications were under proving and the confirmatory trials had not been completed.

Thus, initiation of provisioning action for the bulk production of an item whose development was not established resulted in a loss of Rs.7.04 lakhs.

The case was referred to the Ministry of Defence in July 1990. Their reply has not been received (December 1990).

36. Rectification of cartridge cases

During March 1988 to January 1990 Ordnance Factory Ambernath (OFA) rectified 15,200 defective cartridge cases backloaded by Ordnance Factory, Chanda (OFCH). This cost Rs.47.29 lakhs extra.

The defects were identified as surface blemishes and rectification operations involved dip pickling, plugging, low temperature annealing and polishing etc. These cartridge cases, after clearance by the Quality Assurance Establishment had been supplied by OFA to OFCH at different times in packing boxes designed by OFA and these had been accepted by OFCH. According to the Ministry of Defence (November 1990) defects in the cartridge cases were caused due to ingress of moisture/ water inside the packing boxes during transit and loading and unloading stages. These cartridge cases were not packed in heat sealed polythene bags as is done for other types of cartridge cases and no proper fitment was provided in the packing boxes to avoid rattling. Further, thin timber planks of cheapest quality were used for manufacture of these packing boxes.

All the 15,200 cartridge cases backloaded for rectification had been rectified by OFA at Rs.19.23 lakhs. Besides initial packing by OFA at the time of despatch to OFCH, the same cartridge cases had to be packed twice more, once at the time of backloading from OFCH to OFA and again while redespatching after rectification by OFA. Thus, expenditure on packing had to be incurred twice at a total cost of Rs.26.85 lakhs after the initial packing which was Rs.88 per box containing two cartridge cases. In addition, freight charges amounting to Rs.1.21 lakhs for despatch of defective and rectified cartridge cases had also to be incurred.

Thus, due to use of unsuitable packing boxes 15,200 cartridge cases were damaged and had to be rectified and reissued, involving an extra expenditure of Rs.47.29 lakhs.

37. Unco-ordinated development of technology

A project for the development of semi combustible cartridge cases (SCCC) and primers for two varieties of a tank gun ammunition (X and Y) was sanctioned in June 1980 at a cost of Rs.36.28 lakhs. The project was entrusted to the Explosives Research and Development Laboratory (ERDL) with the stipulation that the project should be completed on priority basis by December 1982.

At that time the development of a superior tank gun ammunition using brass cartridge cases taken up in 1976 was in progress. Thus, it was within the knowledge of the Government that with the establishment of production of the superior tank gun ammunition, ammunition X and Y would be phased out. This indication was, however, not taken into account while sanctioning the project for development of SCCC for tank gun ammunition X and Y in June 1980. As it happened, the project for development of SCCC could not be completed in time and was completed in December 1986 at a total revised cost of Rs.57.90 lakhs.

While the project for development of SCCC for ammunition X and Y was in progress, the superior ammunition had passed the users' trials and was accepted by the Army in April 1982. Since this ammunition was of greater strategic utility it was decided to immediately introduce this ammunition into service and to discontinue the production of ammunition X and Y. Irrespective of this development, the project for development of SCCC technology for the ammunition (which was no more required) continued till December 1986. Progress of the project was reviewed in March 1984 and a proposal for revision of cost as well as the target of completion was made, but available information regarding discontinuance of production of the ammunition itself was not taken note of. The specific intention of the project was to develop the technology for the ammunition X and Y and when these ammunition were not required beyond April 1982, development of the technology for the ammunition was evidently not required.

The Ministry in reply to audit observations stated (November 1990) that even though the main aim of the project was to develop indigenous technology for the manufacture of SCCC and its application for ammunition X and Y, certain advantages have nevertheless accrued to the Government by way of eliminating the import of the technology of SCCC, achievement of self-reliance in a critical area and attainment of technological level for taking up development of SCCC for two other higher calibre tank-gun ammunitions.

The contention of the Ministry is not tenable as separate projects have already been sanctioned by the Government for developing SCCC manufacturing technology for the other two high calibre tank-gun ammunitions independently and by the Ministry's own admission these technologies are not automatically adaptable in straight forward transitions.

Thus, had the progress of the SCCC project been co-ordinated with the position of serviceability of the ammunition itself, atleast in March 1984 when the project was reviewed for revision of time and cost (when an expenditure of only Rs.18.23 lakhs had been incurred), needless developmental expenditure to the extent of Rs.39.67 lakhs on the project beyond March 1984 could have been avoided.

38. Production before clearance of prototype

Undertaking full scale production action before testing of prototype and clearance of pilot batch resulted in Rs.34.34 lakhs worth of components and materials being rendered surplus. The details are given below:

In June 1983, Director of Ordnance Services (DOS) placed an indent on the Ordnance Factory Board (OFB) for supply of 150 numbers of a night observation device and its accessories (item A) by March 1985. Since it was a new item for development of production in ordnance factory with a number of grey areas in the productionisation process, OFB sought from DOS in July 1983 an extended tentative delivery schedule of 10 in 1985-86, 50 in 1986-87 and balance 90 in 1987-88. DOS did not communicate the formal acceptance of the suggested delivery schedule. Even then, OFB placed orders for manufacturing 150 numbers in March 1984 on ordnance factory, Dehra Dun stipulating that the first prototype should be submitted for inspection by September 1985. The factory initiated procurement action for materials for production of the ordered quantity on receipt of OFB's orders. In February 1985 the Technical Co-ordination Committee (TCC) had indicated that an improved night observation device (item B) which was already under development, was in an advanced stage of clearance. DOS also advised OFB in February 1985 not to manufacture item A beyond March 1985 and to convert the balance outstanding quantity of item A to item B. Despite this development, OFB had asked the factory in May 1985 to continue the production of the full quantity of item A and to start work on item B as and when drawings were supplied for productionisation. In September 1985, OFB had reviewed its own decision and had asked the factory to restrict production of item A to only 50, while full scale production of components was still going on.In July 1986, a decision was taken by the Ministry to bring down the indented quantity to 30 as it was clear by then that the requirement was for item B and the indented quantity of item A was not required. By early 1986, however, the factory had acquired the entire material required for manufacturing 150 numbers of the item and had manufactured all the components. The first prototype was submitted in April 1986 and after rectification, was cleared in January 1987. Had OFB waited till clearance of the prototype before going into full scale production, it could have assessed the actual requirement in January 1987 but since it had already manufactured all the components in early 1986, subsequent decision for scaling down could only affect the assembly stage and not the manufacturing stage. The factory assembled 30 numbers of item A during 1986-87 and 1987-88 and issued them to Army, even when the prototype was not cleared and admittedly there were grey areas in assembly and testing. This showed that the factory had laid the production line to full scale production immediately after the placement of orders in March 1984 and had gone ahead with the production of components without taking into account the complexities involved in the testing and approval of the development item. This resulted in the accumulation of unusable surplus components and materials worth Rs.34.34 lakhs when the demand was scaled down.

The matter was referred to the Ministry of Defence in August 1990, their reply has not been received (January 1991).

39. Omission to adopt new packaging design

A new packaging design was developed by the Controllerate of Quality Assurance (CQA) for three versions (HE, PWP and Illuminating) of an ammunition and the drawings were sealed in September 1985. This was an economic alternative and was intended to replace the old design of packaging. Departmental instructions (November 1985) giving effect to the change, however, covered only two versions (HE and PWP) of the ammunition and the omission of the illuminating version was rectified in December 1986 by issuing revised instructions. Meanwhile, in November 1986 the ordnance factory Dehu Road, manufacturing the illuminating version had received an order for 25,000 numbers of the ammunition from Ordnance Factory Board (OFB) specifying the old design for packaging. Eventhough the factory commenced procurement of packaging items as per the old specification, eight months after the introduction of the new packaging, OFB did not modify the packaging specification. Factory procured packaging items valuing Rs.41.74 lakhs as per old specification upto February 1989. Had the complete instructions been issued in November 1985 or had OFB amended its orders to provide for the economic packaging design in time before the commencement of procurement of items for packaging as per old specification, Rs.18.86 lakhs of extra expenditure in the procurement of costlier packaging items could have been avoided.

OFB in its reply to audit observation stated (October 1990) that the change over to new economy packaging design for illuminating version of ammunition was not possible as by that time the suitability of the design had not been fully established and trials were in progress. The contention of OFB is not acceptable as the design had been sealed in September 1985 after satisfactory trials and the subsequent trials in question were only fitment trials without having any bearing on the material components of the design.

Thus, an omission in the issue of operative instructions combined with lack of coordination between design changes and provisioning action resulted in the continuance of uneconomic packaging practice involving an extra expenditure of Rs.18.86 lakhs.

40. Under-utilisation of plant capacity

A project for the creation of additional capacity for production of rocket propellants and ballistites at Ordnance Factory Bhandara, sanctioned in May 1969, was completed in December 1976 at a total cost of Rs.20.03 crores. Under utilisation of installed capacity of rocket propellant and ballistite plants was commented upon in paragraph 11 of the Report of the Comptroller and Auditor General of India for the year 1979-80 Union Government (Defence Services). The Public Accounts Committee (PAC) in its 106th and 176th reports (1981-82 and 1983-84) had observed that as against 28 items of ammunition/rockets indicated as the likely requirements, actual orders covered only a few items. The PAC was assured that with the increasing requirement of missiles, the utilisation of the rocket propellant plant would be progressively stepped up and the ballistite plant would produce propellant for anti-tank ammunition.

The production performance of the rocket propellant and ballistite plants was examined by Audit in the last quarter of 1989.

It was seen that against the installed capacity, utilisation of rocket propellant plant during 1980-81 to 1988-89 ranged between 2.55 and 15.46 per cent and that of ballistite plant ranged between 1.97 and 47.49 per cent.

Ministry of Defence (Ministry) stated (January 1991) that the installed capacity in respect of the rocket propellant plant was not achievable due to the non-supply of machining and X-ray facilities by the foreign supplier of the plant at the time of installation. These facilities were laid locally but it was not clarified as to why the local facilities did not measure upto the production requirement. Ministry conceded (January 1991) that in view of the poor performance of the rocket propellant plant due to lack of adequate facilities, the capacity of the plant had been derated from 1980-81. This fact was not brought to the notice of the PAC in March 1983 and instead it was claimed that the utilisation of plant capacity would be progressively stepped up. In respect of the ballistite plant, it was contended by the Ministry (January 1991) that even with lower capacity utilisation the requirements were being fully met. A scrutiny of the pending indents at the end of March 1989, however, showed that in respect of four out of six items of ballistites, the pending indents were of the following order:

Item'A'	9 tonnes	(earliest indent May 1987)
Item'B'	195 tonnes	(earliest indent August 1983)
Item'C'	168.78 tonnes	(earliest indent May 1987)
Item'D'	94.93 tonnes	(earliest indent September 1986)

Thus, the rocket propellant and ballistite plants continue to show poor performance and the assurances given to the PAC have not been fulfilled.

41. Manufacture and procurement of softwood boxes

Ordnance Factory Ambernath (Factory) was supplying cartridge cases of an ammunition to

Ordnance Factory Chanda, packed in soft-wood boxes. Since soft wood was costly and the packing cases were for one-time-use only, it was decided in July 1987 to switchover to cheaper mango wood boxes.

In July 1988, the factory placed two orders on two firms for supply of 8000 'mango wood' boxes at Rs.112.32 per box. Before placing the orders, the factory did not assess the suitability of 'untreated mango wood' boxes for packing the cartridge cases.

'Untreated mango wood' boxes were, however, subsequently found to be unsuitable,as untreated mango wood was prone to infection by fungus/insects and could not be preserved for long. The factory then changed over to treated 'mango wood' and placed orders on trade sources for supply of 57,655 treated mango wood boxes at rates ranging from Rs.102 to Rs.135 per box during March 1989 to March 1990.

In the meantime, the factory continued to manufacture soft-wood boxes and procure them from trade also. It manufactured 1250 boxes at Rs.466.73 per box during September 1988 to January 1989 and got 5000 boxes fabricated through trade during February-June 1989 at Rs.185 per box (including cost of material supplied).

As the packing boxes were for one time use and it had been decided to switch-over to mango-wood boxes for economy, manufacture and procurement of soft-wood boxes was uneconomic to the extent of Rs.11.87 lakhs compared to the maximum cost of treated mango-wood boxes that suited the purpose.

The Ministry of Defence stated in November 1990 that use of mango-wood boxes in preference to soft-wood boxes was an experimental measure.Considering the fact that the boxes were for one time use and the fact that large scale orders were placed for the goods showed that there was no experiment involved, nor was the decision withdrawn. Further, manufacture of soft-wood boxes in the factory was uneconomic to the extent of Rs.281.73 per box and this involved extra expenditure of Rs.3.52 lakhs.

42. Development of an illuminating ammunition

In January 1979, the Army projected the need for development of an illuminating ammunition for a gun. The Armament Research and Development Establishment (ARDE) was to design and develop the ammunition with the assistance of the ordnance factories. After interaction between Ordnance Factory Board (OFB), Defence Research and Development Organisation and ARDE, it was decided in July/September 1982 that the empty shells for the ammunition would be supplied by an ordnance factory (factory) from 1983 to 1985. In May 1983, ARDE submitted a proposal for sanction of the development project at an estimated cost of Rs.91.04 lakhs to be completed in six years. After considering the time-frame for completion of the development project and the programme for phasing out of the related gun, the Army in July 1984 decided that the project should not be progressed further. In September 1985, the Army advised ARDE to proceed with the development project. Government sanctioned the development project in November 1986 at a cost of Rs.114.85 lakhs to be completed by November 1989.

Design trials with high explosive shells modified by the factory were conducted in May 1987, but were found to be not at all satisfactory. The design of the shell was revised using high strength material and the factory was approached by ARDE in December 1987 for production of the shell as per revised design. The factory declined (January 1988) to undertake the manufacture on the ground that it was not possible to produce shells adopting a revised design due to operational constraints. ARDE then approached trade firms and it was found that development of shells, by trade firms, would involve a further period of five years and a revised cost of rupees three crores.The Army did not accept (November 1988) the extension of time schedule and enhancement of cost. ARDE decided in June 1989 to shortclose the project. Vehicles, cartridges, parachute clothes etc. acquired at a cost of Rs.18.31 lakhs became surplus and these were allotted to other projects. It is not known if the other projects actually needed these items.

Ministry stated (October 1990) that the experience gained would be utilised for the development of any future gun firing illuminating ammunition. But the fact remained that the development project was undertaken without adequate coordination between the designing and manufacturing agencies. A need which was projected in 1979 was finally withdrawn in 1989 after decade long development efforts were wasted.

43. Rejection of ammunitions

During the years 1988-90, two lots of cartridges valuing Rs.14.97 lakhs, supplied by Ammunition Factory, Kirkee were sentenced as unserviceable by the Army due to detection of insufficient quantity of propellant. Both the lots had been cleared before despatch, by the Senior Quality Assurance Establishment (SQAE) on behalf of Controllerate of Quality Assurance (CQA).

Reference by Audit to the inspection procedure followed at the time of pre-despatch clearance brought out, that, at that stage itself, in respect of one lot, CQA had noticed mix-up of ammunitions bearing markings of two different years. After segregation only the cartridges bearing the marking of a particular year had been cleared on the basis of sampletesting. In respect of other lot, during inspection, no cartridge with less weight was found. Regarding presence of cartridges with less propellant in the lots, CQA held, that, in the lots issued to the Army, accepted and rejected cartridges got mixed up after inspection and at the stage of despatch. According to them the mixup might have been due to accumulation of both accepted and rejected lots at the same shop floor. While denying that such mix-up had occurred, Ordnance Factory Board (OFB) contended that the defects could have, in any case, been rectified by the factory. The fact, however, remains, that neither did the Army return the lots for rectification to the factory, nor did the factory call back the defective cartridges for rectification. No formal enquiry was conducted to ascertain how cartridges with less weight were issued to the Army.

Thus, supply of defective cartridges to the Army and their subsequent rejection resulted in a loss of Rs.14.97 lakhs.

The OFB stated in September 1990 that these lots do not warrant rejection and the defects can be totally eliminated by sending the lots to the factory. This indicates that there has been absence of co-ordination between the user and the manufacturer.

The case was referred to the Ministry of Defence in June 1990. Their reply has not been received (October 1990).

44. Defective manufacture of barrel forgings

Metal and Steel Factory Ishapore (MSF) placed two inter-factory demands in November 1983 and August 1986 on Field Gun Factory, Kanpur (FGK) for supply of 125 rough barrel forgings. The rough forgings after clearance by Inspectorate of Armaments at FGK were to be sent to Gun and Shell Factory, Cossipore (GSF) for machining and from there to MSF for heat treatment and final despatch to the user.

During 1983-87, FGK supplied 59 forgings of which 18 were rejected in GSF due to manufacturing defects. Of these, three were adjusted against normal rejection allowance, leaving the balance 15 forgings valued at Rs.13.83 lakhs as abnormal rejection due to manufacturing defects. Despite repeated references by MSF, FGK did not take any action to investigate the causes of the defects leading to abnormal rejection. The rejected forgings were transferred to MSF where 12 out of 15 forgings were treated as scrap and melted (scrap value: Rs.3.78 lakhs) in 1989 leaving the balance three forgings lying in rejected condition. There is no possibility of reutilisation of the rejected forgings. The loss due to rejection was yet to be regularised (July 1990).

Thus, defective manufacture of forgings led to a net loss of Rs.10.05 lakhs due to rejection, after taking into account the salvaged value of scrap.

The case was referred to the Ministry of Defence in July 1990 and their reply has not been received (December 1990).

45. Duplication of research due to lack of co-ordination

The Ministry of Defence sanctioned a project in April 1984 at a cost of Rs.14 lakhs for detailed studies on all basic aspects of high explosive charges for futuristic warheads. The studies were to be conducted by the Explosive Research and Development Establishment (ERDL) and to be completed by April 1988.

When the project was in progress, in the meeting of the Advisory Committee for Armaments and High Energy Materials held in July 1987, it was decided that ERDL should have a joint dialogue on this project with another research laboratory. A decision to close the project entrusted to ERDL was taken in the Advisory Committee meeting held in September 1989. The project was yet to be closed (January 1991). Meanwhile, ERDL had incurred an expenditure of Rs.6.58 lakhs on the project.

Thus, lack of co-ordination between the laboratories and in the Defence Research and Development Organisation led to an infructuous expenditure of Rs.6.58 lakhs.

46. Deviation from design specification

Ordnance Parachute Factory, Kanpur (OPF) was supplying a type of parachute to Ordnance Factory, Dehu Road (factory) for use in illuminating ammunition. During 1987-88, the filled ammunition was found to record parachute failure in proof as the rigging line was not upto the desired strength.

Consequent on a decision taken by the factory in March 1988 to replace the rigging line of the parachutes, 1485 parachutes were modified during March and April 1988 through a firm (firm 'X') at a cost of Rs.1.54 lakhs.

Even after rectification, parachute failures were noticed during 1988-89 and 1989-90. On investigation in August 1989 it was found that the strap material of the parachutes was breaking much below the specified load of 1500 kgs. and stitching failure started at 400 to 800 kgs. Additional Director General, Ordnance Factories stated (August 1989) that malfunctioning of parachutes was mainly due to failure of 22 mm nylon tape procured from trade. According to him either defective nylon tapes were passed by the inspectorate or the tapes were damaged during the process of manufacture.

The factory got the connecting straps of 2000 parachutes replaced through firm 'X' at a cost of Rs.0.87 lakh during 1989-90. An order was also placed in September 1989 by factory on firm 'X' for supply of 1500 numbers of parachutes with 22 mm nylon connecting strap at Rs.4.80 lakhs although it was known to the factory that 22 mm nylon strap was not successful. It was, however, noticed in audit that the original drawing of Armament Research and Development Establishment sealed in 1981 provided for 25.4 mm tape and the design specification was changed without field trial.

