REPORT OF THE

COMPTROLLER AND AUDITOR GENERAL OF INDIA

FOR

THE YEAR 1975-76

UNION GOVERNMENT (DEFENCE SERVICES)

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PREFATORY REMARKS

This Report 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 1975-76 (which have been published as a separate volume by the Ministry of Defence) together with other points arising from audit of the financial transactions of the Defence Services.

The cases mentioned in the Report are among those which came to notice in the course of test audit during the year 1975-76 as well as those which had come to notice in earlier years but could not be dealt with in previous Reports; matters relating to the period subsequent to 1975-76 have also been included, wherever considered necessary.

The points brought out in this Report 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

1. Budget and actuals

The table below compares the expenditure incurred by the Defence Services in the year ended March 1976 with the amounts authorised by Parliament to be spent during the year :

(Rs. in crores)

(*i*) *Charged Appropriations*	
Original	0.41
Supplementary	0.04
Total	0.45
Actual Expenditure	0.37
Saving	0.08
	(*per cent*)
Saving as percentage of the total provision	17.78

(Rs. in crores)

(*ii*) *Voted Grants*	
Original	2430.12
Supplementary	158.37
Total	2588.49
Actual Expenditure	2638.02
Excess	49.53
	(*per cent*)
Excess as percentage of the total provision	1.91

2. Supplementary Grants/Appropriations

(a) Supplementary grants aggregating Rs. 158.37 crores were obtained in January 1976 (Rs. 108.57 crores) and March 1976 (Rs. 49.80 crores):

(Rs. in crores)

Grant	January 1976	March 1976	Total
19—Army	92.12	26.47	118.59
20—Navy	5.15	—	5.15
21—Air Force	11.30	23.33	34.63
Total	108.57	49.80	158.37

Grant No. 19—*Army* : The original grant of Rs. 1500.69 crores was increased—through two supplementary grants aggregating Rs. 118.59 crores—to Rs. 1619.28 crores. The actual expenditure, however, amounted to Rs. 1680.54 crores, resulting in an excess of Rs. 61.26 crores (representing 3.78 *per cent* of the total grant and 51.66 *per cent* of the supplementary grants).

Grant No. 20—*Navy* : The original grant of Rs. 134.60 crores was increased to Rs. 139.75 crores through a supplementary grant in January 1976. A sum of Rs. 6.92 crores was, however, surrendered in February/March 1976. The actual expenditure amounted to Rs. 137.45 crores, resulting in a saving of Rs. 2.30 crores.

Grant No. 21—*Air Force* : The original grant of Rs. 444.37 crores was increased to Rs. 479.00 crores through two supplementary grants aggregating Rs. 34.63 crores. The actual expenditure during the year was, however, Rs. 486.42 crores, resulting in an excess of Rs. 7.42 crores (1.55 *per cent*).

(b) Supplementary Appropriations aggregating Rs. 4.00 lakhs (Army : Rs. 3.25 lakhs; Navy : Rs. 0.25 lakh and Air Force : Rs. 0.50 lakh) were obtained in March 1976. The entire amount of the Supplementary Appropriation under Navy and Air Force was, however, surrendered in March 1976.

3. Excess over charged appropriation and voted grants requiring regularisation

The following excesses over charged appropriation/voted grants require regularisation under Article 115 of the Constitution:

(Rupees)

Grant	Total Appropriation/Grant	Actual Expenditure	Excess
Charged Appropriation			
20—Navy	65,000	66,078	1,078
	The excess was attributable to payments in satisfaction of Court decrees.		
Voted Grants			
19—Army	1619,28,23,000	1680,54,43,550	61,26,20,550
	The excess was attributable mainly to expenditure on stores and customs duty for ordnance factories, pay and allowances and works including maintenance.		
21—Air Force	478,99,36,000	486,41,62,534	7,42,26,534
	The excess was attributable mainly to expenditure on stores, pay and allowances and transportation.		

4. Savings in voted grants

As against surrenders aggregating Rs. 30.58 crores under three grants in February/March 1976, the actual savings under these grants amounted to Rs. 19.15 crores :

(Rs. in crores)

Grant	Total Grant	Saving		Surrenders	
		Amount	*Per cent*	Amount	*Per cent*
20—Navy . .	139.75	2.30	1.65	6.92	4.95
22—Pensions .	113.00	0.95	0.84	1.87	1.65
23—Capital Outlay on Defence Services . . .	237.46	15.90	6.70	21.79	9.18

5. Control over expenditure

The following are some instances of defective budgeting in which the entire re-appropriations made or a major portion (over 75 *per cent*) thereof proved to be unnecessary:

(a) *Instances in which re-appropriations made were entirely unnecessary* :

(Rs. in crores)

Grant/Sub Head	Sanctioned Grant	Amount re-appropriated	Final Grant	Actual Expenditure	Excess
19—Army					
A.5—Military Farms . .	12.66	(—)0.04	12.62	12.88	(+)0.26
A.7—Research and Development Organisation .	47.17	(—)3.61	43.56	48.30	(+)4.74
20—Navy					
A.3—Pay and allowances of Civilians .	20.50	(—)0.49	20.01	20.53	(+)0.52

(b) *Instances in which a major portion (over 75 per cent) of the re-appropriations proved to be unnecessary* :

(Rs. in crores)

Grant/ Sub Head	Sanctioned Grant	Amount re-appropriated	Final Grant	Actual Expenditure	Excess (+) Saving(—) Amount	Excess (+) Saving(—) *Per cent*
19—Army						
A.3— Pay and Allowances of Civilians	104.41	(—)1.84	102.57	104.05	(+)1.48	80.43
A.4— Transportation	44.67	(—)3.76	40.91	44.50	(+)3.59	95.48

A.9—Stores	374.63	(—)22.98	351.65	371.46	(+)19.81	86.21
22—Pensions						
A.2—Navy						
(1) Pensions and other retirement benefits	2.71	(+)0.37	3.08	2.73	(—)0.35	94.59
A.3—Air Force						
(1) Pensions and other retirement benefits	4.98	(+)0.77	5.75	5.16	(—)0.59	76.62

CHAPTER 2

MINISTRY OF DEFENCE

6. Development and manufacture of a jet trainer aircraft

Design and development

In November 1959, Government approved the development by a public sector undertaking of a jet trainer aircraft according to the Air Force specifications to replace, from 1963-64, the aircraft in use for pilot training.

In December 1959, the Ministry of Defence sanctioned the fabrication of 2 prototypes (and 1 shell) for flight trials and structural tests by the undertaking at an estimated cost of Rs. 27 lakhs (foreign exchange : Rs. 8 lakhs). According to the project plan, the prototypes were expected to be ready for test flights in December 1962/June 1963. The first prototype, however, made its maiden flight in September 1964 and the second in August 1965. The delay of 21/27 months was attributed mainly to :

— the non-availability of experienced design personnel and machine capacity;

— the pre-occupation of shop capacity with the production of other aircraft; and

— higher priority given to the design and development of another aircraft by the undertaking.

Cost of development

The cost of development of the aircraft—initially estimated at Rs. 27 lakhs—was revised a number of times :

April 1963	—	Rs. 65 lakhs
June 1965	—	Rs. 95 lakhs
February 1969	—	Rs. 183 lakhs
March 1976	—	Rs. 265 lakhs

reflecting a total increase of Rs. 238 lakhs (881 *per cent*).

The reasons for considerable increase in the development cost were examined by the Aeronautics Committee (April 1969) which found that the initial time and cost estimates were deficient, and recommended that for projects to be undertaken in future, dependable cost estimates should be prepared, based on feasibility studies.

Against the revised estimate of Rs. 2.65 crores, the undertaking had incurred an actual expenditure of Rs. 2.44 crores, out of which Rs. 1.94 crores (including profit) had been advanced/re-imbursed by the Ministry of Defence (March 1976). The undertaking was allowed a profit margin on the development cost of 5 *per cent* up to March 1970 (Rs. 125.62 lakhs) and 7½ *per cent* thereafter.

Orders for aircraft and actual supplies

Two orders were approved by the Ministry of Defence in August 1963/April 1965 for the supply of a certain number of aircraft by the undertaking. As against deliveries stipulated for 1965-66 and 1966-67, the first aircraft was delivered in March 1968, and the total supplies were completed only in March 1974.

Further orders for the supply of aircraft were approved in August 1968 and September 1970. While aircraft production got stabilised by 1973-74, there were substantial (cumulative) shortfalls in deliveries. The supplies were expected to be completed during 1976-77 in which year the undertaking's production—due to avoidable delay in the placement of further orders—was planned at only 55 *per cent* of the stabilised capacity.

Aero-engine

The development of the aircraft was planned around an imported engine pending indigenous development of an aero-engine taken up by the undertaking concurrently in February 1960. Licensed production of the imported engine was considered, but—mainly because of the indigenous development project—this proposal was not seriously pursued. The project for the indigenous engine did not, however, make much headway and as reported in paragraph 9 of the Audit Report, Defence Services, 1974-75, in April 1975 it was decided to foreclose the project after an expenditure of nearly Rs. 82 lakhs had been incurred.

As a result, the entire requirements of engines had to be imported at a total cost of Rs. 11.12 crores and at unit prices which escalated from £17,936 in 1966 to £33,500 in 1971 and to £42,614 (subject to escalation) in 1976.

Cost of the aircraft

Slippages in development and manufacture also affected the cost of production. The unit cost of aircraft against the initial orders was estimated at Rs. 12.70 lakhs (foreign exchange : Rs. 5.50 lakhs) in August 1963 and at Rs. 10.47 lakhs (foreign exchange : Rs. 6.03 lakhs) in April 1965. The actual cost including profit as sanctioned (December 1975/June 1974) amounted to Rs. 28.10 lakhs (foreign exchange : Rs. 7.89 lakhs) and Rs. 28.88 lakhs (foreign exchange : Rs. 9.36 lakhs) respectively.

The unit cost of the aircraft covered by subsequent orders (1968/1970) was estimated at Rs. 31.81 lakhs (foreign exchange : Rs. 10.93 lakhs). The actual cost sanctioned finally (July 1976) amounted to Rs. 40.13 lakhs (foreign exchange : Rs. 14.39 lakhs).

Canopy

The prototype aircraft was fitted with a sliding canopy which during development trials was found to be unsatisfactory and defective. In view, *inter alia,* of the investment on tooling, 7 aircraft manufactured during March 1968 to December 1969 were fitted with sliding canopies. The development of a modified (clam shell) canopy was completed in February 1970 and this was incorporated in subsequent manufacture of aircraft. The earlier aircraft could not be fully utilised for training and some were utilised for assessment/evaluation and development purpose. In January 1975. the Ministry of Defence sanctioned the replacement of canopies on these aircraft at an estimated cost of Rs. 56 lakhs, later revised (January 1976) to Rs. 66 lakhs. The work is scheduled to be completed by March 1978.

Break in production

As mentioned earlier, orders for the aircraft were placed from time to time on the undertaking based on the Air Force re-equipment plans for jet trainers. Keeping in view the long lead time required for the manufacture of the aircraft, such orders are to be placed well in time to avoid a break in production. However, despite representations from the undertaking since October 1972 that the next order should be placed by April 1973 to avoid a break in production (in 1976), the order was approved only in March 1974 and foreign exchange was released in September 1974. The undertaking estimated in February 1974 that the delay until then would result in an idle labour cost of Rs. 60 lakhs. Another consequence of this delay was that (as stated earlier) the production of aircraft during 1976-77 amounted to only 55 *per cent* of the stabilised rate of production realised in 1973-74.

The Ministry of Defence stated (April 1977) that the delay in the placement of the orders was due to the fact that the approved Defence Plan had no provision for additional aircraft.

Reassessment of requirements

In spite of the slippages (mainly prior to 1972-73) in the production of the aircraft, it was planned that the total requirement of trainer aircraft would be met from indigenous production. This was confirmed in a review of the requirements by the Air Headquarters in October 1971. However, a fresh review by the Air Headquarters in February 1974 revealed a much larger requirement justifying a substantial import of additional aircraft. As the undertaking could not fulfil this additional requirement within the time-frame prescribed by the Air Headquarters, in September 1974, the Ministry of Defence approved the import of a substantial number of aircraft at a cost of Rs. 13.70 crores for delivery during September 1975—March 1976.

On the expectation that the future requirement of the trainer aircraft would be much larger than anticipated earlier, the undertaking also approved an expenditure of Rs. 50 lakhs (April 1974) for augmenting its facilities to double the stabilised rate of production. These facilities were substantially established by November 1976. However, on the present forecast of Air Headquarters' requirements, even the existing facilities at the undertaking (prior to augmentation) are not likely to be fully utilised for the manufacture of the aircraft in question.

The Ministry of Defence stated (April 1977) that the additional capacity set up at the undertaking would, depending on the requirements, be utilised for the manufacture of other jet aircraft.

Utilisation of the aircraft

The indigenous trainer aircraft was expected to be utilised for 40 hours per month which in July 1973 was scaled down to 30 hours per month. The following table indicates the trends of average serviceability and utilisation of the aircraft:

Year	Serviceability *per cent*	Utilisation hours/month
1970 . . .	43	15
1971 . . .	36	10
1972 . . .	50	12
1973 . . .	34	19
1974 . . .	49	23
1975 . . .	45	24
1976 . . .	41	20

This has been attributed to several factors including modifications, lack of inter-changeability of parts, and shortfalls and delays in the supplies of spares and ground and test equipment.

The average serviceability of the imported aircraft during the period November 1975—August 1976 amounted to 73 *per cent*/month, and its utilisation to 18 hours/month as against 30 hours/month as planned. The Ministry of Defence stated (April 1977) that the lower utilisation of the imported aircraft was due to the fact that the intake of trainees for the course was nearly half of what had been planned.

Further developments—Mk I-A and Mk II aircraft

An alternative proposal for use on the aircraft of a modified version of another engine (under manufacture in India) was also considered (by the Air Headquarters/public sector undertaking) from time to time but was not pursued on the grounds, *inter alia,* that :

— it would require extensive structural changes to the airframe; and

— the time and cost frame were not favourable.

The proposal with the modified engine (designated as Mk II) was, however, revived by the undertaking in January 1975 and in December 1975 the Ministry of Defence sanctioned its development at an estimated cost of Rs. 2.08 crores. The development work is likely to be completed in 3 years.

Sanction of the Ministry of Defence for the placement of orders on the undertaking for certain number of Mk II aircraft at a cost of Rs. 55.10 crores was issued in March 1976. Deliveries were envisaged to commence in 1979-80. However, pending a fresh review of requirements the formal order has not so far (October 1976) been placed on the undertaking.

Overhaul facilities

In September 1965, the responsibility for setting up the facilities for servicing and overhaul of the indigenous aircraft (and the imported aero-engine) was entrusted to the Air Force. The undertaking had meanwhile ordered (October 1965) 703 items of engine spares (cost : Rs. 4.58 lakhs) which were received by 1969; spares of the value of Rs. 1.74 lakhs were later transferred to the Air Force during 1973.

Sanctions for the servicing of the airframe and aero-engine at a cost of Rs. 13 lakhs/Rs. 8.5 lakhs were accorded in August 1970 and December 1973 respectively. The works were completed in August 1976 at a cost of about Rs. 20.7 lakhs. Meanwhile, an expenditure of Rs. 7.43 lakhs had been incurred on the overhaul abroad of aero-engines and rotables during April 1971—March 1976.

A decision has yet to be taken regarding the establishment of a separate repair line (estimated cost : Rs. 1.15 crores) in respect of the imported aircraft (October 1976).

7. Infructuous expenditure on an aircraft development project

In paragraph 10 of the Audit Reports, Defence Services, 1966 and 1974-75, mention was made of a project for the design, development and production of an indigenous aircraft by a public sector undertaking which—for want of a suitable power plant—was manufacturing the aircraft with a readily available but less powerful engine. Five specific attempts to locate or develop a suitable power plant during 1956—1974 at a total cost of around Rs. 5 crores did not meet with any success. The Public Accounts Committee (70th Report—3rd Lok Sabha, 1966-67) had observed that a costly project had been undertaken without ensuring the availability of a suitable engine.

In yet another attempt to improve the capability of the indigenous aircraft, in September 1972 the public sector undertaking recommended to the Department of Defence Production further development work on the aircraft. The proposal involved re-designing of the airframe in collaboration with a foreign firm around an aero-engine which was being developed abroad with the foreign firm as one of the participants. The development project was thus linked with the availability of the aero-engine for which there appeared to be no formal understanding or assurance.

In November 1972 the Ministry of Defence agreed to the deputation abroad of a team of engineers and the preparation of a feasibility report for the project. Government approval was to be sought if the cost was beyond the undertaking's capacity to meet.

On the basis of the approval of the Board of Directors (January 1973) feasibility studies on the airframe were carried out by the undertaking jointly with the foreign firm (February 1973), and the results were considered to be promising. In March 1973, the Board of Directors of the undertaking accorded approval for the manufacture of a scale model, wind tunnel tests etc. Foreign exchange to the extent of Rs. 13.56 lakhs was released by Government in March 1973/April 1974 for this purpose.

The cost of the development project was estimated by the undertaking at Rs. 68 crores in February 1973; later, in October

1973, the cost—inclusive of the cost of equipment and engines and subject to escalation—was estimated at Rs. 104 crores.

In consideration of the uncertainty of the availability of the aero-engine, work on the development project was discontinued by the undertaking in April 1975. In June 1975, it became known that the aero-engine would not be available for use in the aircraft. In March 1976, the undertaking decided formally to foreclose the project and, on the ground that the project was 'customer-financed', approached the Ministry of Defence for the reimbursement of Rs. 51.40 lakhs incurred by it which was sanctioned, *ex post facto,* in November 1976.

The Ministry of Defence was of the view (March 1977) that when the project was initiated there was no reason to feel that the aero-engine would not become available, and that valuable experience had been gained in terms of design capability and 'in the techniques of estimating of production and project cost'.

8. Procurement of an equipment

In March 1971, Government concluded a contract (approximate value : $ 2.5 million) with a foreign firm for the supply of initial requirements of an equipment 'X' for phase I (first stage) of a project. The balance requirement was to be met through indigenous manufacture of this equipment by a public sector undertaking with the know-how provided by the firm. The supplies scheduled for delivery during May—August 1972 did not materialise due to an embargo by the country of manufacture. The firm was in the meantime taken over by another firm 'A'.

In October 1973 Government concluded a fresh contract with the successor firm 'A' for the equipment (as modified) valued at $ 3.16 million (at the earlier contract price escalated by 8.75 *per cent*) and a payment, 'ex-gratia', of $ 68,500 against all claims for part services rendered under the earlier contract. Further, the contract provided for the payment of 60 *per cent* of the contract value as an advance; a sum of $ 1.99 million was accordingly paid in November 1973 against a bank guarantee furnished by the firm. The supplies were scheduled for delivery during June 1974—July 1975.

Earlier in March 1972, Government had sanctioned the development of an equipment 'Y' (planned for the subsequent phases of the project) by a Research and Development establishment of the Ministry of Defence at an estimated cost of Rs. 72 lakhs (foreign exchange : Rs. 47.75 lakhs). Later in December 1973, when an expenditure of Rs. 4.56 lakhs had been incurred, it was decided to foreclose the project and to entrust the development and supply of two systems of the equipment to the public sector undertaking within a ceiling of Rs. 1.22 crores (foreign exchange : Rs. 47.50 lakhs). An important consideration for this decision was that the equipment would become available in October 1976, as against the end of 1977 if developed by the Research and Development establishment. However, on present indications (February 1977), the equipment is not likely to become available until the middle of 1978.

Meanwhile, to meet the urgent requirements it was decided in Fabruary 1974 to import 14 units of equipment 'Y'. A composite Negotiating Committee (comprising the representatives of the Ministries of Defence, Finance and Communications, Department of Electronics, the users, the agency executing the project and the public sector undertaking) was constituted by the Ministry of Defence to process and finalise the contract for the import of this equipment. The Negotiating Committee set up a Technical Evaluation Committee to assist it in the technical assessment and evaluation of the offers.

Of the 7 offers received for the supply of the equipment, the Technical Evaluation Committee found 4 offers suitable for consideration of which only 3 firms responded to the invitation for negotiations. At this juncture it transpired that there were 'qualitative' differences in the requirements of the two users

(Army and Air Force) which were then identified and formed the basis for negotiations with firms 'A' (which already held the contract for equipment 'X'), 'B' and 'C'. The Technical Evaluation Committee did not find the offer of firm 'C' acceptable on technical grounds. In regard to the other 2 offers the Committee held that the equipment offered by firm 'B' had an edge over that of firm 'A' in as much as the former was either already in series production or in the final phase of testing and required less of proving trials than the other.

During discussions in the Negotiating Committee, a view was expressed that the edge firm 'B' had over firm 'A' appeared to be marginal and that the final choice should be determined on financial considerations (27th November 1974). Thereafter, further negotiations with firms 'A' and 'B' were, however, conducted (28th November 1974) by only 4 (out of 10) members of the Negotiating Committee representing the Ministries of Defence and Finance, Department of Electronics and the project agency.

