

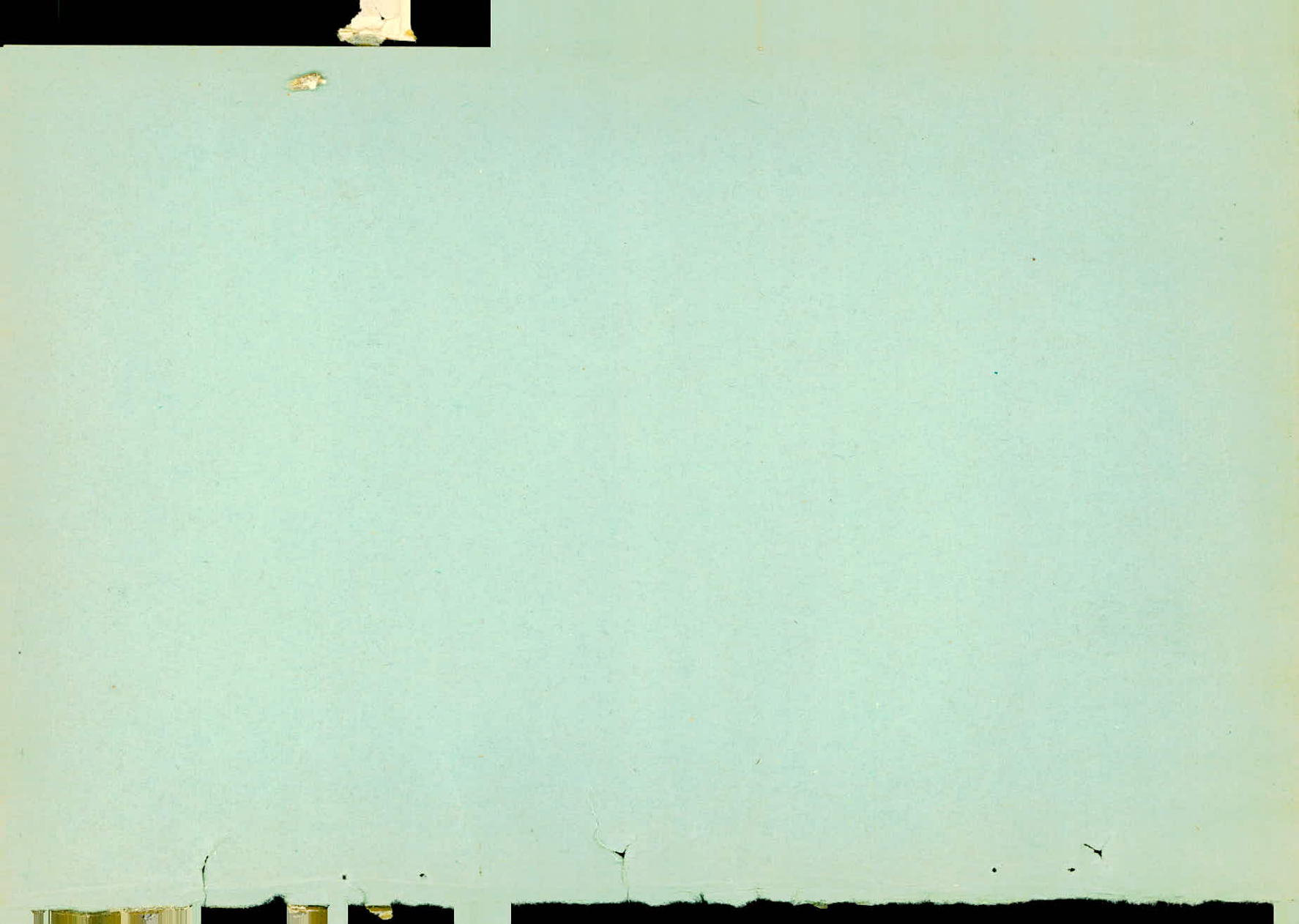


CENTRAL GOVERNMENT

AUDIT REPORT

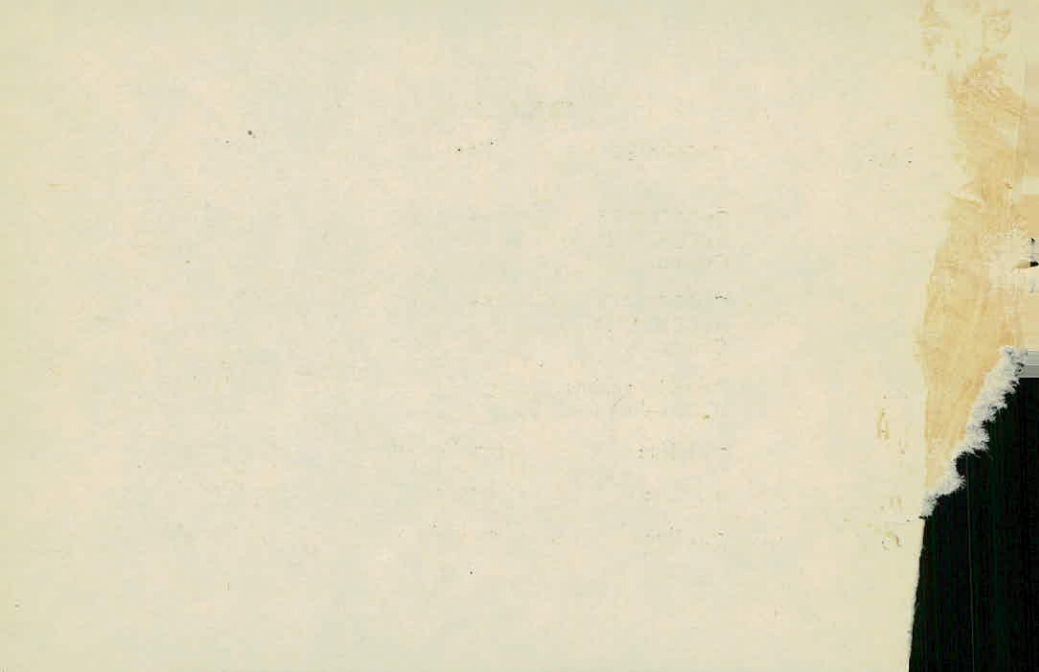
DEFENCE SERVICES

1968



## ERRATA

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(i)	CONTENTS APPENDIX I Column 3	26—27	27—28
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4	Remarks against Table—line 2		add 'is' after 'production'
7	29th line	requirement	requirements
15	4th line	repair	repairs
19	7th line	59 lakhs	Rs. 59 lakhs



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## PREFATORY REMARKS

This volume mainly relates to matters arising from the Appropriation Accounts of the Defence Services for 1966-67 (which have been published as a separate volume by the Ministry of Defence) and other points arising from the audit of expenditure incurred by the Defence Services.

The financial irregularities, losses, etc., commented upon in the Report relate to cases which came to the notice of Audit during the year 1966-67 as well as those which had come to notice in earlier years but could not be dealt with in previous Audit Reports; matters relating to the period subsequent to 1966-67 have also been included wherever considered necessary.

The points brought out in this Report are those which have come to notice during the course of test audit of the accounts of the Defence Services and they are not intended to convey, or to be understood as conveying, any general reflection on the financial administration by the Departments/Authorities concerned.





## CHAPTER 1

### BUDGETARY CONTROL

#### *Budget and actuals*

1. The table below compares the expenditure incurred by the Defence Services in the year ended March, 1967, with the amounts authorised by the Parliament to be spent during the year:—

	Voted	Charged	Total
(Crores of rupees)			
Authorised to be spent—			
Original	968·48	0·22	968·70
Supplementary	35·02	..	35·02
TOTAL	1,003·50	0·22	1,003·72
Actual expenditure	974·77	0·07	974·84
Net shortfall	—28·73	—0·15	—28·88
Percentages			
Net shortfall as percentage of total provision	2·9	68·2	2·9

The net shortfall of Rs. 28·73 crores in the voted grants was made up of—

- (i) Unutilised provision, totalling Rs. 28·82 crores, in four grants—three Revenue Grants *viz.*, 'Army' (Rs. 15·63 crores), 'Navy' (Rs. 1·05 crores) and 'Air Force' (Rs. 4·18 crores) and one Capital Grant, *viz.*, 'Capital Outlay' (Rs. 7·96 crores).