It was decided in January 1990 to get the parachutes available with the factory replaced by 26 mm tape in conformity with the original drawing. Accordingly, the factory placed an order on firm 'Y' on 3rd February 1990 for the procurement of 10,000 metres of 26 mm tape at a cost of Rs.1.10 lakhs. On 9th February 1990 the factory placed an order on firm 'X' for the removal of 22 mm tape from 6000 parachutes and to replace with 26 mm tape at a cost of Rs.1.83 lakhs. Orders for rectification and replacements were placed on a single firm without calling for open tender as that was the only developed source.

Thus, due to deviation in design without trial, Rs.5.34 lakhs of extra expenditure was incurred on the replacement of unsuitable material.

Provisioning

47. Supply and production of gun barrels and barrel forgings

For production of a type of gun barrel, Ordnance Factory Kanpur (OFC) was procuring barrel forgings (forgings) from Metal and Steel Factory, Ishapore (MSF). In June 1989, Army intimated Ordnance Factory Board (OFB) that the requirement of barrels was under review and that no procurement action for material beyond the targetted quantity of 300 barrels to be supplied during 1989-90 be taken. In July 1989, MSF was instructed by OFB to suspend all action for production of forgings. In August 1989, OFC asked MSF to suspend production against demand for 800 forgings placed by it on MSF in December 1986 and short-closed the demand at 429 in February 1990. It was observed by Audit that till May 1990 MSF produced 452 forgings. Excess production of 23 forgings beyond the limit of short-closure was valued at Rs.49.07 lakhs. 447 out of 452 forgings were supplied by MSF to OFC and 5 forgings were lying with MSF

Financial repercussion of short-closure as assessed by OFC showed that in March 1990 it had 245 forgings and 120 semi-finished barrels in stock. While the forgings had no prospective use, 74 out of 120 semi-finished barrels could be utilised. As a result, 245 forgings valued at Rs.6.64 crores and 46 semi-finished barrels valued at Rs.1.49 crores were lying surplus to requirement (January to November 1990) without any prospective use.

The Ministry of Defence stated in November 1990 that excess production of MSF was due to completion of forgings in the pipeline, and surplus forgings and semi-finished barrels would be utilised against present and future orders and proof requirements of Director General Quality Assurance. No issues have, however, been made.

48. Delay in processing proposals for procurement of a machine

Metallurgical Engineering Consultants India (MECON) was appointed by Additional Director General, Ordnance Factories (DGOF) in November 1986 for consultancy services in regard to engineering contracts for a combined engine plant project. Accordingly, MECON issued tender enquiries in June 1987 to sixteen firms for supply of two numbers of crank shaft pin grinder. Offers were received from two firms only. While the validity of offer of firm 'X' was upto 18th February 1988, that of firm 'Y' was upto 18th November 1987. The Tender Purchase Committee (TPC), scrutinising the recommendations of MECON, noted that while the offer of firm 'X' fully met the specifications except for minor deviations, the offer of only one model, out of two, of firm 'Y' was acceptable. It was decided at that stage to restrict the purchase to one machine. Negotiations were held in October 1987 with both the firms for revising their rates. The revised rates of firm 'X' (Rs.2.55 crores) being lower were acceptable to the TPC (January 1988). The case was referred to Ministry of Defence (Ministry) in February 1988 for approval. Between March and April 1988 meeting was held with the Ministry to clarify agency commission and discount and to ascertain whether similar machines were manufactured by Hindustan Machine Tools, though the project authorities were aware that it did not manufacture such machine.

The Additional DGOF informed Ministry in May 1988 that firm 'X' had extended the validity of the offer upto 13th June 1988 on the condition that if the order was placed beyond that date the discount of 2.5 per cent would be withdrawn, and if delayed beyond 30th June 1988, an increase of 5 per cent in price would apply. Approval of the Ministry was issued in November 1988 and the formal acceptance of order was placed immediately. Firm 'X' declined to accept the order on the ground that the validity had already expired. Thereafter, at the instance of the Ministry discussions were held in January 1989 by TPC with firms 'X' and 'Y' and the parent company of firm 'X' and offers were obtained from the three companies in February 1989. The offer of firm 'Y', being the lowest, was accepted in March 1989 at a cost of Rs.3.66 crores after obtaining approval of the Ministry.

Thus, delay in processing the offer of firm 'X' (Rs.2.55 crores) resulted in an additional liability of Rs.1.11 crores on account of purchase of the machine from firm 'Y'.

Ordnance Factory Board stated (November 1990) that the machine ordered on firm 'Y' was of a larger capacity than that offered by firm 'X'. This, however, could not be the justification for incurring a needless expenditure of Rs.1.11 crores when a machine of lesser capacity as offered by firm 'X' was required and there was no subsequent revision in requirement for a machine with a larger capacity.

The case was referred to the Ministry in July 1990 and their reply has not been received (December 1990).

49. Unnecessary procurement of tracks

'Light alloy track set', one of the features of a type of tank under development at Combat Vehicle Research and Development Establishment (CVRDE), would enhance the ride quality and stability when used in conjunction with hydro gas suspension units. In view of the limitations of the light alloy tracks as regards endurance and reliability, CVRDE proposed in September 1988, to import 21 steel track sets (track) from a foreign firm. The track of 635 mm width was the standard product of the firm and according to them was fully suitable for the tank. CVRDE decided to procure, part quantity of tracks in modified type with extended end connectors and width of 690 mm to meet their specific design requirements. The Ministry of Defence approved the import proposal in October 1988 as a one time measure.

In December 1988, CVRDE placed an order on the firm to supply ten sets of standard track costing Rs.74.21 lakhs, eleven sets of modified track costing Rs.85.16 lakhs, a mould costing Rs.1.04 lakhs and other items costing Rs.18.11 lakhs.

After placement of the order, review of technical parameters of tracks of both the widths was carried out during February to April 1989 when only the standard track was preferred. CVRDE then proposed to the firm in April 1989, to cancel the order for the modified tracks, and to increase in the quantity of standard tracks. The firm declined (May 1989) to accept the proposed amendment stating that the modified tracks had already been manufactured at the request of the purchaser. Entire quantity of tracks (including modified ones) were received by CVRDE in July 1989, of which 11 sets of modified tracks, alongwith the mould valued at Rs.86.20 lakhs remained unutilised as these had no requirements.

The Ministry of Defence stated (October 1990) that one modified track had been fitted on a prototype and was under trial and remaining tracks were proposed to be utilised for evaluation of other prototypes.

Had the technical review been conducted before placing the order, unnecessary procurement of modified tracks with the mould valued at Rs.86.20 lakhs could have been avoided.

50. Additional liability due to delay in decision making

In November 1986, Additional Director General Ordnance Factories (Addl. DGOF) appointed Metallurgical Engineering Consultants India (MECON) as the consultant for providing engineering services for procurement and inspection of equipments and plant and machinery required for the Medak project.

MECON issued a limited tender enquiry (TE) in April 1987 to 29 suppliers for the supply of one CNC turning and boring machine (machine). Six suppliers responded and after scrutinising the offers, MECON shortlisted four foreign firms ('A', 'B', 'C' and 'D') who were represented in India through their local agents. The offers were as follows :

Firm	Price in lakhs of rupees	Validity of offer
'A'	319.42	17th December 1987
'B'	475.76	17th September 1987
'C'	483.11	31st December 1987
'D'	490.29	17th December 1987

After scrutiny of the offers of the short-listed firms (October 1987) the offer of firm 'B' emerged as the only one which was both technically and commercially acceptable. But the Tender Purchase Committee (TPC) did not recommend placing of the orders on firm 'B' and observed the following:

(i) wide variations in cycle times indicated by tenderers to be studied;

(ii) performance of similar machines be obtained; and

(iii) indepth study of the offers be made.

In the meantime, firm 'B' offered (September 1987) a discount of two per cent by way of waival of agency commission and this was followed by an offer (October 1987) of 15 per cent discount by firm 'D'. As a result, the financial rating of the four firms, as in November 1987, altered as follows:

Firm	Price in lakhs of rupees
'A'	319.42
'D'	418.98
'B'	466.50
'C'	483.11

TPC, after considering the altered financial rating in November 1987, again deferred their decision and decided (June 1988) to wait for the results of the indigenisation efforts by a public sector undertaking (PSU) in collaboration with firm 'B' eventhough it was known that the collaboration was for a machine of lesser specification and was not related to the Medak project. In April 1988 it was confirmed that the PSU could not develop the machine of required specification. Meanwhile, the validity of the offer of firm 'B' had expired on 17th September 1987. Offer of firm 'A' was not crucial as it had not established the product commercially.

On 28th April 1988 TPC asked firms 'B' 'C' and 'D' to quote their rock bottom price by 13th May 1988. The prices of firm 'C' and 'D' were received in time. The price of firm 'B' was received on 16th May 1988. TPC met on 19th May 1988 and decided to ignore the offer of firm 'B' on the technical ground that it was received late. Thus, only firms 'C' and 'D' remained in the field. Firm 'C' offered a choice of two models and 'D' offered a price higher than that offered earlier. The financial rating of the two offers were as follows:

Firm	Model	Price in lakhs of rupees
'C'	32 FZT (DZU)	479.45
	32 FZT (300)	500.19
'D'	CTV 315	507.79

In June 1988, TPC considered the offer of firm 'C' for the alternative model at a price of Rs.479.45 lakhs as acceptable and decided to place orders on it.

The proposal to place orders on firm 'C' was, however, not accepted (December 1988) by the Ministry on the ground that the spares and accessories were to be supplied by the Indian agent. The Ministry suggested that firm 'B' also be brought into the ambit of consideration and the price may be renegotiated with firm 'D' in the background of the fact that it had earlier offered a discount of 15 per cent. Since firm 'C' was not prepared to exclude the Indian agent from the scope of the offer, effectively firms 'B' and 'D' remained in the field. Rebids for rock bottom prices were obtained in March 1989, where firm 'B' offered a discount of 7.5 per cent on the price of the basic machine only and firm 'D' increased its price by a further 10 per cent. The offer of firm 'B' thus emerged as the lowest and order was placed on it in June 1989 for the machine at a cost of Rs.255.11 lakhs. The total cost of the machine came to Rs.511.50 lakhs including customs duty and freight charges. The cost of the machine offered by the firm in October 1987 was Rs.233.20 lakhs.

Thus, there was an extra expenditure of Rs.21.91 lakhs (Rs.255.11 lakhs - Rs.233.20 lakhs) on the cost of the machine considering payment of 90 per cent customs duty. The total extra liability on the procurement of machine worked out to Rs.41.63 lakhs.

Ministry of Defence stated (November 1990) that the value of the machine was not increased as the cost of the basic machine was lower than the offer of June 1987 and the extra expenditure was due to variation in exchange rate and increase in duties etc. But the fact remained that there was an additional burden of Rs.41.63 lakhs due to delay in decision making leading to the purchase of the machine from the same source at a higher cost.

51. Purchase at inflated price

Ordnance Factory Kanpur (factory) was procuring aluminium alloy base forgings from trade sources since 1978 either by outright purchase or through contracts for conversion of its aluminium alloy scrap issued free of cost. The process involved conversion of scrap into ingots/billets which were being converted into rods for processing the same into forgings. In the conversion process, an intermediate Excise duty (ED) is levied on aluminium alloy rod to be processed into forgings.

During 1980 to 1988, Ordnance Factory Board (OFB) /factory placed six conversion orders on a firm and received a total quantity of 4,34,830 forgings at rates varying from Rs.60 to Rs.67 per forging exclusive of ED. Of the six conversion contracts, one was concluded by OFB and the rest by the factory.

With a view to assessing the reasonableness of the prices at which the conversion contracts were concluded, one contract of April/July 1985 for 1,20,080 forgings concluded by OFB and which alone was supported by a price analysis of the firm in support of its rate was selected by Audit for detailed scrutiny. The factory did not call for break-up of the firm's rates before concluding the contracts.

The firm had initially offered (December 1984) a rate of Rs.64 per forging in response to a tender enquiry of September 1984. When the analysis of rate offered was called for by OFB, the firm, instead of giving an analysis for (Rs.64 per forging) gave the analysis for Rs.75.35 stating that the price of Rs.64 was just to cover the cost of raw material, direct expenses and some overhead expenses. After negotiation, the rate was brought down to Rs.62.50 per forging at which the contract was concluded in April 1985. The break-up of the rate included the conversion cost from scrap to rod per forging as Rs.34.10 while the conversion cost of rod to forging included process costs which was not susceptible of verification by Audit. The conversion cost of scrap to rod could be verified with reference to the available indices.

For determining the conversion cost of scrap to rod the firm had adopted the following basis:

Stock weight of 1.25 kg at Rs.42.90 per kg.	Rs.53.62
Intermediate ED at 23.1 percent	Rs.12.38
	Rs.66.00
Rejection and test piece samples 5 per cent	Rs. 3.30
	Rs.69.30
Less:Value of scrap received from the factory at Rs.16 per kg. for 2.2 kg.	Rs.35.20
conversion cost for scrap to rod per forging	
	Rs.34.10

This was an inflated rate, as analysed below:

a) Though the contract was for conversion of scrap into rod and then into forging, the firm did not furnish the cost of conversion of scrap to rod. The firm adopted the rate of Rs.42.90 per kg. of finished rod. At this rate the firm had earlier supplied finished rods against another contract. The cost of finished rod (Rs.42.90 per kg.), already included the elements of profit, allowance for rejection, etc. Adding these elements again, to the cost of finished rod meant double charging these elements. For the purpose of payment of intermediate ED, the firm had shown the cost of finished rod to be processed into forging as Rs.26.45 per kg. in the gate passes while it charged intermediate ED on Rs.42.90 per kg. of finished rod. Thus, the firm had charged Rs.16.45 per kg. extra for finished rod.

b) While the rates of intermediate ED had dropped from 23.1 per cent to 17 per cent from 20th December 1985 and to nil from 14th March 1986, the factory continued to pay intermediate ED at 23.1 per cent. Intermediate ED thus excess charged worked out to Rs.9.93 lakhs. After taking into account the extra amount charged for finished rod produced for captive use and excess amount of intermediate ED paid thereon the total extra payment made in respect of one contract alone worked out to Rs.36.33 lakhs.

In the absence of price break-ups, the reasonableness of the rates at which other conversion contracts were concluded could not be examined by Audit.

In reply to Audit observations the Ministry of Defence (Ministry) stated in May 1990 that in a monopolistic supply position, the Tender Purchase Committee could not negotiate with the firm from a position of strength and as it had to go by the past prices and try to reduce the prices by offering to firm the economy of scale. Further, OFB had no direct information for payment of intermediate ED and it was not a part of the contract.

Contention of the Ministry is not tenable as excess charging was apparent from price analysis itself offered by the firm and an inflated past-price could not be accepted for all times as a bench mark for future price negotiation, without analysis of price-structure. Further, monopoly supply does not imply allowing the firm undue advantage on rates. OFB had direct information about payment of intermediate ED as it formed part of the first four contracts and it was mentioned in the cost break up submitted by the firm and checked by the Tender Purchase Committee in respect of April 1985 contract. Further increase/decrease in the rate of intermediate ED would definitely affect the final price as this element was included in the final cost of the end product.

OFB while admitting that the cost element was not being verified at the point of decision making, stated (December 1990) that the rates offered by the firm for finished forgings were all inclusive rates and therefore break-up and analysis of elements of cost was not considered necessary. This is not acceptable as analysis of cost had been called for by OFB before the conclusion of the contract and the negotiation was based on the elements of cost.

Thus, conclusion of contract without proper price analysis led to purchase of a store at inflated rate involving an extra expenditure of Rs.36.33 lakhs including Rs.9.93 lakhs on account of payment of ED.

The case was referred to the Ministry in July 1990. Their reply has not been received (December 1990).

52. Bulk ordering of substitute material

Small Arms Factory, Kanpur (factory 'A') was procuring from trade steel rounds of 35 mm dia in 'hot rolled and annealed condition', the specified material for production of gun barrel. In December 1983, difficulties were experienced in obtaining the specified material from trade sources and an Inter Factory Demand (IFD) for 2000 numbers of steel rounds of 42 mm dia in forged and annealed condition, a substitute material, was placed on Field Gun Factory, Kanpur (factory 'B'). The substitute material was of higher size, uneven round shape due to forged condition and not suitable for production of gun barrels and processing of this material involved extra machining and time and also a number of technical problems. While placing the bulk order for 2000 numbers of the substitute material, factory 'A' did not take into account the fact that the shortage of the specified material in open market was only a temporary phenomenon and that the rate of consumption of the substitute material in work was not so high as to justify an IFD for such a large number. Factory 'B' supplied 1805 forgings during November 1985 to October 1986 and these were taken into stock by factory 'A' during February to November 1986. Eventhough the orders for substitute material had been placed for maintaining the continuity of production, no issues were made till May-June 1987. 471 forgings were issued during 1987-88. There were no issues thereafter and 1334 forgings valuing Rs.11.32 lakhs were lying unutilised. Ordnance Factory Board (OFB) stated (November 1990) that the use of substitute material was uneconomical and with the availability of the specified material in the open market, the substitute material was not used. Thus, placement of bulk orders for an unsuitable substitute material in excess of immediate need resulted in the accumulation of material valuing Rs.11.32 lakhs without any prospect of use.

OFB stated (November 1990) that surplus forgings were expected to be consumed in batches by March 1992. The fact, however, remains that the use of the substitute material would entail extra expenditure on account of extra machining and technical difficulties in the production process.

Had the IFD on factory 'B' been placed for a smaller quantity in conformity with the pattern of utilisation, accumulation of large quantity of substitute material valuing Rs.11.32 lakhs could have been avoided.

The case was referred to the Ministry of Defence in July 1990 and their reply has not been received (November 1990).

53. Purchase without buyer's option clause and consequent loss of rate advantage

In the following cases extra expenditure to the extent of Rs.19.80 lakhs was noticed due to non-inclusion of buyer's option clause in the purchase orders and failure to take rate advantage offered by the supplier.

CASE 1

In May 1987 Ammunition Factory, Kirkee (AFK) placed two supply orders on firm 'P' and 'Q' for supply of 27000 and 53000 numbers respectively of a type of fuze at Rs.565 each. Firm 'P' was to supply the item during September 1988 to January 1989, while firm 'Q' during October 1987 to August 1988.

Option clause to increase the ordered quantity was not negotiated with the firms and included in the orders though the requirement of the item was of repetitive nature and the factory was aware that between August 1986 and February 1987 the cost of the same fuze supplied by the same firms, had increased by about Rs.90 per fuze.

Firm 'Q' supplied the item between November 1987 and February 1989 while the firm 'P' had not even commenced supply by January 1989 and supplied the quantity between March 1989 and January 1990. In January 1989, the factory assessed a requirement of another 1,11,475 fuzes for the period 1988-89 to 1990-91 and projected 9100 fuzes for immediate purchase. Tender Purchase Committee (TPC) decided in January 1989, to get a confirmation from the firms for supply of the additional quantity against orders of May 1987 at same terms and conditions. The factory made telegraphic enquiries from the firms in January 1989 without specifying the quantity required and the terms and conditions of supply. Firm 'P' offered (February 1989) the rate of Rs.655 each for supply of 8000 fuzes. The rate was valid till 28th February 1989. Firm 'Q' intimated only their willingness to supply the additional quantity without indicating any rate and terms. TPC, however, presumed that firm 'Q' was willing to supply the additional quantity at the old rate of Rs.565 each and recommended (February 1989) for adding an option clause to the order of May 1987 and increase the ordered quantity by 9100 numbers.

In March 1989 when the factory through an amendment, added an option clause to the order and increased the ordered quantity by 9100 numbers, firm 'Q' did not accept the amendment and revised their rate to Rs.700 each. TPC then decided in April 1989 to place the order on firm 'P' at Rs.655 each offered in February 1989. The case was then referred to Ordnance Factory Board (OFB) for approval and the latter desired the validity period of the offer which had already expired on 28th February 1989 be extended upto 30th June 1989. It was taken up with firm 'P' in May 1989 and the firm refused to extend the validity period and quoted a fresh rate of Rs.700 each. An order for 8000 fuzes was finally placed on the firm in August 1989, at this rate.