The 2 firms were asked to submit their revised offers on a like-to-like basis. Firm 'A' quoted (30th November 1974) a final price of $ 5.51 million whereas firm 'B' quoted $ 5.98 million. The offers were inclusive of the cost of test equipment, spares (lump sum) and training. While the overall offer of firm 'A' was lower by $ 479,477 (8.7 *per cent*), the difference in the price of the basic equipment was only $ 97,340 (1.8 *per cent*). The offer of firm 'A' was accepted on the following considerations :

— delivery (for the urgent requirement) being 2 months earlier;

— better terms of penalty for delayed delivery;

— offer of know-how of certain sub-systems etc. for indigenous development;

— offer to depute 2 engineers for 6 months to supervise installation; and

For transactions negotiated through agents, an 'end user certificate' was normally insisted upon. (The 'end user certificate' is a written affirmation from the foreign Government that the stores are intended for its own exclusive use and would not be sold, transferred or diverted without the seller's prior permission.) Such certificates are verified to ensure that they are genuine and authentic.

On an enquiry received in June 1975 from an Indian firm for the export of certain equipment, the Ministry of Defence quoted a price of Rs. 900 per unit, f.o.b. At the request of the firm the unit price was reduced—by 5 *per cent*—to Rs. 855.

Further negotiations were conducted abroad (July 1975) by the Ministry's representative with a foreign firm purporting to represent a foreign Government. During these negotiations the unit price was reduced initially to Rs. 775 if the order was for 50,000 units and Rs. 700 if the order was for 1,00,000 units and, later, to Rs. 710 (*i.e.* a reduction of 21 *per cent*) irrespective of the size of the order. There was no consultation with the Ministry of Finance (Defence) earlier or at this stage. On the basis of an 'end user certificate' produced by the firm, agreement was also reached on the ultimate buyer—foreign Government 'A', subject, however, to scrutiny, acceptance and confirmation from India. It was further agreed during these negotiations that :

— the shipping documents would be sent direct to the foreign Government, but not the priced invoices;

— the transaction would be with the firm who would, in turn, quote its own price to the foreign Government.

On scrutiny, the 'end user certificate' was found to be unacceptable and the firm was asked to submit a proper and acceptable certificate along with the formal order for the stores.

On 21st July 1975, a formal order was received from the firm for 35,000 units of stores (later increased to 50,000 units in August 1975) without the requisite 'end user certificate' or any indication of the ultimate buyer—the foreign Government.

The order stipulated, *inter alia,* that :

— all payments would be made in Indian rupees acquired through a convertible currency;

— shipping would be arranged by the firm;

— the requisite 'end user certificate' would be submitted by the firm while opening the letter of credit.

On 23rd August 1975 an 'end user certificate' was received from the firm emanating from foreign Government 'B' which had not figured in the earlier negotiations. A delegation of foreign Government 'B' happened to be visiting India (Ministry of Defence) at about the same time and stated, when consulted, that it was not aware of the requirements of the stores indicated in the 'end user certificate'.

Meanwhile, a detailed procedure was prescribed (31st July 1975) by the Ministry of Defence which enjoined, *inter alia,* that the Ministry of Finance (Defence) would be consulted in regard to the contractual provisions for prices, terms of payment, deliveries etc. The prices were to be determined with reference to the current estimated cost of production with specific additional provisions for material and labour escalation, element of profit etc.

The concurrence of the Ministry of Finance (Defence) was in this case sought/obtained, *ex post facto,* on 26th/28th August 1975 to a unit price of Rs. 710 f.o.b. on the basis of cost data of the basic equipment (without accessories). It was stated that supplies would be delivered ex-stock and the stocks would be replenished through subsequent manufacture.

On 27th August 1975 a letter of credit for Rs. 2.49 crores (in Indian Rupees) was established by the foreign firm's bankers with an Indian bank and the stores (35,000 units along with accessories) were despatched in September 1975 in a vessel chartered by the firm. According to instructions issued by the Ministry of Defence, although the stores had been issued to foreign Government 'B', the bill of lading was to indicate the foreign firm's bank as the consignee.

In October 1975, the Military Adviser to an Indian Mission abroad reported that the shipment purporting to have been despatched to foreign Government 'B' was intended for and had in fact been despatched to another destination. Later, in May 1976, the firm held that as the buyer of the stores from the Ministry of Defence, it had the right and option to re-sell (or sub-divide) the stores to any other customer(s).

The case reveals :

- that the contract was concluded with a private foreign firm, instead of the ultimate buyer (foreign Government);
- an understanding was reached with the firm that prices would not be revealed and that the firm would be free to quote its own price to the foreign Government;
- although the initial 'end user certificate' furnished by the firm was found to be unacceptable, the genuineness of the second 'end user certificate' was not established before the despatch of stores;
- no steps were taken to ensure that the stores reached the intended destination; copies of shipping documents were also not despatched to the specified foreign Government until 4 weeks after the despatch of stores.

Besides,

- accessories of the value (at cost) of Rs. 8.90 lakhs had been supplied though these were not taken into account in the cost data on which the price was deemed to have been based ;

— the manufacture of the basic equipment alone (for replenishment of stocks) would, on the basis of the estimated cost of manufacture for 1976-77, involve an additional expenditure of Rs. 41.66 lakhs.

The Ministry of Defence stated (March 1977) that :

— the 'end user certificate' was only intended as a safeguard and the same was not verified or got authenticated as there was no doubt about its authenticity;

— all contracts were on f.o.b. basis and there was no requirement to ensure that the stores reached the correct destination; and that

— there was no requirement that the priced invoices should be sent to the foreign Government.

10. Delays in the regularisation of losses

Mention was made in paragraph 50 of the Audit Report, Defence Services, 1967 of considerable delays in the regularisation of losses of cash/stores by the sanction of the competent financial authority. The number of cases of losses awaiting regularisation (by sanction of Government) for over a year (as on 30th September 1966) was then reported as 164 (value : Rs. 160 lakhs)—exclusive of cases in which loss statements had not been initiated. The delays in the preparation of loss statements and regularisation of losses were attributed mainly to delays in :

— the constitution of Courts of Inquiry, and consideration of their reports;

— finalisation of disciplinary action against those held responsible; and

— consideration of the cases at various levels.

In November 1966, the Ministry of Defence prescribed the following time schedule for the finalisation of the Courts of Inquiry proceedings :

— one week for the Station Headquarters/Sub-Area;

— 15 days at the Area level; and

— one month at the Command level.

The Public Accounts Committee desired in para 1.119 of their 19th Report (4th Lok Sabha) 1967-68 that the steps taken by the Ministry of Defence to expedite regularisation of losses should be strictly followed by all concerned. In pursuance of this observation further instructions were issued by the Ministry of Defence (April-May 1968) for the avoidance of delays in the constitution of Courts of Inquiry and the expeditious regularisation of all outstanding cases of losses.

The following are the amounts of losses of cash/stores written off during the years 1971-72 to 1975-76 as reported in the Appropriation Accounts, Defence Services of these years :

(Rs. in lakhs)

A—Cash

Year	Theft, fraud or neglect	Other causes			Total
		Loss of cash	Over-payments/irrecoverable claims	Others	
1971-72 .	2.84	1.75	6.19	7.71	18.49
1972-73 .	2.22	1.31	5.44	12.17	21.14
1973-74 .	7.78	0.49	4.21	7.36	19.84
1974-75 .	1.02	—	1.91	56.01	58.94
1975-76 .	2.82	0.35	1.27	21.33	25.77

(Rs. in lakhs)

B-Stores

Year	Theft, fraud or neglect	Other causes						Total
		Fire	Deficiencies	Deterioration	Defective storage	Transit losses	Others	
1971-72	192.75	7.58	21.93	6.34	0.35	54.66	219.15	502.76
1972-73	238.69	14.34	22.55	16.55	0.08	51.05	149.67	492.93
1973-74	60.38	11.16	16.78	5.81	15.50	48.83	233.83	392.29
1974-75	240.48	12.41	12.08	4.94	9.80	123.37	309.89	712.97
1975-76	345.92	6.88	21.44	15.52	0.31	107.23	210.73	708.03

The following are the details of cases of losses awaiting regularisation under sanction of Government, as reported in the Appropriation Accounts for the preceding 4 years :

(Rs. in lakhs)

Year	Army		Navy		Air Force		Ordnance Factories		Total	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
1971-72	279	395.37	6	7.21	70	181.25	46	64.00	401	647.83
1972-73	271	255.84	6	3.02	74	200.30	45	59.74	396	518.90
1973-74	289	253.47	7	22.63	74	217.89	56	83.98	426	577.97
1974-75	280	467.13	15	37.00	104	524.21	67	124.78	466	1153.12

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The number of such cases outstanding as on 30th September 1976 was 437 involving an amount of Rs. 1341.59 lakhs exclusive of cases in which loss statements had not been initiated. The following is the service-wise break-up of these cases with reference to the year in which the loss statement was initiated :

(Rs. in lakhs)

Year	Army		Navy		Air Force		Ordnance Factories		Total	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Upto 1968-69*	43	32.58	1	0.08	7	4.57	33	37.37	84	74.60
1969-70	14	12.07	—	—	5	46.23	13	29.51	32	87.81
1970-71	19	11.69	—	—	8	7.16	9	8.07	36	26.92
1971-72	23	18.27	1	0.03	2	72.20	5	5.34	31	95.84
1972-73	25	125.33	2	13.85	9	221.38	12	43.22	48	403.78
1973-74	39	147.34	4	17.74	11	182.21	9	22.69	63	369.98
1974-75	66	68.55	5	25.79	19	119.49	11	27.28	101	241.11
1975-76	14	10.60	—	—	8	22.40	3	0.96	25	33.96
Not known	16	7.26	—	—	1	0.33	—	—	17	7.59
TOTAL	259	433.69	13	57.49	70	675.97	95	174.44	437	1341.59

*The earliest case relates to the year 1954-55 (in respect of Ordnance Factories).

It would be seen that of the total cases outstanding, cases pertaining to 1971-72 or earlier amounted to 183 (42 *per cent*) accounting for a total value of Rs. 2.85 crores (21 *per cent*).

The Ministry of Defence stated (March 1977) that the entire examination of any case of loss from various aspects including evaluation and disciplinary action is a time-consuming process. The Ministry added that a quick review of the existing instructions to cut down delays was under consideration, and pending this review, action was proposed to be taken to expedite regularisation of all important cases of losses outstanding for more than one year as on 30th September 1976.

CHAPTER 3

ORDNANCE AND CLOTHING FACTORIES

11. Modernisation of processes of production in a factory

In May 1970 a factory put up a proposal to the Director General, Ordnance Factories for replacement of the existing plants 'X' and 'Y' by modern ones. Plant 'X' was to consist of two units, each with a capacity to produce 65 tonnes of 'P' per month based on working for 24 hours a day and 22 days a month ; one of the units was to be capable of switching over to 'P' for industrial use in lieu of 'P' for services' use, so that maximum utilisation of the capacity could be made during peace time. Plant 'Y' was to consist of two self-contained units, each capable of producing 90 tonnes per month of 'PQ' paste by wet mixing process. The proposal envisaged an estimated cost of Rs ,507 lakhs including Rs. 102 lakhs for civil works.

On 26th June 1970, the Director General, Ordnance Factories placed two 'operational' indents on the Director General, Supplies and Disposals for purchase of these two plants 'X' and 'Y'. In response to the tender enquiries, three offers were received from foreign firms. On 15th November 1971, contracts were concluded with firm 'C' for supply of both the plants 'X' and 'Y' with spare parts, licences, know-how etc. at Rs. 308.88 lakhs (later amended to Rs. 310.05 lakhs) and Rs. 139.05 lakhs (later amended to Rs. 139.27 lakhs) respectively. The warranty period available for plants 'X' and 'Y' under the contract was for a period of one year from the date of satisfactory commissioning, subject to the condition that the warranty would expire at the end of 3 years from the date of the last delivery of equipment.

In 1972, on the advice of the firm which was to supply the plants, it transpired that the acid mixing system would also need modernisation.

Sanction for the project as a whole was accorded by the Government only in July 1973 as per the following particulars :

(Rs in lakhs)

	Total	Foreign exchange component
Plants 'X' and 'Y' duly erected and commissioned	811.41	508.59
Modernisation of acid mixing system	119.45	8.47
Miscellaneous, maintenance items, transport, equipment etc.	24.53	2.08
Services forming Director General, Ordnance Factories' responsibility	20.37	—
Civil works and services forming Military Engineer Services' responsibility (excluding cost of water supply from an existing reservoir)	187.20	—
Planning and security staff training	14.56	0.46
Total	1177.52	519.60

Plants 'X' and 'Y' were supplied as follows:

Plant		Actual date of completion of supply
'X'		July 1973
'Y'	First supply	July 1974
	Second supply	February 1976

The warranty periods available for plants 'X' and 'Y' under the contract with reference to the last delivery of the equipment were to expire as follows:

Plant 'X' (units I & II)	July 1976
Plant 'Y' (unit I)	July 1977
Plant 'Y' (unit II)	February 1979

To take full advantage of 12 months' warranty period after satisfactory commissioning, the Director General, Ordnance

Factories gave the following programme in December 1971 to the Military Engineer Services for completion of civil works:

Event	Plant 'X'		Plant 'Y'			
			Unit I		Unit II	
	Date	Month	Date	Month	Date	Month
Contract date	January 1972	0	January 1972	0	January 1972	0
Receipt of building data and convening of siting board	July 1972	6	July 1972	6	August 1974	31
Approval of siting board proceedings	September 1972	8	September 1972	8	October 1974	33
Approximate estimates	October 1972	9	October 1972	9	February 1975	37
Administrative Approval	November 1972	10	November 1972	10	June 1975	41
Handing over of building shell for erection (6 buildings each)	March 1974	26	March 1974	26	October 1976	57
Completion of buildings	February 1975	37	December 1974	35	July 1977	66
Commissioning of plants	August 1975	43	June 1975	41	January 1978	72

This time schedule was not agreed to by the Military Engineer Service authorities who indicated in January 1972 that completion of shell stage of phase I (plant 'X' and unit I of plant 'Y') and phase II (unit II. of plant 'Y') works would require 25 months and 29 months respectively instead of 16 months from the date of issue of administrative approval envisaged by the Director General, Ordnance Factories. Pending a final decision in the matter, a go-ahead sanction for Rs. 45 lakhs was accorded in April 1972 for carrying out preliminary civil works, augmentation of water and electricity supply, initial procurement of steel etc. In April 1973 sanction was issued by Government for civil works and services for plant 'X' and phase I of plant 'Y' at an estimated cost of Rs. 117.54 lakhs (amended to Rs. 123.01 lakhs in August 1976) for completion within 140 weeks from the date of sanction (*i.e.* by December 1975).

The civil works were, however, completed as follows against the dates of completion stipulated in the works contracts:

Civil works for	Stipulated date of completion as per the contracts of civil work	Actual date of completion
Plant 'X'	September 1975	June 1976
Plant 'Y'	December 1974	March 1975

The factory was authorised by the Ministry to conclude two contracts in August 1974 with a firm for erection of plant 'X' and one unit of 'Y' at an estimated cost of Rs. 29.87 lakhs. The erection of plant 'X' commenced during October 1974 and was completed by September 1975. The erection of one unit of plant 'Y' was completed by April 1975. After erection of plants 'X' and 'Y' (one unit), it was found that concrete blenders were leaking and this delayed commissioning trials. The Ministry intimated in December 1976 that the concrete blenders of plant 'Y' were satisfactorily rectified by June 1976. Of the 8 concrete blenders for plant 'X', rectification of 7 blenders was stated to have been completed in October 1976 (including one under test) and one was awaiting rectification.

The sanction accorded in July 1973 (20 months after the contract was entered into) included provision for treatment and filtration of water at a cost of Rs. 14.87 lakhs (subsequently amended to Rs. 19.63 lakhs) but did not include any scheme for augmentation of water supply. It was, however, assessed in April 1974 that with the completion of the 'new projects', the requirement of water supply would increase to 60 lakh gallons per day at the peak level of production (including 8 lakh gallons for other units in that area) against the current availability of 23 lakh gallons per day of fresh water and 10 lakh gallons per day to be procured by recycling for which provision existed in the factory. To meet the additional requirements of 27 lakh gallons, sanction for desilting a lake, which was a source of water supply to the factory, was sought in August 1974 by the Director General, Ordnance Factories. While seeking Government's approval, it was stressed in October 1974 by the Ministry of Defence that if there was to be no delay in the commissioning of the plants 'X' and 'Y' within the warranty period available for these plants, the desilting operation should be completed not later than the middle of 1976. The sanction for desilting the lake was accorded at an estimated cost of Rs. 1.50 crores in July 1975 and according to this sanction, the desilting was to be completed by 150 weeks from the date of sanction—that is by May 1978. The Ministry, however, stated (December 1976) that the scheme for desilting of the lake was intended to increase the storage capacity to ensure adequate water supply during the lean period for sustaining production at the present reduced level and was not in any way linked with the modernisation of the plants and would not augment water supply to the factory.

It was initially planned that the mixed acid requirement for the new plant 'X' would be met from the existing acid mixing plant in the factory. However, when the representatives of firm 'C' visited India in early 1972 and the quality of mixed acid to be supplied to their plant was discussed with them, it became evident that the existing acid mixing facilities in the factory were inadequate to meet the quantity and quality requirements specified by the plant suppliers for guaranteeing product quality. As the responsibility for supply of mixed acid to the quality required for plants to be supplied by the foreign firm was the responsibility of the purchaser, the modernisation of the existing mixed acid preparation system assumed great urgency for getting guaranteed quality product from the plants to be supplied by the firm. A contract was concluded by the Director General, Supplies and Disposals in July 1974 with a firm for supply, erection and commissioning of the acid mixing plant at a cost of Rs. 134 lakhs.

As per contract, the supply of the plant was to be completed and the plant kept ready for commissioning latest by October 1975. The administrative approval for necessary civil works was issued in August 1974 at an estimated cost of Rs. 25.61 lakhs.

The civil works for the acid mixing plant were completed in January 1976 and the plant was erected in May 1976.

It is reported (March 1977) that the pre-commissioning trials in respect of both the plants 'X' and 'Y' are still in progress. The Ministry stated (December 1976) that there had been a set-back in the desilting work due to serious failure of south-west monsoon as desilting was contingent upon some minimum flow of water into the lake.

Some of the unsatisfactory features noticed in the execution of the project are:

(1) The scheme was not sanctioned as a whole including civil works in 1970 ; only the purchase of the plants was authorised at that point of time and the sanction to the scheme as a whole was accorded in July 1973.

(2) A co-ordinated programme of construction of civil works was not drawn up in accordance with the requirements of warranty for the plants specified in the contract.

(3) Provision was not made for the modernisation of the acid mixing plant till 1972.

(4) The water requirement was not assessed in time and necessary works in this regard were not sanctioned till July 1975.

12. Unsatisfactory returns from a modernisation scheme

A project was sanctioned in January 1961 for balancing and modernisation of steel rolling and ancillary facilities in a factory at an estimated cost of Rs. 3.46 crores (revised to Rs. 5.68 crores in February 1967). In the first phase, the rod mill of the factory (where billets are rolled into rods of different sizes) was to be modernised to improve the quality and increase the quantity of production, and in the second phase, the bar mill (where ingots are rolled into billets) was to be modernised for rolling of ingots into billets of required size in one heat and for increasing the output of billets.

A new rod mill was installed and commissioned in March 1966 with a production capacity of 9,000 tons (9,144 tonnes) per annum in three-shift working.

In February 1967, the Director General, Ordnance Factories placed an order on a Government company for modernisation of the old bar mill at a ceiling cost of Rs. 259.23 lakhs to increase the capacity for rolling of 350 mm (14″) square alloy steel ingots of various compositions to billets of 65 mm (2½″) square and of similar sections. After modernisation, the annual output of steel billets was planned to be raised from 24,384 tonnes to 50,000/60,000 tonnes. As per the terms of the order, the company was fully responsible for the technical efficiency, correctness of design and layout of the entire scheme. It was also stipulated that the plant and equipment to be supplied would be sufficient and suitable for the purpose of getting the stipulated output and in the event of it not being achieved after completion of the modernisation scheme, the company was liable to carry out such modifications as might be necessary, at its cost, to achieve the stipulated output.

The work was to be executed in four phases and the commissioning schedule was as follows:

Phase I	October 1967
Phase II	June 1968
Phase III	December 1968
Phase IV	March 1969

The programme for execution of the various phases was revised by the company not less than 8 times and the different phases were actually completed as follows :

Phase I	May 1970
Phase II	June 1972
Phase III	September 1973
Phase IV	April 1974

The first trial run of the mill in April 1974 revealed many defects and, therefore, it was not taken over by the factory. In July 1974, a second trial run was arranged for a period of two weeks and during this trial run also, various defects were noticed and the capacity of the mill, as assessed by the factory, was only 14,100 tonnes per annum against 50,000/60,000 tonnes contracted for. The company, however, contended that based on the best performance of the mill during a particular shift, the capacity of the mill for an outturn of 30,000 tonnes per annum had been proved. However, after discussions with the company and on the understanding that the defects in the mill would be rectified by the company, the plant was taken over in November 1974. While some of the defects noticed before taking over were rectified by the company, new defects/deficiencies came to light after it was taken over. The Director General, Ordnance Factories, stated in March 1976 that some defects were still persisting and that the production capacity, as it stood, could be taken as 12,000 tonnes only per annum. The company has already been paid Rs. 214.75 lakhs.