Out of the unutilised provision, an amount of Rs. 5·85 crores under 'Capital Outlay' was surrendered in February, 1967, and another amount of Rs. 13·75 crores (Revenue Grants—Rs. 11·92 crores and Capital Outlay—Rs. 1·83 crores) on the 31st March, 1967.

- (ii) Excess expenditure of Rs. 0·09 crore under one Revenue Grant *viz.*, 'Defence Services, Non-Effective', which requires regularisation under Article 115 of the Constitution.

*Supplementary grants*

2. Supplementary grants of Rs. 35.02 crores obtained during the year included Rs. 23.24 crores and Rs. 6.43 crores for 'Army' and 'Air Force' Grants respectively, nearly two-thirds of which remained unspent.

*Control over expenditure*

3. Some instances where there was considerable shortfall in expenditure as compared to the budget provision/final estimates are given below:—

Sl. No.	Nature of expenditure	Sub-head of the Grant	Budget provision	Final estimates	Actual expenditure	Shortfall in expenditure (Difference between cols. 5 and 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(In crores of rupees)						
5—Army						
(i)	Sea and inland water charges	D	0.20	0.25	0.04	—0.21
(ii)	Hired transport	D	4.13	3.09	2.63	—0.46
(iii)	Petrol, oil and lubricants	F	24.50	20.00	17.41	—2.59
(iv)	Army Ordnance Corps stores (ordnance, clothing stores and mechanical transport vehicles and connected stores)	F	107.79	96.92	94.50	—2.42
6—Navy						
(v)	Repairs and refits to ships	D	0.25	0.85	0.51	—0.34
7—Air Force						
(vi)	Expenditure on aviation stores in India and abroad (except U.K.)	E	15.99	12.25	8.81	—3.44
114—Capital Outlay						
(vii)	Air Force works	C	38.50	26.43	25.66	—0.77

## CHAPTER 2

### MANUFACTURE OF ORDNANCE STORES AND CLOTHING

*Progressive manufacture of Shaktiman trucks in the Ordnance factories*

4. In Para 58 of their 33rd Report (1964-65), the Public Accounts Committee referred to their 17th Report (1963-64) wherein they had expressed their concern over the production of trucks lagging behind the planned targets and expressed the desire that every effort should be made to adhere to the revised programme drawn up by the Government in May, 1963.

The table below shows the actual production from July, 1963, to June, 1967, compared with the revised target:—

Year	Production		Percentage of indigenous content	
	Target	Actual	Target	Actual (Average)
5th year (1-7-63 to 30-6-64)	1,200	1,022	62	59.9
6th year (1-7-64 to 30-6-65)	1,500	1,128	72	64.7
7th year (1-7-65 to 30-6-66)	1,500	1,407	76.5	66.3
8th year (1-7-66 to 30-6-67)	1,500	939	77	67.5

It will be seen that there was a shortfall in production as well as in the indigenous content of the trucks. Taking the year, July, 1966—June, 1967, the target for savings in foreign exchange was Rs. 4.23 crores on the manufacture of 1,500 vehicles. The actual savings were, however, only Rs. 1.95 crores. Of the shortfall of Rs. 2.28 crores in savings of foreign exchange, Rs. 2.00 crores were due to the shortfall of 561 trucks in the total production and Rs. 0.28 crore were due to less indigenous content achieved in each truck.

The shortfall in the indigenous content was mainly due to delay in establishment/commencement of the indigenous production of

certain major components indicated below:—

- (i) To be manufactured in Ordnance factories with foreign collaboration.      fac-

Gear Box  
Universal Joint  
Crank Case  
(of Axle Assembly)  
Cylinder Head  
(of Engine Assembly)

- (ii) To be manufactured by Ordnance factories using Trade forgings from Trade.      or in

Rubber Pad Mounting  
Camshaft  
Connecting Rod  
Brake Assembly  
Oil Filter

} The extent of delay in establishing indigenous production detailed in Appendix I of the Report.

The Ministry have stated that in the case of the Gear Box, manufacture had commenced from July, 1964, but that indigenous production could not meet the full requirements and, to the extent of shortfall, imports were unavoidable. The establishment of indigenous production of the Universal Joint was delayed for a year—May, 1963, to May, 1964—pending decision on a change in wheel design; thereafter difficulties in procurement of tools, gauges and fixtures at reasonable prices from abroad delayed the project further; manufacture has commenced from December, 1967. As regards the Crank Case (of Axle Assembly) and Cylinder Head (of Engine Assembly) the Ministry have stated that the plant was set up in December, 1965, but that there has been delay on the part of the collaborators in supplying the fixtures. These are now expected to be delivered by May, 1968. The firm on whom orders for castings were placed in August, 1964, are yet to make any supplies.

The Ministry have further stated that the unutilised capacity in the production of Shaktiman trucks was utilised for manufacture of Nissan vehicles, the production of which was much above the target.

#### *Unproductive expenditure*

5. In August, 1958, the Air Force placed an urgent demand on the Director General, Ordnance Factories, for the production of a certain bomb. The specifications for the bomb required the bomb bodies to be heat treated but adequate facilities for heat treatment were not available in the Ordnance factories. The Air Force, as a

temporary measure to meet urgent needs, had, therefore, agreed to accept supply of bombs without heat treatment. Facilities for heat treatment to bomb bodies were established in an Ordnance factory to a limited capacity only in December, 1964. Later, in March, 1966, the Air Force decided not to accept any further bombs without heat treatment. This has resulted in bomb bodies already produced without heat treatment valued at Rs. 10·80 lakhs (which cannot now be heat treated) and certain components (not useful for the new method) valued at Rs. 1·40 lakhs becoming surplus to requirements.

The Ministry have stated (January, 1968) that proposals for utilisation of these stores are under consideration.

*Irregularities noticed in a project for establishment of an Ordnance factory*

6. In February, 1963, Government decided to establish a new Ordnance factory to manufacture a particular type of ammunition. The following points were noticed in the setting up of the factory:—

- (i) An order (Rs. 28·13 lakhs) for the supply and erection of a plant for producing gas required by the factory was placed on a private firm under a contract entered into by the Director General, Supplies and Disposals, in March, 1964. The delivery of the plant was to be arranged to ensure supply of gas by 1st August, 1964. The work has not yet been completed (December, 1967) due to faulty planning and execution of the work by the firm. Pending erection of the plant, gas is being purchased locally by the factory.
- (ii) Electric power required for the factory was to be obtained from a State Electricity Board. Pending finalisation of the terms of supply, it was agreed that payment for power consumed would be made by the factory, at the Board's tariff rates on the basis of 50 per cent (raised to 75 per cent from January, 1966) of the contract demand, or the actual maximum demand established during a month, whichever was higher. Based on the planned capacity of the factory, a contract demand for supply of 5,000 KVA of electricity was intimated to the State Electricity Board. The actual maximum demand as established between August, 1964, and July, 1967, varied from 30 KVA to

2,475 KVA and was far below the contract demand. Payment made for the consumption of power at 50 per cent (raised to 75 per cent from January, 1966) of the contract demand, at the tariff rates of the Electricity Board, involved an extra expenditure of Rs. 6.07 lakhs.

- (iii) Construction of a "Bachelor's mess" building for 50 junior officers was sanctioned by Government on 25th September, 1963, at a cost of Rs. 2.96 lakhs as part of the residential buildings for the personnel of the factory. The mess building was completed and taken over by the factory authorities on 5th October, 1966, but has remained vacant till now (December, 1967) for want of single officers in need of such accommodation. According to the Ministry this building is expected to be fully occupied when the factory goes into two-shift production.