Had an option clause been negotiated and included in the orders of May 1987, the extra expenditure of Rs.10.80 lakhs due to subsequent purchase of the same item from the same firm at higher rate could have been avoided.

CASE 2

Gun and Shell Factory, Cossipore (factory) was regularly procuring semi-machined shell bodies from established trade sources for production of empty shell bodies of an ammunition. To meet the production target of empty shell bodies for 1988-89, the factory assessed (January 1988) the requirement of semi-machined shell bodies as 15,000 numbers and issued a limited tender enquiry in January 1988 to nine firms. Only four firms (firms 'A', 'B', 'C' and 'D') quoted for the item. As per the recommendations of the TPC the factory forwarded the case to OFB for approval to place orders on firms 'A', 'B' and 'C'. Though the requirement of the item was of recurring nature, factory did not consider and negotiate with the firms for inclusion of option clause in the proposed orders to subsequently increase the ordered quantity at the same rate and terms as stipulated in paragraph 56 of its own handbook. After getting approval of OFB, the factory placed three orders on firms 'A', 'B' and 'C' on 2nd June 1988 for supply of 13,000 numbers (total) of the item at Rs.610 each. The orders did not include option clause.

The firms supplied 12,999 numbers (total) of the item between August 1988 and August 1989.

When supplies against the orders were in progress, the factory, in June 1988, again assessed the requirement of the item as 12,000 additional numbers and issued a limited tender enquiry in August 1988 to eight firms including firms 'A', 'B' and 'C'. As per the decision of TPC (October 1988) the factory recommended to OFB the offers of firms 'A', 'B' and 'C' for supply of 6000 numbers at Rs.645 each, 3000 numbers at Rs.645 each and 3000 numbers at Rs.630 each respectively. This time the factory negotiated with the firms and while forwarding the case to OFB recommended inclusion of option clause to increase the quantity by 5000 numbers, 3000 numbers and 3000 numbers in the proposed orders, on firms 'A', 'B' and 'C' respectively. OFB approved the purchase in October 1988 and the factory placed three orders on firms 'A', 'B' and 'C' on 5th November 1988 incorporating option clause which was subsequently operated also.

Thus, non-inclusion of option clause in the orders of June 1988 led to an extra expenditure of Rs.3.75 lakhs due to subsequent purchase of the same item from the same firms at higher rates.

CASE 3

Ordnance Factory, Dehu Road (factory) was regularly procuring empty bodies from trade firms for production of an ammunition. In July 1988, the factory placed an order on firm 'A' for supply of 6000 sets of empty bodies at Rs.585 per set by November 1988.

While the supply of the store against the order was in progress, the firm,in the last week of September 1988, informed the factory that on completion of the order, they were ready to supply additional quantity of the store at the same rate and terms. This was significant in the background of the fact that the contract, contrary to the usual practice, did not include a buyer's option clause for enhancing the quantity of supply at the same cost. The factory, however, did not take any decision on the offer. Firm 'A' completed the supply during September to November 1988. In November 1988, the factory again assessed its requirement for a further quantity of 7000 sets and issued a tender enquiry to firms 'A' and 'B' in the same month. The firms quoted Rs.675 and Rs.680 per set respectively. During negotiation with the firms on 28th December 1988, firm 'A' agreed to reduce its price to Rs.660 per set and firm 'B' to Rs.670 per set. The TPC recommended placement of an order on firm 'A' at Rs.660 per set and an order for 7000 sets was placed in March 1989. The offer of firm 'A' of September 1988 received by the factory in October 1988 to supply the store at Rs.585 per set was not brought to the notice of TPC which negotiated the rates.

Ministry of Defence (Ministry) stated (February 1991) that the offer of firm 'A' was not considered as there was no scope for further procurement at the time the offer was received and further it was considered advisable to develop new sources. The contention of Ministry is not tenable in view of the fact that the stock review of November 1988 revealed a requirement of 7000 sets and the order for the same quantity was placed on the same firm in November 1988.

Thus, ignoring a repeat offer in the background of non-provision of buyer's option in a contract and withholding the information from the scope of negotiation by the TPC resulted eventually in the loss of rate advantage and purchase of the same item from the same source at higher cost of Rs.5.25 lakhs.

The Cases were referred to the Ministry in July 1990. Their reply to cases 1 and 2 has not been received (February 1991).

54. Piecemeal purchases of assembly carburettors

Vehicle Factory Jabalpur (VFJ) was procuring assembly carburettors for Nissan vehicle from firm 'A' which was the only indigenous source of supply of this item. In November 1987, the factory assessed the requirement as 11,037 carburettors and issued limited tender enquiry to six firms including firm 'A' in January 1988. Only firm 'A' offered the rate of Rs.432 each. The Tender Purchase Committee (TPC) of the factory decided (April 1988) to release an order for only 4500 numbers at the offered rate of Rs.432. An order was accordingly placed by the factory on the firm in May 1988 to bring it within the financial powers of the General Manager (GM) of the factory. In July 1988 the factory again assessed their requirement of the item to be 13,015 numbers including 6537 numbers remaining uncovered against the order of May 1988. In response to the limited tender enquiry for 12,927 numbers, firm 'A' quoted the rate of Rs.495 each (reduced to Rs.482 each). The TPC advised to place orders for 4000 numbers only. Accordingly factory placed an order on the firm in January 1989 for only 4000 numbers at Rs.482 each again under the powers of GM leaving 9015 numbers uncovered. In February 1989 the factory floated yet another limited tender enquiry for supply of 11,388 numbers of the item including 9015 numbers remaining uncovered in the order of January 1989. This time firm 'A' offered the rate of Rs.540 each. The total value of the procurement being beyond the financial powers of GM, the case was referred to the Ministry in May 1989 for approval. Meanwhile, in July 1989 the firm agreed to supply 2100 numbers at Rs.482 each and 9288 numbers at Rs.515 each. The order for 11,388 numbers was placed by the Director of Defence Supplies in September 1989 at the revised rates offered by the firm.

Thus, though the need for larger quantities of the store was established, recourse was taken to frequent piecemeal procurement of lesser quantities in order to bring the value within the financial powers of the GM of the factory and this resulted in the extra expenditure of Rs.5.55 lakhs. Had the actual ordering followed the assessed need the extra expenditure could have been avoided.

55. Acceptance of defective stores

Due to failure of inspection,defective brass rods worth Rs.5.40 lakhs got through the inspection in 1988-89 and were subsequently rejected during machining operations. They were lying in the factory without being replaced by the firm. The details are as follows :

An order for supply of 25,000 kgs. of brass rods at Rs.63 per kg. required for the manufacture of body for primer electric was placed by Ordnance Factory,Khamaria on a firm in October 1988.

The stores after inspection by Quality Assurance Officer, Metals (QAO), were supplied in two consignments and received in the factory during December 1988 (14,019 kgs.) and February 1989 (10,996 kgs.) and a sum of Rs.15.57 lakhs was paid to the firm being 95 per cent of the value of stores supplied.

The entire quantity of the first consignment, approved by QAO was rejected by the factory in March 1989 as cracks developed during reeling and machining operations. The second consignment was also not cleared pending further certification by QAO.

However, 15,996 kgs. of the two consignments were utilised in production leaving 9019 kgs. worth Rs.5.40 lakhs as finally rejected. Though the firm had agreed to replace the rejected material, the same had not yet been done (November 1990).

The Ministry of Defence stated in January 1991 that the defects were 'minor in nature' and were not detectable at the time of inspection by the QAO at the firm's premises. It added that the testing method has, however, since been modified to minimise such rejections. It is surprising to note that the Ministry has treated the defects as 'minor in nature' when a substantial quantity of stores had been rejected by the factory.

56. Failure in inspection

In October 1983, Gun Carriage Factory, Jabalpur (GCF) placed an order on a firm for supply of 2510 number of springs flat (springs), a component of light field gun at Rs.185.55 each even before the capacity of the firm to produce the springs was verified by the competent authority. The Inspectorate of Armaments, Calcutta (IA) was entrusted with the responsibility of testing the springs. Tests were to be conducted for ultimate tensile strength, yield strength, elongation percentage, hardness, dimensions, surface defects and chemical composition. Actual tests conducted, were, however, short of the required tests.

Even though the inspection was deficient, IA certified the entire quantity of 2510 springs as accepted during December 1984 to June 1985 and the factory took the springs on charge during January-August 1985. On actual use, however, the springs failed. Joint inspections conducted in the premises of the factory in December 1985 and May 1986 confirmed that the springs were defective and could not be used. The firm refused to replace the defective springs or refund the amount of Rs.4.84 lakhs received by it from the factory towards cost of supply. The matter was referred to the Ministry of Defence (Ministry) in October 1987 by Ordnance Factory Board (OFB) and the Ministry decided in February 1988 to form a team comprising the representatives of the Controllerate of Quality Assurance and the factory to determine the quantum of defective springs and to explore the possibility of replacing the defective stores by invoking the warranty clause. The Ministry also informed that the lapses in inspection should be investigated into by a representative of the Directorate General of Quality Assurance.

The joint team after inspection rejected (March 1990) the entire quantity (value: Rs.4.84 lakhs).

The Department of Inspection intimated Audit in October 1990 that a Court of Inquiry was instituted for fixing responsibility for failure of inspection. The final outcome is not known (November 1990).

The matter was referred to the Ministry and their reply has not been received (December 1990).

57. Extra expenditure due to delayed provisioning

As per prescribed procedure, advance provisioning action for an ordinary indigenous material could be taken by a factory to meet 30 months' requirement.

Vehicle Factory, Jabalpur (VFJ) was regularly procuring 'bearing drive pinion front', a component for Nissan vehicle from two firms ('A' and 'B'). In July 1987, the stock and dues in for this component was 21,241 numbers which could meet about 18 months' requirements, based on monthly average consumption of 1180 numbers. The factory could provision for a further quantity of 14,160 numbers to meet its requirements for 12 months more. In July 1987, the factory projected its requirement for only 4450 numbers of the component but issued tender enquiry in November 1987 for only 2225 numbers to six firms including firms 'A' and 'B'. In response, only firm 'B' quoted Rs.103 each for 2225 numbers and Rs.101 each for 4450 or more numbers. The Tender Purchase Committee (TPC) of the factory, however, did not accept the offer and decided (November 1987) to retender. In December 1987, the factory again assessed the requirement to be 34,377 numbers of the component but proposed to procure 14,161 numbers. A limited tender enquiry was issued in January 1988 for only 9305 numbers of the component to eight firms including firms 'A' and 'B'. In response to the tender enquiry four firms submitted their offer. Both firms 'A' and 'B'offered the rate of Rs.120 each, while firm 'C' a new entrant offered the rate of Rs.110 and another firm 'D' Rs.1020 each for imported component. TPC decided (April 1988) to offer Rs.110 to firms 'A' and 'B' and to ascertain the technical suitability of firm 'C'. Firms 'A' and 'B', however, agreed to supply at Rs.118 each. Orders were placed in May 1988 at this rate on firm 'A' for 3000 numbers and on firm 'B' for 15,611 numbers.

Had the provisioning procedure been followed correctly by the factory, in June 1987 itself, 14,160 numbers of the component could have been procured from firm 'B' at Rs.101 each resulting in a saving of Rs.2.41 lakhs.

Plant and machinery

58. Non-commissioning of an extrusion press

One 1100 ton extrusion press (press) imported in February-June 1988 at Rs.2.52 crores (including customs duty) for augmenting the production of a type of rocket in an ordnance factory, was lying uncommissioned (November 1990).

The building to house the press was constructed by March 1988 and installation of the press was started in August 1988 by the supplier. The work was suspended from October 1988 to March 1989 due to non-supply of some electrical items by the supplier. The press was finally installed by May 1989.

The press could not be commissioned as the security clearance for the commissioning engineers of the firm was not arranged. After the security clearance, the commissioning engineers arrived at the factory in July 1990 but could not commission the press as the construction of press building bay was not meeting the safety requirement.

The Ministry of Defence stated in November 1990 that the benefit of importing the press will comeforth only after the press is commissioned.

59. Violation of operating instructions

Ordnance Factory, Medak (factory) assembled 51 numbers of a vehicle during 1987-88 at a unit cost of Rs.72.83 lakhs, from completely knocked down packs supplied by a foreign manufacturer. These were inspected and cleared for issue by the Quality Assurance Establishment (QAE) in October 1987. During November-December 1987, 16 vehicles were collected by Central Armed Forces Vehicle Depot, and were driven to the loading site. The 17th vehicle, however, caught fire and got damaged while being driven to the loading site. The vehicle was not issued to the Army. A Board of Enquiry appointed by the General Manager of the factory concluded that the fire was caused due to electrical short-circuit. The electrical short-circuit was caused due to starting the engine with compressed air in the presence of an uninsulated loose terminal unconnected to the battery, in violation of the operating instructions. Considering that it was the responsibility of the collection team to carry out all the static checks on the vehicle, the Board of Enquiry held the collection team solely responsible for the lapse in the observance of the safety precautions. It also transpired during the collection of evidence by the Board of Enquiry that the 16 other vehicles which were in the loading process also had uninsulated loose terminals. Circumstances in which vehicles with un-insulated loose terminals had passed the inspection of QAE and the collection team were not mentioned in the findings of the Board of Enquiry. No action has been taken against the members of the collection team for the lapse.

Ministry of Defence stated in November 1990 that the damaged vehicle has since been dismantled and the major parts/systems after cannibalisation have been fitted on other vehicles. The value of the cannibalised parts are not known to the factory. The fact, however, remains that lapses in the observance of safety parameters resulted in the fire and led to the consequent damages, which could have been avoided had the defects been noticed either at the stage of inspection or at the stage of collection.

60. Extra expenditure in the procurement of a machine

Due to delay by Ordnance Factory Board (OFB) and Director General Supplies and Disposals (DGSD) in processing a case of procurement of machine, there was extra expenditure of Rs.20.17 lakhs by way of increase in price of spares and upward variation in exchange rate. The case is as follows:

OFB placed an indent on DGSD in June 1985 for one CNC boring and milling machine for Field Gun Factory, Kanpur. In December 1985, DGSD forwarded the technical bids of eight firms to the Liaison Office, Factory Cell for transmission to OFB for scrutiny and recommendation. Due to delay at the level of the Liaison Office, OFB received the technical bids in February 1986. After scrutiny of the technical bids, OFB accepted (May/July 1986) the offers of firms 'A' and 'B' subject to certain clarifications.Other offers were not technically acceptable. Firm 'A', the Indian agent of a foreign firm offered an imported machine while the offer of firm 'B', a public sector undertaking, was for an indigenous machine. Firm 'A' furnished their clarifications in June 1986, while firm 'B' did not furnish their clarifications till then. After scrutinising the clarifications, OFB, in July 1986, recommended to DGSD for placement of order on firm 'A'. Before the orders could be placed, firm 'B' furnished their clarifications in August 1986. In October 1986, DGSD negotiated the prices offered by the firms. Firm 'A' offered gross f.o.b. price of DM 14.86 lakhs (Rs.96.31 lakhs) excluding discount for the machine with spares and firm 'B' offered the price of Rs.86.35 lakhs for the basic machine (without spares). On 7th November, 1986 DGSD forwarded price bids to OFB. OFB constituted a sub-committee in January 1987 for technical appraisal of the offers. The sub-committee decided (January 1987) to obtain further technical clarifications from the firms and to get the suitability of offers verified by the Central Machine Tools Institute (CMTI).

Accordingly, OFB requested DGSD in January 1987 for further clarifications from the firms and placed an order on CMTI in May 1987 for technical appraisal of the offers. CMTI, opined (September 1987) that only the machine of firm 'A' was technically suitable for the purpose. OFB requested DGSD, in September 1987, to finalise the case on top priority. DGSD did not, however, finalise the case and held a meeting with firm 'B' in January 1988 and forwarded the record of discussion to OFB in February 1988 for their final comments. OFB intimated DGSD in March 1988 that the machine of firm 'B' would not meet the requirements.

On 31st May 1988, DGSD issued a letter of intent to firm 'A' and followed it up by placing a formal order in December 1988 for supply of the machine with spares at a total cost of DM 15.25 lakhs (Rs.111.87 lakhs) of which cost of machine and spares was DM 14.35 lakhs and tooling components DM 0.90 lakh. Although the quoted price of the machine came down from DM 14.20 lakhs to DM 13.57 lakhs, variation in exchange rate during this period involved an excess outgo of rupees to the extent of Rs.20.17 lakhs including increase in cost of spares (Rs.1.70 lakhs).

The case was referred to the Ministry of Defence in July 1990 and no reply has been received (December 1990).

61. Purchase of environmental test chamber

Defence Electronics Applications Laboratory (DEAL) placed an indent for an 'environmental test chamber' on the Director General Supplies and Disposals (DGSD) in May 1980. After some clarifications from DEAL, DGSD invited tenders in December 1980.The tenders were opened in October 1981 after rejecting the tenders thrice. On 27th February 1982 a telegraphic advance acceptance of tender was communicated by DGSD to the successful tenderer after having detailed discussions on 25th February 1982 with tenderer and DEAL representative. On the same day, DEAL issued a telegram to DGSD not to place the order on any of the firms whose tenders were received, on the ground that none of the firms had supplied the equipment before. This was followed up by letters on 17th March 1982 and 6th May 1982 intimating DGSD that the proposal to procure the equipment from indigenous source had been dropped as the reliability of indigenous manufacture could not be established. DGSD declined to act on the request of cancellation at that belated stage as the firm would claim heavy financial compensation for the cancellation of the orders. Formal supply order was placed on the firm in December 1982 stipulating delivery of the equipment to the DEAL by November 1984. The firm could not adhere to the stipulated schedule. The contract was cancelled at the risk and cost of the firm in March 1986 but was reinstated in October 1986 at the instance of DEAL. Extensions were granted to the firm stretching the date of delivery upto June 1989. The firm supplied the equipment in April 1988 after inspection by the DGSD inspectors. The equipment could not be commissioned even with the assistance of the firm.

In October 1989, DEAL assessed the impact of the non-commissioning of the equipment to be that it had contributed a slippage of 17 months in the delivery period of 64 months relating to the project for which the equipment was required. It was also apprehended that the complete technology of the equipment might get dated in a longer time-frame.

Thus, placing an indent without assessing the technical suitability of indigenous equipment resulted in procurement of an unsuitable equipment at Rs.16.49 lakhs. The equipment procured in April 1988 was yet to be commissioned (November 1990) and this had contributed to the slippage of the project for which it was required.

62. Idle forging machine

Metal and Steel Factory, Ishapore acquired a special purpose eccentric forging machine in February 1971 at Rs.16.81 lakhs. The machine was commissioned in March 1971. After commissioning, the machine could not be put to use as the need for manufacturing eccentric forgings for internal use did not arise. During April to November 1984, the machine was utilised briefly for executing a private order. Thereafter, the machine continued to remain idle (November 1990). In response to audit observation, Ordnance Factory Board instituted a Board of Enquiry in October 1990 to investigate into the reasons of idleness while confirming that the machine could not be used as there was neither any need for eccentric forgings in the factory nor were suitable orders from other sources available and to submit its report by 15th November 1990.

The Ministry of Defence stated in December 1990 that machine was procured in anticipation of certain loads but ultimately could not be utilised due to non-availability of anticipated loads. Thus, an eccentric forging machine acquired at a cost of Rs.16.81 lakhs remained idle and the cost of its acquisition was rendered infructuous as it has no prospective use.

63. Non-commissioning of a crane

Gun Carriage Factory (GCF) decided in July 1980 to provide an open crane gantry for its sawmill shop. The Military Engineer Services (MES) was to provide the gantry structure. Administrative approval for gantry structure was issued by the GCF in July 1981 at an estimated cost of Rs.2.62 lakhs. Against an indent placed by the factory in June 1983, the Directorate General, Supplies and Disposals (DGSD) concluded a contract with a firm in March 1984 for design, manufacture and supply of a crane with 15 metres span, at a cost of Rs.12.19 lakhs (reduced to Rs.12.17 lakhs).