The production in the modernised bar mill commenced in 1974-75 and the production achieved (in two shifts of 9 to 10 hours each) was as follows :-

Year	Production (tonnes)
1974-75	6,916
1975-76	9,691

The production in 1975-76 from the modernised bar mill was actually less than 20 *per cent* of the capacity planned. It was even less than production from the old mill in 1971-72 and 1972-73—*viz.* 13,056 tonnes and 11,721 tonnes respectively.

Besides, the modernisation scheme envisaged production of billets (65 mm) from ingots in a single heat (as against double heats under the prevalent method of manufacture) and the order on the Government company stipulated that 60 *per cent* of the total output would be rolled in one heat. But the entire production from the modernised bar mill in 1974-75 and 1975-76 was under two heats.

When the modernisation of the old bar mill was considered, it was assessed that the steel melting capacity in the factory, with the commissioning of the new furnaces, would be about 67,056 tonnes (66,000 tons) of ingots per annum, of which 6,096 tonnes (6,000 tons) would be taken up for forgings and the balance 60,960 tonnes (60,000 tons) would be available for rolling into billets, bars, rods, etc. After the bar mill was modernised the available melting capacity was, however, assessed at only 15,000 to 20,000 tonnes per annum, as against about 70,000 tonnes required to achieve the planned output of 50,000 tonnes of billets from the modernised bar mill. Government sanctioned Rs. 2.54 crores in December 1976 for augmentation of steel melting capacity to 31,850 tonnes in the factory. Even with this augmented melting capacity, it would be possible to achieve only 42 *per cent* of the capacity originally planned in the modernised bar mill for production of billets.

The delay of 5 years in completing the modernisation of bar mill affected production of the new rod mill which had been obtained and commissioned in March 1966 in the first phase of this modernisation project. The new rod mill procured from abroad had a capacity of 9,144 tonnes (9,000 tons) per annum in three shifts of 8 hours each (as against 7,925 tonnes planned). It was worked by the factory only on a single shift of 8 hours with overtime. The factory also continued to make use of the old rod mill side by side with the new one. This had the effect of enhancing the rod mill capacity from 3,048 tonnes to about 12,000 tonnes approximately. The average annual production obtained from both the rod mills during 1970-71 to 1973-74, however, worked out to 5,212 tonnes only. Even after commissioning of the new bar mill in November 1974 the position did not improve (as indicated below) as the supply of billets from the bar mill did not increase due to unsatisfactory performance :

Year	Production New rod mill	Old rod mill (tonnes)	Total
1974-75	2,906	1,326	4,232
1975-76	3,174	1,319	4,493

13. Unsatisfactory execution of Service orders

The Director General, Ordnance Factories placed orders on factory 'A' in July 1966 for 2.00 lakh numbers of an ammunition and in May 1968 for another 1.64 lakh numbers of the same ammunition to meet the services' demands for the periods October 1968—September 1969 and October 1969—September 1970 respectively.

In November 1968, factory 'A' placed a demand on factory 'B' for supply of two ('X' and 'Y') of the three main components of this ammunition (the third component was to be manufactured in factory 'A') to the extent of 3.64 lakhs each.

Against the above demand of factory 'A', while factory 'B' supplied component 'Y' to the extent of 3,56,514 numbers, component 'X' could be supplied only to the extent of 67,265 numbers till 1975-76. As a result, factory 'A' could issue to the services only 66,000 numbers of the ammunition till 1975-76 (supply commencing from 1974-75). The Ministry explained (January 1977) that in May 1968, the services wanted the ammunition to be manufactured according to a new design and for this, production of some new components was required to be established. Although particulars for the new design were forwarded to all concerned on 29th August 1968, final package particulars were finalised by the Chief Inspector of Armaments on 27th August 1970. The date of delivery as stipulated in the services' demand could not, therefore, be adhered to.

Assembly of component 'X' in factory 'B' suffered a serious set-back due to un-matched supply of sub-components of component 'X' which were ordered by factory 'B' on factory 'C' in January 1969 as indicated below:

Sub-components of component 'X'	Quantity ordered	Quantity supplied
'P'	3,64,000	80,681 (till September 1976)
'Q'	3,64,000	1,96,168 (till 1973-74)
'R'	7,28,000	34,908 (till 1971-72)

The production of sub-component 'R' at factory 'C' was short-closed at 34,908 due to its heavy rejections at factory 'B' while assembling component 'X' and its further production was taken up at factory 'B' from 1972-73. This had improved the availability of sub-component 'R'. But there were heavy rejections of sub-component 'P' at factory 'C' partly due to its failure to meet the required dimensions and tolerances and partly due to defective basic raw material obtained from trade and this retarded the supply of this sub-component to factory 'B' and created a bottleneck in the assembly of component 'X'.

In the meantime, in view of extreme urgency expressed by the services for the ammunition (for which additional orders for 3 lakh numbers had also been placed in May 1974), it was decided by the Director General, Ordnance Factories to procure component 'X' from trade (through the Department of Defence Supplies) and orders for 1.70 lakhs were placed on trade between September 1975 and March 1976. The trade rate was only Rs. 21.99 each against the ex-factory cost of supply by factory 'B' of Rs. 69 each (September 1975). Supplies from trade started materialising in 1976-77 and with these supplies, factory 'A' had issued 1.42 lakh numbers of the ammunition in 1976-77 (till December 1976). While this completed the first order for 2 lakh numbers of ammunition, the second order (for 1.64 lakhs) still remained to be executed.

Further, to utilise the surplus quantity of sub-component 'Q' manufactured at factory 'C', factory 'B', under advice from the Director General, Ordnance Factories, placed an indent on the Department of Defence Supplies in June 1976 for the procurement of 1.20 lakh numbers of sub-component 'P' from trade. The Department of Defence Supplies placed orders on a firm in July 1976 for the supply of 80,000 numbers of this sub-component at Rs. 18.75 each. The supply from trade has not yet commenced (December 1976).

The procurement of sub-component 'P' from trade at Rs. 18.75 each for utilising sub-component 'Q' (cost : Rs. 11.86) in the assembly of component 'X' at factory 'B' would prove to be uneconomical as an expenditure of Rs. 27 (excluding all overheads, both fixed and variable), over and above the cost (Rs. 11.86) of sub-component 'Q', would be involved in such assembly, whereas component 'X' was available from trade at Rs. 22 each.

The Ministry intimated (January 1977) that the primary consideration for the Director General, Ordnance Factories was to arrange for manufacture and supply of the ammunition to the services and the question of economy was only secondary.

14. Development of an ammunition

After conducting technical and users' trials, the drawings and specifications of one variety of an ammunition developed by a Research and Development unit were finalised in March 1970 for bulk production. The Chief Inspectorate of Armaments was, however, advised by the Research and Development unit that a pre-production lot of 10,000 rounds might be manufactured and proved to clear bottlenecks, if any, before bulk production was started and that one lot at a time be manufactured and proved till such time a few lots were satisfactorily proved and accepted. In communicating these instructions to the Inspectorate of Armaments at factory 'A', the Chief Inspectorate of Armaments further stipulated that the first few lots might be restricted to

10,000 rounds each and one lot at a time be manufactured and proved till such time as 10 consecutive lots were satisfactorily proved and that as per current practice the results of proof/ inspection of the first 10 lots be intimated to the Director, Armament Research and Development Establishment for inspection.

Contrary to these specific instructions, factory 'A' took up bulk production of the ammunition from the end of December 1972 (against an order for 10 lakh rounds of the ammunition placed on it by the Director General, Ordnance Factories in January 1971) and produced the first lot of 60,000 rounds and submitted it for inspection on 17th March 1973. Further, before the proof result of this lot was known, the factory had produced a second lot of 3,50,000 rounds in March 1973 and this was also tendered for inspection on 26th March 1973. On the basis of proof results both these lots were rejected (in June and July 1973) as these failed to meet the specifications in certain respects. The factory, however, went ahead with the manufacture of rounds. The factory had assembled 12.16 lakh rounds till December 1973.

The Ministry of Defence explained (December 1976) that the factory had initially produced a trial batch of 1,000 rounds and tendered the same for inspection in August 1972. Since this batch did not give satisfactory results, a total of 79 trials in all had been carried out by the factory in close conjunction with the Inspectorate to achieve the desired performance and a satisfactory composition for filling was arrived at some time in mid-December 1972. Thereafter the factory commenced filling of bullets (for assembly into rounds) in small batches, each batch not exceeding the quantity of 10,000 numbers at a time. With these lots of filled bullets which were found acceptable on inspection, the factory took up assembly of a lot of 60,000 rounds of ammunition (for getting 50,000 rounds passed) as this was the minimum quantity from the point of view of economic production. According to the Ministry (July 1976), the design particulars had been finalised without a thorough proof.

In October 1973, during discussion with the Research and Development unit, the factory's representative was stated to have explained that due to non-availability of a particular raw material, it was becoming difficult to achieve the prescribed specification and its task would be easier if the performance requirements were brought in line with those stipulated for the same ammunition of a different design being manufactured in another ordnance factory. The Research and Development unit clarified that the ammunition under manufacture in factory 'A' had been developed to the requirements projected by the Army Headquarters and such a change could not be made without their approval. The factory, however, took up the development work as per alternate design from October 1973. The Ministry intimated (July 1976) that it was decided in a meeting held in March 1974 that future production at factory 'A' would be to the alternate design only.

The factory had spent about Rs. 27.25 lakhs (upto 31st March 1975) on the manufacture of the ammunition as per approved specification and subsequent development of it as per alternate design. Out of the amount spent, ammunition (6.83 lakh rounds) worth Rs. 6.70 lakhs was accepted for training purposes and issued to an ammunition depot in September and November 1974. The Ministry intimated (December 1976) that the production of this ammunition had been suspended from April 1975 since the design aspect was still to be cleared.

15. Indigenous manufacture of an equipment with connected ammunition and accessory

In response to a request made in October 1969, a foreign Government agreed in July 1970 to grant a licence and furnish technical documentation for the indigenous manufacture of an equipment ('X') and its accessory ('Y') and connected ammunition ('Z'). The requirement of the equipment during the next 10 years was assessed in May 1970 as 599 and that of ammunition as 17.96 lakh rounds.

In April 1971, on the advice of the Ministry of Defence, a team was constituted in the Director General, Ordnance Factories' organisation to undertake a study on the feasibility of manufacturing the equipment in the ordnance factories. While the study was still under way, a protocol was signed in May 1971 with the foreign Government for granting the licences and supplying technical documentation at a cost of Rs. 52.06 lakhs (Rs. 20.82 lakhs for the equipment and ammunition and Rs. 31.24 lakhs for the accessory), and for rendering technical assistance for establishing their manufacture in the ordnance factories. A formal contract was concluded by the Ministry of Defence in January 1972.

The entire technical documentation was received within the time schedule prescribed in the contract *viz.* March 1973. Special arrangements were made for translating the technical documents relating to the equipment and the ammunition from January 1973 to November 1974. The total expenditure incurred on the translation of technical documents amounted to Rs. 5.10 lakhs.

In May 1974, it was decided that it was not economically viable to produce the equipment indigenously in view of the smallness of the requirement, *viz.* 500 numbers only. That the requirement was not large was known even in May 1970 when the initial assessment was made as 599 numbers. Besides, the Director General, Ordnance Factories, on an examination of the report of the study team, had stated in December 1971 that establishment of indigenous production of the equipment would involve a heavy capital outlay and would take about 4 years' time after the manufacturing drawings and specifications translated in English were made available to his organisation. He further stated that the majority of the components and major assemblies being not inter-changeable, the utilisation of the capacity set up would be very marginal for spares in future.

As regards the accessory, the Services intimated the Ministry in October 1974 that technically and operationally, the product of a foreign firm of another country had been accepted by them; a contract was concluded with that firm in August 1976 for obtaining production licence and technical assistance.

The Ministry of Defence stated (November 1976) as follows:

(a) Equipment—a fresh exercise was being carried out to examine the feasibility of manufacturing the equipment even though the requirement of the Services might not be very large.

(b) Accessory—after examining the technical documentation it was found that this accessory would not meet the technical and operational requirements. In addition, it was also decided to standardise the item for current as well as future requirements.

Regarding ammunition, the Ministry of Defence issued a sanction only in January 1977 for setting up its indigenous manufacture at an estimated cost of Rs. 4.48 crores. Meanwhile, during 1971—1974, 7.40 lakh rounds of ammunition worth about Rs. 90 lakhs had been imported. Till production is established indigenously, imports are likely to continue, thereby reducing the quantity which was sought to be met by indigenous production.

16. Purchase of a defective plant

Against an indent placed in January 1958 by the Director General, Ordnance Factories a contract was concluded in October 1961 by the Director General, India Store Department, London with a foreign firm for supply of a shell forge plant at a cost of Rs. 88.31 lakhs (f.o.b.). The plant consisted of four units—two of these units were designed for handling shells of 4″ diameter and the other two for handling shells upto 6″ diameter.

According to the conditions of the contract the plant was to be inspected by the Deputy Director General of Inspection, India Store Department, London and the plant was to be delivered within 12 to 18 months. The contract provided for advance payment of 60 *per cent* of the contract amount in two equal instalments (7 and 10 months respectively from the date of contract) and payment of another 30 *per cent* within 30 days after delivery of each consignment of the equipment on production of the prescribed documents. Of the balance 10 *per cent*, 5 *per cent* was to be paid on erection and 5 *per cent* on commissioning of each unit—each payment being made on presentation of bankers' guarantee for the amount valid for the full period of warranty (12 months from date of commissioning and acceptance of plant in India) and a certificate from the Director General, Ordnance Factories that the equipment/units had been erected/commissioned. However, in the event of delay in erection/commissioning due to delay in arrival at site, lack of erection facilities, adequate tooling etc., and other unforeseen circumstances, full payment was to be made within 6 months after delivery of the last item of the plant.

The plant was originally ordered in 1958 for replacement of an old shell forge plant at ordnance factory 'A' but it was subsequently decided in 1963 to continue the old plant at factory 'A' and to set up the new plant in addition. Since, however, factory 'A' did not have space for both the plants, it was decided in January 1963 to locate the new plant at factory 'B', simultaneously creating machining capacity in that factory as well. Due to change in location of the plant which called for a revision in the layout of the plant, the firm, which was to supply the shell forge plant by April 1963, was given extension of time for delivery of the plant upto November 1964.

The supply of the main plant was commenced in February 1963 and completed in November 1964; supply of other items including spares, free replacements and short-landed/damaged items started arriving later and was completed by the middle of 1967. Of the 4 units, erection of units 1, 2 and 3 was completed by factory 'B' in October 1965, November 1965 and April 1966 respectively. Erection of unit 4 could be completed only in December 1967 due to late arrival of damaged/short-landed items.

Meanwhile, the firm in March 1965 approached the Director General, India Store Department, London (now Director General, India Supply Mission, London) for limiting the period of warranty upto 1st January 1967. This was agreed to by the Director General, Ordnance Factories and the Director General, India Supply Mission as there had been delay in commissioning the plant and the likely date of completion and commissioning of the plant was not known at that time. The firm was also paid the balance of 10 *per cent* in May 1965 and a bank guarantee was obtained for the same amount for the period of warranty.

During trial runs of the units of the shell forge plant, various defects were observed and these were brought to the notice of the firm from time to time. In spite of replacement of certain parts and rectification of other defects by the firm, the plant continued to throw up further defects, as a result of which the plant could not be successfully commissioned. The Ministry intimated Audit in December 1969 that the nature of defects indicated bad workmanship in some cases and sub-standard material or bad design in some others. The Ministry further intimated that the firm had refused to accept any further responsibility for rectification of the plant but that the Director General, India Supply Mission was continuing his efforts to make the firm accept its liability to rectify the defects of the plant.

The India Supply Mission finally intimated in June 1970 that the firm was insisting that its contractual liabilities had already been fulfilled and that within the warranty period (1st January 1967), it had provided free replacement for defective items. The firm also stated that it was not responsible for erection or commissioning and running of the plant and that it was not liable for the present condition of the plant. The Ministry got two writs issued through a Court of Law in the United Kingdom : first in November 1970 claiming damages for loss and breaches of contract relating to the design, supply, erection and installation of the shell forging plant by the firm and again in March 1971 for damages for breach of contract and/or warranty by the firm under the term of a guarantee for the performance of the plant. In December 1976, the Defence Ministry, however, intimated Audit that the question of seeking a compromise with the firm out of court was under active consideration of the Director General, India Supply Mission, London.

Meanwhile, production from the plant continued to suffer as none of the 4 units supplied by the firm had been working satisfactorily. The plant and equipment supplied by the firm was claimed to have a capacity to produce 50,000 shells of 3″ to 4″ diameter and 20,000 shells of 6″ diameter per shift based on 8 hours a day and 24 days in a month, on the basis of 80 *per cent* efficiency including 5 *per cent* rejection. The target production planned in the factory in two 10-hour shifts was for 1.05 lakh shells per month which envisaged utilisation of about 60 *per cent* of the plant capacity in two 10-hour shifts. But due to the poor functioning of the plant, even this planned target could not be achieved. The average monthly output of forging during 1967-68 to 1975-76 by working two 10-hour shifts did not exceed 17,054 numbers which constituted only about 17 *per cent* of the planned target. The General Manager of the factory had assessed in March 1972 that during December 1965 to November 1971 there was a production loss of Rs. 5.61 crores.

The Ministry stated (February 1977) that while the details given in the para (first issued in August 1976) might be factually correct, they were not in a position to indicate their comments as the relevant files were lying with the solicitors in London.

17. Delay in utilisation of costly imported machines in a factory

In an ordnance factory, the following imported machines have not yet been installed/commissioned, although these were received 2 to 4 years ago:

(*a*) *Multi-roll flattening and milling machine* (*Rs.* 23.32 *lakhs— September* 1969)

In 1964-65, the factory placed demands for a multi-roll flattening machine for removing any high spot and straightening the slab before milling and a slab milling machine for milling brass and other non-ferrous slabs before further cold rolling. These machines were stated to be urgently required for improving the quality of non-ferrous metals and increasing the outturn. A combined machine for flattening and milling was received from a foreign country in September 1969 under the Military Credit Sales Programme. Although the foundation work had been completed in February 1971, the machine was awaiting erection (December 1976). The Ministry of Defence stated (January 1977) that it was not possible to complete the erection departmentally as workmen of maintenance section were engaged on priority maintenance works and that a proposal for getting the work completed through a contract agency was under consideration.

(*b*) *Horizontal deep hole boring machine* (*Rs.* 15.03 *lakhs—September* 1971)

The factory placed a demand on the Director General, Ordnance Factories for a horizontal deep hole boring machine in 1962 for replacing an existing gun tube boring machine of 1942. The machine was received in the factory in September 1971 against an order placed by the Director General, Ordnance Factories in November 1969. Due to non-availability of suitable covered accommodation in the factory it was not erected and in May 1976 it was transferred to another factory where it was stated to be urgently required and where space and power were available. The Ministry stated (January 1977) that the existing old machine (which was intended to be replaced) after repair and overhaul would be sufficient to cope with the current small load on the former factory. The machine was received in the other factory in May 1976. As some of the sensitive electrical components were found to require replacement and certain spares which had not been ordered earlier were also needed, the Director General, Ordnance Factories placed an order in September 1976 on the foreign supplier for these components and spares valued at about Rs. 30,000. The machine was erected by October 1976 but was awaiting commissioning (December 1976). The warranty period for this machine had expired in October 1972. The Ministry intimated (January 1977) that although the warranty period had expired, the firm had undertaken to commission the machine and that it was expected to be commissioned and utilised in the factory by mid-January 1977.

(*c*) *Straightening press* (*Rs.* 11.84 *lakhs—December* 1971)

The factory placed a demand on the Director General, Ordnance Factories for the machine in 1962-63 as it had no facilities for straightening gun barrels produced by it and the work was got done in other ordnance factories. The machine was received in the factory during September to December 1971 against an order placed by the Director General, Ordnance Factories in May 1970. It was initially planned to erect the machine in a shop which was under extension but when the extension was completed in January 1974, it was found that no space was available for erecting it in the extended area after providing space for keeping gun barrels awaiting heat treatment and those heat treated, awaiting straightening. A further extension of the shop was sanctioned in July 1976 for erection of this machine (among others) and the work is expected to be completed by March 1978. The warranty period of the machine expired in June 1973.