## CHAPTER 3

### PURCHASE OF STORES AND EQUIPMENT

#### *Excessive procurement of an item of 'snow clothing'*

7. In November, 1962, an order for the manufacture of 2.51 lakh pairs (estimated cost Rs. 1.84 crores) of parka trousers—an item of extreme winter clothing—was placed on the Director General, Ordnance Factories, for issue to troops on operational duties at high altitudes. In December, 1964, after the requirements were reviewed, additional orders for manufacture of further 1.40 lakh pairs of trousers (estimated cost Rs. 1.01 crores) were also placed.

When the trousers were issued on a large scale to troops at high altitudes in the winter of 1964-65, they were not found to be popular with the troops who preferred serge trousers to the bulky parka trousers. It was also found that serge trousers were as good as parka trousers for use at high altitudes. A suggestion in June, 1965, by a Command Headquarters to restrict the issues of such trousers only to troops on guard, sentry and other static duties at high altitudes was accepted by Army Headquarters in February, 1966, and outstanding orders for the manufacture of the item were cancelled.

Consequent on the decision to reduce the issue of the trousers, 3.10 lakh pairs, valued at Rs. 1.77 crores, have become surplus. Raw material costing Rs. 9 lakhs, which has no foreseeable use, is also lying in stock.

The Ministry have stated that instructions have been issued by Army Headquarters in November, 1967, for the maximum use of the available stock of parka trousers, if necessary by issue of the item in lieu of serge trousers.

#### *Over-provisioning of uniforms for National Cadet Corps*

8. Prior to 1965, requirement of clothing and other items of uniform for the National Cadet Corps were being worked out by the National Cadet Corps Directorate with reference to certain scales for the entire authorised strength of the corps and the approved increase for the ensuing year, plus a 20 per cent reserve thereon to cover wastage. Neither the stocks in hand, nor the actual rate of wastage of the uniforms issued to the cadets and withdrawn at the end of the training term were being taken into account. In practice

there had always been a shortfall of about 10 per cent between the anticipated and actual recruitment, with the result that the provision of a 20 per cent wastage reserve afforded a cushion of 33 per cent over the actual requirements.

In May, 1965, the Ministry of Finance (Defence) suggested that requirements of clothing and other items of uniform should be assessed with reference to actual stocks (including quantities on order) and the rate of consumption/wastage. But even in a subsequent review undertaken in March, 1966, the wastage data were not collected and adopted. This review (covering 13 items) did not take into account the correct quantities ordered for supply, but still to materialise, in respect of 12 items. As a result, stores worth about Rs. 11 lakhs which were not required were purchased. This review also disclosed surpluses in some of the items, but no action was taken to cancel the outstanding orders, valued at over Rs. 25 lakhs, in respect of these items.

On the basis of an assumed wastage data, the requirements assessed in March, 1967, disclosed surpluses in 21 items, mostly clothing, valued at Rs. 1.23 crores.

The Ministry have stated (January, 1968) that out of the surplus stock valued at Rs. 1.23 crores, items costing Rs. 11.40 lakhs have since been transferred to other departments.

#### *Excessive provisioning of parachutes*

9. During the period June, 1962, to July, 1963, the Master General of Ordnance placed orders on the Director General, Ordnance Factories, for the manufacture of a certain number of parachutes to be supplied between March, 1963, and October, 1964. These orders were based on the anticipated requirement of the item and reserve stocks to be maintained. In July, 1964, when the requirement for 1964-65 and reserve stocks were reviewed, it was found that a larger number than anticipated of these parachutes used for dropping supplies could be retrieved, and it was decided that the Director General, Ordnance Factories, should slow down the monthly rate of production of parachutes to 60 per cent of the existing capacity. In June, 1965, as sufficient reserve stocks had been built up, the rate of production was further reduced to 30 per cent of the original capacity to keep the factories busy till March, 1967.

In February, 1966, by which time a large stock of parachutes had been built up, it was proposed to cancel the outstanding orders on the Director General, Ordnance Factories, for these parachutes. However, as such a cancellation would have led to accumulation of



large stocks of unfinished components and raw materials besides rendering a large number of workmen surplus, it was decided in May, 1966, to retain the orders for 50 per cent of parachutes outstanding on 1st April, 1966, and to cancel the rest. In February, 1967, it was finally decided that only those parachutes actually under production would be completed and the manufacture of 9 per cent of the quantity initially ordered, but outstanding, would not be taken up. Consequent on this decision, raw materials on hand valued at Rs. 1.09 crores have become surplus.

A large number of parachutes, valued at about Rs. 7 crores, are also held in stock. The Ministry have stated (January, 1968) that it should be possible to utilise them within a period of 5 to 6 years.

*Unnecessary procurement of stores*

10. (a) *Tyres*—Based on a review of requirements for 24 months from December, 1963, an urgent demand for 600 tyres for a certain type of aircraft was placed by the Air Headquarters on the Director General, Supplies and Disposals, in May, 1964. After obtaining necessary foreign exchange from Air Headquarters the Director General, Supplies and Disposals, entered into a contract for the purchase in September, 1964. In the meantime, a subsequent review of requirements in July, 1964, had disclosed that after taking into account the demand for 600 tyres already placed, there would be a surplus of 611 tyres. No action was, however, taken by the Air Headquarters then to cancel the indent placed on the Director General, Supplies and Disposals.

600 tyres costing Rs. 1.17 lakhs were actually received from abroad during April to July, 1965. In December, 1966, Air Headquarters decided to offer 585 tyres for disposal to the Director General, Supplies and Disposals, after retaining requirements up to August, 1971, as the shelf life of the tyres was only 5 years. The tyres are yet to be disposed of (December, 1967).

After Audit drew the Ministry's attention to the case, the Ministry have asked Air Headquarters to enquire into the circumstances of the over provisioning and to fix responsibility. The results of the inquiry are awaited (December, 1967).

(b) *Brushes*—In April, 1964, Air Headquarters placed an operational indent for 34,314 engine cleaning brushes on the Director General, Supplies and Disposals, to meet 2 years' requirements (March, 1964 to February, 1966). While assessing the requirement, Air Headquarters omitted to take into account 13,885 brushes already on order. A subsequent review of requirement—due in September, 1964, but stated to have been carried out in January, 1965—disclosed a surplus of 40,019 brushes. No action was, however, taken then to

cancel the demand for 34,314 brushes already placed on the Director General, Supplies and Disposals, who in the same month had entered into a contract for their purchase for Rs. 1.21 lakhs which he could have cancelled if approached at the time.

41,553 brushes costing Rs. 1.45 lakhs including 34,314 numbers received during March-July, 1965, are now lying in stock.

The Ministry have stated that 35,000 brushes are proposed to be transferred to the Army (at 50 per cent of their purchase price) for use in lieu of a similar item (the cost of which is less than half that of the brushes already procured). A Court of Inquiry is being instituted to investigate the circumstances in which the over-provisioning occurred (November, 1967).

#### *Delay in construction of seaward defence boats*

11. In March, 1960, Government sanctioned the construction of 3 seaward defence boats in India at a cost of Rs. 60 lakhs (subsequently revised to Rs. 78 lakhs). The order for construction of these boats was placed, on the Garden Reach Workshop Ltd., Calcutta, a public sector undertaking, on 17th December, 1962, with expected delivery in August-December, 1964. Initially it was proposed to utilise indigenous steel in construction of the boats but in May, 1963, the workshop was asked to arrange for import of the required steel through the Iron and Steel Controller for which an import licence was also issued to them in October, 1963. The workshop tried to procure the steel and when their attempts failed, they asked the Naval Headquarters in January, 1964, to arrange for supplies from abroad through the India Supply Mission. Accordingly, steel valued at Rs. 1.75 lakhs was imported and supplied to the workshop by the end of 1965. The keel was laid in June, 1966, and the boats are expected to be ready for trial by the middle of 1968. In the meantime machinery, equipment and certain weapons costing Rs. 41 lakhs procured by the Navy during 1962 to 1967 for installation in the boats have been lying idle due to delay in their construction.