The crane supplied by the firm during October 1984 to September 1985 could not be erected due to non-completion of the gantry structure. Construction of the gantry structure was later shortclosed by MES in February 1988 after incurring an expenditure of Rs.2.20 lakhs as the site was earmarked for a new project which eventually did not take off. In the meantime, workload in sawmill had tapered off and the crane was proposed (December 1988) to be erected as a standby at another site where a standby gantry with a span of 14.4 metres was already available. This necessitated reduction of the span of the crane from 15 metres to 14.4 metres at an estimated cost of Rs.0.60 lakh. Modification of the crane due to changed location led to five items valuing Rs.4.22 lakhs already supplied becoming surplus. Of these, three items could be used by the GCF as maintenance spares and for the other two, prospect of utilisation was being explored. Meanwhile in June 1988, the structural arrangement in the second site also proved inadequate. The crane was installed in March 1990 at a third site as a standby.

Thus, a crane purchased at Rs.12.17 lakhs could not be commissioned for more than five years for want of a suitable site while infructuous expenditure of Rs.2.20 lakhs was incurred on building a gantry structure and Rs.0.60 lakh of extra expenditure was incurred on reduction of the span of the crane.

64. Defective testing device

To avoid persistent rejections in assembled Nissan engines, Vehicle Factory, Jabalpur (VFJ) placed an order on a firm in March 1984 for supply of one pressure testing equipment for Rs.2.50 lakhs plus Sales Tax for testing oil passage in Nissan cylinder block. The Inspecting Officer informed the factory in July 1985 that the equipment offered by the firm generally conformed to specifications but since the component (cylinder block) was not available, practical trial for clamping, pressurising and evacuation test could not be carried out and requested the factory to intimate the results of fitment/functional trials with the component.

The equipment was received in the factory in August 1985 and the firm was paid Rs.2.47 lakhs (95 per cent). During installation of the equipment by the firm in March 1986, its pressure gauge failed. After rectification by the firm, a series of fresh defects were noticed and the factory finally rejected the equipment in April 1988. The equipment was still lying unattended (October 1990).

Ordnance Factory Board (OFB) intimated Audit in October 1990, that efforts were being made by VFJ to modify the equipment. The final outcome was not known. Meanwhile, in the absence of the testing equipment the factory was assembling, the cylinder block with the engine without oil pressure testing.

It was seen in Audit that 821 engines were rejected during 1985-86 to 1988-89 due to oil leakage in cylinder block. These engines had to be dismantled and re-assembled at a cost of Rs.17.45 lakhs.

Thus, due to disputes and lack of communication between the factory and the inspectorate, a low cost equipment worth Rs.2.47 lakhs was lying unutilised leading to an expenditure of Rs.17.45 lakhs incurred in four years for dismantling and reassembly of 821 engines.

The case was referred to the Ministry of Defence in July 1990, their reply has not been received (December 1990).

65. Premature failure of acid storage tanks

Against an indent placed by Ordnance Factory Bhandara in May 1984, the Directorate General Supplies and Disposals (DGSD) placed an order in April 1986 on a firm for supply of five PVC tanks at a cost of Rs.14.91 lakhs for storing acid. The tanks were to be designed and fabricated by the firm as per approved design and the specifications of the factory. After fabrication, the inspection wing of DGSD inspected the dimensional and constructional details of the tanks in January 1987, and certified the tanks to be conforming to the approved drawing. An amount of Rs.13.42 lakhs being 90 per cent of the contract value, was paid to the firm. After erection in February 1987, one of the tanks failed in August 1987. Immediately after repair by the firm, the tank burst on 27th September 1987 causing spillage of 48 tonnes of weak sulphuric acid worth Rs.0.58 lakh.

A joint inspection carried out by the Inspectorate of DGSD, firm and the factory in September 1987, concluded that the thickness of the tank wall was 1.5 mm to 2 mm less than required.

As per the joint inspection report, the firm was to replace the damaged tank and strengthen the wall thickness of other four tanks. The firm, however, contended in November 1987/ February 1988 that the thickness of tank wall was adequate and that the tanks were fabricated as per the approved drawing. Meanwhile, one more tank developed a crack in July 1988 and was operational only at half its capacity. When the firm failed to replace the damaged tank and strengthen the wall-thickness of the other, DGSD served a notice on 15th July 1988 on the firm for rectification of the defective tanks within 45 days. On 28th July 1988, another tank developed a crack and became unusable.

The firm failed to rectify the defects and opinion of the Ministry of Law was obtained for cancellation of contract at firm's risk. The Ministry of Law fixed 28th February 1988 the extended delivery date, as the date of breach of contract.

In September and December 1989 two more tanks failed. Thus by December 1989, four out of five tanks supplied became unusable due to cracks while the remaining one could be used only at half of its capacity. A joint inspection was conducted in December 1989 and it was concluded that the failure of the tanks was due to faulty design and bad workmanship.

The Ministry of Defence (Ministry) intimated Audit in January 1991 that DGSD is likely to initiate risk purchase action for the tanks. Ministry further stated that Rs.0.75 lakh being the security deposit made by the firm had been recovered and the balance 10 per cent amounting to Rs.1.49 lakhs of the contracted value had not yet been paid.

Thus, net amount of Rs.11.18 lakhs paid to the supplier became infructuous due to the premature failure of defective storage tanks and Rs.0.58 lakh being the value of spilled acid lost.

66. Non-utilisation of a dynamometer

An imported dynamometer costing Rs.38 lakhs required for testing engines was rejected twice at the inspection but was cleared on the advice of the Combat Vehicle Research and Development Establishment, Avadi, Madras (CVRDE) without carrying out performance test. The equipment was lying unutilised since its receipt in 1984 and consequently the testing of 800 horse power engines could not be conducted. The details of the case are as follows:

The CVRDE placed an indent in March 1980 on Directorate General Supplies and Disposals (DGSD) for 800 horse power dynamometer for testing engines. DGSD placed an order in March 1982 on a foreign firm for the equipment at an estimated cost of Rs.38 lakhs. The equipment was to be shoptested by the Inspection Wing of an Indian Mission abroad before shipment. During pre-inspections carried out in April/July 1983, the equipment was rejected by the Inspection Wing due to non-production of necessary test charts/ certificates and shop-testing could not be carried out. However, on the advice (August 1983) of CVRDE the equipment was cleared by the Inspection Wing in October 1983 based on inventory check only and without carrying out the functional/ performance test. The equipment imported at Rs.38 lakhs was received by CVRDE in February 1984 and installed in August 1984. During commissioning of the equipment, malfunctioning of the 'cranking motor' and 'data logger' was noticed. Besides, the 'cardon shaft' also became useless. A new cardon shaft was procured by CVRDE in November 1984 at Rs.0.75 lakh. After rectification of the data logger, the system was checked and cleared by the firm during April-May 1985 and by the inspection authority of the DGSD in July 1986.

During routine tests (July 1986) the rotor shaft had failed and damaged the cardon shaft and some other components also. CVRDE took up the matter with the supplier in July 1986, but the latter refused (August 1986) to bear any cost of repair because of wrong application of the equipment by CVRDE. The supplier visited in September 1986 and after examination opined that the failure was not due to any misuse of the equipment by CVRDE. In October 1987, CVRDE called for quotation from the supplier to procure rotor shaft assembly and the firm offered it for Rs.7.68 lakhs. An order was placed in March 1988 by CVRDE on the firm for the item at Rs.8.45 lakhs without obtaining financial sanction and foreign exchange clearance from the Ministry for the import. In March 1989 the supplier increased the price from Rs.7.68 lakhs to Rs.8.74 lakhs. Since the sanction for release of foreign exchange for import of the item was not forthcoming, CVRDE decided in March 1989 to procure the same indigenously and called for quotations from indigenous firms. The amount quoted by an indigenous firm was Rs.37.50 lakhs. The rotor shaft was not procured.

Meanwhile, in January 1989, CVRDE called for quotations for a cardon shaft and the rate quoted by an indigenous firm was Rs.3.83 lakhs. However, order for procurement of this item was also not placed.

The Ministry stated (October 1990) that subsequent to the release of foreign exchange in March 1990, an order was placed on the foreign firm and the items were expected during the first week of August 1990 at CVRDE.

67. Delay in procurement and commissioning of a cooling chamber

Gun Carriage Factory Jabalpur (factory) proposed in June 1982 to procure a cooling chamber for utilisation in the manufacturing of certain numbers of an equipment. Though the tender enquiry was floated in December 1982, Ordnance Factory Board (OFB) could place an order on a firm only in March 1985 at a cost of Rs.8.90 lakhs. The supply order included installation and commissioning of the cooling chamber by the firm and the firm was to supply the civil foundation and general arrangement drawings within two weeks after the placement of the order. Installation and commissioning of the cooling chamber was to be completed by July 1985. The cooling chamber was commissioned in January 1990 and liquidated damages of Rs.0.20 lakh for delay in commissioning the plant was levied on the firm. From the date of commissioning, defects in the cooling chamber were noticed and the firm was directed to repair/ rectify these defects. These were not rectified by the firm till October 1990 thereby affecting the production target of the item.

Due to delay in commissioning of the chamber, the equipment manufactured till January 1990 had to be given sub-zero temperature treatment through an alternative method at a cost of Rs.3.45 lakhs.

Delay being the main reason for non-utilisation of the cooling chamber, an examination by audit into the reasons of delay brought out that

- OFB took nearly three years to finalise the technical parameters.
- The firm, instead of supplying civil foundation and general drawings within 15 days of the placing of the order i.e. by April 1985 supplied the drawings in September 1986.
- The cooling chamber was received in batches between September 1986 and May 1987 but the firm could not commence erection work since the foundation work to be executed departmentally was completed in February 1988.
- When the foundation work was completed, the cooling chamber was erected, but commissioning was delayed until January 1990.
- After commissioning the chamber was found to be defective and these defects were not repaired/rectified by the firm till October 1990.

Ministry of Defence stated (January 1991) that the chamber was being used for existing orders of the equipment and for production of another version of the equipment for which development order had been taken up and was under advanced stage of field trials. The fact, however, remains that the cooling chamber was not largely utilised for the purpose for which it was procured. The prospect of its future use would depend on the results of field trial of another version of the equipment.

Other cases

68. Loss due to condemnation

Wooden packing boxes received in Ordnance Factory, Kanpur (factory) from other ordnance factories for re-utilisation were being accounted for in the relevant bin card and the stock was being verified every year. A scrutiny of the bin card revealed that 75,000 repairable wooden boxes valuing Rs.1.05 crores were condemned as unserviceable and were transferred in March 1989 to another bin card as fire wood. In June 1989, the transfer was regularised through an expense voucher, although as per the existing rule, change in the condition of the stores in stock from serviceable to unserviceable requires regularisation through a loss statement. The factory stated in February 1990 that the step was taken in pursuance of the findings of the Condemnation Board.

It was seen that the Condemnation Board, after a physical inspection on 7th December 1988 had observed that about 20,000 packing boxes were lying in the premises of the factory in unserviceable condition and about 55,000 boxes might have been used as fire wood in the past ten years. Since the stock was last verified by the independent stock verification group in September 1988 it was not clear why the group failed to notice the deficiency of 55,000 boxes. No discrepancy had also been found in the previous years by the stock verification group on this account.

Thus, the loss to Government to the extent of Rs.1.05 crores calls for investigation and fixing responsibility.

The case was referred to the Ministry in July 1990 and their reply has not been received (November 1990).

69. Claim foregone due to lack of evidence

Out of court settlement of a dispute with a foreign firm resulted in the payment of Rs.51.68 lakhs by firm to the Government in September 1985, against a claim of Rs.74.50 lakhs. Interest for the period from the date of filing of suit in the court (January 1969) to September 1985 amounting to Rs.55.03 lakhs was not claimed by the Government. The out of court settlement thus resulted in the foregoing of claims totalling Rs.77.85 lakhs. The case in perspective is detailed below :

In August 1950 an agreement was concluded between the Government and a foreign firm for the establishment of a fully equipped plant for the manufacture of two types of ammunition in a factory with the stipulation that the contract ceiling should not exceed 11.5 million Swiss Francs equivalent to Rs.126.50 lakhs. The firm was to receive one million Swiss Francs (Rs.11 lakhs) as licence fee for technical know-how separately. Against this stipulation Rs.165.85 lakhs (equivalent to 15 million Swiss Francs) had already been paid to the firm by 1955 under duress as the firm had threatened to abandon the work if claims preferred were not settled. The ceiling limit had thus been exceeded by Rs.39.35 lakhs (about 3.5 million Swiss Francs). An amount of Rs.6.29 lakhs (about 0.63 million Swiss Francs) relating to contract for transfer of technical know-how was, however, held up. When the firm claimed this amount, a counter-claim was filed by Government in December 1960 for an amount of Rs.53.73 lakhs later revised to Rs.54.75 lakhs including the amount overpaid and interest accrued thereon. The firm accepted a claim of only Rs.0.39 lakh in November 1962 and rejected the rest.

In December 1966, Ministry of Defence (Ministry) intimated the Ministry of Law that all the evidences required for establishing the claim were available. In 1968 an inter-Ministerial team was appointed by Ministry to examine the scope of the Government's claim and the team recommended in November 1968 for filing a case against the firm to recover the dues.

A suit was filed in January 1969 by the factory in the District Court claiming a total compensation of Rs.74.50 lakhs inclusive of interest of Rs.19.74 lakhs, for the period January 1961 to December 1968. In August 1980 Government counsel observed that there was no evidence, neither oral nor documentary to prove that the delay in completion of the contract was due to default on the part of the firm and that they were aware that the ceiling had been exceeded and excess was recoverable. The observation of the Government counsel was based on the fact that the original contract of 1950 was not available and no oral evidence could be organised.

Option of reaching an out of court settlement was taken in February 1983 in the background of non-availability of contract documents and lack of oral or documentary evidence to prove the case even though it had been specifically certified by the Ministry in December 1966 that all evidences were available in support of the claim of the Government.

The case reveals that loss of documents and non-availability of evidence resulted in Government foregoing a claim of Rs.77.85 lakhs. Further, loss of documents was not investigated into at any stage nor was it examined as to how neither oral nor written evidence could be compiled in support of a claim arising out of contractual obligations.

The Ministry confirmed (March 1990) that neither original contract documents nor sufficient written or oral evidence were available for filing in the Court and the case was weak due to lack of evidence.

70. Overpayment of customs duty

Three cases of overpayment of customs duty totalling Rs.51.23 lakhs due to indifference on the part of Ordnance Factory Board (OFB) and Embarkation Headquarters (HQ) were noticed in audit. In one case no claim for refund was filed as it was time-barred and in the other two cases refund claims were presented to the customs authorities after these were timebarred. Appeal made in February 1986 to tribunal against the rejection of the refund claims were yet to be adjudicated (April 1990). The appeals were filed after the claims were time-barred. An interesting aspect of all the three cases is that overpayment of customs duty arose out of a misrepresentation of nomenclature of currency. In place of 'French Francs' and 'Belgium Francs', the nomenclature of 'British Pound Sterling' was printed in the shipping invoices and the Embarkation HQ which received the consignments had cleared them without verification.

Details of the cases are as under :-

(i) In coverage of an indent of November 1982, the Supply Wing of an Indian Mission in London placed an order (May 1983) on a foreign firm for supply of 150 kgs. of spring steel wire at a total cost of Belgium Francs (BF) 1,46,250 to Small Arms Factory Kanpur (factory). Against the ordered quantity, the firm shipped 139 kgs. of the store (value: BF135,525 or Rs.36,418) in March 1984. The Bill of Entry (BE) prepared by Embarkation HQ was based on the invoice value of the store indicated in 'British Pound' 1,35,525 instead of 'Belgium Francs' and on that basis the value of the store was assessed to be Rs.20.43 lakhs (April 1984) on which the customs duty was assessed as Rs.35.36 lakhs. In September 1985, the Embarkation Commandant forwarded the BE and assessment of customs duty of Rs.35.36 lakhs to the factory for perusal and comments. The factory returned the BE in October 1985, without pointing out the erroneous indication of the unit of currency of the value of the store. Meanwhile, customs duty to the extent of Rs.35.36 lakhs (including Rs.40,508 paid earlier) against the store worth Rs.0.36 lakh only was paid by the Embarkation Commandant in June 1985 and the same was accounted for in the records of the factory in July 1985.

The factory asked the Embarkation Commandant in September 1986 to get the refund of excess customs duty already paid. No refund could be claimed from the customs authority as the case had become time-barred under the Customs Act.

Thus, non-verification of the despatch documents and clear omission on the part of the factory and accounts authorities to detect the error in the unit of currency in the BE led to the levy of heavy customs duty incorrectly (Rs.34.76 lakhs).

(ii) A supply order was placed in March 1982 by the Supply Wing of the Indian Mission in London on a French firm for certain spare parts for nitrocellulose plant indented by Director General Ordnance Factories in July 1978. The goods were valued at Rs.0.75 lakh equivalent of French Francs (FF). In the printed invoice of Director General, Supply Wing, London, however, the nomenclature of the currency was shown as 'British Pound Sterling'. The goods were, therefore, valued at Rs.8.40 lakhs equivalent of Pound Sterling and customs duty of Rs.11.13 lakhs was assessed in July 1983. The Embarkation HQ received the goods after payment of the duty. In April 1985 a refund claim for Rs.10.02 lakhs was made by Embarkation HQ but the claim was rejected in July 1985 as time-barred. An appeal against the order was also rejected in December 1985. A second appeal was filed in February 1986. No further development had been reported.

(iii) In another case due to error in nomenclature of the currency of payment, customs duty of Rs.7.10 lakhs was assessed and paid in September 1983 on a consignment of four sets of coupling with spring plates and flanges. Here also the printed invoice recorded the nomenclature as 'British Pound Sterling' and this was not corrected to FF. Nor was it verified at the time of release of the consignment by the Embarkation HQ in September 1983, if this was correct value of the goods received. This resulted in excess payment of customs duty of Rs.6.45 lakhs. A refund claim was made by Embarkation HQ in June 1985 which was rejected as time-barred in July 1985. An appeal against the decision was also rejected in December 1985. A second appeal was filed in February 1986. No development had been reported.

Thus, excess customs duty amounting to Rs.51.23 lakhs was paid due to non-verification of the nomenclature of the currency before release of payment. Further, in none of the cases appeals were filed in time. No procedure for verification of invoices with reference to the supply orders has been prescribed.

The cases were referred to the Ministry of Defence in July 1990. Their replies have not been received (December 1990).

71. Construction of hostel accommodation

As per the agreement, concluded in May 1980, the foreign technicians, visiting the Ordnance Factory, Chanda for technical assistance etc. for establishing production of ammunition, were to be provided with air-conditioned furnished accommodation. To accommodate the technicians, expected to arrive in early 1985, the factory submitted a proposal in October 1984, to Ordnance Factory Board (OFB) for sanction of construction of hostel at an estimated cost of Rs.44.40 lakhs. The hostel was to be constructed by the Military Engineer Services (MES). OFB while considering the proposal of the factory opined (November 1984) that as per the time frame, the proposed hostel was unlikely to come up by early 1985 by which period the first batch of technicians was due to arrive. OFB directed the factory to make necessary arrangements to modify the existing Apprentice Hostel or convert two residential accommodation for the purpose. The factory, however, persisted with the proposal and intimated OFB in November 1984, that construction could be completed within six to nine months of the receipt of administrative approval. Although this was unrealistic, sanction for the work was issued by OFB in April 1985 at an estimated cost of Rs.24.59 lakhs.