(*d*) *Vacuum degassing plant* (*Rs.* 51 *lakhs—May* 1974)

A vacuum degassing plant was demanded by the factory in 1963-64 for degassing of molten steel which was considered inescapable for manufacturing barrel forgings for a gun. The Director General, Ordnance Factories placed an order for this plant on a foreign firm in May 1971 and it was received in different consignments by May 1974 (cost : Rs. 51 lakhs). Civil works for housing the plant were sanctioned in March 1972 at an estimated cost of Rs. 9.49 lakhs (increased to Rs. 12.38 lakhs in November 1974). These works were due to be completed by June 1974. The building was actually completed in February 1975 without the water sump which was completed in December 1975. The erection of the plant was taken up in June 1975 under the supervision of the foreign technicians and was completed in April 1976. The plant, however, could not be commissioned as the foreign technicians wanted the temperature of the furnace to be raised to have the molten metal at 1680°C for carrying out commissioning trials but this requirement could not be met by the factory. Meanwhile, the warranty period expired.

The Ministry of Defence explained (January 1977) that the requirement of higher temperature of molten metal (1680°C) was intimated by the firm only at the time of commissioning the plant. As intricate adjustments were necessary in the control circuit to raise the temperature, and the factory did not have 'know-how' for such work, the firm's requirement could not be met. The work of adjustment was later got done by another firm and the furnace could attain the desired temperature. The Ministry further stated (January 1977) that the firm had commissioned the plant which was undergoing trial runs.

CHAPTER 4

WORKS

18. Some facets of planning and execution of Defence works

Works considered essential to the effective functioning of the Defence Services are sanctioned by Government or by lower authorities according to powers delegated in this behalf. The following are the main stages in the sanction to a work :

— **acceptance of necessity ;**

— **administrative approval ;**

— **appropriation of funds.**

Administrative approval to a work is required to indicate not only the estimated cost of the work, but also the physical **target for its completion.** On the consideration, *inter alia*, that a sanctioned work may not be 'released' for execution, the completion time was generally not being incorporated in the administrative approvals to works issued by Government/lower authorities. Since time is of the essence, this essential requirement has—at the instance of Audit—been recently reiterated by the Ministry of Defence (October 1976).

It is permissible, on grounds of urgent military necessity, to order the commencement of a work in anticipation of administrative approval based on estimates of cost which are required to be initiated at the earliest. In the case of authorities lower than the Government of India, such 'go-ahead' sanctions are to be limited to 20 *per cent* of the rough cost of the work. A review in audit revealed that there were inordinate delays in the issue of administrative approvals (after the issue of 'go-ahead' sanctions), thus defeating the very objective of the permissive provision as well as cost control. The following is an illustrative list of important works (estimated cost : Rs. 50 lakhs or over) in respect of which administrative approvals had not been issued for over 4—10 years after the issue of 'go-ahead' sanctions although the works had been completed/nearly completed :

Sl. No.	Date of 'go-ahead' sanction	Particulars	Estimated cost (Rs. in lakhs)
1	5th May 1966	New airfield	288
2	25th May 1966	Blast pens	107
3	30th June 1966	New airfield	302
4	25th February 1970	Technical, administrative accommodation for an Air Force depot	82
5	18th March 1970	Blast pens	53
6	7th May 1970	Accommodation for field firing ranges	111
7	18th June 1970	Married accommodation for a Mountain division	200
8	19th September 1970	Work services (Phase II) for an Air Force Academy	159
9	13th February 1973	Accommodation for a Research & Development establishment	50

The Ministry of Defence stated (March 1977) that the reasons for delays were being ascertained and steps were being taken to expedite the issue of administrative approval in all pending cases.

Sanctions to works are not necessarily related to an assured availability of funds and cases have come to notice where sanctioned works are not 'released' for execution for a long time after their sanction. According to rules, fresh approval is required if a work is not commenced within 5 years of administrative approval. The following is an illustrative list of important works (value : Rs. 25 lakhs or over) which had not been 'released' for over 4—6 years after sanction (January 1977) :

Sl. No.	Date of sanction	Particulars	Estimated cost (Rs. in lakhs)
1	1st August 1970	Accommodation for Army units	55
2	18th September 1970	Air Force hospital	44
3	25th January 1971	Railway works in an ammunition depot	108
4	31st January 1972	Accommodation for a unit	30
5	30th June 1972	Accommodation for a workshop	137
6	16th November 1972	Married accommodation for troops	186

The Ministry of Defence stated (March 1977) that with a view to curb the upward trend in the carry-over works, restriction was placed in 1973-74 on the value upto which new works could be released; this did not, however, preclude sanctions to works. The Ministry added that with a bank of sanctions, it was possible for the Army Headquarters to regulate the release of works each year with reference to the availability of funds and to ensure a steady work load to the Military Engineer Services establishment.

The allotment of funds for capital works (of the value of Rs. 1 lakh or more) and actual expenditure thereon during the last 3 years was as follows :

(Rs. in crores)

	Sanctioned Grant	Actual expenditure	Excess	Saving
1973-74 . . .	84.2	99.2	(+)15.0	
1974-75 . . .	114.3	93.1		(—)21.2
1975-76 . . .	112.8	100.0		(—)12.8

The annual budget grant—determined by the overall availability of funds—is allocated between the works in progress and new works by the respective services. The break-up of the grant for the last 3 years in respect of Army, Navy and AirForce works was as follows:

(Rs. in crores)

	Army		Navy		Air Force	
	W-in-P	New	W-in-P	New	W-in-P	New
1973-74	45.0	2.0	3.5	0.6	13.1	2.9
1974-75	43.0	5.0	5.4	3.0	27.5	1.8
1975-76	45.2	8.2	7.1	2.2	23.5	4.0

As stated earlier, time is of the essence in the execution of sanctioned works. The procedure for the execution of works requires completion of works with the minimum delay consistent with maximum economy. In December 1972, the Ministry of Defence issued instructions that efforts should be made to complete all works within a period of 4 years of sanction, large projects being split into self-contained phases where necessary.

However, a review of the works-in-progress for the Army (January 1977) revealed that in respect of works of the value of over Rs. 20 lakhs, 55 works of the aggregate value of Rs. 126.05 crores had been in progress for over 4 years; of these 31 works (value : Rs. 85.91 crores) which had been taken in hand over 5—12 years earlier were in different stages of progress (less than 90 *per cent*) as shown below:

Works in progress for over	Percentage of progress				
	Nil	1—30	31—60	61-90	Total
5 years . .	1	2	1	3	7
6 years . .	4	1	2	6	13
7 years . .	—	—	1	3	4
8 years . .	—	—	—	2	2
9 years . .	—	1	1	—	2
10 years . .	—	—	—	1	1
11 years . .	—	—	1	—	1
12 years . .	—	—	1	—	1
Total	5	4	7	15	31

The following are some illustrative cases of works sanctioned 5—15 years ago that were still in progress:

(i) Phase I of a project for providing technical and administrative accommodation for an Army base workshop was sanctioned by Government in November 1960 at an estimated cost of Rs. 54.90 lakhs. The estimated cost was revised in December 1966 to Rs. 95 lakhs and to Rs. 100.98 lakhs in June 1971. The anticipated completion cost of the project is Rs. 110.03 lakhs. The expenditure on the work to the end of March 1964 amounted to Rs. 31.49 lakhs (31 *per cent*). The total expenditure at the end of March 1976 amounted to Rs. 92.21 lakhs or 91 *per cent* of the revised cost. The delay has been attributed by the Ministry to changes in the scope of work and escalations in costs requiring revised sanctions.

(ii) Government accepted necessity for the provision of single and technical accommodation for certain army units at a rough cost of Rs. 16.60 crores and accorded a 'go-ahead' sanction for Rs. 4 crores in November 1964. Administrative approval for this project (combined with another work sanctioned earlier in August 1964) was issued (over 5 years later) in July 1970 at an estimated cost of Rs. 13.23 crores. Married accommodation for the same unit was sanctioned by Government in December 1967 at an estimated cost of Rs. 5.07 crores. The total expenditure to the end of March 1976 amounted to Rs. 5.69 crores (31 *per cent*). The delay has been attributed to suspension of work, uncertainty of the zonal plan, non-availability of material and slow progress by the contractor. The work is expected to be completed by June 1978.

(iii) Single and technical accommodation for certain army units at a station was sanctioned by Government in May 1971 at Rs. 11.33 crores. The total expenditure to the end of March 1976 amounted to Rs. 2.47 crores (22 *per cent*) and the work is still in progress. The Ministry of Defence stated that this was a long term project for which funds were being released in phases and the probable date of completion was uncertain.

(iv) Married accommodation for certain army units at a station was sanctioned by Government in June 1971 at an estimated cost of Rs. 5.64 crores which was revised in January 1974 to Rs. 5.16 crores. The total expenditure incurred on the project to the end of March 1976 was Rs. 4.27 crores (83 *per cent* of the revised cost). The Ministry of Defence stated that the progress of work had been affected by financial stringency and that the work was likely to be completed by May 1977.

19. Operational works

In areas declared as 'operational works areas', the operational works procedure envisages the provision of 'shelters (but not huts)' in lieu of tentage.

In the following two cases, irregularities were noticed in the sanction/execution of certain works in operational areas:

A. *Provision of pre-fabricated 'sudhar' huts*

A policy decision notified by the Ministry of Defence (August 1969) in respect of a specified operational area authorised the provision of temporary accommodation including prefabricated huts where considered essential, but such works were required to be executed as normal works under the Revised Works Procedure.

In August 1972 a Command Headquarters, however, accorded, *inter alia,* 3 separate administrative approvals--under the operational works procedure—for the provision of 875 'shelters', in aggregate, with raised platforms and ancillaries : 375 each in two sectors, and 125 in another sector.

Mention was made in the Appropriation Accounts, Defence Services, 1972-73 (item 12 of Annexure II to paragraph 15) of the irregularities in the sanction and execution of these works and the abnormal cost of their construction.

A further review of these works revealed that the Zonal Chief Engineer had issued a tender notice on 16th September 1972 for the manufacture and supply (within about 2 months) of 'seasoned' timber components for 300 'sudhar shelters' (with a plinth area of 945 sq. ft. each). Three days later (19th September 1972), the quantity was increased to 400 units and the specification was relaxed to permit the use of 'freshly cut green' timber in lieu of 'seasoned' timber as originally envisaged. Of the 8 tenders received and opened on 20th September 1972, the lowest rates for supply at 3 stations ranged from Rs. 37,000 to Rs. 38,100 per unit.

Since the tendered rates were considered high, the Zonal Chief Engineer discussed the matter with the tenderers and at their instance the supplies (reduced to 300 units) were split up in 8 parts ; tenders were re-issued on 21st September 1972 and the tenderers were asked to submit fresh quotations the same day. All the 8 tenderers quoted an uniform rate of Rs. 36,000 per unit (*i.e.* 106 *per cent* higher than the estimated cost of Rs. 17,500) and the work was awarded to the 8 tenderers the same day.

Four days later (25th September 1972), the Command Headquarters cancelled all the 3 sanctions issued in August 1972. Soon after (October-November 1972), the different

Formation Commanders issued 8 fresh sanctions—under the operational works procedure—for the provision, in aggregate, of 300 'shelters' to cover the contracted quantity.

The supplies of timber components for 300 'sudhar huts' were completed in December 1972 at a total cost of Rs. 108 lakhs. The components were transported to the sites and the huts erected at a cost of Rs. 6 lakhs (*i.e.* about Rs. 2,000 per hut).

During October 1972—February 1973, the Engineer regiments/authorities pointed out that:

— the member parts of the huts had shrunk, cracked and warped due to the use of unseasoned wood (October 1972);

— there was practically no foundation ; fabrication of components was not up to the desired dimensional accuracy ; the slope of the roof was defective and not leak-proof, and 3 huts had collapsed during snow-fall (January 1973);

— the quality of knee-pieces was poor and the threading in the bolts was insufficient (February 1973);

— there were wide gaps in the floor, the wall and the roof panels ; the huts had leaked very badly even during a very short spell of rain (December 1972/ February 1973).

To prevent leakages and to make the huts habitable, 1,500 rolls of bitumen felt had to be procured during October 1972—March 1973 at a cost of Rs. 1.48 lakhs.

'On account' payments aggregating Rs. 97.20 lakhs were made to the contractors during October 1972—January 1973; final bills for the balance 10 *per cent* (Rs. 10.80 lakhs) have not been paid so far (March 1977).

The cost of construction of 300 huts worked out to Rs. 115.48 lakhs *i.e.* about Rs. 41 per sq. ft. excluding the cost of (troop) labour and transportation of material.

The Ministry of Defence stated (March 1977) that:

— the scope of work was reduced from 400 to 300 units due to a change in the requirements ;

— the specifications were changed from 'seasoned' to 'unseasoned' timber on the tenderers' representation about non-availability (in the time required) of adequate quantity of seasoned timber;

— it was considered that the use of green timber would in no way affect the functional utility of the shelters;

— the estimated cost of Rs. 17,500 per hut in the notice of tender was very rough; and

— final bills had not been paid so far as the contract documents were in the custody of the Central Bureau of Investigation.

B. *Avoidable expenditure on aluminium shelters*

In December 1972, the Army Headquarters issued instructions that in view of financial stringency, new operational works—other than those which were of exceptionally urgent operational nature— should not be sanctioned for the next 12 months.

In October 1973 a Command Headquarters sanctioned an operational work for the provision of shelters etc. at an estimated cost of Rs. 7 lakhs. This sanction included, *inter alia,* the provision of 13 nissen huts (cost : Rs. 1.64 lakhs) for living and storage accommodation for a unit. Soon after (November 1973), the Army Commander, during a tour of the area, observed overcrowding of the troops at certain locations and unutilised accommodaton at others. At about the same time, the Chief Engineer decided (November 1973) to substitute nissen huts (as sanctioned) by pre-fabricated aluminium shelters on grounds of better comfort and ready availability. In December 1973, the Assistant Garrison Engineer reported to the Commander Works Engineer that 79 nissen huts were lying surplus in the area ; the cost of re-erecting the 13 huts required for the unit was estimated at Rs. 58,000 (exclusive of transportation). However, on the basis of quotations invited by the Chief Engineer in March 1974, an order was placed on 14th May 1974 for the supply, by November 1974, of 8 shelters at a cost of Rs. 4.97 lakhs.

At about the same time (the first week of May 1974), the Area Headquarters ordered the move of the unit (for which accommodation was sanctioned) to another location (where surplus accommodation was available) and the unit moved to the new location by 16th May 1974. In August 1974, the Area Headquarters pointed out to the Command Headquarters that the work sanctioned earlier was no longer required. In December 1974, the Command Headquarters, however, issued a revised sanction for the work for Rs. 13.26 lakhs (including Rs. 5.20 lakhs for the pre-fabricated shelters already ordered) in supersession of the earlier sanction (October 1973).

Against the contracted delivery of November 1974 the supply of aluminium shelters was completed in June 1975. The delay in the supplies was covered by 3 extensions granted by the Chief Engineer at the instance of the supplier on grounds of non-availability of aluminium.

In August 1975, the Command Headquarters sanctioned another operational work for the provision of shelters at a different location at a cost of Rs. 6 lakhs, without specifying the number, the unit(s) for which required, or the purpose (type of accommodation). The aluminium shelters procured earlier were utilised in the work. A review in Audit revealed that the shelters were intended to provide and were being utilised as married accommodation since December 1975, though sanction for such works under the operational works procedure is not permitted.

The Ministry of Defence stated (February 1977) that:

- shifting of the nissen huts was not considered necessary ;
- though the unit for which the shelters were intended had moved out, the sanction was not cancelled as use of the accommodation by other troops in that area was visualised.

20. Construction of a Dry Dock

I. *Scope and project cost*

Mention was made in para 19 of the Audit Report, Defence Services, 1974-75, about the execution of a Naval Project for the repair and maintenance of naval craft. The Project Report submitted by the foreign specialists (commissioned for this purpose in January 1968) covered, *inter alia,* the construction of two dry docks and a repair berth. In September 1968 Government approved the Naval Project including, *inter alia,* two dry docks (southern and northern) and a repair berth at an estimated cost of Rs. 20.53 crores.

In March 1969, it was decided that the southern dry dock would be designed by Indian engineers, only technical advice, if any, being obtained from the foreign specialists. As against the estimated cost of Rs. 1.20 crores, this was expected to result in a saving of over Rs. 1 crore. The designing of the dry dock was entrusted to the Engineer-in-Chief, Army Headquarters (E-in-C) who in April 1969 set up a special organisation under a Chief Engineer (CE) for this purpose. While the Director General, Naval Project (DGNP) retained administrative control over the dry dock project, technical control was vested in the E-in-C. In November 1969 an agreement was concluded for the assignment of 2 foreign specialists to render technical assistance to the Indian engineers.

The dry dock project comprised the following major works:

— repair berth on monoliths and piles

— inter dock structure with two rows of monoliths

— dock floor slab on bored piles

— dock walls with mass concrete

— dock head wall with cellular sheet pile and bulk head

— leading in jetty on piles

— underground pump house

— dock gates.

During December 1969—December 1971 the Ministry of Defence sanctioned preliminary works, office accommodation and living accommodation for the staff at an estimated cost of Rs. 12.58 lakhs and accorded a 'go ahead' sanction (August 1970) for Rs. 30 lakhs for the procurement of steel.

With a view to effecting economy and save construction time, the design of the dry dock was modified in consultation with the foreign specialists (September 1969). The provision of drained floor on caissons (as envisaged in the Project Report) was replaced by undrained floor supported by and anchored to rock by piles.

Pending sanction to the dry dock project, tenders for the construction of the dry dock were issued in March 1970 and conditional quotations were received from two firms. Firm 'A' quoted Rs. 8.67 crores (foreign exchange : Rs. 48 lakhs) on the basis of the departmental design. Firm 'B' based its quotation on an alternative design and quoted Rs. 8.09 crores (foreign exchange : Rs. 16 lakhs, later reduced to Rs. 10 lakhs). Evaluation of the tenders on a comparable basis placed the quotations of firms 'A' and 'B' at Rs. 8.30 crores and Rs. 8.52 crores respectively.

In October 1970, the departmental design was modified (with the intention of bringing down the FE content) to one similar to the design of firm 'B' and in November 1970 firm 'A' was asked for its willingness to undertake the work on the modified design. No enquiry was, however, made from firm 'B' on the ground that its alternative design was similar to the modified departmental design. Thereafter, in November 1970, the revalued offer of firm 'A' for Rs. 7.99 crores (foreign exchange: Rs. 32.71 lakhs)—with a time-frame of 3 years—was recommended to the Ministry of Defence for acceptance. The Ministry of Defence, however, held (January 1971) that reasonable opportunity had not been given to both the firms to quote for the modified design. Consequently, revised quotations received from firms 'A' and 'B' were evaluated at Rs. 8.39 crores (foreign exchange : Rs. 30 lakhs) and Rs. 8.95 crores (foreign exchange : Rs. 8 lakhs) respectively and in February 1971, the offer of firm 'A' was recommended to the Ministry of Defence for acceptance. Later, firm 'A' extended its offer upto July 1971 (with foreign exchange increased to Rs. 43.28 lakhs) and firm 'B' increased its offer by 10 *per cent* while extending it upto 15th August 1971. No decision was, however, taken on the above proposal. The Ministry of Defence stated (March 1977) that the main reason for allowing the tenders to lapse was the non-issue of administrative approval to the dry dock project.

Soon after (October 1971), the E-in-C proposed that since the few contractors capable of executing the highly specialised work (requiring large amount of construction machinery and specialised knowledge) were overloaded, a major portion of the project might be executed through departmental labour. It was urged that this would also enable utilisation of heavy machinery purchased for and the manpower trained in another marine works project. It was proposed further that in that event, the accounting procedures would be modified dispensing—as a special case—with some of the normal internal audit checks.

In January 1972, Government accorded administrative approval to the dry dock project at an estimated cost of Rs. 10.30 crores, to be completed in $3\frac{1}{2}$ years, and during May--August 1972, the following decisions were taken by the Ministry of Defence:

— execution of Rs. 6.04 crores (out of Rs. 10.30 crores) worth of work directly by the CE through departmental labour, and the rest through contracts;

— procurement of machinery and equipment at an estimated cost of Rs. 1.70 crores (foreign exchange : Rs. 5 lakhs);

— delegation of powers to the CE to recruit departmental labour on contract;

— the CE to make his own arrangements for quality control of the departmental work and an independent review by the Chief Technical Examiner (CTE) to be submitted to the Ministry of Defence;

— substitution of measurement books by work diaries (not susceptible to check by internal audit); and

— modifications to the M.E.S. regulations, *i.e.* dispensing with the procedure of supporting the bills for payment of labour with progress reports and stores statements.