#### *Loss due to delay in release of foreign exchange*

12. In August, 1963, Air Headquarters placed an indent on the Director General, Supplies and Disposals, for an item of store required to be supplied by March, 1964. The Director General, Supplies and Disposals, concluded a contract in March, 1964, with a firm 'A' for its supply by September, 1964, at a cost of Rs. 2.23 lakhs without any commitment to provide foreign exchange, though earlier, before the conclusion of the contract, the Director General, Supplies and Disposals, based on his past experience, had asked the indenter for release of foreign exchange. As the contractor failed to execute

the order, a notice was issued to him on 31st August, 1964, by the Director General, Supplies and Disposals, that the contract was liable to be cancelled at his risk and expense. This notice was also subsequently confirmed on 20th January, 1965.

In December, 1964, the Director General, Supplies and Disposals, requested Air Headquarters for the release of foreign exchange to the extent of Rs. 1.06 lakhs to enable him to conclude a fresh contract for which tenders had been invited and opened in September, 1964. He further emphasised in January, February, and March, 1965, the necessity of releasing the foreign exchange quickly, as the risk and expense purchase would have to be effected by 31st March, 1965 (i.e. within 6 months of the expiry of the delivery period specified in the contract with firm 'A'), and as the offer on hand was open only up to the end of March, 1965. The foreign exchange was, however, released only on 9th June, 1965, by the Ministry of Defence as there was delay in determining as to which department should release it. (The foreign exchange was, however, not utilised ultimately by the Director General, Supplies and Disposals). The Director General, Supplies and Disposals, after calling for fresh tenders, concluded a contract in September, 1965, with the same firm which had successfully tendered in September, 1964, for supply of the item by 10th March, 1966, at a cost of Rs. 2.79 lakhs when it was too late to operate on the "risk and expense purchase" clause. As a result, Government had to forego recovery of about Rs. 0.56 lakh from firm 'A'.

The Ministry have stated (January, 1968) that the question of release of foreign exchange to the extent of Rs. 1.06 lakhs was linked with the general policy issue regarding the source from which foreign exchange should be met for Defence indents on normal civil trade and that a decision in the matter was taken only in May, 1965.

#### *Procurement of defective spare parts*

13. To meet the requirements of the Army, the India Supply Mission, Washington, concluded a contract with a foreign firm in April, 1963, for supply of 500 Clutch Sleeves for Tanks at a cost of Rs. 29,983. The contract did not provide for inspection of the stores before despatch. On receipt of a part of the supplies in the depot in December, 1963, it was found that the item did not conform to the specification required by the Army authorities, in that

- (i) there was excessive clearance between the Clutch and the Sleeve; and
- (ii) the hardness of the material was less than half of that specified.

The defects were pointed out immediately to the Supply Mission but the suppliers did not agree to replace the item on the ground

that the parts supplied agreed with the specifications of the manufacturers. In October, 1964, the India Supply Mission was further informed that the Technical Development Establishment had rejected the supplies as unsuitable.

In the meantime another indent for procurement of 600 more Clutch Sleeves was received by the India Supply Mission. On 5th February, 1964, the India Supply Mission requested the Army Headquarters to examine the desirability of suspending purchases of these 600 Clutch Sleeves from the same supplier. While this matter was under consideration, a further indent for 2,015 numbers of the same spare part was placed by the Army Headquarters on the Director General, Supplies and Disposals, on 29th February, 1964, without specifically mentioning whether the same quality of spares was acceptable or not. This indent was crossmandated to the Supply Mission, Washington, who in July, 1964, concluded another contract for the supply of the item at a cost of Rs. 74,756 with the same firm, whose offer was the lower of the two received. The supplies received under this contract in the depot in May, 1965, also had the same defects.

The Ministry have stated (January, 1968) that these items are no longer required in view of the change in policy and reduced requirements and that the Supply Mission had been requested in May, 1967, to persuade the firm to take back the stores and refund their value.

#### *Purchase of sub-standard timber*

14. On the basis of an indent received from a Commander Works Engineer, the Director General, Supplies and Disposals, concluded a contract with a firm in July, 1966, for supply of 9,375 cft. of timber at Rs. 5.25 per cft. Inspection of the logs was carried out at the firm's premises by a Defence inspector prior to despatch and 691 logs of timber valued at Rs. 0.48 lakh, exclusive of freight charges (Rs. 0.18 lakh), were received from the firm at the timber factory during October, 1966, to December, 1966. On receipt, the consignee found that the logs were of very poor quality having numerous defects, and that the actual yield of sawn sizes obtained on cutting certain logs was so poor that they could not be used for any purpose. The Director General, Supplies and Disposals was, therefore, requested by the consignee in December, 1966, to advise the contractor to take back the timber already supplied.

The contractor and the Defence inspector, however, refused to accept that the logs supplied were of poor quality, or defective.

On the insistence of the consignee, a joint inspection of the timber supplied was carried out in March, 1967, by the inspector and

the consignee when it was found that only 48 logs generally conformed to specifications and that the remaining logs had one or more of the following defects.

Nature of defect	Percentage of logs
Objectionable surface cracks and splits	80
Decayed, or insect attacked	20
Knobbly/spiral grained, knots and other defects	10

All the logs inspected were found to be brashy and not expected to serve the intended purpose.

The contractor did not associate himself with the joint inspection and has not accepted its findings. The Ministry have stated in January, 1968, that an inquiry into the matter has been ordered.

#### *Acceptance of sub-standard serge (blue grey)*

15. A contract was placed by the Director General, Supplies and Disposals, in September, 1962, for supply of 20,000 metres of serge (blue grey) at the rate of Rs. 20.60 (exclusive of taxes) per metre. 16,000 metres of cloth were to be supplied to an Air Force depot and 4,000 metres to an Ordnance clothing factory. A part of the supplies received in the depot during November, 1962—January, 1963, were issued to a unit for stitching garments; the unit complained in June, 1963, that the colour of the material changed to dark maroon after some exposure. In February, 1964, under instructions from Air Headquarters a quantity of 4,145 metres of the cloth found sub-standard (costing about Rs. 85,000) was returned to the supplier for redyeing. Since the results of redyeing have not been found satisfactory, the question of disposal of this sub-standard cloth is under consideration.

The Ministry have stated (January, 1968) that in the last 3 consignments totalling 4,326 metres, the supplier had evidently used indigenous wool and inferior dyes in lieu of imported wool and dyes though the contract provided for the issue of an import licence for Rs. 2.14 lakhs for replenishment of his stock. An import licence was actually issued to the supplier, according to the terms of the contract, in February, 1963, soon after the completion of supplies in January, 1963.

The circumstances in which the sizeable quantity of sub-standard cloth (21.63 per cent) passed inspection is under investigation (January, 1968).

## CHAPTER 4

### UTILISATION OF STORES AND EQUIPMENT

#### *Accidents to Naval aircraft*

16. In para 17 of Audit Report, Defence Services, 1967, a review was made of aircraft accidents in the Air Force. The results of a similar review of accidents to Naval aircraft are detailed below:—

- (i) During the 3 years from 1964 to 1966, Naval aircraft were involved in a total of 73 accidents. In 15 cases, the accidents resulted in total loss or heavy damage beyond economical repairs to the aircraft. Boards of Inquiry were held in these cases. There were 2 cases of fatal accidents during each of the years 1964 and 1965 in which one or more members of the crew lost their lives.

Based on the capital cost of the aircraft, the loss resulting from the accidents during these 3 years is estimated to be Rs. 1.06 crores; the exact amount of loss is, however, still to be assessed.

The Ministry have stated that appropriate disciplinary action was taken in cases where accidents were due to fault/error of judgment on the part of the crew.