Contract for the construction work was concluded by MES in September 1985 at Rs.27.04 lakhs. The hostel after completion, was taken over in April 1988 and defects had not been rectified (October 1990). Expenditure booked on this work till September 1989 was Rs.26.53 lakhs.

Meanwhile, the foreign specialists had arrived at the factory in April 1985 and stayed upto December 1988. They were accommodated in MES bungalow and in Bachelor's Mess modified by providing required air-conditioning facilities etc. involving Rs.4.87 lakhs. The hostel taken over in April 1988 and meant for accommodating foreign technicians was never utilised for that purpose.

OFB intimated Audit, in March 1990, that the hostel would also be utilised as VIP accommodation occasionally. They also stated in November 1990 that the objective of using new hostel to accommodate senior officers was envisaged since inception of the proposal.

The fact, however, is that the objective of construction of the hostel was to accommodate the foreign technicians and no other objective was expressly provided in the sanction.

The matter was referred to the Ministry of Defence in July 1990 and their reply has not been received (December 1990).

72. Loss of revenue

Ordnance Factory, Kanpur placed an order on a firm in July 1984 for conversion of 132 tonnes of aluminium alloy scrap into 60,000 forgings. The forgings were to be supplied by 28th February 1985. As per order, the firm was to lift the scrap from the factory and in case of its failure to lift the scrap within specified dates, it would be liable to pay ground rent at two per cent of the value of unlifted quantity per week, for a period exceeding three days during which such failure continued.

After lifting 37.62 tonnes of scrap the firm intimated the factory, in November 1984, its inability to lift further quantity due to (i) late receipt of scrap and delay in lifting it from the factory, and (ii) disturbances and other circumstances beyond their control and requested for permission to use their own scrap/raw material for conversion into forgings. The factory permitted (December 1984) the firm temporarily to use their own scrap stipulating that factory's scrap should be lifted as soon as the problems were over. In January 1985 the factory withdrew their permission and asked the firm to lift factory's scrap immediately. After lifting 90.08 tonnes of factory's scrap the firm approached the factory in May 1985 for lifting the balance 41.92 tonnes, without levy of ground rent. The factory extended on 29th July 1985 the period of lifting the scrap upto 12th July 1985. Till July 1985 the firm lifted a total quantity of 107.24 tonnes of scrap but no ground rent was charged on it.

In January 1986, the factory approached the Ordnance Factory Board (OFB) for a decision regarding waival/levy of ground rent. OFB stated in June 1986 that it would be decided by the Ministry as OFB had no power to waive the ground rent. The factory assessed the re-coverable ground rent as Rs.3.83 lakhs for the period from July 1985 to August 1986. During June 1986, the firm lifted a further quantity of 21.255 tonnes. A quantity of 3.5 tonnes was withheld towards ground rent. In August 1986, OFB intimated the factory that the firm was liable to pay the ground rent but its waival could be processed if the factory categorically recommended with valid reasons for the same. However, the Tender Purchase Committee (TPC) of the factory decided (November 1987) to allow the firm to lift the balance quantity of scrap without imposing any ground rent in consideration of the fact that the firm had completed the order by using its own scrap. No amendment to conditions relating to waival of ground rent was, however, issued. The firm lifted the balance quantity of 3.5 tonnes of scrap in January 1988. OFB accepted the opinion of the TPC and the case was not referred to the Ministry. Thus, waival of the ground rent of Rs.3.83 lakhs without the approval of the Government was irregular and resulted in loss of revenue.

The case was referred to the Ministry in July 1990 and their reply has not been received (January 1991).

CHAPTER V

WORKS AND MILITARY ENGINEER SERVICES

73. Collapse of hangar and consequential damages

In November 1983, Headquarters Central Air Command accorded sanction for provision of false ceiling, bird proofing and better lighting in the existing five hangars at a station. These works were executed through a contract concluded in July 1984 and completed by December 1985 at a cost of Rs.25.58 lakhs. The hangars were being utilised by a squadron for its first line operations. In December 1988, special repairs to the roof of one of the hangars was sanctioned and the work commenced in May 1989. In May 1989 itself, while the roof repair was in progress, the hangar collapsed trapping and extensively damaging some aircraft.

A Court of Inquiry investigated the accident and concluded (July 1989) that the hangar collapsed due to over loading; and inadequacy of the design in the erection of false ceiling; the engineering practices followed during execution of the false ceiling work were unsound. Further, there had been a series of lapses/ negligence associated with planning and execution of works, as well as maintenance over a period of time. It added that depending on the degree of neglect, administrative and disciplinary action be taken against officers and contractors.

It was indicated by Air Headquarters in August 1989 that subsequent to the collapse, the engineers found that the design of false ceilings was unsound on additional nine hangars (four at the same station and five at two other stations), necessitating the dismantling of false ceiling.

The Ministry stated (October 1990) that there was overstressing of six members by 4 to 30 per cent over permissible load and 22 to 50 per cent over reduced permissible load in another hangar which was almost similar to the collapsed one as indicated by a Technical Board which examined the aspects from serviceability point of view after the collapse.

The extent of damage caused to the hangar was worked out to Rs.12.75 lakhs. The damaged aircraft were repaired in July/August 1989 and expenditure incurred on repair so far (October 1990) was Rs.2.83 crores.

Thus, provision of false ceiling without considering its adverse effect on the structural stability of hangar, defective planning and poor maintenance led to collapse of hangar resulting in damage to hangar costing Rs.12.75 lakhs and repairs to some aircraft at a cost of Rs.2.83 crores.

The cost of dismantling the false ceilings on additional nine hangars was yet to be assessed.

74. Infructuous expenditure on construction of an airfield

In February 1977, Ministry of Defence (Ministry) accorded sanction for acquisition/transfer of 2000 acres of land for construction of an airfield. Sanction was also accorded in September 1982 for payment of compensation of Rs.23.69 lakhs on account of royalty value of commercial and non-commercial trees and other forest produce standing on the land acquired/ transferred. The land was taken over by the Defence estate authorities in December 1982. At about the same time, sanction of the Ministry was issued that the Border Roads Organisation (BRO) would take over the land on behalf of the Air Force.

Between April 1982 and December 1984, six sanctions were issued by Air Headquarters (HQ) for the execution of work relating to the air-field at a total cost of Rs.298.83 lakhs on the land taken over earlier. The works sanctioned were entrusted to the BRO for execution. Besides, BRO also accorded ex-post-facto sanction in May 1986 for construction of timber/log bridges at Rs.9.75 lakhs.

In December 1985, however, it was decided to suspend construction of the air-field and on 1st January 1986, the Border Roads Development Board instructed the project Chief Engineer (CE) to stop execution of the work. In April 1986, the project CE informed the Air Command concerned that the work under execution with booked expenditure of Rs.192.75 lakhs would become 'unfit' due to the adverse climate of the area. Much of the roads would disappear in stretches unless protective and surfacing work were completed and jungle so far cleared at a cost of Rs.28.12 lakhs would regenerate. The project CE, therefore, sought permission to complete the work.

The Ministry (January 1987), in consultation with Air HQ, decided to keep the project in suspended animation and review the situation on a year to year basis. The assets created were to be maintained by BRO in terms of sanction issued by Ministry. Expenditure on the maintenance of the assets during 1986-90 amounted to Rs.7.60 lakhs. The work continues to remain suspended (October 1990).

While confirming the above facts, the Ministry indicated (October 1990) that the project on construction of the air-field was reviewed in December 1985 and it was decided to keep the project in abeyance.

To conclude, the works in connection with the construction of an air-field was given up after incurring an expenditure of Rs.220.87 lakhs on civil works and jungle clearance. The engineers themselves have gone on record that the expenditure will be infructuous if it is not completed.

75. Sanction of works in violation of work procedure and for unauthorised use

Two Boards of Officers assembled in May 1983 to assess deficient single living accommodation in respect of units 'A' and 'B' at location 'Z' recommended the provision of the following accommodation:

Unit 'A': Accommodation for
32 Havildars and
160 Other Ranks

Unit 'B': Accommodation for
8 Havildars and
80 Other Ranks

The Corps Headquarters (HQ) concerned accorded two sanctions in September 1983 for Rs.24.94 lakhs and Rs.24.69 lakhs in respect of units 'A' and 'B'. Accommodation for both the units was proposed to be sited together. A contract was concluded by Military Engineer Services (MES) in April 1984 for the purpose at a cost of Rs.39.51 lakhs. The work was commenced in September 1984 and was completed in March 1988 at a total cost of Rs.52.57 lakhs.

The buildings were not used as single living accommodation for troops. They were used to run a school since March 1988. To an audit query regarding the un-authorised construction of the buildings for use as school under the garb of construction of living accommodation for troops, the Sub-Area Commander informed Corps HQ in November 1987 that:

- Though the purpose of using these buildings as school was not authorised as per scales of accommodation, the buildings were to be used as school as per orders of higher authorities.
- To regularise the case, Government sanction had to be obtained which would require fixing responsibility for sanctioning of unauthorised works. The other alternative will be to deny that the buildings were being used as a school by justifying that some living rooms were used as class rooms for education of Army personnel.

The Garrison Engineer concerned stated in June 1989 that the occupation/ vacation reports of buildings under the custody of units required to be rendered under rules had not been received since long. The Garrison Engineer further added that at present the buildings were in possession of two schools.

It was also observed that even while forwarding the Board proceedings in June 1983 recommending sanction of living accommodation for troops, the Sub-Area Commander had indicated that these projects were to be sanctioned for actual use as a school since funds from Army Welfare for a school building were not available.

In October 1990, the Ministry of Defence in their part reply accepted that two jobs were executed under a single contract by the Chief Engineer concerned and intimated that the completion cost of the work was Rs.52.57 lakhs.

Thus, construction of single accommodation for troops at a cost of Rs.52.57 lakhs was sanctioned by lower authorities for actual use as a school which was not authorised as per Government orders. Further, issue of such sanctions violated the basic provision of the Defence Works Procedure according to which 'no works will be sanctioned unless it is considered essential to the effective functioning of the Defence Services'.

76. Un-economical utilisation of land for the construction of quarters at Bangalore

Sanction for construction of three quarters for senior officers in single storey with an area of 230.66 sq. m. including an attached office in Bangalore was accorded in March 1982 by the Government. The Engineers recommended to the Army Headquarters (HQ) in May 1982 construction of quarters in triple storey keeping in view the scarcity and cost of land in the cantonment area. They also stressed that construction of three quarters in single storey would be totally uneconomical. However, the Command HQ decided in October 1982 that the three quarters sanctioned would be planned in double storey with scope for construction of one more quarter in the next phase. The site plan approved by the Command HQ in January 1984 covered an area of approximately 4260 sq. m. land for four quarters in double storey leaving an adjacent area of 4485 sq. m. vacant for future expansion. In August 1984, Command HQ on further reconsideration, approved construction of five quarters in single storey only. This would have necessitated the utilisation of the full stretch of the available land measuring 8745 sq.m. instead of 4047 sq. m. (one acre) land required for five quarters as indicated by the engineers resulting in excess use of 4698 sq.m. of land approximately, costing Rs.117.44 lakhs.

Government sanctioned in March 1985 a project including two more quarters of similar type as those sanctioned in 1982, but in double storey. In October 1985, the Army Commander decided that these five quarters be constructed in double storey to save on land. Necessary amendment to the sanction of March 1982 was issued in May 1986 to construct three quarters with a plinth area of 249.92 sq. m. each in double storey. Therefore, in terms of sanctions issued by Government in March 1985 and May 1986, five quarters were to be constructed in double storey only.

Notwithstanding these sanctions issued by Government, the Army Commander further decided in January 1986 to construct the said quarters in duplex type (an apartment with rooms on two floors and a private stair case). Clearance to go ahead with the tender action was given by the Command Chief Engineer in May 1986. The construction of the five quarters in duplex type was adopted as an exception, not to be cited as a precedent for adoption elsewhere. Tenders were accepted in December 1986. The work was completed in June 1988.

Thus, the construction of the five quarters adopting independent and duplex type construction was not in accordance with the sanction which was for construction in double storey. This resulted in avoidable use of extra land measuring 4698 sq. m. costing approximately Rs.117.44 lakhs.

The case was referred to the Ministry in May 1990 and their reply has not been received (November 1990).

77. Avoidable expenditure on excess floor area for class rooms

In January 1987, additional training load was shifted to a Naval training establishment at Cochin. A Board of Officers, which assembled in May 1987, assessed requirement of 1550 square metre (SM) floor area for total authorised training establishment of 1550 men including additional training load. It recommended construction of 16 additional class rooms with floor area of 768 SM taking into account the floor area of 768 SM already available. Accordingly, in January 1988 Headquarters Southern Naval Command sanctioned provision of additional class rooms at an estimated cost of Rs.44.40 lakhs.

However, as per scales of accommodation for Defence Services (1983), the floor area for the total authorised establishment (1550 numbers) based on 2 SM per man for 20 per cent of the authorised establishment plus 20 per cent additional on account of recruits and 10 per cent on account of reinforcement, would work out to 806 SM only. The Board erroneously worked out a total requirement of 1550 SM floor area, calculating at 50 per cent of the authorised establishment. This was done inspite of the fact that representative from Military Engineer Services was a member of the Board. Thus, after considering the already available accommodation (768 SM), the floor area actually permissible as additional requirement was only 38 SM (806 SM-768 SM) as against 768 SM assessed by the Board.

In November 1988, the Chief Engineer Cochin Zone concluded a contract at a cost of Rs.28.99 lakhs for construction of additional class rooms. The construction commenced in December 1988 and was completed at Rs. 28.80 lakhs in February 1990.

Ministry of Defence stated (October 1990) that Engineer-in-Chief's Branch had been directed to intimate the circumstances under which the Board made a wrong assessment and to take suitable action to fix responsibility for the lapse. Results of investigation are awaited.

To conclude, the assessment of requirement of floor area for class rooms had been incorrectly worked out by the Board inspite of association of a representative of Military Engineer Services responsible for preparation of accommodation statement. This had resulted in construction of excess floor area to the extent of 730 SM which resulted in an avoidable expenditure of Rs.27.45 lakhs.

78. Excess payment of electricity charges

A scrutiny of payment of electricity charges by the Military Engineer Services (MES) to the State Electricity Boards for supply of electricity revealed that in the undermentioned cases, avoidable extra expenditure was incurred by the department.

CASE I

In February 1964, an Executive Engineer of the Central Public Works Department concluded an agreement with the Bihar State Electricity

Board for supply of electricity at a station. The responsibility for operating the agreement was transferred to an MES Division and subsequently to another MES Division.

The terms of payment of electricity bills stipulated that failure of the consumer to pay the bills within the specified period would not only result in forefeiture of the rebate but would also make the consumer liable for payment of "delay payment surcharges".

The electricity bills amounting to Rs.0.53 lakh for the months of February, May and September 1976, May 1977 and March 1978 and transformer fuel surcharge and annual minimum guarantee charges were not paid by the MES to the Board. In January 1983, the Board claimed an amount of Rs.2.90 lakhs as delay payment surcharges besides arrear bills of Rs.0.53 lakh. The arrear bill to the extent of Rs.0.49 lakh was paid in February 1983 and details for Rs.0.04 lakh was called for. The department contended that Defence Services Organisations were exempted from the payment of penalty and therefore requested for waiver of the penalty.

The Commander Works Engineer (CWE) also requested (November 1988) the Chairman of the Board for waiver of the delayed payment surcharge. The Chairman in reply stated (December 1988) that there was no provision for waiver of delayed payment surcharge in Board's rule/tariff.

In November 1988 the CWE asked that Garrison Engineer (GE) to pay the dues under protest and to take up a case at higher level. An amount of Rs.12.86 lakhs, on account of delayed payment surcharge had to be paid by the GE to the Board in December 1988.

The Ministry of Defence (Ministry) stated in September 1990 that the penalty had not been waived and that a case was being taken up for arbitration under clause 16 of the agreement.

CASE II

MES entered into an agreement in 1980 with Andhra Pradesh State Electricity Board (APSEB) for bulk supply of high tension electricity to Air Force Academy at Hyderabad. The agreement was for a maximum contracted demand of 700 KVA from 13th October 1979 and was operative for a period of ten years from 10th December 1980.

In August 1983, MES approached the APSEB for additional contracted demand of 250 KVA from September 1984 to cater to the increasing requirement of the Academy and that of a project being executed by Hindustan Aeronautics Limited (HAL). However, approval for increasing the contracted maximum demand to 950 KVA was obtained from the APSEB only in February 1987. Due to delays in payment of security deposit and submission of certificate of approval of electrical inspector to APSEB by MES, a fresh agreement could be concluded only in March 1989 i.e. after a lapse of two years. In the meantime, electricity consumption exceeded the maximum contracted demand from September 1984 onwards.

The consumption of electricity exceeded the contracted demand with the result that penal charges totalling Rs.41.33 lakhs paid for the period September 1984 to March 1990 was awaiting regularisation.

The Ministry stated in September 1990 that HAL could not obtain and produce the Electrical Inspector's Report in time and MES had informed the Academy to keep the consumption within the ceiling imposed by the APSEB.

CASE III

MES entered into an agreement in November 1979 with APSEB for bulk supply of electricity to Defence Research and Development Organisation at Hyderabad for a contracted demand of 3,500 KVA. The agreement was effective for a period of five years.

As per electricity tariff, the APSEB, levied in December 1983 additional charge on consumers for consumption exceeding five per cent of the contracted demand and surcharge whenever average power factor fell below stipulated levels.

During April 1987 to August 1989, general power cut upto a maximum of 60 per cent for different months was imposed on contracted demand by APSEB. However, consumption of power could not be reduced to the restricted quantum in spite of the instructions issued by Research and Development Headquarters in May 1988 to MES to restrict supply of power to avoid the payment of additional charge.

During April 1987 to August 1989, the actual demand for power exceeded the allotted quantum resulting in payment of additional charge on account of excess consumption amounting to Rs.175 lakhs approximately.

During the same period, the power factor achieved by the MES varied from 0.64 to 0.79 as against stipulated level of 0.85 resulting in payment of avoidable surcharge of Rs.119 lakhs approximately by the MES due to failure in achieving the stipulated power factor. Timely action was not taken by MES to improve power factor by installing power factor capacitors. The MES stated in September 1989 that the excess consumption and consequent payment of additional charges were due to severe power cut imposed by the APSEB and action was being taken for improving power factor.

The Ministry stated in October 1990 that all out efforts were made to restrict the power consumption but the same could not be restricted due to requirements of users for vital research and development projects of strategic importance and power factor could not be kept within the permissible limit. Even the Government of India was in favour of paying penal charges rather than restricting the supply. The Ministry did not clarify why timely action was not taken to achieve the stipulated power factor level.

CASE IV

APSEB levies low power factor surcharge on its consumers whenever the average power factor falls below the prescribed minimum.

In another Defence Laboratory, a main receiving station and new furnace were commissioned in July 1988. Since commissioning of the main receiving station, the power capacitors installed in 1968 were found not to be in working order which led to drop in power factor and payment of penal charges. The amount of penal charges paid to APSEB during July 1988 to February 1990 amounted to Rs.32.72 lakhs. The capacitor and reactor were subsequently got replaced/repaired at a cost of Rs. 3.25 lakhs in January/March 1990 which helped in attaining the requisite level of power factor thereafter.

The Ministry stated in October 1990 that the capacitors had been installed and used since 1968 and were found to be defective on incorporating with the new main receiving Station in 1988.

CASE V

In order to provide electric supply to contractor 'A' executing pile foundation for quarters for Defence personnel at Cochin, GE (Project) Cochin concluded an agreement in February 1987 with the Kerala State Electricity Board (KSEB) for supply of 250 KVA electric power. The agreement stipulated that the billing demand per month leviable by the KSEB was actual minimum demand established during the month or 75 per cent of the contracted demand or 50 KVA whichever was higher. The electric supply was made available from April 1987.

In August 1987, the contract demand was accepted to 750 KVA by KSEB. As the power requirement of contractor 'A' was 350 KVA only it was decided to supply 300 KVA to contractor 'B' who was also executing civil work. The contract was accordingly amended in October 1988 to include supply of electricity to contractor 'B'.