While processing the case for administrative approval for Rs. 10.30 crores, it had been stated by the Ministry of Defence in December 1971 that the estimates having been framed in 1970, the project cost was likely to go up by Rs. 1 crore (about 10 *per cent*) on account of escalation. The revised estimates were submitted by the CE to the DGNP in November 1975 indicating the project cost at Rs. 16.68 crores reflecting an increase of Rs. 6.38 crores (62 *per cent*) over the sanctioned estimates (January 1972). Approval to the revised estimates is still awaited (March 1977). Meanwhile, technical sanctions aggregating Rs. 16.39 crores had been accorded against which expenditure (upto March 1976) amounted to Rs. 11.72 crores.

The project scheduled for completion by mid-1975 had, until March 1976, progressed to the extent of 60 *per cent*. The Ministry of Defence stated (March 1977) that the project was not expected to be completed earlier than June 1978.

The following was the planned expenditure/allotment of funds and actual expenditure on the dry dock:

(Rs. in lakhs)

Year	Planned expenditure	Initial allotment	Final allotment	Expenditure
1969-70 . . .		3.81	2.70	2.64
1970-71 . . .	12.58@	12.31	8.94	12.86
1971-72 . . .		18.15	41.50	39.34
1972-73	150.00	145.77	252.07	252.06
1973-74	250.00	225.00	290.00	290.00
1974-75	350.00	300.00	300.00	300.02
1975-76	200.00	374.00	400.00	400.00
1976-77	85.86	Not Available		
	1048.44	1079.04	1295.21	1296.92*

@Represents preliminary works separately sanctioned.

*Includes an expenditure of Rs. 124.39 lakhs not chargeable to dry dock project.

The project cost as per administrative approval, the revised cost as estimated in November 1975 and the expenditure incurred upto March 1976 are indicated below:

(Rs. in lakhs)

Item	Administrative approval (January 1972)		Revised estimate (November 1975)		Actual expenditure (March 1976)	
	Total	Deptl. work	Total	Deptl. work	Total	Deptl. work
Buildings	3.77	3.77	6.78	Not Available	2.85	2.65
Repair berth	148.61	129.80	177.50		84.74	62.31
Leading in jetty	33.04	27.54	34.33		13.31	6.02
Southern dry dock	595.24	408.35	948.69		611.81	319.83
Dock gates	72.99	—	146.32		55.31	—
Experimental works	1.00	1.00	—		—	—
Machinery	54.26	—	93.28		35.42	—
Other works	71.74	4.62	180.68		41.75	0.42
Contingencies and establishment charges	49.03	28.76	79.95		12.57	6.35
Material at site	—	—	—		313.74	—
Total	1029.68	603.84	1667.53		1171.50	397.58

As against the estimated cost of Rs. 10.30 crores for the works services for the project, work to the extent of Rs. 6.04 crores (about 59 *per cent*) was to be executed departmentally. The revised estimates submitted by the CE (November 1975) did not indicate the apportionment between work being executed through departmental labour/contracts. Besides, due to the dispensation of the normal procedural and accounting requirements, it was not possible to link the progress reports with basic documents or to scrutinise the accountal of departmental costs.

II. *Execution*

1. *Monoliths*

The project involved the construction of 73 RCC monoliths which constitute both the walls and the foundation for the dry dock. Though originally intended for departmental execution only, 51 mololiths were executed departmentally and the other 22 through contracts to ensure early completion of the dock.

(a) *Execution through contract*

Before a decision was taken on the execution of the dry dock project partly departmentally and partly by contract, a tender for the construction of 10 monoliths was advertised by the CE in January 1972; and in May 1972 a contract (Rs. 37.82 lakhs) was awarded to firm 'C' for completion by May 1973. Later, in April 1973 another contract for 12 monoliths (Rs. 49.78 lakhs) was awarded to the same firm (which had in the meantime been reconstituted under a different name) for completion by May 1974. When the Ministry of Defence questioned the award of the second contract (instead of departmental execution), the CE stated that the progress of work was considerably hampered due to political agitation resulting in frequent power failures and non-receipt of stores, and that it was necessary to have an additional agency to achieve the target of completion.

During technical examination, the CTE had observed (July/December 1975) that

- firm 'C' was only a supply contractor having no construction experience, not to speak of any expertise in marine works. The only technically qualified person in the firm (on whom the CE had primarily relied) had left the firm within 3 months;
- in spite of the CE's observation in November 1972 that the firm was not capable of handling any more

work, the second contract had been awarded to the same firm in April 1973;

— the first contract included a lump sum of Rs. 1.50 lakhs as mobilisation charges for setting up the site office, labour camp etc; the second contract also included a sum of Rs. 2.00 lakhs as mobilisation charges. Thus, mobilisation charges had been allowed twice;

— the award of the work through two contracts had also resulted in an extra cost of Rs. 4.2 lakhs (about 10 *per cent*) due to higher rates.

In reply, the CE stated (August 1975/March 1976) as follows:

— one of the partners of the firm had individual experience in well foundations (for projects), a work very similar to construction of monoliths and the firm had also engaged many engineers experienced in this type of work;

— the decision to award the second contract to the same firm was based on the subsequent progress of performance (since 1972);

— the tender rates were considered reasonable, taking into account the market trends and the enhanced rates for recoveries for supplies to be made by the department.

The Ministry of Defence stated (March 1977) that there was delay in getting the plant and machinery for departmental execution which could not be visualised while planning for the first tender for monoliths.

The contracts scheduled for completion by May 1973 and May 1974 respectively were actually completed in March/February 1975, and the delay of 22 months and 9 months respectively was covered by extensions allowed from time to time on account of reconstitution of the firm, occurrence of tilts and shifts in the monoliths, non-availability of the site due to departmental work and delay in issue of material/cranes by the Department.

The contract specifications stipulated a permissible tolerance of tilts and shifts in the monoliths of 1 in 60 and $\pm$ 50 cm. respectively. Nineteen out of 22 monoliths constructed by the firm were found to have tilted and shifted beyond these limits. However, in December 1974 the contractual specifications for tilts were amended from 1 in 60 to 1 in 20 subject to 'devaluation' provided, however, the monoliths were technically and otherwise acceptable in all other respects. For monoliths having tilts beyond the revised limit, the firm was to carry out such further rectification (at no extra cost to Government) as may be required/considered essential.

The CTE reported (May 1975) that the tilts and shifts beyond the tolerance limits originally prescribed were not desirable and might result in additional works to make the monoliths stable and to maintain uniform fascia line on the dock side.

Out of 19 monoliths which were beyond the original tolerance limits stipulated in the contracts, 6 monoliths fell beyond the revised tolerance limits. The CE, however, certified the works as complete in accordance with the terms of the contract after 'devaluation' by Rs. 1 lakh which was not accepted by the firm.

In reply to the observations of the CTE, the CE stated (July 1975) that in the absence of any specific standards for the sinking of monoliths, a tolerance limit of 1 in 60 for tilts was provided in the specifications although tilts much beyond 1 in 60 would be safe. Further, during construction it became evident that the specified tolerances could not always be maintained due to soil conditions at the site, and after a review of the design calculations it was decided that tilts upto 1 in 20 could be accepted without taking any extra measures. He added that while remedial measures were taken to rectify the tilts, some of the monoliths did not respond; in the circumstances, monoliths with tilts beyond 1 in 20 had to be accepted. The CE stated further that shifts towards the central line of the dock were critical and only 8 monoliths had shifted by more than 50 cm. in the critical direction.

The contract of April 1973 provided that the kentledge blocks prepared by the firm could be purchased by the CE at Rs. 75 per cu.m for use in departmental work. The 'depreciated' rate of Rs. 75 was arrived at on a pre-determined rate of escalation of cost by 50 *per cent* on account of market variations in spite of the fact that cement was issued at departmental rates. Although this was an optional clause, 430 (50 in good condition and 380 worn out, but considered serviceable) blocks were purchased from the contractor at a cost of Rs. 48,000 in May 1975 by which time 96 *per cent* of the departmental work on monoliths had been completed. The Ministry of Defence stated (March 1977) that the kentledge blocks were planned to be used as mass concrete in other works.

(b) *Departmental execution*

Although 35 out of 51 monoliths constructed departmentally fell beyond the stipulated tolerance limit of 1 in 60, the cost of rectification was not separately accounted for. The work was completed in October 1975 as against the original schedule of November 1974 for the completion of all the 73 monoliths departmentally. The Ministry of Defence stated (March 1977) that tilts and shifts were intrinsic characteristics of monoliths and the efforts involved in sinking and rectification could not be segregated.

In August 1974, the Naval Headquarters expressed serious reservations regarding the tilts and shifts (beyond the tolerance limits) of the monoliths and the consequent cost of rectification later. While expressing concern over the delay in the completion of the dry dock affecting medium repairs to naval craft, the Naval Headquarters suggested a review of the project by an expert Technical Committee and the appointment of a team of foreign specialists to advise on suitable corrective measures. The CE opposed this proposal on the ground that tilts and shifts of monoliths were a common feature in such construction and would not affect structural stability. Finally, in August 1975, the Ministry of Defence decided to refer the matter to foreign specialists for a second opinion. In the report submitted to the Ministry in December 1975 by the E-in-C after discussions with the foreign specialists, there was no indication as to whether the question of stability of the monoliths had been discussed. The Ministry of Defence stated (December 1976) that the decision taken in August 1975 (to refer the question of the monoliths to foreign specialists) had been wrongly recorded and that the minutes were later amended in October 1976.

2. *Dock Floor*

When the modified design of the dock (based on undrained floor supported by and anchored to rock by piles) was referred to the foreign specialists, they had suggested that 'pull out' test of piles be carried out to confirm their ability to withstand a compressive load of 275 tonnes and an uplift thrust of 150 tonnes. A contract for laying 1,108 (600 mm) piles was awarded to firm 'D' (Rs. 80 lakhs) in September 1972, with September 1974 as the due date for completion. 'Pull out' tests on piles (March 1973—April 1974) indicated that while some piles could withstand a load of 220 tonnes with some movements, others failed at 83—96 tonnes. Investigations revealed this to be due to vertical fissures in the rocks. Consequently, the design change (which was intended to effect economy in time and cost) had to be substituted by the drained floor (as originally proposed) but supported by piles already laid (instead of monoliths/caissons as originally envisaged) with the additional provision of relief wells and cut-off walls. The provision of drained floor on piles was also referred to and accepted by the foreign specialists as reported by the E-in-C in December 1975.

The cost of additional works in the dock floor due to change of design was estimated in November 1974 at Rs. 33 lakhs. Out of this, works estimated at Rs. 10.58 lakhs were contracted upto June 1976 for Rs. 34.38 lakhs reflecting an increase of Rs. 23.80 lakhs (225 *per cent*).

The CE had indicated (November 1974) that if the soil conditions were adequately known at the design stage, they would have adopted the drained floor in the initial stage itself. However, while commenting on the proposed change in the design of the dock floor from drained floor (as proposed by the foreign specialists) to undrained floor, the foreign specialists had in 1970 stressed the need for additional geological data before the change was adopted. Based on the design criteria etc. recommended in the Project Report soil investigations were carried out by 2 specialist firms (under contract with the DGNP) during March 1968—December 1972 at a cost of Rs. 10.84 lakhs. These investigations, according to the CE, did not cover adequate examination of rock samples as encountered in the dock floor.

Delay in piling contracts

Piling for the dry dock project consisted of 1,108 (600 mm) piles and 120 (1200 mm) piles. As against the completion date of September 1974 in the contract for 1,108 (600 mm) piles for the dock floor, work on only 598 piles (54 *per cent*) had been completed by that date. Extensions aggregating 257 days were granted on the following grounds:

— break-down of power and water supply	: 97 days
— labour and other disturbances	: 86 days
— non-availability of working space	: 38 days
— inclement weather	: 36 days

As against the completion date of September 1973 in the contract for 120 (1200 mm) piles, work on only 43 piles (36 *per cent*) had been completed by that date. Extensions aggregating 620 days were granted on the following grounds :

— additional work of 47 piles	— 229 days*
— labour and other disturbances	— 109 days
— non-availability of working space	— 74 days
— unexpected difficulties due to non-sealing of monoliths	— 68 days
— break-down of power supply	— 65 days
— shortage of materials/spares	— 40 days
— inclement weather	— 35 days

3. *Dredging*

The Ministry of Defence had in May 1967 concluded a contract with a foreign firm for dredging for the Naval project. In February 1974 a fresh contract was concluded with the firm for 30 lakhs cu. m. at the (enhanced) rate of Rs. 8.20 per cu. m. In April 1974, the CE estimated the quantum of dredging for the dry dock area at 2.5 lakh cu. m. approximately. In a meeting held in the Ministry of Defence (at the instance of the foreign firm) in November 1974, the rate for dredging in the dry dock was fixed (after negotiations) at Rs. 11 per cu. m. on the ground of difficult conditions of dredging inside a restricted area where construction activity was in progress. In July 1975, the DGNP issued a deviation order to the contract of February 1974 for dredging 2 lakh cu. m. in the dry dock at the enhanced rate. In order to save time and cost in dredging the CE had been instructed by the DGNP earlier (February 1975) to remove all obstructions, such as cement blocks, stones etc., from the top layers of the soil in the dry dock area. However, when dredging was commenced in June 1975, the firm reported the existence in the area of considerable quantities of cement blocks, stones, steel etc. According to the DGNP, the average obstruction encountered by the dredger amounted to about 4 hours per day

*as against provision in the contract of 12 months for 120 piles.

for which the contractor was being paid at the rate of Rs. 1,700 per hour. In August 1975, the DGNP observed that 40 *per cent* of the working time had been lost due to obstruction as a result of non-compliance of the pre-dredging requirements. Payment to the contractor for idle time amounted to Rs. 3.40 lakhs.

The dredging of only 1.18 lakh cu. m. (out of 2 lakh cu. m. contracted) could be completed with the dredger until September 1975. Due to limitation of movements for which the (enhanced) rate of Rs. 11 per cu. m. was allowed and obstruction/slippage of soil from the sides, dredging could be done only upto (–) 9.5 MRL average as against the requirement of (–) 11 MRL. For the residual work of dredging, contracts for manual excavation and disposal of soil were concluded by the CE at an average rate of Rs. 19.31 per cu. m. involving an additional cost of Rs. 7.03 lakhs.

4. *Dock head wall*

The dock head wall was so designed (as a cellular sheet pile structure) and constructed that the dry dock would be capable of being extended by 60 metres at a later date. The work, executed departmentally, was covered by two technical sanctions for Rs. 11.48 lakhs (May 1972) and Rs. 4.25 lakhs (May 1975). Sheet piles imported (on an experimental basis) for another project and later declared surplus were utilised on this work. The total expenditure incurred on the construction of the head wall amounted to Rs. 11.90 lakhs.

In February 1976 one cell of the head wall collapsed as a result of pile failure and the CE ordered a Board of Officers to inquire into the mishap. In April 1976 the terms of reference of the Board were enlarged. At about the same time the E-in-C ordered a Technical Committee comprising officials and professional experts to investigate the matter.

The Technical Committee in its report (June 1976) attributed the collapse to defects (which could not be detected by visual examination) in the sheet piles and observed that although an officer was sent to inspect the piles, his report covered only administrative aspects and was silent on the material specifications, properties, etc. Subsequent to the collapse, tests on some of the used and unused piles, revealed extensive corrosion pitting and rolling defects and that the piles were not of weldable quality and failed at web/interlock.

The damage was assessed by the engineers at Rs. 2.87 lakhs. It was decided (June/July 1976) that the existing dock wall structure should not be relied upon and should be substituted by an RCC wall estimated to cost Rs. 50.48 lakhs. The completion period was indicated as 16 months from the date of sanction. In December 1976, the Ministry of Defence issued a 'go-ahead' sanction for the reconstruction of the head wall by monoliths at an estimated cost of Rs. 86.39 lakhs.

5. *Coffer Dam*

Included in the design of the dry dock was a coffer dam (a 6-cell structure of driven sheet piles)—to be demolished after the construction of the dock—at an estimated cost of Rs. 63.75 lakhs including Rs. 20 lakhs for its ultimate removal. Work on 4 cells was completed in February 1975 and the other 2 in December 1975 at a total cost of Rs. 37.89 lakhs. In March 1976, a sheet pile cell of the dam collapsed involving emergent strengthening measures at a cost of Rs. 1.07 lakhs. This too (along with the failure of the dock head wall) was referred to the Technical Committee which attributed the collapse to the defective sheet piles. As a remedial measure, the E-in-C proposed in June 1976 that an additional RCC diaphragm wall be constructed through specialist contractors after watching the behaviour of the coffer dam structure during monsoons. In September 1976, the Ministry of Defence accorded a 'go-ahead' sanction for the supplementary work at a cost of Rs. 35.40 lakhs.

III. *Resources utilisation*

(a) Based on the quantum of work to be done departmentally, the Ministry of Defence had sanctioned the procurement of plant and machinery (with spares) worth Rs. 169.59 lakhs including Rs. 44.24 lakhs for transfer of equipment from another project. The actual value of purchases and transfers, however, amounted to Rs. 193.91 lakhs including Rs. 28.56 lakhs attributable to machinery procured in excess of that sanctioned by the Ministry of Defence and Rs. 13 lakhs on purchase of spares.

(b) In June 1972 sanction was accorded for shifting a weigh batching plant from MES stock (cost : Rs. 0.82 lakh). The CE felt that this plant being old could not be relied upon. In July 1972, an order was placed for a new plant at a cost of Rs. 2.58 lakhs which was received/commissioned (November 1973) after a delay of 9 months. An analysis of the utilisation of the new plant indicated an average output of 5.5 cu.m./hour (rated capacity : 25 cu.m./hour) as against an average output of 7.76 cu.m./hour on the old plant (rated capacity : 22.9 cu.m./hour). Further, during November 1973—September 1975 the new plant was used for only 2,132 hours as against 4,899 hours of the old plant. The Ministry of Defence stated (March 1977) that the batching plants were utilised according to the requirements at the site and optimum output as was feasible, depending upon the site conditions, was obtained.

In his report to the Ministry of Defence, the CTE stated (August 1973) that the use of a costly weigh batching plant (in lieu of normal concrete mixers) was not justified if it did not result in economy in cement through continuous control over the aggregate and the strength of cement, which, however, was not being exercised until October 1973. According to his report for 1974-75, had the mix been designed properly from the commencement of the work, Government would have saved 540 tonnes of cement (value at departmental rates : Rs. 1.19 lakhs).

(c) One of the reasons advanced by the CE (November 1971) for departmental execution of a major part of the work was the utilisation of experienced 'technical manpower' from another project. It was noticed, however, that only 93 out of a total work force of about 377 technicians (March 1976) had worked on the other project.

(d) In March 1974, the CE made a request for additional marine works in order to utilise surplus departmental capacity (including machinery) likely to become available by December 1974. Additional works of the value of about Rs. 37.07 lakhs were accordingly allocated by the Ministry of Defence in August 1975 for departmental execution. However, around the same time the CE sought the E-in-C's approval to contract out several items of work (including a part of dock floor excavation) valued at Rs 15 lakhs originally intended for departmental execution. Three months later (December 1975), he was permitted to contract out the entire excavation work and concreting of a portion of the dock floor for reasons of lack of machinery and labour, and delays in dredging.

(e) During November 1974—March 1975, the CE got 200 tonnes of billets (procured from a public sector undertaking) re-rolled into 20/25 mm round bars locally at an extra cost of Rs. 1.30 lakhs, on the ground that critical supplies had not been received from the steel mills and had to be issued for 'immediate requirements'. It was, however, noticed that during March 1974—February 1975 while 63—236 tonnes of 20 mm and 137—339 tonnes of 25 mm steel bars were held in stock, only 53 tonnes of 20 mm and 8 tonnes of 25 mm bars had been issued.

IV. *Other points of interest*

According to the orders of the Ministry of Defence, the CE was made responsible administratively to the DGNP and technically to the E-in-C. The Internal Financial Adviser (IFA) of the DGNP was also designated as the IFA of the CE. While all contracts concluded by the DGNP were scrutinised by the

IFA, the orders of the Ministry of Defence stipulated that the CE would seek the advice of the IFA where financial advice was needed. It was noticed that out of a total number of 32 contracts (value : Rs. 7.04 crores) concluded by the CE (upto May 1976), only 2 contracts (value Rs. 97.74 lakhs) were referred to the IFA.

V. *Cost of delay*

According to the administrative approval (January 1972) the dry dock was scheduled for completion by July 1975. In December 1972 the date of completion was re-assessed as June 1976, but 160 out of 282 metres of the dry dock were to be made available by December 1975, which did not, however, materialise. When the dock head wall gave way in February 1976, the Ministry of Defence was informed (March 1976) that this would not affect the date of completion of the dry dock. The progress report for April 1976 indicated, however, that the overall date of completion would be affected by the failure of the coffer dam and the head wall. In June 1976, the E-in-C stated that the dry dock could be completed only in December 1977. The Ministry of Defence stated (March 1977) that the dry dock was scheduled to be completed not earlier than June 1978. The Ministry added that "considering the difficult site conditions and maiden effort in design and construction of the largest dry dock in the country for the first time, the period of construction as now stands is realistic".