- (ii) The details of 3 cases of serious accidents involving a loss of Rs. 23 lakhs are given in Appendix II of the Report.
- (iii) Under the prescribed procedure, Naval aircraft, or components, lost or damaged in flying accidents, where there is no contributory negligence or other culpable default, are to be struck off ledger charge on the orders of the Chief of the Naval Staff in consultation with associated finance; loss or damage resulting from flying accidents which are caused by negligence or culpable default are to be regularised by the competent financial authority. Such action in respect of the aircraft/equipment lost or damaged has yet (December, 1967) to be finalised in all cases.

#### *Hiring of a paddle steamer*

17. Since 1957, an Army inland water transport unit had been deficient of a paddle steamer authorised for training purposes and conveyance of troops. On 14th September, 1964, an Indian built paddle steamer was requisitioned from a private firm for use by this

unit. The vessel had been surveyed (without being dry docked) and found fit by the Mercantile Marine authorities, who also fixed the hire charges for the vessel at Rs. 455 a day. The vessel was hired for about 3 years; during this period it was under repair for over a year and was utilised on training cruises for 2½ months. During the remaining period also it was stated to have been utilised for training purposes while it was stationary. It was never used for conveyance of troops.

Considering the heavy cost of repairs and the limited use to which the vessel had been put, the unit recommended in January, 1966, that the vessel be de-requisitioned; orders to de-requisition it were, however, given in April, 1967, while it was actually de-requisitioned only in September, 1967. During the 3 years, September, 1964—August, 1967, hire charges of over Rs. 5 lakhs were paid and a sum of over Rs. 3 lakhs was also spent on repairs and mooring charges. In addition, on de-requisition, a sum of Rs. 0.89 lakh was paid towards estimated cost of certain repairs which the owners were to get done themselves to restore it to its original condition.

The Ministry have stated that the vessel which was considered necessary and suitable to meet operational and training commitments was hired as efforts "to explore the possibility of getting a new paddle steamer manufactured for the unit" did not prove fruitful; that the expenditure incurred on repairs, or the period taken for repairs was not unusual; and that it was not de-requisitioned in January, 1966, because the Command authorities felt that operational conditions did not warrant such a step.

#### *Loss of an Air Force plane by fire due to neglect or default*

18. In November, 1964, an Air Force transport plane caught fire while being serviced by a Government company and was completely burnt. The accident occurred while a check was being conducted on the jet pack fuel system; the hose to the fuel control unit was being tightened when due to the spillage of fuel over the auxiliary power plant, the plane suddenly caught fire.

A Court of Inquiry, convened immediately to inquire into the fire accident, found that the methods adopted by the company's mechanics for carrying out servicing were not proper and held the servicing personnel of the company directly responsible for the accident, which resulted in the loss of the aircraft valued at Rs. 8.80 lakhs. The loss awaits regularisation.

The Ministry have stated (January, 1968) that the company had taken disciplinary action against the employees concerned and that

they have also issued suitable instructions to avoid recurrence of such accidents.

*Loss of aero-engines and delay in repair of trolleys*

19. In the following 2 cases, Defence stores received from foreign sources and landed at Indian ports were either not claimed or were traced after considerable delay, resulting in loss or damage amounting to Rs. 7.33 lakhs:—

Nature of stores and value	Brief particulars
Aero-engines (Rs. 7 lakhs)	2 spare aero-engines valued at over Rs. 7 lakhs shipped from a foreign country after overhaul, in May, 1962, in 4 packing cases could not be traced at Bombay port and were declared as short-landed. The packages were actually landed at Madras port. As their outward appearance indicated that the packages belonged to Defence, the port authorities notified the Embarkation Commander, Madras, in May, 1964, to take delivery of the packages within 10 days. The packages were stated to have been examined by the Embarkation Commander on receipt of notice from the Port Trust but he could not identify them as Defence stores. Since, however, no reply was received from the Embarkation Commander, the unclaimed packages were auctioned by the Port Trust in July, 1964. The packages passed to the custody of a private firm who paid Rs. 2,320 for them. In November, 1964, the packages were offered by this private firm for sale to the Indian Air Force. The technical specialists of the Air Force, however, held that the engines could not be made use of as whole engines because they had been lying with the firm for a long time without proper storage precautions. But with a view to retrieve the serviceable parts, an offer of Rs. 2,320 for the packages was made to the firm in July, 1967. The matter is still under negotiation.
Ammunition trolleys (Rs. 0.33 lakh)	2 trolleys procured for handling ammunition to aircraft were landed at Bombay port in September, 1957. They were traced by the Embarkation Commandant only in December, 1962, and sent to the consignee in June, 1963. On receipt in the depot in July, 1963, they were found to be badly damaged by corrosion due to the effect of sea water and were categorised as repairable.  The equipment has not been repaired so far (January, 1968) though in the meantime in May, 1965, two more trolleys have been purchased, to meet operational requirements, at a cost of Rs. 0.55 lakh, from the same foreign source.  The reasons for not repairing the trolleys and the circumstances in which the Embarkation Commandant did not clear the trolleys in time are being investigated.

*Deficiency in stores*

20. A stock verification carried out on the 5th March, 1966, in an Ordnance factory disclosed a deficiency of 73 tonnes of brass rods valued at Rs. 5 lakhs.



Though the physical balances of all stores held in stock are to be verified each year, in this case the material had not been physically verified after April, 1963. A Board of Inquiry held in February and March, 1967, found that the materials had been stored outside the godowns, on the railway platform, and on the roadside, within the factory premises, and that the stores had been received and issued without weighment. The Board after checking the estimated consumption of the stores with actual drawals during the years 1960—66 held that the deficiency was due to unauthorised drawals of stores from stock without proper documentation, to cover possible excessive rejections in production and/or to cover receipt and issue of the material without weighment. The Board found the management at all levels lacking in proper appreciation of the importance of documentation but did not hold any particular individual responsible for the deficiency.

The loss awaits regularisation (January, 1968).

*Loss due to deterioration in stock*

21. 68 tonnes of walnuts (with shell) with a shelf life of 1 to 3 months were received at Srinagar in June—August, 1963, from certain supply depots for issue to troops at high altitudes. Only 28 tonnes could be issued by October, 1963, when the stock was found unfit for human consumption. After utilising some portion for feeding animals, 38 tonnes of the unfit stock were sent to Pathankot for disposal. 13 out of 22 tonnes of another similar consignment of walnuts with estimated shelf life up to September—October 1963, on receipt, in September, 1963—November, 1963, at Pathankot, for onward despatch, were also found to be unfit. These 51 tonnes of inedible walnuts valued at Rs. 0.85 lakh were disposed of by auction in November, 1964, for Rs. 0.12 lakh involving a loss of Rs. 0.73 lakh.

## CHAPTER 5

### WORKS

#### *Provision of water supply in a forward area*

22. (a) In September, 1965, Government sanctioned under the Emergency Works Procedure a scheme for supply of water (4 lakh gallons a day) to troops in a forward area, at an estimated cost of Rs. 130 lakhs. The work was to be completed within 8 months and consisted of:

- (i) sinking of 3 new wells, improvement to 2 existing Government wells, acquisition and improvement to 5 existing private wells at a station X near the forward area and pumping of water to forward areas through pipes;
- (ii) drilling of 3 tube wells at another station Y, about 52 miles from station X; and
- (iii) supplying water through a pipe line from station Y to the forward area, through station X.

The project was sanctioned on the basis of the recommendations of a Board of Officers convened in June, 1965. These visualised execution of works at both stations X and Y simultaneously as a geologist associated with the Board, had, after a day's rapid survey, reported that wells at station X could be developed for a maximum yield of only a lakh gallons of water a day.

The Superintending Geologist had, however, while forwarding the report of the geologist, suggested in July, 1965, that the actual yield of the wells in station X be tested before developing the new (tubewell) source at station Y. Nevertheless, the priorities for the execution of the work were not reviewed (according to the Ministry, there is nothing on record to show whether any decision was taken on the Superintending Geologist's letter) and the work on boring the wells in station Y and laying pipe line from station Y to X was taken up in December, 1965, for execution through troop labour, simultaneously with the renovation and digging of wells in station X.