Though power load of 650 KVA was allocated to the two contractors, the recorded maximum monthly demand was less than 75 per cent of the initial contracted demand of 250 KVA except in August 1987 when it was 258 KVA and the recorded demand during the period of 34 months from April 1987 to January 1990 ranged from 18 KVA (January 1990) to 258 KVA. This necessitated payment of the minimum demand charges on the basis of 75 per cent of the contracted load. The payment made to KSEB for the power load not actually consumed during the 34 months period amounted to Rs.5.60 lakhs.

The Ministry stated in October 1990 that the excess payment was due to unavoidable reasons.

Thus, an excess and avoidable payment of Rs.386.51 lakhs was made to the State Electricity Boards in the above mentioned five cases due to non-observance of the contractual provisions and non-adherence to power cuts when required and delay in replacement of capacitors.

79. Augmentation of a water supply scheme

To meet the increased requirements of water at an Air Force station, a State water supply and drainage board (Board) was approached in 1977. In January 1978 the Board, after discussion with Air Force and Military Engineer Services (MES) authorities intimated Garrison Engineer (GE) at station 'X' that proportionate capital cost to be borne by Air Force for supply of four lakh gallons of water per day (LGPD) in a common project costing Rs.127.36 lakhs would be Rs.10.18 lakhs plus proportionate annual maintenance charges (not quantified). In case proportionate cost was not paid, water charges payable for 1000 gallons would be Re.0.96 amounting to Rs.384 per day for the required amount of four LGPD. The Board also mentioned that the scheme was under revision and the rates may vary slightly.

In February 1980 the Board, while confirming a provision of four LGPD of water in the combined scheme, revised the proportionate cost to be borne by the Defence Services to Rs.31.85 lakhs and stated that the exact proportionate cost will be intimated prior to taking up of the scheme for execution. The proposal to bear the proportionate cost was preferred and was also approved by the Ministry of Defence (Ministry) in May 1983.

Accordingly a go-ahead sanction was accorded for payment of Rs.31.85 lakhs to the Board and the payment was made in June 1983 without entering into a formal agreement, although three years had elapsed after receipt of the enhanced cost estimates from the Board. Formal sanction for the project relating to augmentation of water supply was issued by the Ministry in October 1983 at an estimated cost of Rs. 181.29 lakhs. The sanction inter-alia catered for:

	Rs in lakhs
Payment to Board for release of four LGPD	31.85
Provision of water mains from Board's tapping point to Air Force camp and sump, pump house and connected services for the scheme	37.71
Renewal of pipe lines from the pump house to the location and a portion of a delivery line to Air Force camp	64.97
Development of four shallow wells and pump sets and connected services including rising mains.	45.13

The laying of water mains from the tapping point of the Board to Air Force camp was completed in September 1984 and it was being used for supply of water to Air Force sump.

For renewal of the existing pipe line from a pump house to a location and a portion of a delivery line to Air Force camp a contract for laying of the cast iron (CI) pipe line at Rs.6.04 lakhs was concluded in December 1985 which was to be completed in June 1986. As per the terms of the contract, pipes were to be supplied by the MES. From July 1983 to April 1985, the MES procured the pipes at a cost of Rs.55.10 lakhs. The contract also specified that the pipes laid should be tested for a pressure of 14 Kilogram per square centimetre for a length of not more than 300 metres. Thirty tests were carried out after laying the complete pipe line between June 1988 and October 1989 applying a pressure ranging between 4 and 7.5 kilogram per square centimetre. Even with this reduced pressure, the tests resulted in pipe bursts and joint breaks. The contractor attributed the pipe bursts to defective pipes supplied by the MES.

The work also involved crossing of railway line but portion of the pipe line to be laid across the railway line was to be done by railway authorities who were approached in September 1983 for clearance for execution of this part of the work. The work was entrusted to the Railways only in August 1988 when an advance of Rs.0.76 lakh was paid to them. A further payment of Rs.1.04 lakhs was made in June 1989 but the work had not commenced till February 1990. Thus, the renewal of pipe line which was expected to be completed by June 1986 had not been satisfactorily done and commissioned till January 1990 and no benefit had so far accrued to the Air Force station from the expenditure incurred on this work.

After completing the laying of CI pipes, the MES was holding a stock of these pipes valued at Rs.5.72 lakhs (February 1990). The surplus was due to the deletion of construction of two shallow wells from the scope of the project because of non-acquisition of the land and was stated to have been transferred to other formations.

Because of the non-commissioning of the new pipe line, the supply of water continued to be made through the existing system.

The sanction of October 1983 had included development of four shallow wells but the Department failed to acquire land for two wells resulting in reduction of scope of the work by Rs.7.74 lakhs (July 1988). Subsequently in October 1989 a Board was ordered for acquisition of the required land and its recommendation was awaited (February 1990). Delay in acquisition of land was attributed to abnormal delay in obtaining no objection certificate from the State government.

A contract was concluded in November 1984 for other items of work under the project viz. construction of wells, underground sumps, pump house and sub-station at a cost of Rs.21.04 lakhs. The work was to be completed by December 1985. Because of the failure of the contractor to complete the work despite notices, the contract was cancelled in April 1986 and the work was completed in October 1987 at his risk and cost. A sum of Rs.1.18 lakhs remained to be recovered from the defaulting contractor even after a period of four years of cancellation of the contract. The matter was under arbitration.

The supply of water by the Board started in March 1985. The average rate of supply per day during March 1985 to December 1989 ranged from 3.77 lakh litres to 13.26 lakh litres as against

18.18 lakh litres (four LGPD) agreed to be supplied by the Board. The shortfall was managed by restricting the supply to the users. The water supplied was being charged for from March 1985 at Rs.10.23 (approximately) per 1000 gallons instead of Re.0.96 per 1000 gallons although the MES had paid the proportionate capital cost and water charges were not payable in addition. The GE had also paid to the Board a sum of Rs.1.56 lakhs for supply of water for the period upto March 1990 as the entire amount of Rs.31.85 lakhs deposited with them in June 1983 had already been adjusted by the Board.

No agreement for the water supply had been concluded with the Board upto February 1990. The Board had also not paid any interest on Rs.31.85 lakhs deposited in June 1983. The MES approached the Chief Secretary of the State in December 1989 for making Air Force joint owner of the scheme as envisaged but the latter intimated in January 1990 that it was not possible at this late stage.

Although the project was due for completion in 1986, the present progress was 92.3 per cent after incurring an expenditure of Rs.169.41 lakhs.

The Ministry stated in September 1990 that MES at no stage reconciled/agreed to being deprived of the joint ownership of the scheme. Adjustment of water charges was done by the Board unilaterally without the consent of the MES or Air Force authorities. Due to restrictions imposed on laying the pipeline close to the National Highway by the State Highway department the work was delayed. Presently the pipeline was under testing and would be put to use shortly. The pipes were procured from the DGSD duly inspected by their inspection wing. Minor leakages/bursts in a pipeline of nine Kms length were normal as the pipeline has been laid around the National Highway and the rural highways. Part of the work requiring execution by the Railways would be taken up by the Railways immediately and would be completed in all respects by end of October 1990. The Ministry added that the unutilised pipelines would be used in the water supply works under execution.

To sum up:

- Water supply scheme due for completion in 1986 was still in progress.

- Failure to conclude a proper agreement for joint participation in the scheme resulted in huge recurring payment towards cost of water supplied as against a payment of only maintenance charges. The change in the terms of water supply adversely affected the interest of the Defence Services as the entire amount of Rs.31.85 lakhs stood adjusted by March 1990 against cost of water supplied.

- New pipeline laid at a cost of Rs.6.04 lakhs had not been commissioned owing to defective pipes costing Rs.55.10 lakhs procured by DGSD and issued by the MES to the contractor.

80. Execution of a water supply scheme

Ministry of Defence accorded sanction in May 1981 for provision of external services at a cost of Rs.273.70 lakhs (as amended) at Suratgarh which included a water supply scheme costing Rs.134 lakhs. Five supply orders through rate contract of the Director General of Supplies and Disposals (DGSD) were placed between July 1981 and April 1983 for procurement of 16,800 running metres (RM) of cast iron (CI) pipes on two firms 'X' and 'Y' and 14,107 RM of CI pipes were supplied by them at a cost of Rs.74.63 lakhs. Two contracts, one in April 1982 and the other in February 1983 were concluded by a Zonal Chief Engineer (CE) with two contractors 'A' and 'B' for laying the pipes.

While the works under the first contract were in progress, an inspection carried out in February 1983 by a Board of Officers revealed that the pipes were sub-standard and did not have the Indian Standard Institute (ISI) markings. By that time 5,800 RM of pipes had already been laid. While the complaint regarding the defects was yet to be lodged with the supplier, the engineers continued to issue the pipes and place further orders for procurement of 2700 RM.

While the works under the contract concluded with firm 'B' were completed in April 1984, the works under the contract concluded with firm 'A' had to be terminated in September 1983 as the works were left incomplete. Another contract at the risk and expense of the defaulting contractor was concluded in December 1983 with firm 'B' to get the left-over works completed. These works were finally completed in May 1985. Meanwhile, in October/November 1984, when the pipes laid till then were put to trial test, 49 pipes measuring 304 RM had burst at a working pressure of only two to three Kg per sq.cm. as against 12 Kg per sq.cm. required. Majority of the burst pipes were in the first stretch of 1981 RM. 15 of these pipes were supplied by firm 'X' who had replaced only six of them till October 1990 and 22 pipes supplied by firm 'Y' were not replaced as the firm disowned responsibility. The cost of replacement and relaying of 22 pipes worked out to Rs.1.03 lakhs. The source of supply of remaining 12 pipes costing Rs.0.41 lakh could not be identified.

A Technical Board examined the functional utility of the water supply scheme in May 1985 and indicated that the failure was mainly due to substandard quality of CI pipes, and the scheme would meet the requirement once it was tested and commissioned. It also indicated that testing and commissioning of the scheme was not undertaken as there was apprehension that further bursting of pipes could not be ruled out. As such the water supply scheme had not yet been established at the required pressure (October 1990).

In reply to the observations of audit, the Zonal Chief Engineer stated in May 1990 that the pipes were not stringently inspected and properly marked pipes were not issued for laying. Prompt action regarding sub-standard pipes was not taken up with the DGSD and the suppliers till September 1985 by which time the execution of the scheme was completed. He added that action against the defaulting officers was in progress and though the scheme could not be established at the required optimum pressure yet the same was behaving "fairly satisfactorily".

However, the users had been continuously representing as recently as 1988 and 1989 that "there was no pressure, no water for cooking, bathing and in toilets".

In October 1990, the Ministry stated that "the scheme could not be established, as the same had not been tested at the optimum pressure although it is behaving fairly satisfactorily and is in operation; so far as the position of pipes is concerned, it is pointed out that all pipes procured through DGSD are to be stringently inspected at the factory before the manufacturer despatched them to the consignee and the markings on the pipes are also to be checked by their inspector at this stage".

Thus, the value for money (Rs.134 lakhs) has not been realised as the water supply scheme sanctioned in 1981 and completed in middle of May 1985 was yet to be tested, commissioned and established at the specified pressure (October 1990) due to procurement and use of sub-standard CI pipes.

81. Infructuous expenditure on construction of a classification range

In 1968, a small arms classification range (range) was constructed at a station on 307.73 acres of land at a cost of Rs.1.81 lakhs. However, as the land in question was inadequate to provide full safety distance beyond the staff butt, the range was declared unfit in July 1970.

In June 1978, the Army Headquarters (HQ) issued instructions for providing additional safety measures to all existing ranges. Accordingly, a board of officers (board) held in August 1978 recommended the acquisition of additional area of 191.05 acres of land. This land, could not be acquired. Another board held in April 1982 recommended that the unutilised existing range had to be made functional at the earliest, as in its absence, troops have to travel 180 Kms both ways to the nearest range which was time consuming, resulting in wasteful use of transport and seriously affecting their training. However, the board was aware of the encroachments on the land which was under process of acquisition by the State authorities.

Sanction for construction of another range at the same station was issued by a Corps HQ in November 1982 for Rs.7.23 lakhs. Funds for the work were released in December 1982 and contract for necessary work services was concluded by the Garrison Engineer (GE) concerned in September 1983, which was completed in January 1985 at a cost of Rs.3.43 lakhs and handed over to the users in July 1985. Another contract was concluded for construction of foot-paths, culverts and cattle fencing at a cost of Rs.2.56 lakhs in April 1987. The financial effect against these services was, however, Rs.2.51 lakhs.

The work which started without getting the physical possession of the land could not be completed, as the area required for the safety distance was not made available. The sanction for acquisition of land accorded in February 1982 was cancelled in August 1989. It was decided to foreclose the work in November 1989. The total expenditure incurred on the works amounted to Rs.5.94 lakhs which included fabricated items worth Rs.0.96 lakh lying with a contractor for incorporation in the work (October 1990).

The Ministry of Defence (Ministry) stated in October 1990 that the work commenced in anticipation of the land acquisition, could not be completed as the land could not be acquired due to changed political circumstances and encroachment. It added that as regards the range constructed in 1968, the Army authorities were being requested to explore the possibility of using the assets already created after necessary modification.

The Ministry's reply, however, did not take into account the fact that the range constructed in 1968 had already been declared unfit since 1970 and in the absence of additional land required to maintain safety distance, the work services created could not be used.

Thus,the range constructed in 1968 at a cost of Rs.1.81 lakhs could not be put to use since July 1970 for want of adequate safety distance and work on another range at the same station on which an expenditure of Rs.5.94 lakhs had been incurred had to be foreclosed in 1989 as it was commenced without taking over additional land required.

82. Extra expenditure on re-tendering

In February 1986, the Ministry of Defence (Ministry) accorded sanction for provision of married accommodation for officers at Patiala at an estimated cost of Rs.290.45 lakhs, revised to Rs.291.30 lakhs in October 1986. Tenders for the execution of the work were issued in May 1987 by the Zonal Chief Engineer (CE). The lowest offer of a firm for Rs.322.10 lakhs, valid upto 25th September 1987, received in July 1987, was found to be in excess of the prescribed ten per cent tolerance limit. Therefore, a proposal based on the lowest offer was submitted by the Zonal CE to Engineer-in- Chief's (E-in-C) branch on 21st August 1987 for obtaining financial concurrence pointing out, that the cost was not likely to come down on retendering in view of the rising trend of prices in the market and conditions prevailing in Punjab. The offer was extended upto 31st October 1987.

In October 1987, on the advice of the Ministry the E-in-C's branch directed the Zonal CE to re-tender the work in order to obtain reduction in rates. In the meantime, certain changes in layout of blocks were projected by users in June 1987. This was turned down by the Headquarters, Western Command in Janaury 1988.

In February 1988, tenders were re-invited for the work with certain minor modifications in the design/specification to the extent of Rs.11.29 lakhs and the lowest offer of Rs.351.99 lakhs, received from another firm in May 1988, was considered reasonable. After obtaining financial concurrence in August 1988 the contract for the work was concluded by the Zonal CE for the tendered amount in the same month.

In September 1990, Ministry stated that certain minor modifications in design/ specifications worth Rs.11.29 lakhs were made in the second tendering and the net increase attributable to the escalation in cost in the intervening period of the first and second call was Rs. 8.60 lakhs.

Thus, non-acceptance of the offer received in response to the tender enquiry of May 1987 led to an extra expenditure of Rs.8.60 lakhs.

83. Extra expenditure due to belated issue of financial concurrence

The delay in according financial concurrence by the Army Headquarters (HQ) to accept the lowest tender within its validity period resulted in an extra expenditure of Rs.8.33 lakhs on retendering. The details of the case are given below.

Army HQ accorded sanction in May 1987 for construction of 93 residential quarters and provision of associated external services such as water supply, electric supply, sewage disposal, area drainage, roads, etc. at Bambolim at a cost of Rs.92.31 lakhs (amended to Rs.106.65 lakhs). Tenders for construction of the residential quarters including provision of internal services were issued by Chief Engineer, Cochin Zone in February 1989, without updating the cost with reference to the price escalation that had taken place during the intervening period. The Ministry of Defence (Ministry) stated (October 1990) that the delay of twenty months in issuing the tender was due to delay in obtaining details of site conditions, non-finalisation of site plan, etc.

The tenders were received in April 1989. The lowest quotation was Rs.90.28 lakhs with validity for acceptance of the tender till middle of June 1989. As the tendered cost was in excess of the sanctioned cost including three per cent contingency and 10 per cent tolerance which worked out to Rs.85.24 lakhs, the Chief Engineer sought financial concurrence in May 1989 through the Engineer-in-Chief for accepting the tender. Army HQ issued the financial concurrence only in July 1989 by which time the validity of the tender had expired. Consequently retendering had to be resorted to in September/October 1989 and based on the lowest tender of Rs.98.61 lakhs, a contract was concluded in January 1990, after obtaining financial concurrence. The delay in according financial concurrence and the consequent retendering resulted in extra expenditure of Rs.8.33 lakhs.

The Ministry while accepting the facts stated (October 1990) that the lowest tenderer did not agree to extend the validity "presumably because he had quoted low rates"

The Ministry's contention is not tenable as the contractor had kept his offer open till middle of June 1989 and the department had failed to avail of his offer within the validity period.

84. Non-allotment of accommodation

In June 1985, a Naval Command sanctioned construction of three single junior officers quarters and ancillaries at Cochin at an estimated cost of Rs.5.76 lakhs and also issued a supplementary sanction for the provision of two garages at an estimated cost of Rs.1.20 lakhs. The construction was completed in December 1985 at a cost of Rs. 8 lakhs.

It was, however, observed that the construction included the area of servants' quarters in the apartments which were finished with richer specifications like marble flooring and sliding doors. No allotment to single officers had been made so far (April 1990) and there was no recovery of electricity consumed (1114 units).

Ministry of Defence stated (October 1990) that the single officers quarters were being used to accommodate visiting officers and necessary rent bills are now being raised on the Southern Naval Command Officers' Mess. Superior specification was attributed to coastal climate.

However, the fact remains that the quarters were in occupation for 50 days only during the period of 52 months.

Thus, three single officers quarters constructed at a cost of Rs.8 lakhs remained vacant for more than four years since their construction, not being used for the purpose for which they were sanctioned.

85. Non-utilisation of an air-conditioned accommodation

Army Headquarters (HQ) accorded sanction in February 1984 to the provision of air-conditioned storage accommodation for certain armament at an ammunition depot, by modifications to the existing magazines and provision of chemically treated hard wood dunnage and associated external services. The estimated cost was Rs.63.20 lakhs (revised to Rs.66.68 lakhs) with target date for completion by 104 weeks from the date of release of work. The work was released in March 1984 and was required to be completed by March 1986.

Contracts for execution of the works were concluded by the Zonal Chief Engineer, Commander Works Engineer and Garrison Engineer between December 1984 and October 1988 and were completed between December 1985 and November 1988 at a total cost of Rs.72.66 lakhs. The air-conditioned magazines completed in November 1987 could be handed over to the users only in September 1988 as certain defects like partition wall for AHU room/traverses were incomplete; toe wall to stop falling earth was incomplete; heavy leakage/seepage of water, etc, were to be rectified. On further inspection of the magazines by the users in September 1988 it was revealed that the heavy leakage/seepage of water was still persisting rendering the magazines unfit for storage of the armament. The defects were yet to be rectified (April 1990). Similarly, the dunnage blocks (cost :Rs.1.48 lakhs) procured and supplied by the concerned Commander Works Engineers in December 1986 to the Ammunition Depot were found to be sub-standard, having cracks/holes and could not be used for stacking the armament in the magazines.

The Ministry stated (April 1990) that a number of defects in the magazines have been detected, the magazines are unfit/unsuitable for storage of armament. A staff Court of Inquiry has been set up, which is in progress. The air-conditioned magazines will not be taken into use till the defects are rectified.