The Ministry of Defence had in April 1972 assessed that non-adherence to the target date would result in an avoidable expenditure of Rs. 2.16 lakhs per month. On this basis and on present indication of the completion date, the cost of delay would work out to nearly Rs. 52 lakhs.

The dry dock was expected to receive naval vessels from July 1976. In view of the delays and the urgency of the refit programme of the Navy (which had been planned on the original time schedule), in July 1976 the Ministry of Defence accorded a 'go-ahead' sanction for the setting up of temporary facilities (by a public sector undertaking) for the dry docking of naval vessels at a cost of Rs. 54.50 lakhs. The utilisation of the dry dock of the public sector undertaking for urgent refits of naval vessels (August 1976—March 1977) amounted to 359 docking days for which the dock rental charges alone amounted to Rs. 21.13 lakhs approximately.

21. Delay in execution and infructuous expenditure on a project

To meet urgent requirements for adequate medical facilities at a station, in December 1970 the Ministry of Defence sanctioned a project for the construction of hospital buildings (to permanent specifications) at a cost of Rs. 71.75 lakhs. The execution of the work was to be taken up in 1971-72 and completed by December 1975.

There was, however, delay in taking up the execution of the project due to revision or proposed revision on three occasions during 1972-1973 in the scope of the work (provision of three storeys instead of two for setting up an isolation ward, provision of lifts, provision of accommodation and mess etc. for the nursing officers) and due to changes in the specifications to be adopted (March 1974 and April 1976) for new constructions. As a result, even after elapse of six years since it was sanctioned, the project has made little progress (January 1977). Meanwhile, an expenditure of Rs. 3.08 lakhs had been incurred upto 1972-73 on the purchase of equipment like generating set, air-conditioners and refrigerators.

The Ministry of Defence stated (January 1977) that medical facilities to the troops (by way of an *ad hoc* hospital) were being provided in temporary hutted accommodation as an interim measure and that the 6 air-conditioners and 3 refrigerators procured against the sanctioned project (December 1970) were being utilised therein.

The sanction issued by Government in December 1970 included, *inter alia,* the provision of a 80-kw. stand-by generating set at an estimated cost of Rs. 1.44 lakhs. A 92-kw. generating set (including 2 years' requirements of spares) procured through the Director General, Supplies and Disposals (cost : Rs. 1.25 lakhs), was received in April 1972 but could neither be tested prior to acceptance (for want of foundations) nor put to use. The warranty for the generator lapsed 15 months after its delivery.

CHAPTER 5

MILITARY ENGINEER SERVICES

22. Construction of air-fields

In May 1973, Government approved the construction of 3 air-fields with a total outlay of Rs. 22 crores for completion within a period of 18 months. In June 1973 the Ministry of Defence accorded a 'go-ahead' sanction (Rs. 2 crores) for initial expenditure on the requisitioning of land, soil tests, collection of stores and other preliminary requirements. In September 1973 and May 1974 sanction for acquisition of land and administrative approval for works services were accorded as follows :

(Rs. in crores)

Air-field	Cost of land	Works services	Total
'A'	1.83*	6.16	7.99
'B'	1.10	6.67	7.77
'C'	0.04	5.80	5.84
Total	2.97	18.63	21.60

A review of the execution of the projects for air-fields 'A' and 'B' revealed the following :

Air-field 'A'

Work was commenced in November 1973 and was substantially completed (95 *per cent*) by March 1975. As against the sanction for Rs. 7.99 crores, an expenditure of Rs. 8.02 crores had been incurred up to March 1976.

*As revised

During September—November 1973 three major contracts relating to the runways ('X' : Rs. 1.03 crores), taxi-tracks ('Y' : Rs. 1.61 crores) and blast pens ('Z' : Rs. 0.69 crore) were concluded by the Chief Engineer of the Project. The first two contracts (*viz.* 'X' and 'Y') included the laying of concrete slabs. As per the terms of these two contracts the quality of the concrete mix was required to be subjected to statistical qualitative control, *viz.*, slump tests, beam tests and where it failed, to further tests by core-cutting of the slabs, and the contractors were required to arrange and supply at their own expense all equipment, labour and material for the slump and beam tests. The contractors were also responsible for rectifying any defects noticed during one year after the date of completion. The acceptance, devaluation or total rejection of the concrete slabs was to be determined on the basis of the results of core-cutting tests which were required to be carried out by the department.

The works 'X' and 'Y' were completed during December 1974—February 1975 and final bills were paid in April 1975.

The authorities confirmed in January 1976 that core-cutting tests had been duly carried out and the results had been satisfactory. During a departmental vigilance check earlier in December 1975, it came to light that core-cutting tests had not been carried out according to the contractual requirements.

A Board of Officers convened by the Chief Engineer (February 1976) to carry out further tests on the quality of work held that the earlier core-cutting tests had not been carried out properly. The Chief Engineer worked out provisional recoveries at Rs. 7.07 lakhs for contract 'X' and Rs. 3.26 lakhs for contract 'Y'. The contractors were informed in February 1976 by the Military Engineer authorities that core-cutting was in progress and recoveries on account of sub-standard work would be effected in due course.

Soon after (February 1976), the Chief Engineer reported to the Engineer-in-Chief that 104 concrete slabs relating to contract 'X' and 75 relating to contract 'Y' fell below specifications and should have been subjected to further core-cutting tests. Since the period of one year for rectification of defects was due to expire on 27th February 1976 for contract 'X' and 11th March 1976 for contract 'Y', the Chief Engineer proposed that the time-consuming and costly process of core-cutting tests be dispensed with and a written undertaking secured from the contractors for an extended warranty for defect rectification for a further period of 2 years. In March 1976, contractor 'Y' refuted the contention of the department stating that all the prescribed tests had already been carried out and work certified as complete according to the contract.

The Ministry of Defence stated (March 1977) that :

— due to non-availability of core-cutters there was a time lag of 5—12 months in conducting such core-tests and final payments had been made (April 1975) by the Garrison Engineer after satisfying himself about the quality of the work;

— according to the Chief Engineer (September 1976) the cost of core-cutting tests in respect of contracts 'X' (480 slabs) and 'Y' (1,356 slabs) would amount to Rs. 7.5 lakhs and Rs. 21 lakhs respectively; and

— in the light of information furnished by the Chief Engineer, the case was under examination by the Engineer-in-Chief.

A review of the execution of the project also revealed the following :

— though tools and plant worth over Rs. 75 lakhs were deployed, a sum of Rs. 5 lakhs on account of running expenses (cost of POL) had not been adjusted against the project account (March 1977);

— deterioration—stated to be due to heavy rains—of 6,438 bags of cement (cost : Rs. 0.82 lakh) was noticed at the time these were taken over from the Railways (June 1974);

— a hot-mix plant (cost : Rs. 2.23 lakhs) was transferred to the project from another Garrison Engineer in December 1973 and an expenditure of Rs. 0.21 lakh was incurred on repairs, POL etc. The plant could, however, not be put to any use and was subsequently declared unserviceable (June 1975);

— a batching plant (cost : Rs. 3.62 lakhs) was transferred to the project from an Engineer Park in September 1973. An expenditure of Rs. 0.36 lakh was incurred on its erection etc. and the plant was used for a total of 32 hours by the contractors;

— similarly, a soil stabiliser plant (cost : Rs. 0.87 lakh) transferred to the project from an Engineer Stores Depot in September 1973 could not be put to any use as it was not found suitable for the local soil.

Air-field 'B'

The work on this air-field sanctioned at a cost of Rs. 6.67 crores (exclusive of the cost of land) commenced in September 1973 and an expenditure of Rs. 7.42 crores had been incurred up to June 1976. The major items of work were awarded to three contractors, 'P' (runway : Rs. 1.15 crores), 'Q' (taxi-tracks etc. : Rs. 1.62 crores) and 'R' (blast pens : Rs. 0.74 crore), for completion by December 1974. The works were actually completed during September to November 1975 due mainly to delay in acquiring the land.

In regard to statistical qualitative control tests, these contracts—concluded by the same Chief Engineer—contained provisions similar to those in the contracts for air-field 'A'.

Concrete slabs under these contracts were laid during the periods indicated below :

Contract	No. of slabs	Period
'P' . . .	480	January 1974—November 1975
'Q' . .	1,200	January 1974—September 1975
'R' . . .	111	December 1973—September 1975

Beam tests conducted during August 1974--November 1975 had revealed that 318 slabs ('P' : 195, 'Q' : 78 and 'R' : 45) were sub-standard considering the tolerance level factor of 1.5. Only 34 out of 318 slabs were, however, subjected to core-cutting tests during November 1975—January 1976 - 8 to 16 months after the slabs had been cast. Further, against the contractual requirements of 3 core-cuts per slab, only 1 core per slab was cut. Meanwhile, the air-field was handed over to the users by the Military Engineer authorities in December 1975, that is, before the tests had been completed.

In February 1976, the Chief Engineer reported to the Engineer-in-Chief that the core-cutting tests for 318 slabs were likely to take about a year and would involve an expenditure of about Rs. 10 lakhs. The Chief Engineer also pointed out that the core-tests were not reliable in view of the hardness of the aggregates used in the concrete and lack of precision in the laboratory tests in field conditions. He suggested two alternative proposals :

— sub-standard slabs be devalued without subjecting them to core-cutting tests; or alternatively,

— the period for defect rectification (at the contractors' cost) be extended by 2 years, which was acceptable to the contractors.

A final decision on these proposals was held up pending examination of the matter in consultation with the internal audit authorities.

Meanwhile, during December 1975—April 1976 the 3 contractors sought arbitration on their claims aggregating Rs. 97.15 lakhs on account of :

(Rs. in lakhs)

	Value 'P'	of 'Q'	claims 'R'	Total
—Delay in handing over of the site	25.00	22.00	—	47.00
—Increased railway freight	6.60	—	0.83	7.43
—Idle labour and plant due to break-down of hot mix plant	6.70	—	—	6.70
—Increased freight on stone aggregate . . .	—	5.00	1.05	6.05
—Increased cost of POL	0.60	2.00	0.62	3.22
—Other causes	14.66	6.09	6.00	26.75
Total . .	53.56	35.09	8.50	97.15

All the three cases were referred to arbitration during June 1976.

The Ministry of Defence stated (March 1977) that :

— since core-tests had not been fully carried out by the department during the currency of the contracts, the slabs which failed in the tests could not be rejected under the contract agreement;

— the contracts catered for 7 different values of 'tolerance level factor' (TLF) without being specific as to the applicability of the particular TLF for the work in question; and

— the question whether the department could insist on the adoption of a 'TLF' of 1.5 was under examination.

A review of the execution of the project also revealed the following :

— delay in the receipt by the Chief Engineer of Engineer-in-Chief's approval to the rates in respect of the contract for provision of roads and culverts resulted in an increase of Rs. 0.82 lakh in the contract value as the contractor had meanwhile (22nd August 1974) represented for higher rates on account of increase in the railway freight;

— a new hot mix plant (cost : Rs. 5.93 lakhs) specifically procured for the project in January 1975 was commissioned in March 1975 but it was not giving satisfactory performance and an expenditure of Rs. 0.94 lakh had to be incurred on extensive repairs departmentally. Apart from the supplier's rejection of the claim for the cost of repairs during the warranty period, the contractor for whom the plant was intended also preferred a claim for Rs. 6.70 lakhs on account of non-issue of the plant on which the contractor has sought arbitration; and

— a soil stabilisation plant (cost : Rs. 0.87 lakh) was transferred to the project from another station in December 1973 but was used for only 43 hours on testing and maintenance and not for soil stabilisation.

23. Provision of water-borne latrines

In pursuance of the policy of providing water-borne sanitation, a Command Headquarters accorded administrative approval in August 1971 to the conversion, at a station, of 577 units of pan-type latrines into the water-borne type at a cost of Rs. 16.61 lakhs (including water supply and sewage disposal). The work, however, was not released due to financial stringency.

Soon after (October 1971—January 1972), the Sub-Area Headquarters sanctioned—on urgent medical grounds—the conversion of 1,494 pan-type latrines to 'everklean' type.

Subsequently, due to change in specifications (from asbestos cement septic tanks to masonry tanks) and due to initial under-estimation of quantities and rates, the scope of the work was reduced to 1,220 units as indicated below :

Date of sanction	No. of units	Amount of sanction	Actual w rk done	Value of work done	Com-pleted in
		(Rs. in lakh s)	(No. of units)	(Rs. in lakhs)	
October 1971	1,123*	2.49	734 } 115 }	3.60	May-June 1973
January 1972	371*	2.50	371	2.05	September 1972

In April 1973 the Area Headquarters sanctioned—in supersession of the earlier sanction of October 1971—the conversion of 849 units at a cost of Rs. 6.97 lakhs (including Rs. 2.19 lakhs for sewage disposal and Rs. 2.78 lakhs for water supply). The work relating to water supply was, however, not taken up. At about the same time, a covering sanction regularising the work relating to 371 units was separately issued by the Sub-Area Headquarters.

From December 1972 onwards, the user units started complaining about the unsatisfactory working of the 'everklean' ('field flush') latrines. The Presiding Officer of a Board convened by the Sub-Area Headquarters attributed (July 1973) the 'appalling conditions' to faulty design (inadequate slope in the connection pipes) and lack of attention to the work by the engineers at the time of construction.

In August 1974, the Station Health Organisation pointed out to the Sub-Area Headquarters that the work had been executed without going into the practical aspect of water-borne sanitation and that most of the latrines and their inspection chambers/septic tanks/soak wells had got choked due to poor workmanship and

*Including sewage disposal but excluding water supply.

non-availability of water. The Station Health Organisation added that the real solution lay in the construction of an entirely new system with proper water-borne sanitation.

A Board of Officers constituted by the Sub-Area Headquarters (November 1974) for examining the sewage disposal problem at the station recommended (March 1975) the re-conversion of 'everklean' latrines to 'everklean-*cum*-pan' type at an estimated cost of Rs. 0.75 lakh.

In October 1975, the Sub-Area Headquarters ordered a Court of Enquiry to investigate the circumstances of the execution of the project, and its findings are still awaited (January 1977). In the meantime, in May 1976, the Sub-Area Headquarters sanctioned the work of re-conversion of latrines to pan-type (cost : Rs. 0.74 lakh), but the sanction was cancelled about a month later.

The sanction originally accorded by the Command Headquarters in August 1971 for the conversion of 577 units at a cost of Rs. 16.61 lakhs lapsed in August 1976.

The Ministry of Defence stated (January 1977) that the work of conversion had been sanctioned only as an interim measure. The Ministry added that 'it is now felt that ultimate remedy lies in provision of new latrine seats with proper water-borne sanitation and central sewage disposal system'. The Ministry stated further that a complete scheme (cost : Rs. 3.69 crores) had been initiated for this purpose and was awaiting sanction.

24. Defective planning of a residential project

Certain quarters constructed on 32 acres of land at a station with funds provided by Defence Services were being used (since 1947) as residential accommodation for Junior Commissioned Officers/Other Ranks and were transferred by the Central Public Works Department to the Military Engineer Services in 1963.

In September 1970, a siting board (which included a representative of the local Development Authority) recommended the location of accommodation for married service officers on the above land. At an inter-departmental meeting (October 1970) it was agreed that the Ministry of Defence would justify the urgency of their requirement at this site (on land not belonging to it) before starting any construction. This was done in November 1970 and the Ministry of Defence offered to surrender, in lieu, certain other areas held by it.

In January 1971, the Development Authority advised that residential accommodation be restricted to 12.5 acres of land, the remaining area being developed for roads, schools, parks, community centre etc., and asked the Zonal Chief Engineer to approach the Ministry of Works, Housing and Urban Development for transfer of the land to the Ministry of Defence before any 'planning proposals' were worked out. Accordingly, in February 1971 the Zonal Chief Engineer requested the Engineer-in-Chief to take up the matter with the Ministry of Works, Housing and Urban Development.

However, in January 1972, the Ministry of Defence accorded a sanction for the construction of 168 units of married accommodation for officers in 12-storeyed buildings at a cost of Rs. 2.43 crores without a specific clearance from the Ministry of Works and Housing. The work was released for execution during 1972-73 and was to be completed by December 1975.

In August 1972 the existing buildings on the land were demolished to make room for the multi-storeyed buildings. In February 1973, the Zonal Chief Engineer concluded a contract for pile foundations and the work was completed in October 1973 at a cost of Rs. 14.37 lakhs.

Although tenders had been invited, the work on the superstructure could not be taken up due to a Government ban (August 1973)—on account of financial stringency—on the construction of non-functional buildings. At about the same time the Ministry of Works and Housing advised the Ministry of Defence that it should not proceed with construction on the land in question. It later transpired (December 1973) that the land was proposed to be utilised by the Ministry of Health and Family Planning for residential accommodation for an adjoining hospital. For want of a final decision the project is still held in abeyance (December 1976).

Thus, due to sanction and commencement of the work without the specific clearance of the Ministry of Works and Housing, the project has not progressed during the last 3½ years, while Government has been involved in :

- — a loss, through demolition (1972), of 26 units of residential accommodation;
- — the non-utilisation of pile foundations completed (October 1973) at a cost of Rs. 14.37 lakhs;
- — the non-utilisation of construction materials procured for the work (August 1972) at a cost of Rs. 6.91 lakhs; and
- — the avoidable expenditure upto May 1976 of Rs. 0.31 lakh on watch and ward of Government assets.

The Ministry of Defence stated (December 1976) that the need for the project having been adequately explained to the Ministry of Works and Housing (November 1970), the project was sanctioned (January 1972) as no objections had been raised by that Ministry. The Ministry stated further that the expenditure incurred on pile foundations would be reimbursed by the Ministry of Health and Family Planning if it is finally decided that the land cannot be utilised by the Ministry of Defence.

25. Leakage of new workshop buildings

In October 1961 Government sanctioned the provision of additional space for a Base Workshop at an estimated cost of

Rs. 99.06 lakhs including Rs. 44.39 lakhs in respect of certain technical buildings.

Under a contract concluded by a Chief Engineer in December 1962, the work of construction of the technical buildings was completed in January 1965. As per specifications, asbestos cement sheet gutters were used for the roof of the buildings. A Board of Officers detailed by the users in January 1966 to inspect and take over these buildings pointed out certain defects including leakage from the roof at a number of places. The buildings were, however, taken over by the users in February 1966, subject to rectification of the defects which were rectified by the contractor.

In August 1968, the users informed the Garrison Engineer that the output of the workshop was being adversely affected by continuing leakage in spite of the patch repairs. On the recommendations of a Board of Officers (May 1968), the Station Headquarters sanctioned in September 1968 the replacement of the asbestos cement sheet gutters by plain galvanised iron gutters at a cost of Rs. 0.76 lakh. Instead of executing the work as sanctioned, the Garrison Engineer concluded a contract in June 1969 for the provision of additional 'down-take' pipes to the existing gutters to provide an outlet for water. The work was completed in November 1969 at a cost of Rs. 0.90 lakh; the leakage in the buildings, however, continued.

After protracted correspondence between the users and the Station Headquarters, the latter convened another Board of Officers in June 1971. The Board recommended (September 1971) water-proofing treatment on an experimental basis initially and in the event of this treatment proving ineffective, replacement of the existing gutters and 'down-pipes' by iron sheet gutters and 'down-pipes'.

In April 1972, the Garrison Engineer concluded a contract (Rs. 0.31 lakh) for water-proofing treatment to be completed by October 1972. An 'on account' payment of Rs. 0.12 lakh was made to the contractor in October 1972. The work was, however, not completed by the contractor and the contract was terminated in January 1976.

Since leakage in the buildings persisted, the Garrison Engineer after some trials (under instructions from the Zonal Chief Engineer) reported (December 1975) that there was no alternative but to replace the existing gutters with plain galvanized iron sheet gutters. In accordance with a sanction accorded by the Sub-Area Commander in February 1976, this work was completed in July 1976 at a cost of Rs. 1.18 lakhs.

Thus, the work sanctioned in 1961 and completed in 1965 was rectified finally in July 1976 involving an additional/avoidable expenditure of Rs. 2.20 lakhs apart from loss of man-hours and damage to the equipment etc. as reported by the users.

The Ministry of Defence stated (December 1976) that the reasons for the delay (13 months) in the work being taken over by the users (February 1966) and the Garrison Engineer having provided 'down-take' pipes instead of replacement of asbestos cement sheet gutters as sanctioned, were not ascertainable at this stage.

26. Defective execution of civil works

In supersession of an earlier sanction (September 1967) a Command Headquarters accorded administrative approval in March 1970 for the provision of accommodation for a unit at an estimated cost of Rs. 18.45 lakhs. The work catered for long term requirements of domestic, storage, technical and administrative buildings. The work was technically approved by the Zonal Chief Engineer in November 1970 and a contract concluded in January 1971 for a lump sum amount of Rs. 14.91 lakhs. The work was completed at a cost of Rs. 16.54 lakhs and in September 1972 Garrison Engineer 'A' issued a completion certificate subject to rectification of some minor defects.