At station X, only 3 wells were actually developed in February, 1966, and June, 1967, and as the safe yield of these wells in the dry season of 1967 was found to be 2.59 lakh gallons a day, development of the remaining wells was not taken up.

The boring of wells in station Y and laying of pipes from station Y to X were completed late in 1966 at a cost of Rs. 59 lakhs but

restricted pumping was commenced only in May, 1967. Soon thereafter in July, 1967, the pipe line was damaged due to heavy rains and was repaired in December, 1967. Till then the requirement of water in the forward area was being met from the 3 wells at station X. The simultaneous execution of the work in station Y for sinking wells and laying pipe line over a distance of 52 miles, at a cost of 59 lakhs, before developing and testing the yields of the remaining 7 wells in station X, as suggested by the Superintending Geologist, was hasty and imprudent.

(b) For laying of rising mains the department decided to use asbestos cement pressure pipes and fittings and the Director General, Supplies and Disposals, placed orders on a firm in October, 1965, for their supply at a cost of Rs. 50 lakhs. Part of the supplies received were either damaged in transit, or were later found to be defective, sub-standard and not conforming to the specifications stipulated in the supply orders. While 2 per cent of the pipes got damaged during transit due to insufficient packing, over 13 per cent of those used in works burst during tests at a pressure far less than that stipulated in the supply orders. The components of the cast iron detachable joints (cost Rs. 10 lakhs) supplied were of varying sizes and so a large number of joints did not fit properly. Further, the firm supplied moulds of mild steel with aluminium paint instead of moulds made of aluminium metal as required and these were rejected.

The Chief Engineer requested the Director General, Supplies and Disposals, in August, 1967, to direct the firm to replace the defective stores supplied, or to recover Rs. 6.38 lakhs from the firm. The Ministry have stated (March, 1968) that in September, 1967, after a meeting with the suppliers, it was decided to carry out retesting of pipe lines at full working pressure and that this is still to be done.

*Lack of proper planning in construction of a jetty*

23. A jetty constructed at a cost of about Rs. 1.75 crores and handed over to Naval authorities in April, 1966, is lying practically inoperative on account of accumulation of silt.

In May, 1959, Government sanctioned the construction of a jetty at a newly established Naval armament depot to provide for loading and unloading facilities for ammunition to and from ships. Its design was based on tidal model experiments carried out by the Central Water and Power Research Station. The design consisted of an initial open bridge for the first 2,000 feet and rubble mound for the remaining 3,000 feet with a pier of 250 feet by 50 feet at the end, and was expected to prevent heavy silt deposits on the inner face of the pier. Initially it was contemplated that loading and unloading at the pier would be carried out by barges and tugs and a depth of 12 feet was considered sufficient at the pier end.

In April, 1963, it was decided, after further experiments at the Central Water and Power Research Station, to extend the rubble mound by 238 feet, increase the size of the pier to 400 feet by 70 feet and to increase the depth to provide for the anchorage of destroyers/frigates with a draught of 20 feet at the pier, to facilitate direct loading and unloading of ammunition.

Since the construction of the first 2,000 feet of bridge was expected to take over 2 years, the contract concluded in December, 1961, for the construction of the jetty permitted the contractor to construct a temporary bund alongside the open portion of the jetty to enable him to transport material and labour required for the simultaneous construction of the rubble mound and open bridge and also to speed up the work. In January, 1964, Naval authorities noticed that the presence of this approach bund had resulted in accumulation of a considerable amount of silt. The temporary bund was removed in February, 1965, but the accumulation of the silt had reduced the available depth at the pier to only 6 to 8 feet. It is stated that the jetty is being put to limited use by lighters and tugs instead of providing anchorage to destroyers and frigates, as originally envisaged.

The problem of removal of the deposited silt is stated to be under examination (January, 1968).

*Avoidable outlay on improvements to signal centres for Indian Air Force*

24. In 1963, Air Headquarters sanctioned under the Emergency Works Procedure certain works for the augmentation of air-conditioning at 3 Signal Operational Centres; the works were to be taken in hand immediately and completed in the shortest possible period. They were, however, not taken up for execution immediately due to delay in release of foreign exchange for imported equipment and were later abandoned as indicated below:—

Station	Work	Administrative approval		Date of	
		Date	Cost (lakhs of rupees)	commence-ment	abandon-ment
A	Provision of additional condensing unit for air-conditioning.	30-7-63	0.64	20-7-64	27-11-65
B	Renewal and augmentation of air-conditioning and provision of allied services.	26-9-63	0.36	15-5-64	10-8-65
C	Improvements/modifications to air-conditioning plants with allied electrical and building works.	30-11-63	13.26	18-9-64	10-8-65

In August, 1965, Air Headquarters found that the progress on the works was slow and since new radar installations (sanctioned in June—October, 1964) were being set up in the vicinity, they decided to limit the existing signal centres to stand-by and training roles. Instructions were, therefore, issued in August/November, 1965, to stop the works. In the result, air-conditioning and other equipment costing Rs. 0.86 lakh already procured in stations A and C have become surplus, and an infructuous expenditure of Rs. 0.26 lakh was incurred on civil works in station C. Certain buildings (Rs. 0.27 lakh) constructed in station B have also become surplus to requirement.

The Ministry have stated that at the time of sanctioning the new radar installations in the middle of 1964, the revised role of the existing centres could not be visualised and that the decision to suspend the works was taken later in August, 1965, when it was found that the progress was too slow for existing signal centres to serve any useful purpose once the new radar installations had been completed.

*Extra expenditure due to use of precast cement concrete instead of stone for edging of roads.*

25. At a station, stone from local quarries was being used for edging of roads. In October, 1964, the Commander Works Engineer changed over from the use of stone to precast cement concrete slabs for edging on the ground that suitable stone of required size and specification was not available locally. Since the rate of precast cement concrete slabs used (Rs. 138 per CFR) was over twice the price of local stone (Rs. 50 to 64 per CFR) and as sufficient stones were actually available in the vicinity the Engineer-in-Chief issued instructions in October, 1965, at the instance of the Chief Technical Examiner, to stop the practice of providing precast cement concrete edging and use stone instead. The extra expenditure incurred in the meantime on the use of costlier precast cement concrete slabs for edging in 6 road contracts has been assessed at Rs. 1.28 lakhs.

## CHAPTER 6

### OTHER TOPICS

#### *Avoidable extra expenditure due to delay in construction of a butchery*

26. In a station, the requirements of meat for troops are being met in the form of meat-on-hoof by entering into contracts with local suppliers. The inability to conclude contracts for supply of dressed meat, which is cheaper, has been attributed to the non-existence of a butchery in the station. Recourse to purchases of meat-on-hoof has involved an estimated extra expenditure of Rs. 4.65 lakhs during the period April, 1965 to March, 1967, which could have been avoided, or considerably minimised, if prompt action had been taken to construct a butchery.

The Ministry have stated that a new design for the butchery was under consideration and that the construction of the building to the old design has been sanctioned on 5th March, 1968.

#### *Delay in introducing the simplified procedure of ration accounts*

27. After a comparative study of the procedures followed by Army and Air Force in keeping the accounts of rations issued to troops, Air Headquarters sought the approval of the Government in October, 1960, for the adoption of the simplified procedure existing on the Army side. This was accorded by Government in December, 1961. Air Headquarters did not, however, implement the Government decision.

A High Power Committee appointed by Government in January, 1965, to review the stores accounting system in the Air Force also recommended in 1965 that the Army system of ration accounts should be adopted, with suitable modifications, in the Air Force. This system has not yet been adopted (January, 1968).