Thus, the expenditure of Rs.72.66 lakhs incurred has not served the desired purpose (April 1990).

86. Construction of ancillary accommodation

In August 1985, a board of officers recommended construction of ancillary accommodation in addition to the existing barracks to meet the requirements of three units at Nowgong cantonment. The recommendation included provision of essential allied services. In September 1986, Headquarters(HQ) Allahabad Sub-Area, accorded sanction for augmentation of water supply at a cost of Rs.9.93 lakhs. In December 1986, the units were moved out of the station. However, in February 1987, HQ Central Command, Lucknow accorded another sanction for provision of ancillaries in the station at a cost of Rs.33.82 lakhs.

Even though, the three Army units for whom the ancillary accommodation was meant, moved out of the station in December 1986 itself, three contracts of total value of Rs.39.74 lakhs based on the two aforesaid sanctions, were concluded by the Commander Works Engineer, Jhansi between December 1987 and January 1988 for provision of the ancillary accommodation, RCC overhead tanks and water supply. While the works in respect of two contracts were completed in May 1989 and January 1990, the work in respect of the third contract was yet to be completed (June 1990). The overall expenditure incurred upto June 1990 was Rs.38.35 lakhs. In order to oversee the contract works and to maintain certain essential services, staff had to be kept at the station, incurring a total sum of Rs.32.43 lakhs during the years 1987-90.

In reply to an audit query as to the necessity for conclusion of contracts for execution of the ancillary accommodation and allied services in December 1987-January 1988 when the Army units for which the additional works were created had already moved out of the station by December 1986, the Ministry of Defence stated (October 1990) that the move of the units was due to changing geo-political situation and due to operational necessity. However, a clarification had been sought from Army HQ for going ahead with these works and putting these assets to some alternate use.

Thus, the sanction as well as the execution of works relating to ancillary accommodation and allied services at a total contracted sum of Rs.39.74 lakhs and additional expenditure of Rs.32.43 lakhs incurred on establishment of staff to oversee the works and maintenance services lacked justification.

87. Procurement of plastic storage tanks

In view of adverse comments on performance and high cost (Rs.2.55 per litre) of a particular type of plastic storage water tank, it was decided by the Engineer-in-Chief's (E-in-C)Branch in April 1984 that it will not be used in works. The position was reviewed and in September 1984 /January 1985, trials were ordered to be carried out in extremes of climate by September 1985 on five brands of water storage tanks. Meanwhile in March 1985 on production of satisfactory test results by firm 'A' for water storage tanks, their use was authorised by E-in-C at the discretion of Chief Engineers (CEs) and it was mentioned that use of other brands of tanks would be considered on receipt of results of trials. In February 1987 E-in-C reminded CEs to expedite trial reports.

In September/October 1986, a Zonal CE placed 22 orders on firm 'A' at Rs.4.50 per litre capacity without calling for tenders. In October 1986 another firm 'B', an approved Defence supplier, who had supplied such tanks to a Garrison Engineer at the same station offered to supply the water storage tanks at Rs.4.30 per litre. No efforts were made even at this stage to obtain competitive rates.

Firm 'A' was on rate contract with the Maharashtra Government in 1987 for supply of similar tanks at Rs.2.30 per litre. Fifteen more orders were placed by the CE during February to July 1987 on firm 'A', at rates ranging from Rs.4.22 per litre to Rs. 4.27 per litre without obtaining competitive tenders. The first 22 orders were placed over a period of one month (Rs.19.54 lakhs) and other 15 (Rs.14.04 lakhs) over a period of five months. In nine cases more than one order was placed on the same date so as to bring it within the powers of the CE.

In August 1989, the CE after inviting quotations from six firms, placed an order for supply of water storage tanks on firm 'B' at Rs.2.25 per litre.

The Ministry of Defence stated in October 1990 that CE considered the item as proprietory and therefore competitive tendering was not resorted to. It added that the reasons for placing different supply orders on the same date and extent of extra expenditure were being ascertained.

To conclude, E-in-C cleared plastic storage tanks for procurement while five brands were still under trials and CE placed orders without competitive tendering. As observed from the sequence of events this resulted in extra expenditure of Rs.16.19 lakhs. Further, the supply orders given to firm 'A' were split up to avoid reference to higher authorities.

88. Provision of a garden

In July, September and October 1987 a Corps Headquarters accorded five sanctions for works services for a rose garden at a cost of Rs.2.92 lakhs treating two of them (cost: Rs.1.80 lakhs) as special works and others (cost:Rs.1.12 lakhs) as minor works. The works services included crazy path, cattle fence, watch hut with sanitary annexe, internal and external services, light points and cement benches. The Garrison Engineer concerned completed the work in February 1988 at a cost of Rs.2.71 lakhs. The land involved measured 20 acres and was valued at Rs.8.06 lakhs. The rose garden included a lake with boating and fishing facilities.

In reply to Audit queries on the subject the Command Headquarters intimated that the General Officer Commanding is empowered to sanction special works upto Rs.3.50 lakhs under the Defence Works Procedure, and hence no Government sanction was required and the area was earmarked as open space green belt. It may, however, be stated that in accordance with the Defence Works Procedure special works should not be approved if the effect would be to introduce a new practice or change of scales and where required despite this, it should be customary or technically essential to provide the same.

The case was referred to the Ministry of Defence in August 1990 and their reply has not been received so far (December 1990).

89. Delay in installation of arrester barrier

Arrester barriers are considered to be of immense help to pilots to arrest aircraft at the time of unforeseen break failures while landing or take off at very high speed.

In October 1985 an arrester barrier-Mark-4 model, costing Rs.8.82 lakhs, was received in an Air Force station. The equipment was required to be installed on top priority.

The Command accorded sanction in April 1986 for provision of civil works including external electrification required for installation of the arrester barrier at a cost of Rs.30.34 lakhs. The work was released for execution in May 1986.

Tenders for the civil works were issued by a Commander Works Engineer (CWE) in February 1987 which incorporated design and drawings catering to Mark-2 model of the equipment instead of Mark-4 model as the engineers were not informed of the change in the model by the users, although the arrester barrier was received in October 1985 and the sanction for the civil works issued in April 1986. When the CWE sent (March 1987) the design and drawings to the users for approval and suggestions, the latter observed (April 1987) that the design and drawings did not conform to that of the manufacturer's and, therefore, required changes. Only at this stage the users sent the correct drawings alongwith diagrams to the CWE for carrying out necessary amendments. As certain changes in the requirements were projected by the users in April 1987, tenders could be issued by the CWE in May 1988 after finalisation of revised design in April 1988. Tenders for external electrification work were issued in January 1988.

As the lowest tendered cost of both the civil work and the external electrification exceeded the sanctioned amount by Rs.8.85 lakhs and Rs.4.42 lakhs respectively, financial concurrence was sought for in July 1988. The increase in the cost was stated to be due to steep escalation in the rates during April 1986 to May/July 1988.

The contract for the civil works was concluded in September 1988 for Rs.32.99 lakhs with date for completion in September 1990. The work had, however, progressed only upto 55 per cent by September 1990. The Ministry of Defence (Ministry) stated that due to "various constraints" the probable date of completion of the contract has been requested upto April 1991. The contract for external electrification was concluded in December 1988 for Rs.9.78 lakhs with date of completion as March 1990. This work had also progressed upto 50 per cent by September 1990. The sanction for the revised cost of the project at Rs.47.30 lakhs was awaited (October 1990).

The Ministry stated (October 1990) that revision in the design and drawings was necessitated due to receipt of Mark-4 model of the equipment while the Board ordered by the users considered only Mark-2 model, resulting in delay in finalisation of tenders, escalation in cost and certain changes in the items of work.

The lack of coordination between the users and the engineers in making available the correct drawings and design for installation of the arrester barrier by the users to the CWE coupled with attendant delay in finalising the contract and the tardy progress of work led to not only escalation in the cost of the work by Rs.16.96 lakhs but also non-installation of the imported equipment costing Rs.8.82 lakhs even after a lapse of over five years after procurement.

90. Faulty construction of overhead tanks

Two overhead tanks of seven lakh litres capacity each were constructed in 1974 at a total cost of Rs.6.03 lakhs under a contract concluded by the Military Engineer Services (MES) in 1973 for a Defence Research Laboratory at Kanpur. One of the tanks developed cracks and naked reinforcements were observed in early 1982 and could not be used thereafter.

A Board of Officers, assembled in August 1982, to examine the causes of cracks,structural stability, safety and serviceability, observed that the cracks were mainly due to bad workmanship and inadequate cover to reinforcement and the tank was not fit for use in the existing condition. They recommended additional reinforcement of the cracks and guniting. Based on these recommendations, the Garrison Engineer (GE), Kanpur approached different specialist firms to work out the details of repairs and the consequent cost involved. As no positive response was received, the GE sought the opinion of Indian Institute of Technology (IIT) Kanpur who observed (December 1986) that reinforcement was corroded and exposed at quite a few locations in the staging portion and leakage was noticed at one location in the reservoir portion. IIT also suggested methods for rehabilitation of the tank. The remedial measures suggested by IIT Kanpur were examined by the Board of Officers in December 1987, who recommended that repair work should be undertaken through some expert agency having a proven record of such works. The Board attributed the distress in the tank to the poor quality of concrete mix, inadequate compaction of concrete, probable use of corroded steel and vibrations due to vicinity of the railway track. The matter was referred to IIT Kanpur again in February 1988. IIT commented (June 1988) that cracks were definitely not due to the railway traffic but mainly due to use of highly porous concrete. IIT suggested entrustment of the work to a specialised agent and opined that the tank could be safely rehabilitated.

In August 1989 the Ministry of Defence (Ministry) called for comments of the Zonal Chief Engineer (CE) as defects had been attributed to poor workmanship. The CE stated (December 1989) that disciplinary proceedings against defaulting staff had been initiated. The sanction for special repairs at Rs.4.49 lakhs was accorded in February 1990 and tender accepted in June 1990.

In October 1990, the Ministry stated that disciplinary action against defaulting supervisory staff has been initiated by the CE, Lucknow Zone in January 1990, simultaneously drawing the attention of the executive staff to the existing instructions on supervision of works.

Thus, failure on the part of the engineers to exercise effective supervision during construction of the tanks had rendered one of them (cost Rs.3.02 lakhs) unusable since 1982; resulting in the requirement of special repairs at a cost of Rs.4.49 lakhs.

91. Loss of galvanised iron sheets

A consignment of 56.14 tonnes of corrugated galvanised iron (CGI) sheets was booked by Steel Authority of India Limited (SAIL) on 26th February 1988 by rail to Garrison Engineer Park (Park). As the consignment did not reach the Park, the railway receipt (RR) was not surrendered to the railway authorities. Based on the RR, a claim for Rs.7.73 lakhs was stated to have been preferred on the General Manager (Claims) North Frontier Railway on 13th August 1988 for non-delivery of the consignment. SAIL was also requested by the Park (October 1988) to liaise with the railway authorities to trace the wagon and arrange early despatch to the destination.

While no reply was received from SAIL, railway authorities informed (November 1988) the Park that claim preferred by them was received in the claim office on 19th September 1988 i.e. after expiry of six months from the date of booking of the consignment and therefore, the claim was time-barred as per the rules.

In June 1989, the Park intimated the railway authorities that they had preferred the claim in time and requested either to arrange delivery of the consignment or to accept the claim.

The Ministry of Defence stated in October 1990:

- The railway claim was stated to have been preferred through a registered letter; but entry to this effect had not been found in register being maintained for this purpose. It seemed the claim was despatched through an ordinary post.

- The actual date of despatch was not manifest from the dak despatch register of the concerned unit nor had it been possible to get the same from Field Post Office.

- There was delay in preferring the claims which was attributable on the part of Garrison Engineer and his staff and that a court of inquiry had been ordered to fix responsibility which was in progress (October 1990).

Thus, a consignment worth Rs.7.73 lakhs had remained untraced for more than 2 1/2 years.

CHAPTER VI

RESEARCH AND DEVELOPMENT ORGANISATION

92. Armament Research and Development Establishment

92.1 Introduction

The "Armament Research and Development Establishment" (ARDE), which forms part of the Defence Research and Development Organisation (DRDO) was set up in September 1958. The objectives include :

(a) design and development of indigenous armament stores to meet the requirement of services and to establish their production;

(b) assistance in technical evaluation and subsequent production of foreign stores;

(c) establishing pilot plants involving special technology/processes;

(d) basic/applied research etc.

92.2 Scope of Audit

A test check of records maintained by ARDE was carried out by Audit during 1989 with a view to assess its working with particular reference to the status of projects undertaken during the preceding ten years.

92.3 Organisational set up

ARDE is headed by a Director who is assisted by functional deputies who lead the various development groups in the establishment. Structurally, the groups cover areas like small arms, special ammunition, naval system, air armament, warhead fuzes, etc. The functional groups are supported by a prototype production unit (which is a modern general purpose engineering and production facility, material testing systems etc.) environment test facilities, explosive engineering complex and a technical information centre. Management support services to the development groups are provided by the material management group and sections dealing with general administration,establishment, budget, mechanical transport etc.

92.4 Highlights

- **While allotment and expenditure have both doubled during the preceding five years, the funds allotted were not fully utilised during any year.**

- **During the 10 years period from April 1978 to March 1988, 89 staff projects involving investment of around Rs.8076 lakhs and 81 Research and Development (R&D) projects involving investment of around Rs.2053 lakhs were sanctioned for execution by ARDE. Out of 89 staff projects only 33 were successfully completed while 14 were dropped and 42 are still in progress. Out of 81 R&D projects 49 were successfully completed, 8 were dropped and 24 are still in progress. In many cases projects successfully completed overran the time and cost parameters. Reasons for short closure or dropping of projects could be ascribed to incorrect assessment of requirement and difficulty in productionisation. In most of the cases delay in the development of the projects led to their becoming redundant in terms of technological requirement.**

- **Out of the projects in progress 18 have been delayed for more than two years and seven have been delayed for more than five years.**

- **Project accounts have not been maintained properly.**

92.5 Manpower profile

The average fulfilment of manpower requirement was 89 per cent in the case of officers, 80 percent in the case of technical staff, 89 percent in the case of supporting staff and 83 percent in the case of industrial employees.

92.6 Resource-administration

The following table gives the allotment and expenditure during the last six years:-

Year	Allotment	Expenditure	Shortfall per cent (in lakhs of rupees)
1984-85	726.18	621.30	14.44
1985-86	1165.70	1047.10	10.17
1986-87	1357.55	1106.11	18.52
1987-88	1362.45	1149.80	15.61
1988-89	1413.95	1255.57	11.20
1989-90	1690.50	1482.22	12.32

This shows that both allotment and expenditure have almost doubled during the five years, but funds allotted have not been fully utilised during any year.

92.7 Implementation of projects

Scientific and technical works in ARDE are carried out in the form of set-piece tasks called Research and Development (R&D) projects.

For the purpose of planning, executing and reporting, the projects are divided into the following categories :-

(a) Staff Projects: Staff Projects are those which are taken directly at the instance of the services to meet their requirements. Staff Projects constitute the primary responsibility of an R&D establishment.

(b) Research and Development Projects: These are projects undertaken by the R&D Organisation for general competence building in a given field or to solve specific problems arising out of or having a bearing on staff projects or to provide R&D support to inspection and production agencies in solution of specific problems.

During April 1978 to March 1988, 89 staff projects costing Rs.8076.20 lakhs and 81 R&D projects costing Rs.2052.83 lakhs were sanctioned for execution by ARDE and the progress made thereon by the end of June 1989 was as under :-

Category	Number of projects sanctioned	Dropped/ shortclosed	Successfully completed	In progress
	(Sanctioned cost/expenditure in lakhs of rupees)			
1. Staff projects				
Army	44 (6204.89)	3 (11.96)	21 (166.81)	20 (1937.92)
Navy	23 (421.07)	7 (4.81)	3 (11.21)	13 (170.71)
Air-Force	22 (1450.24)	4 (8.79)	9 (92.70)	9 (752.00)
Total	89 (8076.20)	14 (25.56)	33 (270.72)	42 (2860.63)
2. R&D projects	81 (2052.83)	8 (15.25)	49 (269.86)	24 (614.66)
Grand Total	170 (10129.03)	22 (40.81)	82 (540.58)	66 (3475.29)

In addition, ARDE was allotted four sub-projects of a development programme sanctioned in July 1983 to be completed between 1989 and 1995. A sum of Rs.494.31 lakhs had been spent upto September 1989 as against Rs.685.40 lakhs sanctioned.

Projects dropped/short-closed: Twenty two projects sanctioned at the estimated cost of Rs.245.49 lakhs, were dropped/short closed after incurring Rs.40.81 lakhs, due to :-

(a) non-existence of the requirement of the store to the services/sponsers by that time (ten cases costing Rs.12.18 lakhs);

(b) limited requirement for the item by services, which could be met through import (three cases costing Rs.2.82 lakhs);

(c) the inability to progress the development work due to non-availability of propellant (two cases costing Rs.7.09 lakhs);

(d) insufficiet progress made in development even after extension of completion period upto seven years (one case costing Rs. 4.47 lakhs); and

(e) extension of time schedule and enhancement of funds sought by ARDE not acceptable to services (one case costing Rs.11.96 lakhs).

Projects successfully completed: 33 staff projects and 49 R&D projects were successfully completed at a total cost of Rs.540.58 lakhs.

Out of the 33 staff projects successfully completed, 12 projects (sanctioned cost Rs.46.69 lakhs) were for evaluation or conducting of trials and compilation of data for assessment or determination of life /values for armament and ammunition in service or imported ones. These projects were completed within one to six years at a cost of Rs.18.90 lakhs. One project (cost Rs.182.49 lakhs) was for creation of facilities in ordnance factories and DRDO for development and production of an ammunition, development of which had been completed (expenditure Rs.81.35 lakhs).

In the remaining 20 staff projects, new items of armament and ammunition had been designed and developed or existing items improved at a cost of Rs.170.47 lakhs. The projects were completed :

(i) within the original time frame (five projects costing Rs.9.18 lakhs);

(ii) after delay of not exceeding two years from the original completion date (nine projects costing Rs.64.03 lakhs);

(iii) after slippages in completion dates by over two years but less than five years (five projects costing Rs.89.71 lakhs); and

(iv) after a delay of over five years (one project was completed at a cost of Rs.7.55 lakhs).

The reasons for the time overruns were broadly non-availability of certain raw materials, delay in getting prototypes fabricated in conformity with the design parameters and extensive trials conducted for successful completion of development.

In 13 of the above cases, the development work was successfully completed within the funds originally sanctioned. Additional funds were obtained in the remaining seven cases increasing the sanctioned cost from Rs.86.39 lakhs to Rs.181.09 lakhs. Cost over-runs were due to escalation in the cost of materials; deployment of manpower for longer periods consequent on time over-runs; increased requirement of prototypes for trials (both design and user trials) and additional/ increased cost of civil works etc.

The 49 R&D projects completed successfully included, 14 projects sanctioned for Rs.240.87 lakhs, which were later merged with staff or main R&D projects sanctioned subsequently. Expenditure incurred on these projects was Rs.115.73 lakhs. But, these costs were not reflected in the main projects.

The remaining R&D projects sanctioned for Rs.163.72 lakhs and completed at a cost of Rs.154.13 lakhs included one project for creation of facilities completed after four years after incurring Rs.10.39 lakhs against a sanction of Rs.11.35 lakhs. Four others for development of new items (Rs.11.49 lakhs) and the balance for carrying out trials, for establishment of new methods of trials, for generation of data etc.

92.8 Projects in progress

At the close of June 1989, 66 projects-42 Staff and 24 R&D projects-sanctioned during 1978-88 for Rs.7792.45 lakhs and Rs.1692.23 lakhs respectively were in progress with expenditure of Rs.2860.63 lakhs and Rs.614.66 lakhs incurred thereon.