After rectification of the defects, the buildings were occupied by the users in November 1972. Soon after (December 1972/ March 1973), the users reported cracks as well as defects in the cement plaster on the flooring and walls in one of the buildings. While Garrison Engineer 'A' replied (April 1973) that the cracks did not in any way affect the use of the building, he issued a notice to the contractor for rectification of the defects.

On 2nd August 1973, the users reported that the varandah pillars of the building had cracked very badly. Soon after, Garrison Engineer 'B' (responsible for maintenance) informed Garrison Engineer 'A' that the rear portion of the building had settled a bit with the result that 6 pillars had developed cracks in the middle. The latter inspected the site/building and informed the users (31st August 1973) that there was hardly any question of even a slight settlement, the building was absolutely intact, and the cracks in the plaster of pillars could be due to other reasons and these were being got repaired through the contractor. Meanwhile, on 23rd August 1973 the contractor was served with another notice (within the maintenance period of one year) by Garrison Engineer 'A' to complete the repairs by 31st August 1973. However, on 1st September 1973, one of the blocks of the building collapsed resulting in loss of life and property.

The contractor, when asked again by Garrison Engineer 'A' (3rd September 1973) to rectify the defects, disowned any responsibility (24th September 1973) on the plea that the building had collapsed due to design defect and/or soil behaviour after heavy rains. The Zonal Chief Engineer, however, held (16th October 1973) that the collapse of the building was attributable to faulty construction and bad workmanship, and not due to faulty design.

Immediately after the collapse of the building, a Board of Officers was convened by the Commander Works Engineer (2nd September 1973) to examine whether all the buildings completed at the station and handed over by Garrison

Engineer 'A' during 1972 were safe for use. The Board in its report observed that there were several defects in the buildings *e.g.* innumerable cracks in walls and roofs caused by roof slabs or super-structure not having been provided as per design etc. Thereafter, the Zonal Chief Engineer ordered a Technical Board of Officers (19th September 1973) to inspect the various buildings constructed at the station and to suggest remedial measures. On the recommendations of this Board, the Zonal Chief Engineer ordered (25th September 1973) the strengthening of various buildings, which was later covered (February 1974) by an administrative approval issued by the Sub-Area Headquarters (estimated cost : Rs. 1.93 lakhs). A contract was concluded in October 1973 with another contractor and the work was completed in April 1974 at a cost of Rs. 1.63 lakhs (including Rs. 0.23 lakh on the buildings constructed under the contract of January 1971).

In the meantime, a Court of Enquiry ordered by the Divisional Commander to ascertain the circumstances of the casualties resulting from the collapse of the building recommended (September 1973), *inter alia*, that the loss of Rs. 1.41 lakhs (building : Rs. 1.34 lakhs and furniture : 0.07 lakh) in addition to that of regimental/personal property be borne by the State.

Another Court of Enquiry ordered by the Corps Commander to enquire into the collapse of the same building was held in September 1973. This was followed by another Court of Enquiry, ordered by the Area Commander in March 1974, to pin-point responsibility on the part of the engineers for the collapse of the building. According to the findings of the latter Court of Enquiry (which took into account the findings of the Court of Enquiry ordered by the Corps Commander), the building had collapsed due to the cumulative effect of the following :

— faulty soil classification for the foundation design;

— inadequate soil bearing capacity adopted in the design;

— use of bricks of crushing strength 82 kg./sq. cm. as against bricks of 105 kg./sq. cm. on which the design was based, and failure to ensure the use of best quality bricks for critical load bearing structures;

— eccentricity of foundations and poor workmanship of brick masonry in the foundations;

— eccentricity of pillars and poor workmanship of brick masonry;

— inadequate assessment of the cracks in the pillars; and

— inadequate precautions and lack of supervision of repairs to the pillars.

Based on the findings of the last Court of Enquiry, the Army Commander directed (October 1974) that disciplinary action be taken against 11 officers/subordinates and that the contractor be called upon to make good the loss of the collapsed building which was occasioned by bad workmanship/lack of supervision. He also recommended that the loss on account of damage to the building be written off as chargeable to the State. In October 1975 disciplinary action was initiated against the officials held responsible and displeasure of the Area Commander was conveyed to 2 Army officers. No recovery could, however, be effected from the contractor pending decision on two suits filed by him in a Court of law.

The Court of Enquiry ordered by the Divisional Commander (September 1973) was finalised in February 1976 when he recommended that the entire loss of Rs. 1.74 lakhs (including Rs. 0.33 lakh on account of ordnance stores and private/regimental/personal property) be borne by the State, provided that any amount realised from the defaulters/contractor/cost of retrieved material would be adjusted against this loss.

The Ministry of Defence stated (January 1977) that business dealings with the contractor were suspended for three years (*i.e.* upto 18th March 1977) and that disciplinary action against the remaining officials as well as regularisation of loss involved was being expedited.

27. Provision of accommodation for a vehicle company

In June 1965, the Army Headquarters sanctioned a work under the emergency works procedure for the provision of accommodation for a vehicle company at a station. In July 1966, a contract was concluded by a Zonal Chief Engineer (value : Rs. 20.05 lakhs) and the work was to be completed by January 1968.

The contract provided, *inter alia,* for the issue to the contractor of a stone crusher on hire for use on the work. However, the stone crusher could be made available to the contractor only for 3 days (during December 1966) after which it went out of order. In July 1968, with the concurrence of the contractor, the contract was amended retrospectively, restricting the issue of the stone crusher to 3 days. The contractor was, however, allowed 4 extensions of the completion date until July 1969 (18 months) for various reasons including non-availability of the stone crusher (4 months).

In July 1969, when the work had progressed to the extent of 66 *per cent,* the contractor suspended the work pleading duress in the amendment to the contract (July 1968) regarding the provision of the stone crusher. He also claimed Rs. 2.5 lakhs on account of increase in prices resulting from delay in the execution of the work due to the non-availability of stone metal. Soon after (August 1969), the Zonal Chief Engineer cancelled the contract and in April 1970 the residual work was awarded to another contractor at the risk and expense of the first contractor. The residual work was completed at a cost of Rs. 8.17 lakhs in June 1971, nearly 3½ years after the original schedule for completion.

Meanwhile, in January 1970, Audit detected an overpayment to the first contractor in a running account bill. In September 1970 the Department claimed a sum of Rs. 4.72 lakhs from the first contractor representing the extra cost of getting the residual work completed through another contractor, overpayment on running account, compensation for delay, etc. The contractor, however, obtained a stay order from the Court (October 1970) against the recovery of dues. In November 1970, the Army Headquarters—at the instance of the Zonal Chief Engineer—referred the matter to arbitration.

A Court of Enquiry held in April 1971 assessed the overpayment at Rs. 1.98 lakhs. In June 1972, the Corps Commander recommended, *inter alia,* disciplinary action against the Garrison Engineer and the two Engineers-in-charge (whom he held responsible for negligence and lack of supervision) and proposed that the contractor's bank guarantee for Rs. 1.40 lakhs be adjusted against the overpayment and the balance of Rs. 0.58 lakh written off. While generally accepting these findings and recommendations, the Army Commander directed (August 1972) that written warnings be issued to 4 officials (including a Surveyor Assistant), which were issued in October 1972.

In November 1974, after a lapse of 4 years, the arbitrator awarded Rs. 1.66 lakhs only against the Department's revised claim for Rs. 4.56 lakhs as detailed below :

	(Rs. in lakhs) Claimed	Awarded
Extra cost on completion of residual work	1.83	—
Overpayment on running account	1.82	1.45
Compensation for delay	0.57	—
Non-return of stores over-issued	0.21	0.21
Non-return of empty cement bags	0.13	—
Total	4.56	1.66

Besides, the contractor was awarded a compensation of Rs. 0.44 lakh against extra costs due to non-supply of the stone crusher and the bank guarantee executed by him was to be released on realisation of the Department's dues.

The Ministry of Defence stated (February 1977) that the contractor had challenged the award in the High Court (January 1975) which had granted an interim stay against encashment of the bank guarantee. Final decision of the Court is awaited.

28. Excess payment of electricity charges

The Public Accounts Committee had in paragraphs 3.181—3.189 of their 69th Report (4th Lok Sabha) dealt with a case of excess payment of electricity charges resulting from unrealistic assessment of the power requirements. In December 1967, the Army Headquarters issued instructions stressing the need for correct assessment of the peak load requirements in future, and for a review—on the basis of actual requirements— of the demands already contracted for. Mention was also made in paragraph 16 of the Audit Report, Defence Services, 1972-73, of two similar cases of excess payment of electricity charges.

In order to meet the power requirements of Army units at a station, a work of external electrification including the provision of a total transformer capacity of 1050 kva. *i.e.* 840 kw. (cost : Rs. 12.27 lakhs, later revised to Rs. 13.35 lakhs) was sanctioned by an Army Commander in September 1964. The transformer capacity of 840 kw. was envisaged to cover the ultimate power requirements keeping in view the anticipated provision of married accommodation for an Army Brigade proposed to be located at the station.

Sanction to the project for the provision of married accommodation for the units at the station planned in December 1966 was accorded by the Ministry of Defence in July 1969 (cost : Rs. 245.44 lakhs) and the work was to be completed by September 1973. A contract for a part of the married accommodation was, however, concluded in August 1971 and the work was completed in April 1974. The remaining work was held in abeyance due to financial stringency.

In the meantime, the work of external electrification was carried out by a State Electricity Board and power made available towards the end of March 1966. The actual requirements of power during 1966 ranged between 100—150 kw. The maximum demand meter having gone out of order, from August 1967 the State Electricity Board started levying charges on the basis of 840 kw. instead of at 50 *per cent* of the connected load (150 kw.) as per the general conditions of supply and schedule of tariff.

An agreement was finalised with the State Electricity Board (February 1971) for the bulk supply of power during the 5-year period from 1969-70 to 1973-74. The agreement specified the aggregate maximum contract demand in 1969-70 at 1190 kw. rising in 1973-74 to 1895 kw., covering 12 points of supply at different stations, but without indicating the contract demand for each point/station. The maximum demand relating to the station in question was assessed at 100 kw. for 1969-70 rising to 200 kw. for 1973-74 and was included in the total contract demand.

Even though the agreement was effective from January 1970 and provided that in the event of the maximum demand meter being out of order, 'average consumption for the previous months' was to form the basis of the billing (unless otherwise agreed upon), the State Electricity Board continued to charge on the basis of 840 kw. It was only in December 1971 that the Garrison Engineer questioned the basis for the charges levied by the State Electricity Board as the actual demand (since 1968-69) was of the order of only 120 kw. After protracted correspondence, the Board agreed (March 1973) to levy charges on the basis of 150 kw. (connected load) prospectively from April 1973.

The excess payment for the period August 1967—March 1973 as computed by the Garrison Engineer (September 1973), on the basis of 50 *per cent* of the connected load of 150 kw., amounted to Rs. 3.70 lakhs and the matter was yet to be resolved (January 1977).

The Ministry of Defence stated (January 1977) that the reasons for not specifying the maximum contract demand for each individual point/station were being ascertained and that the question regarding refund of excess payment was being pursued by the concerned Chief Engineer with the State Electricity Board.

CHAPTER 6

PROCUREMENT OF STORES AND EQUIPMENT

29. Heavy rejections of imported ammunition

In January 1966 the Ministry of Defence concluded a contract (followed by a supplement in November 1966) with a foreign supplier for the procurement, *inter alia*, of 47,450 rounds of an ammunition at the rate of £ 41.25 each (total cost : £ 1.957 million or about Rs. 2.98 crores). The original contract (35,650 rounds) carried a performance guarantee for 6 years for the ammunition; the supplement (11,800 rounds) provided a guarantee for 8 years for the ammunition and 4 years for a specific component. The warranty (as per the supplement) covered all defects attributable to unsatisfactory design or materials used or faults during manufacture due to unsatisfactory protection of surfaces, but was subject to specific storage conditions regarding environment, temperature, humidity and height of stacks. The buyer was required to maintain records to serve as proof, in the event of claims, that all the requirements for storage had been met.

The ammunition received in 10 lots (47,200 rounds) during May 1966—April 1967 was accepted after 'check proof' of representative samples from different lots and cleared for storage in the depots and for issue to the units.

Meanwhile, in December 1966, the Master General of Ordnance pointed out that it would not be possible to adhere to the storage conditions regarding temperature and humidity in depots/units where ammunition was stored under field conditions and as such the warranty clause would not serve any useful purpose. At the same time instructions were, however, issued to the concerned depots to regulate the temperature with the existing facilities through proper ventilation and stacking arrangements to conform as nearly as possible to the requirements of the warranty clause.

In February 1967, the Inspection Directorate was requested to conduct accelerated storage trials of the ammunition. After one year (February 1968) the Inspection Directorate reported, however, that trials could not be carried out for want of testing facilities at the concerned Inspectorate.

At a meeting held in the Ministry of Defence in May 1968, it was decided, *inter alia* :

— to provide coolers and improvised ceilings for compliance with the upper temperature limit (+ 35°C); and

— to instal automatic temperature recorders in the depots.

These decisions were taken in the context of the need for additional imports as it was visualised (December 1967) that indigenous production of the ammunition in question was not likely to materialise until April 1971. Thus, in May 1968 the Ministry of Defence concluded another contract (followed by two supplements in August 1968) with the same supplier for 41,600 rounds of ammunition at the rate of Rs. 1,095 each (total cost : Rs. 4.56 crores). This contract carried a performance guarantee (as well as the storage conditions to be observed by the purchaser) similar to that of the November 1966 supplement. Supplies against this contract were received in 9 lots (41,600 rounds) during October 1968—December 1969. The ammunition was reported (January 1969) by the Inspection authorities to be generally satisfactory on 'check proof'.

Meanwhile, in May 1969 the Army Headquarters decided to provide air-conditioned storage accommodation for the imported ammunition and necessary works services were accordingly provided as follows :

(Rs. in lakhs)

Depot	Date of sanction	Estimated cost	Actual cost	Date of completion
'A' . .	3rd January 1970	5.82	N.A.	Not yet complete
'B' . .	23rd January 1970	8.55	8.64	April 1972
'C' . .	5th February 1970	3.13	3.52	January 1972

In respect of depot 'A' while the work was completed (March 1977) to the extent of 97 *per cent,* certain spares required for efficient functioning of air-conditioning were, however, stated to be not available. As regards depot 'B', the air-conditioned storage accommodation was not utilised in one magazine while its maximum utilisation in two other magazines ranged between 25—28 *per cent* during the years 1972—1976; the remaining accommodation was utilised for storing other ammunition.

Accelerated storage trials were commenced in October 1968, and in February 1970 the storage life of the ammunition (under tropical conditions) was provisionally determined by the Inspection Directorate as 5 years.

During further tests, in February 1971, a chemical formation was detected in a certain component of the ammunition. During 1972, 14 lots were declared as unfit for use, having been affected by chemical formation/failure of the component.

In the meantime (July 1972), the supplier was asked for free replacement of 7 lots affected by chemical formation/failure of the component. The claim, was, however, rejected by the supplier (September 1972) on the ground that the warranty period had lapsed. In April 1973, the matter regarding replacement of defective lots was taken up again stating that the claim was well within the warranty period.

In June 1973, the Master General of Ordnance decided to withdraw all the affected ammunition from the units for storage in the depots. During 1975-76, the remaining 5 lots were also categorised as unfit for use. In all, 59,800 rounds (value : about Rs. 5.22 crores) were affected.

In November 1974, the supplier deputed an expert team which attributed the defect(s) to non-adherence to temperature and humidity parameters for storage as envisaged in the contracts and refused to accept liability for the replacement or rectification of the defective lots.

The repair of the defective ammunition/components is expected to be undertaken departmentally with the assistance of the Director General, Ordnance Factories at an estimated cost of Rs. 1.07 crores (June 1976).

The Ministry of Defence stated (March 1977) that :

— the requirements for maintaining the temperature and humidity parameters were known only after the contract (of January 1966) had been entered into;

— all the 19 lots were found to be affected by chemical formation which was ascribed to a manufacturing defect; and

— three types of components required for repair of the ammunition would be made available by the Director General, Ordnance Factories from May/November 1977 and the repairs undertaken thereafter.

30. Defective ammunition

Based on an indent placed by the Director of Ordnance Services, a Supply Mission abroad concluded in October 1968 a contract of the value $ 6.98 million (Rs. 5.24 crores) f.o.b. with a foreign firm for the supply, by August 1969, of 95,000 units of a particular type of ammunition. As the supplies could not materialise from the source specified, the contract was cancelled in May 1970 without any financial repercussions on either side.

A fresh contract was simultaneously concluded with the same firm for the same supplies without specifying any particular source.

The contract envisaged inspection by the firm's nominees, but the purchaser had the right to the free replacement of the stores found defective on receipt in India. The ammunition and components thereof were covered by a performance guarantee for 5 years from the date of arrival in India. In the event of defects in material or workmanship or failure in performance, the ammunition/components were to be replaced free of charge in India within 3 months of the date of the report.

The supplies were to be progressively completed by May 1971; the delivery was later extended to December 1971. The ammunition, received in India in various lots during December 1970—April 1972, was subjected to inspection. While 85,000 units were cleared during inspection, 10,000 units (value : about Rs. 55 lakhs) failed in one of the tests *viz.* the 'accuracy proof firing' test during January-February 1972. On being apprised of the results of the tests, the supplier pointed out (December 1973) certain discrepancies in the method adopted for the 'proof firing' test. While the matter was under consideration, taking into account the delay that was being caused in the utilisation of the ammunition, the fact of operational urgency and the degree of accuracy exhibited, the Army Headquarters decided (November 1974) to utilise the entire quantity of 10,000 units for training purposes.

During normal inspection of the ammunition at a depot in May 1974 some lots of the ammunition were found to have been affected by spillage of propellant and were considered defective. In June 1974 the Army Headquarters asked all the concerned depots to carry out 100 *per cent* inspection of the ammunition stocks held by them.

In October 1974, the Ministry of Defence advised the Supply Mission that some further quantities of the ammunition had been found defective and that a claim would be raised after investigation of all the lots. The quantity reported defective was 3,628 (later, in March 1976, raised to 4,817) units of ammunition (value : about Rs. 27 lakhs). On 11th July 1975, the Ministry requested the Supply Mission to arrange urgent rectification of the defective lots by the supplier.

On 31st July 1975, the Supply Mission conveyed to the Ministry the detailed procedure suggested by the supplier for repairs in India and sought confirmation whether this would be feasible/acceptable. The procedure for repairs was communicated to the concerned Inspectorate in August 1975 and simultaneously a central ammunition depot was asked to carry out the repairs. However, in the absence of the requisite tools, the repairs could not be carried out.

In March 1976, the Supply Mission brought to the notice of the Ministry that a decision on the supplier's proposal for repairs in India had been pending for about 8 months. Since the warranty period was coming to an end, the Supply Mission suggested *cent per cent* examination of the stocks so that the final figure could be projected to the supplier. Soon thereafter (April 1976), the Ministry apprised the Supply Mission of the difficulties in carrying out repairs and proposed that the supplier be asked either to carry out the repairs in India or to replace the defective ammunition. Meanwhile, the Army Headquarters instructed all the concerned depots to re-check the stocks of ammunition.

In August 1976 the Inspectorate reported hazards in the use of the ammunition and that certain lots of the ammunition had been involved in an accident damaging the weapons in certain cases. The Ministry requested the Supply Mission (September 1976) to ascertain from the supplier the probable cause of the occurrence of defects in the ammunition.

In October 1976 the Ministry reported to the Supply Mission that a total quantity of about 25,000 units had been found to be defective and required to be repaired/replaced by the supplier.

On the matter being taken up by the Supply Mission, the supplier agreed to depute a technician to inspect and advise on the repairs of the defective ammunition.

Thus, 25,000 units of ammunition (value : about Rs. 1.38 crores) received during December 1970—April 1972 still await rectification (January 1977).

The Ministry of Defence stated (January 1977) that the defects noticed in the ammunition had been brought to the notice of the supplier from time to time for their rectification or replacement. The Ministry stated further that the question of any claim on the supplier under the contract would be taken up after inspection of the defective ammunition by the supplier's representative(s).

31. Procurement of armaments

In July 1970 a contract was concluded by a Supply Mission abroad for a certain number of armaments (value : Rs. 1.25 crores) with firm 'A' (in country 'X') which was the sole agent for the sale of armaments manufactured in that country. The contract provided for payment, *inter alia,* against 'inspection and acceptance certificate' of the Army Inspector of country 'X'.

The armaments were covered by warranty against faulty/ defective supplies for a period of 18 months from their receipt in India. In addition, the firm was to furnish at the time of first shipment a bank guarantee (for 10 *per cent* of the contract value) for the performance of the armaments and the contract. The bank guarantee was to be valid for 15 months from the date of delivery f.o.b. or 12 months from the date of receipt in India, whichever was earlier.

While the first shipment was effected in July 1971, the performance (bank) guarantee for Rs. 12.5 lakhs (valid for 12 months from the date of arrival of each shipment at the Indian port) was furnished by the firm belatedly in October 1972, after total supplies had been completed, and the firm had been paid in full (July 1972).