The switch over to Army system of accounting was expected to save some expenditure on staff employed in maintaining and auditing the accounts; the extent of the total saving has, however, not been assessed. The reduction in staff employed on internal check of ration accounts alone has been estimated to be not less than 5 clerks, which would have resulted in a saving of at least Rs. 20,000 per annum.

The Ministry have stated (January, 1968) that the recommendations made by the High Power Committee were considered and

that it had been agreed in principle in April, 1967, to accept the recommendation of the Committee to switch over to Army system of ration accounting. Details regarding the implementation of this procedure are being worked out.

*Overdrawal of rations by certain units*

28. An Air Force unit has been drawing 31 rations in excess of its daily entitlement as reflected in the daily ration strength statement with effect from 20th November, 1962, without any supporting 'Personnel Occurrence Reports'. The cost of excess rations so drawn up to the end of April, 1967, comes to Rs. 1.17 lakhs (approximately).

Another Air Force unit at the same station also arbitrarily increased its ration strength by 10 from 6th April, 1963, 1 from 17th April, 1963, and 75 from 7th February, 1964, without any supporting 'Personnel Occurrence Reports'. The cost of the excess rations drawn in this case up to April, 1967, works out to Rs. 2.46 lakhs.

The Ministry have stated (December, 1967) that excess rations in these cases were drawn on the basis of actual number of persons dining and that the lapse is one of non-maintenance of regular accounts or non-promulgation of 'Personnel Occurrence Returns' by the units. It has also been mentioned that Government could take a final view in the matter only after the results of investigation being carried out by Air Headquarters are known.

*Delay in setting up of medical facilities*

29. (a) In April, 1964, Government sanctioned the establishment of a hospital with 50 beds, at an Air Force station in the Western sector, to provide medical cover to Defence personnel. The hospital was set up in January, 1965, in a building with accommodation sufficient for only 25 beds. During January, 1965 to December, 1967, a number of patients requiring hospitalisation were transferred to another hospital 82 Kms. away. The hospital was, nevertheless, staffed during this period with personnel meant to cater for 50 beds. The expenditure on pay and allowances of the staff in excess of that authorised for a 25-bed hospital amounted to Rs. 0.96 lakh. Some of the surplus staff were posted away in April, 1967.

(b) At another Air Force station, in the Eastern sector, Government sanctioned in December, 1964, the setting up of a 40-bed hospital for Defence personnel. Due to increase in the strength of personnel in the station the capacity of the hospital was authorised by Government in June, 1966, to be increased to 100 beds. But the hospital could not be started for want of accommodation. Nevertheless, 41 airmen, mostly medical assistants, were posted against the sanctioned

establishment of the hospital—15 in 1965, 5 more in 1966, and an additional 21 in 1967—and an expenditure of Rs. 0.55 lakh was incurred on their pay and allowances up to December, 1967.

The Ministry have stated that these 41 airmen, were utilised to provide outdoor medical treatment at the station with the help of the doctors in the Squadron/Wing and that instructions have since been issued for all these personnel to be withdrawn.

#### *Payment of excess demand charges*

30. As per tariff of a State Electricity Board for supply of electricity, demand charges were payable in addition to charges for electricity actually consumed, at the highest of:

- (i) the actual maximum demand recorded during the month,
- (ii) 75 per cent of the highest maximum demand during the preceding 11 months,
- (iii) 75 per cent of the contract demand.

At a station while the maximum contract demand indicated by the Military Engineer Services to the State Electricity Board in September, 1965, at the time of obtaining electric power, was 500 KVA, the connected load was only 250 KVA. The actual requirement was still less, being not more than 100 KVA, and the remaining connected load was lying idle. But as per the tariff the department was billed demand charges for 375 KVA—75 per cent of the maximum contract demand. In June, 1966, the Garrison Engineer requested the State Electricity Board to restrict the contract demand to 100 KVA which was agreed to. The extra expenditure on the payment of higher demand charges between September, 1965, and June, 1966, amounted to Rs. 0.55 lakh.

The Ministry have stated that the higher contract demand was intimated on the basis of anticipated increase in load. The Electricity Board has also been approached to refund the excess charges levied during September, 1965 to June, 1966.

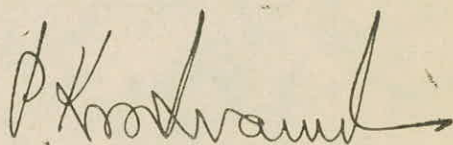
#### *Non-utilisation/under-utilisation of lands*

31. (a) *Acquired land in an abandoned airfield*—An airfield constructed during the Second World War at a cost of Rs. 84.34 lakhs was



abandoned in April, 1946. The assets created at the airfield, except the runways, taxi tracks and roads, were disposed of by public auction in April, 1949, and the lands hired/requisitioned from various agencies were dehired/released during the period 1948 to 1950 leaving a balance of 1,676 acres and 10 gunthas of land (acquired by the Defence Department in 1942-44 at a cost of Rs. 4.86 lakhs). The land had not been placed under the management of any Defence unit. The Ministry have stated (February, 1968) that according to the instructions issued by Government, the Collectors were authorised to grant necessary licences for leasing any available portion of airfield land and the position regarding the extent of land utilised in pursuance of this arrangement is being ascertained.

(b) *Requisitioned land*—1,567 acres of cultivable land in a station were requisitioned and taken over in 1964 for Defence purposes, involving an initial compensation of Rs. 1.93 lakhs and a recurring compensation of Rs. 1.75 lakhs per year. Out of this land, only 953 acres have been put to use. The remaining 614 acres, comprising about 40 per cent of the total area, are still lying vacant (December, 1967). The proportionate compensation in respect of these 614 acres of land requisitioned works out to Rs. 3.16 lakhs.



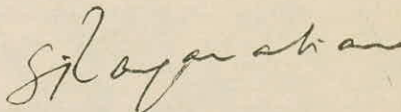
(P. KRISHNAMURTI)

Director of Audit, Defence Services.

DELHI;

the 15 APR 1968

Countersigned



NEW DELHI;

(S. RANGANATHAN)

Dated the

Comptroller and Auditor General of India.

19 APR 1968



APPENDIX 1

(Referred to in Para 4)

PART I

(Components of Shaktiman trucks to be manufactured in Ordnance factories with foreign collaboration)

Sl. No.	Component and Cost	Date of collaboration agreement	Date of establishment of indigenous manufacture		Remarks
			Anticipated	Actual	
1	Gear Box (Rs. 1,792)	April, 1962	March, 1964	July, 1964	Production in first year was 30 per month which was increased in the next year to 50 per month. Production in the Ordnance factory could not meet the full requirements and as such imports continued.
2	Universal Joint (Rs. 943)	June, 1962	May, 1965	Dec., 1967	<p>According to the collaboration agreement all information and technical data were to be supplied by September, 1962. These were received in German language in October, 1962, and in English in February, 1963.</p> <p>Orders were placed for plant and machinery in March, 1964, for forgings, in November, 1964, and for special types of jigs and tools in August, 1966.</p> <p>While the forgings, jigs and tools, etc., were received between December, 1965 and June, 1967, the supply of plant and machinery was completed only in December, 1967.</p>
3	Crank Case (of Axle Assembly) (Rs. 1,355)	Sept., 1958	May, 1965	Not yet established	29 machines received in March, 1964—December, 1966, are lying idle for want of fixtures which are still to be supplied.
4	Cylinder Head (of Engine Assembly) (Rs 621)	Sept., 1958	May, 1965	Do.	7 machines received in August, 1964—March, 1967, are lying without use for want of fixtures which are awaited from the suppliers.