In one staff and six R&D projects all works had been completed (cost: Rs.264.91 lakhs), but final decision on their closure was awaited for the period ranging from June 1986 to November 1990. Eight other projects were for conducting trials/ evaluation and no specific time frame was provided. In the absence of time-frames, neither their progress nor completion could be monitored.

Out of the balance 51 projects, 40 projects were behind schedule as detailed below:

Category	Behind the schedule by Less than 2 years	More than 2 years but less than 5 years	More than 5 years	Total
		(Number of projects)		
1. Staff Projects				
A. Army	5	7	-	12
B. Navy	-	6	4	10
C. Air-Force	4	2	2	8
Sub-total:	9	15	6	30
2. R&D Projects	6	3	1	10
Total :	15	18	7	40

Reasons for the delay in development were mainly

(a) delay in fabrication of prototypes by trade, public sector undertakings (PSU) and ordnance factories;

(b) delay by other sister establishments in the development of sub-systems, components, propellants, etc.;

(c) delay in locating sources of raw materials and components and in their procurement;

(d) modifications/improvements in design in the course of development;

(e) lack of manpower;

(f) delay due to more extensive trials;

(g) delay in user trials; and

(h) keeping projects open till free flow of production.

While 51 projects did not register any cost over-runs, additional funds had to be obtained in 16 others (Army-2, Navy-4, Air-Force-3 and R&D-7) enhancing the sanctioned cost of the projects from Rs.1077.14 lakhs to Rs.1454.29 lakhs. The cost revisions were necessitated due to increase in cost of raw materials; additional items of work undertaken on technical grounds as well as due to user requirements; additional cost of manpower due to time over-runs, increased requirement of prototypes for trials; increase in cost of civil works etc.

92.9 Other points

92.9.1 Stock verification:

Consumable items such as exploder shells, fuzes and assemblies already utilised in projects were not charged off from the ledgers and continued to be stock verified even though these were physically not available.

92.9.2 Under-utilisation of machinery:

No machinery utilisation records had been prescribed till 1988-89 and therefore, the extent of utilisation of various plant and machinery items could not be verified. Detailed examination by Audit in some cases showed that costly machines were under-utilised due to defects or absence of work load. A heavy duty planning machine with milling attachment purchased at a cost of Rs.30.53 lakhs in 1984 was used only for 300 hours in three months during 1987 and was lying idle since then. A heavy duty boring machine which was imported at a cost of Rs. 72.63 lakhs broke down frequently after commissioning in March 1986 and the machine was lying in defective condition without any use.

92.9.3 Outstanding advance payments:

At the end of December 1989, 92 cases involving Rs.123.48 lakhs were pending adjustment. In one case an advance of Rs.60.08 lakhs was paid to MIDHANI, Hyderabad in March 1986 for the supply of steel forgings by March 1987. Till November 1990 only Rs.15.84 lakhs could be adjusted against supplies made. Delivery period has been extended upto December 1990 and an amount of Rs.44.24 lakhs was awaiting adjustment (November 1990). In another case BHEL, Hyderabad made no supply against an advance of Rs.10 lakhs made in February 1988 and the delivery period was being extended (November 1990).

92.9.4 Refunds:

48 refund claims from Customs aggregating Rs.73.28 lakhs were pending till October 1989. Examination of papers revealed that due to non-receipt of despatch particulars in time and non-linking of the documents by the embarkation headquarters, a duty exemption of Rs.22.88 lakhs could not be availed of in six cases.

93. Delay in setting up of production facilities

In September 1981, Government sanctioned setting up of indigenous production facility for 100 tonnes per year of titanium sponge at an estimated cost of Rs.465.70 lakhs at Defence Metallurgical Research Laboratory (DMRL) to be completed by September 1984. The plant was commissioned in March 1985. The output of processed material commenced from October 1985.

Sixty eight Industrial workers against the sanction of 69 were recruited. Out of this 38 were recruited during 1981 to 1983. The expenditure incurred on the project was Rs.465.64 lakhs inclusive of Rs.11.60 lakhs incurred on industrial workers during September 1981 to February 1985.

In August 1986, Government sanctioned another project at Rs.183.16 lakhs for studies on materials of construction and process control system for titanium sponge production, to be completed within two years.

In June 1987, Government accorded a fresh sanction for Rs.363 lakhs cancelling the August 1986 sanction and including the unspent balance of Rs.151.87 lakhs for development of advanced technologies for titanium and magnesium production. In order to expedite the regular operational state, Defence Research and Development Organisation (DRDO) felt the need to hand over the developed facilities to a production agency viz. Indian Rare Earths - a public sector undertaking.

In August 1987, another public sector enterprise of the Ministry of Defence (Ministry), Mishra Dhatu Nigam Limited (MIDHANI) which is the main user of titanium sponge, offered to operate the plant on regular basis on mutually acceptable terms. A Memorandum of Understanding (MOU) was finalised with them in February 1988. Under this arrangement, MIDHANI were to operate the facility, establish production capability, implement process innovation, achieve higher productivity and augment the facility to meet indigenous requirement. To expedite taking over of facilities by MIDHANI and putting them to productive use another MOU was signed in November 1988 contemplating transfer of 68 industrial staff to them.

As per the MOU, suitable officers and staff manning the sponge plant at DMRL were to be absorbed by MIDHANI on suitable terms. The ownership of plants and buildings was to remain with DMRL and leased to MIDHANI. However, transfer of the industrial staff of DMRL to MIDHANI has not been effected so far and the plants have not been handed over by DMRL (March 1990).

As against the production of 100 tonnes a year envisaged when the facility was set up, the total production at DMRL from March 1985 to March 1990 was 25.130 tonnes only indicating a short-fall of 95 per cent.

Out of the above a total quantity of 15.4 tonnes had been supplied (June 1990) to MIDHANI, Bharat Heavy Electricals Limited (BHEL) etc. The remaining quantity could not be issued in its present form. The expenditure incurred against the sanction issued in June 1987 was Rs.136.75 lakhs and expenditure on all the three sanctions was Rs.633.68 lakhs. Of this Rs.265.58 lakhs was incurred on equipment/machinery.

Out of 367.5 tonnes of raw material purchased, as in September 1989, 102 tonnes had been consumed. However, 255 tonnes valuing Rs.41.78 lakhs were held in stock (October 1989) indicating a deficiency of 10.5 tonnes costing Rs.0.72 lakh. The DMRL stated in March 1990 that deficiency in unutilised stock was due to leakage in transit and handling.

As a result of the inability to reach the targetted production of 100 tonnes per year and supply to indigenous users, MIDHANI's requirement of sponge was being met by imports. Since February 1988, titanium sponge imported by MIDHANI was 145 tonnes valued at Rs.205 lakhs.

The DMRL informed Audit that from 1984 onwards the industrial staff was being engaged on training as well as procurement, fabrication and inspection activities; the investment on the facility enabled the technological development of 2000 Kgs. per batch; the materials in stock would enable MIDHANI to commence regular production without loss of time; efforts were on to hand over the facilities to MIDHANI and the matter was under active consideration of the Government.

The Ministry stated in October 1990:

(a) Seen from the angle of research and technology, the results achieved were commensurate.

(b) The proposal for absorption of industrial staff by MIDHANI was pending with the Ministry.

(c) The imported raw materials valuing Rs.69 lakhs remaining in stock were proposed to be transferred to the PSU for immediate operation of the facility without waiting for the arrival of such raw material.

The case revealed the following:

- Equipment worth Rs.265.58 lakhs procured against the project was not gainfully utilised.

- Imported raw materials (value: Rs.69 lakhs) purchased during 1983-86 remained unutilised (October 1989).

- Although the initial sanction envisaged production of 100 tonnes per year by end of 1984, total production achieved was limited to 25.13 tonnes only during March 1985-March 1990.

- Due to shortfall in production, the requirement of titanium sponge was continued to be met through imports.

- Despite signing an MOU with MIDHANI in February 1988, the production facilities have not been handed over to them for commencement of regular production.

94. Premature closure of a research project

A need based research project formulating quality standards for freeze dried food items ranging from mixed vegetables to beverages for the Armed Forces was foreclosed after incurring an expenditure of Rs.26.59 lakhs, having developed only tentative standards for pineapple and mango.

Ministry of Defence (Ministry) sanctioned in August 1985 a research project to be undertaken by Defence Food Research Laboratory (DFRL), Mysore at an estimated cost of Rs.24.75 lakhs which was revised in August 1986 to Rs.29.75 lakhs (foreign exchange: Rs.25 lakhs). The objectives were to standardise freeze drying conditions and propose specifications for various types of freeze dried foods like fruit beverages of mango, pineapple, grapes and mousambi, soups like meat, mushroom, tomato, mixed vegetable etc. as also composite dishes, desserts and fruit snacks. The project was to be completed in four years from the date of sanction. Though demand for additional manpower was projected by DFRL while forwarding the proposal for the project (September 1984), no additional manpower was sanctioned for the project owing to the ban on creation of new posts.

Based on the indent placed by the DFRL in December 1985 for a freeze drier for the project, a contract for the equipment at Rs.22.25 lakhs was concluded by Director General Supplies and Disposals after eleven months in November 1986. The equipment was received from abroad in December 1987 and commissioned after nine months in September 1988 after making some improvisations to chill water at the required temperature.

Due to lack of manpower and delay in the procurement and installation of the equipment, the work could not progress as envisaged initially. Although several dried foods such as mango, pineapple, curd, grape-juice, coconut water, banana, dhalia, kheer and lemon rice were developed, work in detail could be completed only for two fruit beverages i.e. pineapple and mango for which tentative specifications were suggested. Though manpower required for the project was met by diversion from other low priority projects, no expenditure on this account was booked to the project. The project was closed in September 1989 stating that all the research work required under the project has been completed eventhough work was completed only for two fruit beverages. The time extension upto 1991 sought by the DFRL in February 1989 for extensive work on several other dried foods was not granted based on the general policy decision. The total expenditure incurred on the project was Rs.26.59 lakhs.

The Ministry stated in June 1990 that it was proposed to undertake a fresh project to explore the possibilities of working in detail about the preliminary work carried out as regards other items.

Thus, in a need based research project, even after incurring an expenditure of Rs.26.59 lakhs the objectives set out for the laying down of quality standards for a wide range of freeze dried foods were not fully achieved. No follow up project was also sanctioned to achieve the remaining objectives initially set for the project.

95. Development of batteries

A project was conceived in August 1985 for development of three types of batteries for the Services. Till March 1990, the development work had progressed upto 70 per cent and a substantial expenditure of Rs. 58 lakhs had been incurred. The Services, however, intimated that they had no requirement for the batteries. The project has, however, been continued though there is no immediate outlet (October 1990). The case in detail is as follows:

A committee was constituted in the Ministry of Defence (Ministry) in October 1983 with representatives of Army, Air and Naval Headquarters (HQ) and of the Department of Defence Supplies to identify and assess the total requirements of batteries by the three Services for various types of uses, assess the research and development (R&D) and production efforts required to achieve self-reliance in critical areas and formulate and recommend necessary strategy and plans in this regard. On the basis of the report of the committee, submitted in August 1985, sanction was accorded by the Ministry in October 1987 for development of three types of batteries viz. nickel-iron, maintenance free lead acid and magnesium-organic batteries in a laboratory of the Council of Scientific and Industrial Research (CSIR) at a cost of Rs.90 lakhs. The project was to be completed within three years.

A monitoring committee was set up in January 1988 under the chairmanship of the Chief Controller of R & D to monitor the progress every six months, provide guidelines for completion and advise further release of funds. As per the decision of the second monitoring committee meeting held in March 1989, which was held one year after the first meeting, the Defence Research and Development Organisation (DRDO) circulated a paper in August 1989 highlighting the performance parameters and the advantages of these three improved technology batteries and requested the Services HQ to intimate their requirement of batteries to enable the CSIR/DRDO to firm up the total requirement and nominate the suitable production agency to meet the requirements. The three Services intimated, between September and December 1989, their requirements as nil.

By the time, the DRDO was informed that the Services had no requirement for such batteries, the project had already run for two years and a substantial amount of Rs.58 lakhs had already been spent (August 1990).

In the 14th meeting of the Advisory Committee set up in Ministry under the chairmanship of Chief Controller, Research and Development, the question of further continuance of the work on the project in the absence of requirements of these batteries by the three Services was discussed and it was decided in December 1989 that further work on the project should be continued to develop competence in this area, so that the requirements for this type of batteries, in future, could be met in a short time frame.

The up-to-date expenditure till August 1990 on the project was Rs.78.80 lakhs including commitment of Rs.20.80 lakhs. Seventy per cent development work on the batteries had been completed till March 1990.

The Ministry stated (October 1990) that the technology of these batteries was of the latest state of art and these batteries were being considered for use in guns, tanks, helicopters and aircraft. It further stated that notwithstanding the nil requirement at the present moment, the Services had informed that they might come back and project the requirement once the policy decision was taken.

96. Non-utilisation of imported equipment for a research project

Installation of a system and sub-system costing Rs.29 lakhs imported in September 1987 and October 1988 respectively was not complete; meanwhile, the research project was treated as completed in May 1988.

In May 1981 Government sanctioned a research project for Rs.97.6 lakhs. Defence Electronics Application Laboratory placed an indent in September 1983 on Supply Wing, Washington for procurement from a proprietary firm of a system required for study of land set imagery and training people. The Supply Wing issued tender enquiry in September 1983. The laboratory asked Supply Wing in November 1983 to withhold finalisation of contract as the purchase proposal was not cleared by Government. In July 1985, the laboratory informed the Supply Wing that Government had cleared the proposal and a purchase order was placed in July 1986 on a foreign firm at Rs.24.63 lakhs including Indian agent's commission of Rs.1.23 lakhs. The installation was to be done by the supplier at an additional cost of Rs.1.35 lakhs. The supply was to be completed within 90 days of receipt of export licence.

In December 1987, supply order for a sub-system selected by the Laboratory was placed by Supply Wing for Rs.3.02 lakhs including agent's commission of Rs.0.15 lakh. The system and sub-system airlifted to India in September 1987 and October 1988 respectively.

The laboratory had been requesting the firm through Supply Wing from February 1988 to get the system installed by sending their engineers. The engineers of the agent firm in India carried out pre-installation checks seven times between October 1988 and May 1990 but could not complete the same due to technical problems. In August 1990, Supply Wing reported that the supplier had completed installation but the laboratory informed Supply Wing in September 1990 that installation was not complete and that some operational problems persisted. The laboratory, however, informed Audit in September 1990 that the installation as completed had not been finally accepted.

The original completion schedule of May 1984 fixed for the project was revised to May 1988, when the project was treated as completed even without installation of the procured equipment.

The case reveals that Government clearance was issued for import of equipment in July 1985 after the original date of completion of the project was over. Supply Wing took a year's time to place purchase order on a proprietary firm.

The Ministry of Defence stated in September 1990 that the sub-system procured in October 1988 was self installed and has been in use since the day of its arrival. Further, the requirement of the equipment had, in the meantime, been met by using facilities available at other organisations and other systems. It added that the system has been installed in August 1990 and is being put to elaborate evaluation/use before final acceptance.

The fact, however, remains that there was inordinate delay in procurement/installation and utilisation of the equipment. Also the sub-system was to form part of the main system and the claim for its use without the main system is not fully tenable.

NEW DELHI
Dated the 15 JUL 1991

(A.K.MENON)
Additional Deputy Comptroller and Auditor General

Countersigned

NEW DELHI
Dated the 16 JUL 1991

(C.G.SOMIAH)
Comptroller and Auditor General of India

Appendix I

Illustrative cases of the rush of expenditure at the end of the financial years 1987-90

(Refer to paragraph 1.8)

(Rs. in crores)

Grant No. Sub-Head	Progressive expenditure upto February 1988/1989/1990	Proportionate expenditure	Progressive expenditure upto March 1988/1989/1990	Expenditure during March 1988/1989/1990	Percentage of Col. 3 to 5
1	2	3	4	5	6
1987-88					
DS-Army					
A.1-Pay and allowances of Army	1820.79	165.53	2347.50	526.71	318
A.5-Military Farms	32.71	2.97	40.11	7.40	249
A.8-Stores	2146.27	195.12	2603.10	456.83	234
A.9-Works	298.87	27.17	364.43	65.56	241
DS-Navy					
A.4 Transportation	20.97	1.91	33.48	12.51	655
A.6-Works	43.76	3.98	59.04	15.28	384
A.7 Other Expenditure	33.01	3.00	37.54	4.53	151
DS-Air Force					
A.4 Transportation	24.15	2.20	29.78	5.63	256
A.5-Stores	788.26	71.66	954.82	166.56	232
A.6-Works	88.60	8.05	118.28	29.68	369
A.7-Special Projects	55.41	5.04	72.31	16.90	335
Capital Outlay on Defence Services					
A.1-Army	491.55	44.69	723.20	231.65	518
A.2-Navy	619.88	56.35	815.99	196.11	348
A.3-Air Force	865.12	78.65	1148.53	283.41	360

1	2	3	4	5	6
1988-89					
DS-Army					
A.1 Pay and allowances of Army	2104.92	191.35	2694.14	589.22	308
A.2-Pay and allowances and Misc. Expences of Auxiliary Forces	20.14	1.83	24.21	4.07	222
A.5-Military Farms	33.83	3.07	40.56	6.73	219
A.6-R&D Organisation	394.53	35.86	478.80	84.27	235
A.8-Stores	2326.59	211.50	2775.67	449.08	212
A.9-Works	223.29	29.38	380.35	57.12	194
DS-Navy					
A.5-Stores	300.40	27.30	357.83	57.43	210
A.6-Works	40.10	4.46	59.64	10.54	236
A.7-Other expenditure	45.05	4.09	54.65	9.60	235
DS-Air Force					
A.1-Pay and allowces of Air Force	378.67	34.42	414.76	36.09	105
A.4-Transportation	31.75	2.88	41.13	9.38	326
A.5-Stores	861.22	79.29	1020.61	159.39	201
A.6-Works	96.46	8.76	120.73	24.27	277
A.7-Special Projects	56.46	5.13	85.96	29.50	575
A.8-Other expenditure	19.54	1.78	28.43	8.89	499
Defence Ordnance Factories					
A.3-Stores	678.95	61.72	779.65	100.70	163
A.8-Other Expenditure	71.50	6.50	92.29	20.79	320
Capital Outlay on Defence Services					
A.1-Army	661.00	60.09	1028.44	367.44	611
A.2-Navy	774.49	70.40	1023.78	249.29	354

1	2	3	4	5	6
A.3-Air Force	974.86	88.62	1265.34	290.48	328
A.4-Defence Ordnance Factories	196.88	17.89	297.92	101.04	565
1989-90					
DS-Army					
A.1-Pay and allowances of Army	2284.55	207.68	2894.69	610.14	294
A.2-Pay and allowances and Misc. Expenses of Auxiliary Forces	22.22	2.02	29.21	6.99	346
A.4-Transportation	140.06	12.73	184.51	44.45	349
A.5-Military Farms	32.93	2.99	38.43	5.48	183
A.6-R&D Organisation	384.11	34.91	495.47	111.36	319
A.8-Stores	2083.88	189.44	2608.34	524.46	277
A.9-Works	303.45	27.63	395.45	91.50	331
A.10-Other Expenditure	135.72	12.33	165.79	30.07	244
DS-Navy					
A.1-Pay and allowances of Navy	135.48	12.32	170.62	35.14	285
A.4-Transportation	39.72	3.61	57.87	18.15	503
A.5-Stores	269.52	24.50	347.61	78.09	319
A.6-Works	51.17	4.65	67.14	15.97	343
A.7-Other Expenditure	38.60	3.51	53.91	15.31	436
DS-Air Force					
A.4-Transportation	32.36	2.93	46.21	13.95	476
A.5-Stores	831.51	76.14	1135.15	303.64	399
A.6-Works	110.78	10.07	139.56	28.78	286
A.8-Other Expenditure	22.82	2.07	37.42	14.60	705