## PART II

(Components of Shaktiman trucks to be manufactured by Trade, or in Ordnance factories with forgings received from Trade)

Sl. No.	Component and Cost	Date of establishment of indigenous manufacture		Remarks
		Anticipated	Actual	
<i>Trade</i>				
1	Rubber Pad Mounting (Rs. 117)	June, 1963	July, 1965	
2	Brake Assembly (Rs. 196)	Jan., 1965	April, 1967	
3	Oil Filter (Rs. 119)	May, 1965	May, 1966	
<i>Ordnance Factory</i>				
4	Connecting Rod (Rs. 375)	Oct., 1963	May, 1965	Production in the factory is insignificant and imports continue, the last order having been placed in May, 1967.
5	Camshaft (Rs. 172)	June, 1964	Aug., 1966	

## APPENDIX II

(referred to in Para 16)

### *Details of 3 cases of accidents to Naval aircraft*

Date of accident/ Amount of loss	Findings of the Board of Inquiry	Action taken
February, 1964 (Rs. 8 lakhs)	Aircraft on deck lost over-board, when handled without a brakeman for manning the brakes.	An officer was tried by a Court Martial, but was acquitted. No disciplinary action was taken against other persons who were found by the Board of Inquiry to be partly responsible for the situation.
April, 1964 (Rs. 6 lakhs)	The controls of the aircraft on a difficult sortie, were handed over by the officer authorised to fly, to another officer who had not handled such planes for over a year. The aircraft had also been loaded unnecessarily to almost its marginal limits, thereby reducing the safety factors.	Severe displeasure of the Chief of Naval Staff was conveyed to the officer who was responsible for the accident. The authorised pilot was admonished to be more careful in future.
August, 1964 (Rs. 9 lakhs)	The aircraft was taken on an unauthorised flight by a sailor who was put in charge of a party for guarding it.	The sailor was tried by a Court Martial and sentenced to rigorous imprisonment for a term of 2 years and dismissed from service.

and all fragments of  
 soil were put in separate bags  
 and labeled with the number of the  
 fragment. The soil was then  
 analyzed for the various  
 elements. The results are  
 given in the table below.

The soil was found to be  
 very rich in nitrogen and  
 phosphorus. It was also  
 found to be very rich in  
 potassium. The soil was  
 found to be very rich in  
 calcium and magnesium.

The soil was found to be  
 very rich in iron and  
 zinc. It was also found  
 to be very rich in copper  
 and manganese. The soil  
 was found to be very rich  
 in selenium and cobalt.

The soil was found to be  
 very rich in boron and  
 molybdenum. It was also  
 found to be very rich in  
 vanadium and niobium.

The soil was found to be  
 very rich in antimony and  
 tellurium. It was also  
 found to be very rich in  
 bismuth and lead.

The soil was found to be  
 very rich in thallium and  
 uranium. It was also  
 found to be very rich in  
 radium and polonium.

The soil was found to be  
 very rich in actinium and  
 francium. It was also  
 found to be very rich in  
 protactinium and thorium.

The soil was found to be  
 very rich in uranium and  
 plutonium. It was also  
 found to be very rich in  
 americium and curium.

The soil was found to be  
 very rich in berkelium and  
 californium. It was also  
 found to be very rich in  
 einsteinium and fermium.

The soil was found to be  
 very rich in mendelevium and  
 nobelium. It was also  
 found to be very rich in  
 lawrencium and rutherfordium.

The soil was found to be  
 very rich in dubnium and  
 seaborgium. It was also  
 found to be very rich in  
 bohrium and hassium.

The soil was found to be  
 very rich in meitnerium and  
 darmstadtium. It was also  
 found to be very rich in  
 roentgenium and copernicium.

The soil was found to be  
 very rich in nihonium and  
 flerovium. It was also  
 found to be very rich in  
 moscovium and livermorium.

The soil was found to be  
 very rich in tennessine and  
 oganesson. It was also  
 found to be very rich in  
 ununennium and unbinilium.

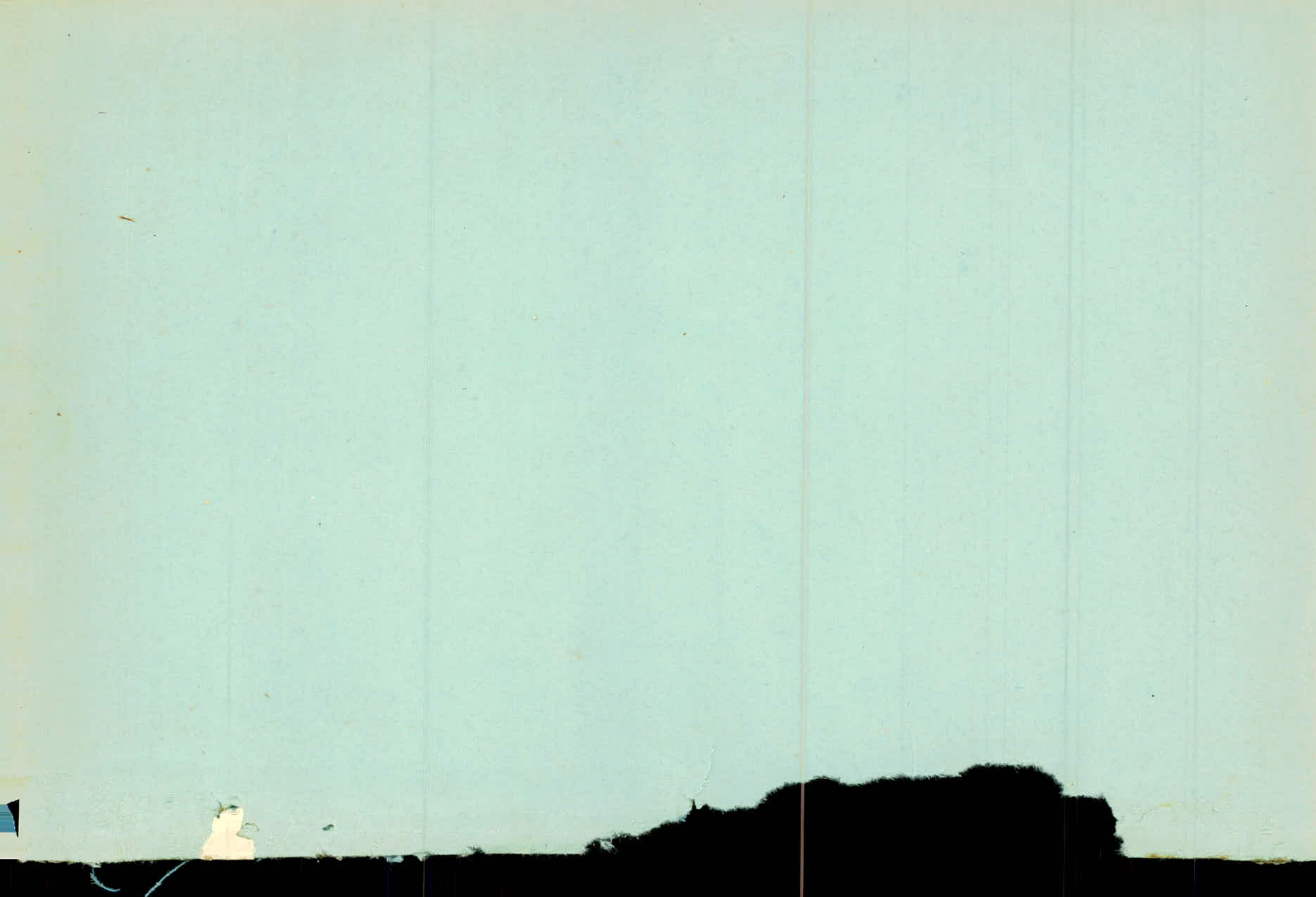
The soil was found to be  
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 unquadium and unseptium.

The soil was found to be  
 very rich in unhexium and  
 unheptium. It was also  
 found to be very rich in  
 unoctium and unnonium.

The soil was found to be  
 very rich in undecium and  
 undecium. It was also  
 found to be very rich in  
 unduodecium and untridecium.

The soil was found to be  
 very rich in unquadrimum and  
 unquadrimum. It was also  
 found to be very rich in  
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The soil was found to be  
 very rich in unquadrimum and  
 unquadrimum. It was also  
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Comptroller and Auditor General of India  
1968

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