The supplies were shipped in six lots and received at the Indian port during October 1971—July 1972. As a result of check-proof inspection during January—October 1972, 5.5 *per cent* of the supplies (value : Rs. 6.85 lakhs) were found defective and were declared unserviceable. On the basis of defects and certain discrepancies in supplies reported by the Army Headquarters during May 1972—February 1973, the Supply Mission took up the question of replacement of the defective supplies with the firm, under advice to the Indian Embassy in country 'X'.

In the absence of any response from the firm after October 1972, in February—March 1973 the Supply Mission requested the Indian Embassy to pursue the matter with the firm. While the performance (bank) guarantee (Rs. 12.5 lakhs) furnished by firm 'A' was allowed to lapse on 15th July 1973, the Embassy reported belatedly (February 1974) that the firm had ceased to exist, but that the manufacturer (firm 'B') had agreed to resolve the problems outstanding with firm 'A'.

After protracted correspondence firm 'B' agreed to the free replacement of only 0.5 *per cent* of the supplies (August 1974). Thereafter, in March 1976, the Army Headquarters approached the Director General, Ordnance Factories to explore the possibility of the defective armaments being repaired in an ordnance factory. The factory expressed its inability to undertake the repairs except for 1 *per cent* of the supplies (July 1976).

The Ministry of Defence stated (March 1977) that the question of placing an indent on the Director General, Ordnance Factories for the repair of the armaments (1 *per cent*) was under consideration of the Army Headquarters.

32. Excessive procurement of Tents Arctic

On the basis of a review (as of January 1966), in January 1967 the Director of Ordnance Services placed two indents on the Director General, Ordnance Factories for the supply (value : Rs. 1.59 crores) of 23,000 'Tents Arctic' (medium : 8,000; small : 15,000). The supplies were to be made during May 1967—June 1968. The Director General, Ordnance Factories, in turn, placed the order on an Ordnance Factory in February 1967.

In May 1967, the General Staff Branch notified the possibility of reduction in the authorisation, *inter alia,* of Arctic Tentage, and the final reduced authorisations were notified to the Director of Ordnance Services in July 1967. An *ad-hoc* spot review carried out in August 1967 by the Director of Ordnance Services (on the basis of the revised authorisation) revealed the following surpluses/deficiencies :

Tents Arctic	1968-69	1969-70	1970-71	1971-72
Medium (Nos.)	+2,231	—2,569	—4,800	—4,800
Small (Nos.)	+40,551	+20,163	—225	—20,388

In the absence of any instructions from the Director of Ordnance Services to cancel/modify the indent or, pending a further review, to hold it in abeyance, the Ordnance Factory went ahead with procurement action and placed indents for the materials required, on the Director General, Supplies and Disposals during June—September 1967. The latter, in turn, concluded contracts (value : Rs. 1.31 crores) for these materials during October 1967—June 1968, which were received by the Ordnance Factory during January 1968—April 1970.

The annual review in May 1968 (as of July 1967) revealed a surplus of 58,416 tents (medium : 5,395; small : 53,021). In October 1968, that is after the dates for delivery were over, the feasibility of cancellation of the outstanding quantities was taken up by the Director of Ordnance Services at the instance of

Audit, but the Ordnance Factory reported (December 1968) that procurement action had already been finalised and cancellation would result in heavy financial repercussions.

The next annual review in April 1969 (as of July 1968) revealed a surplus of 68,353 tents (medium : 8,922; small : 59,431). The Director of Ordnance Services asked the Director General, Ordnance Factories in April 1969, and again in August 1970, to defer or reduce the production of the tents to the minimum. The question of cancellation of the outstanding quantities was taken up again at the instance of the Ministry of Finance (Defence) in April 1972. The Ordnance Factory did not, however, agree (July 1972) on the grounds that:

— all the tents (medium) had either been manufactured (5,650) or were in an advanced stage of production (2,350);

— only 2,076 tents (small) were outstanding; and that

— cancellation would involve heavy losses to the Ordnance Factory.

In May 1973, the cost of cancellation of the latter was indicated at Rs. 8.19 lakhs.

The tents were required (as per the indents) to be delivered between May 1967 and June 1968 but were actually delivered by the Ordnance Factory as follows:

Tents Arctic	Quantity ordered	Quantity supplied	Period
Medium	8,000	7,762	1970-71 to 1974-75
Small	15,000	12,924	1968-69 to 1970-71

As against the estimated unit cost of Rs. 1,350 for tents (medium), the actual cost averaged Rs. 1,621. The actual cost of tents (small) was not available.

According to the latest annual review by the Director of Ordnance Services in September 1976 (as of July 1975) the net surplus—after taking into account the requirements upto 1979-80 would amount to 52,311 tents (medium : 9,837; small : 42,474) of the value of about Rs. 2.51 crores.

The Ministry of Defence stated (December 1976) that the delay in manufacture of tents was partly due to usual production difficulties and partly due to a decision to postpone the supplies so as to adjust the same against future demand for tents. The Ministry added that attempts were being made to utilise the surplus materials for the fabrication of other items. The Ministry added further that, based on the average issues during 1967—1975, the tents (which have a total shelf life of 15 years) would be used up in about 10 years beyond 1980.

33. Purchase of PVC-coated covers waterproof

In July 1966, the Director of Ordnance Services placed an indent on the Director General, Supplies and Disposals for the procurement, *inter alia,* of 3,640 numbers of duck-cotton covers waterproof (30′×30′) at an estimated cost of Rs. 18.20 lakhs (@Rs. 500 each), for delivery by January 1967. On 1st August 1966, the Chief Inspector of Textiles and Clothing informed the Research and Development Directorate that a firm had offered to supply PVC-coated covers (in lieu of duck-cotton) and recommended—on the basis of tests of the samples submitted by the firm—the procurement of 100 covers (18′×15′), for user trials. The Research and Development Directorate, in turn, recommended to the Director of Weapons and Equipment (8th August 1966) that 'a portion of the current demand which has been raised, say one-third' be procured in PVC-coated fabric and its performance watched for 1-2 years. The Director of Weapons and Equipment instructed the Director of Ordnance Services accordingly (16th August 1966).

While forwarding the indent (after vetting) to the Director General, Supplies and Disposals (18th August 1966), the Chief Inspector of Textiles and Clothing cited the specifications for both the duck-cotton and the PVC-coated covers and the Director of Ordnance Services desired (31st August 1966) that tenders should be called for covers of both the specifications. However, the Research and Development Directorate instructed the Chief Inspector of Textiles and Clothing telegraphically (27th August 1966) that the indent was placed for PVC-coated covers and the specification be amended accordingly. The Chief Inspector of Textiles and Clothing intimated this amendment to the Director General, Supplies and Disposals the same day. This was re-confirmed in September 1966 with a copy to the Director of Ordnance Services.

In November 1966, the Director General, Ordnance Factories offered to undertake the manufacture of the item in an ordnance factory where manufacturing facilities and capacity were available and requested the Director of Ordnance Services to withdraw the indent for procurement from the trade. Meanwhile, the Director General, Supplies and Disposals had invited tenders for the PVC-coated covers which were opened on 16th November 1966. The lowest offer for the PVC-coated covers was Rs. 795 each. On 15th February 1967, the Director General, Supplies and Disposals sought additional funds, approval to which was duly conveyed on 24th February 1967. On 28th February 1967 the Director General, Supplies and Disposals proposed to the Director of Ordnance Services that in view of the high quotations the stores might be fabricated in the ordnance factory. The latter replied that in view of the further delay anticipated, the subsisting indent should be covered on trade, and the suggestion for manufacture in the ordnance factory would be considered for future requirements.

Thereafter, in April 1967, the Director General, Supplies and Disposals concluded a contract with a firm for the supply of the full quantity (3,640 numbers) of the item at a cost of Rs. 28.94 lakhs. The supplies received during July 1967—January 1968 were issued to various units for assessing their suitability. During 1968 the units reported a number of deficiencies *viz.* the PVC covers were not as robust and durable as the canvas covers, they developed cracks and leakage during rains, the colour faded after sometime and the water-proofing wax melted in the sun.

In October 1971, the case was investigated by the Central Bureau of Investigation who suggested that the circumstances in which orders worth several lakhs of rupees were placed on the firm on a trial basis should be enquired into by the Ministry of Defence. In December 1974, the Research and Development Organisation appointed a Board of Officers to investigate the case and to report on:

— the reasons for procurement of the entire quantity of PVC-coated covers instead of one-third, and the persons responsible;

— whether the defects could have been anticipated at the time of development/testing of trade samples;

— the average life of PVC-coated covers; and

— the extent of loss.

The Board held (August 1975) that :

— the Director, Research and Development was responsible for the purchase of PVC-coated covers in bulk;

— the Assistant Director was responsible for changing the specification into PVC-coated covers for the entire quantity in the indent; and

— the Chief Inspector, Textiles and Clothing failed to prescribe the necessary tests in the specification for checking 'rot proofness'.

Later, in March 1976, the Research and Development Organisation appointed another Board of Officers to re-examine the case and to report on the following, in addition to the issues already examined by the previous Board:

— how far the PVC-coated covers had fallen short of the standard; and

— remedial measures to avoid recurrence of such defects.

The Board held (June 1976), *inter alia,* that:

— there was no direct and positive evidence to indicate why the entire quantity in the indent was diverted to PVC-coated covers;

— circumstantial evidence indicated that the quantity of PVC-coated covers contemplated for procurement was to be a portion—say one-third—of the annual demand;

— since only 44 out of 350 units had reported on the performance, the defects reported could not be regarded as representative; and

— the performance of PVC-coated covers was generally the same as that of duck-cotton covers.

The Board also pointed out that there were no adequate policy directives or guidelines for assessing performance of a developmental store on a large scale. The findings of the Board were accepted by the Scientific Adviser in August 1976.

While neither of the two Boards made any assessment of the loss involved in the transaction, the procurement of 2,427 numbers of PVC-coated covers in addition to one-third of the required quantity resulted in an extra expenditure of Rs. 19.29 lakhs on a developmental item which was later found to be unsatisfactory.

The Ministry of Defence stated (December 1976) that:

— the question of replacement or recovery did not arise as the supplies were in accordance with the contract;

— there was no warranty clause in the contract under which the firm was required to remove the defects or exchange defective covers waterproof with new ones; and

— it was not possible to assess or quantify the loss, if any.

The excess procurement of PVC-coated covers waterproof (2,427 numbers) does not appear to have been justified.

34. Avoidable expenditure on the procurement of boots

In April 1973, the Director General, Supplies and Disposals concluded separate rate contracts (valid for 1 year) with firms 'A' and 'B' for the supply of boots jungle at a rate of Rs. 18.30 per pair. The contracts stipulated that all supply orders received by firm 'A' until 27th February 1974 and those placed on firm 'B' by 25th April 1974 would be promptly complied with.

A review of the requirements of boots jungle (as on 1st October 1972) carried out by the Director of Ordnance Services in January 1973, revealed a deficiency of 2,86,150 pairs for 1973-74 and the Director of Ordnance Services sought the concurrence of the Ministry of Finance (Defence) for the procurement of the above stores. Certain queries raised by the Ministry of Finance (Defence) were replied to by the Director of Ordnance Services after nearly 7 months (August 1973).

At about the same time, an intermediate review (as on 31st July 1973)—based on an earlier year's monthly maintenance figure—revealed a deficiency of 1,91,490 pairs, and the procurement of 1,00,000 pairs was considered inescapable to meet the minimum maintenance requirement for 1973-74. This was, however, not concurred in (September 1973) by the Ministry of Finance (Defence).

Subsequently, in November 1973, a fresh intermediate review (as on 5th October 1973) indicated a minimum inescapable requirement of 1,30,000 pairs. This too was not acceptable to the Ministry of Finance (Defence) unless the requirements were of an operational nature and funds could be arranged from savings elsewhere.

Meanwhile, on 21st November 1973, firm 'B' offered—if the order was placed immediately—to supply during 1973-74, 1,25,000 pairs of the item at the contract rate of Rs. 18.30 per pair. The proposal for the procurement of 1,00,000 pairs of boots jungle (stated to be the minimum inescapable maintenance requirement) was, however, re-submitted to the Ministry of Finance (Defence) on 31st January 1974 and approved on 2nd February 1974.

In the meantime, on the basis of the annual review in January 1974 (as on 1st October 1973), additional requirements of boots jungle were assessed at 3,22,800 pairs against which the Ministry of Finance (Defence) on 6th February 1974 agreed to a total quantity of 1,86,000 pairs (1,50,000 pairs for 1974-75 and 36,000 pairs for 1975-76).

The Director of Ordnance Services (being the direct demanding officer under the terms of the rate contract) instead of placing a direct order on the firm(s) raised an indent on the Director General, Supplies and Disposals on 5th February 1974 for 1,00,000 pairs of boots jungle at an estimated cost of Rs. 18.30 lakhs and another indent on 26th March 1974 for the additional quantity of 1,86,000 pairs at an estimated cost of Rs. 34.04 lakhs (@Rs. 18.30 per pair).

The Director General, Supplies and Disposals had in the meantime initiated action to conclude fresh rate contracts for the supply of boots jungle (for 1974-75) and tenders were opened on 2nd February 1974. Firms 'A' and 'B' had quoted basic rates of Rs. 24 and Rs. 23.75 per pair respectively.

On 2nd February 1974, firm 'A' revoked its existing rate contract which was valid upto 27th February 1974. On 13th February 1974, firm 'B' also revoked its rate contract which was valid upto 25th April 1974. The Ministry of Law, whose opinion was sought regarding the validity of such revocation, held that a rate contract was of the nature of a standing offer and unless and until supply orders were placed, a binding contract did not come into force and that it was open to the parties to revoke their offers in the rate contracts before the supply orders were placed.

The rates operative in the rate contracts could not thus be made use of. The requirements for 1973-74 (initiated in January 1973) and 1974-75 (approved in February 1974) aggregating 2,50,000 pairs were finally covered on firms 'A' (1,76,000 pairs @Rs. 23.90) and 'B' (74,000 pairs @Rs. 23.70) in April 1974 involving an extra expenditure of Rs. 13.85 lakhs (30.3 *per cent*).

The Ministry of Defence stated (February 1977) that there was nothing on record to indicate why the Director of Ordnance Services did not place the orders direct on the firms instead of routing them through the Director General, Supplies and Disposals. The Ministry added that the delay was mainly due to the time taken in the verification of the points raised by the Ministry of Finance (Defence).

35. Procurement of a medical store

The Director General, Armed Forces Medical Services raised two indents on a Supply Mission abroad in April/November 1974 for the procurement of 5,250 vials of an item of medical stores at an estimated cost of £ 1,312.50 (at £ 0.25 per vial). In response to a single tender enquiry issued by the Supply Mission (January 1975), the foreign manufacturer/supplier quoted a rate of £ 1.10 per bottle. On 10th February 1975 the Supply Mission forwarded the firm's quotation, valid up to 27th March 1975, to the indentor seeking additional foreign exchange for the placement of the order. On 6th March 1975 the indentor asked a military hospital to confirm the acceptability of the item in bottles instead of vials. The hospital authorities, while communicating their acceptance on 24th March 1975, proposed a general nomenclature with a view to engendering competition in tenders. On 16th April 1975, the indentor sought the advice of the Chief Inspectorate of Materials who in the absence of any specifications did not agree to the proposed change (19th May 1975).

Meanwhile, in April 1975 the Supply Mission asked the indentor to expedite the release of additional foreign exchange as the price was likely to go up. In May 1975, the Supply Mission communicated the revised offer at £ 1.70 per bottle. The proposal for additional foreign exchange was initiated in June 1975 and was finally cleared in November 1975. A contract was accordingly placed on the firm (January 1976) for the supply of 5,242 bottles (£ 8,911) involving an avoidable expenditure of £3,145 (about Rs. 0.57 lakh).

The Ministry of Defence stated (December 1976) that the time allowed was inadequate as the suitability of the item to be supplied in bottles was to be examined in consultation with the user unit and the technical authorities.

CHAPTER 7

UTILISATION OF EQUIPMENT AND FACILITIES

36. Non-utilisation of well-boring rigs

The Military Engineer Services were holding a stock in May 1971 of 9 well-boring rigs of pre-1948 vintage (total value : Rs. 19.90 lakhs). Due to their limited capability, these rigs were not considered suitable for drilling deep tube-wells.

In June 1971, the Ministry of Defence approved the procurement of 1 (percussion type) well-boring rig at an estimated cost of Rs. 1.74 lakhs. The procurement of 4 more similar well-boring rigs at an estimated cost of Rs. 20 lakhs was separately approved in September 1971.

In January 1972, the Army Headquarters decided to procure only 2 rigs—1 percussion and 1 rotary-cum-percussion—initially and to procure the balance after the evaluation trials. Later, in July 1973, in view, *inter alia,* of the urgent requirements it was decided to procure 2 more rigs—1 of each type—without waiting for evaluation trials.

The 4 rigs were procured through the Director General, Supplies and Disposals during July 1973—April 1975 at a total cost (including tools) of Rs. 19.43 lakhs as under :

Sl. No.	Indented in	Contracted in	Cost (Rs. in lakhs)	Received in
1	June 1971	June 1972	4.86	July 1973
2	April 1972	January 1973	4.21	October 1974
3	July 1973	February 1975	6.90	April 1975
4	July 1973	February 1975	3.46	April 1975

The rigs were covered by a guarantee valid for 12 months after commissioning, which was the responsibility of the supplier.

One rig (Sl. No. 1) received at Engineer Park 'A' was transferred (July 1973) to a Military Engineer Services Division 'X' where it was required, *inter alia,* for boring 9 tube-wells to augment the water supply. Another rig (Sl. No. 2) received at Engineer Park 'B' (October 1974) was issued to Division 'Y' in January 1975.

The work of boring 3 tube-wells in Division 'X' was executed during 1973—1975 without the use of the rigs. In November 1975 the Zonal Chief Engineer informed the Engineer-in-Chief that the rigs could not be utilised for want of casing pipes, and the contractors, too, did not evince any interest in hiring them. In Division 'Y' the rig remained unutilised.

The other 2 rigs—Sl. Nos. 3 and 4—(cost : Rs. 10.36 lakhs) were received at Engineer Stores Depot 'C' (April 1975) and held until their transfer on loan to a State Government in September 1976.

It transpired that casing pipes—an essential accessory without which the rigs could not be used—were not procured along with the rigs. A stock of 1,419 metres of 6″—12″ casing pipes held in Engineer Park 'A' could also not be utilised pending a decision on their technical suitability for these rigs, which was referred to the Chief Inspectorate of Engineering Equipment in May 1976.

Meanwhile, in December 1974, the Ministry of Defence approved the procurement of casing pipes for the new rigs at an estimated cost of Rs. 7.02 lakhs. An indent for casing pipes was placed on the Director General, Supplies and Disposals in January 1975. In June 1975 the indentor was informed that supplies, as per ISI specifications, were not available indigenously, and that foreign exchange should be arranged for their import. Thereafter, the specifications for casing pipes were clarified/finalised in July 1976 in consultation with the Indian Standards Institution and the Chief Inspectorate of Engineering Equipment.

The Army Headquarters stated (May 1976) that 'presumably the casing pipes were proposed to be hired from the Government/well-boring organisations/well-boring firms or alternatively,...... the contractors ...... were to use their own casing pipes....'. The Ministry of Defence stated (January 1977) that the requisite casing pipes were neither forthcoming from the contractors nor from other departments. The Ministry added that the procurement of casing pipes through the Director General, Supplies and Disposals was taken up in September 1976.

37. Non-utilisation of a voltage stabiliser

The supply of electricity at a cantonment was being obtained by the Military Engineer Services from the State Electricity Board. On the recommendations of a Board of Officers convened by the Station Headquarters, the Area Commander sanctioned in April 1971 the provision of a 3000-kva. voltage stabiliser for the Military Engineer Services' power station at an estimated cost of Rs. 3.21 lakhs.

On the basis of an indent raised in July 1971 by the Garrison Engineer, the Director General, Supplies and Disposals concluded in July 1973 a contract with a firm for the supply of the equipment at a cost of Rs. 2.87 lakhs. The equipment was to be delivered by 15th December 1973 with a guarantee against manufacturing defects for 12 months from the date of commissioning or 18 months from the date of despatch, whichever was earlier.

Soon after the order was placed, the Garrison Engineer reported to the Commander Works Engineer (August 1973) that, in view of very little variation in voltage, the equipment was not necessary and recommended cancellation of the order. He added that it was necessary to provide a 'by-pass' arrangement with the voltage stabiliser in order to avoid shut-down in case the stabiliser went out of order. The Commander

Works Engineer did not, however, accept (September 1973) the suggestion for the cancellation of the order on the grounds, *inter alia,* that

— the contention that there was very little variation in voltage was not correct, and

— it would not be correct to cancel the order after the contract had been concluded by the Director General, Supplies and Disposals

and directed that expenditure on the 'by-pass' arrangement might be met out of the provision for contingencies and the permissible excess of 10 *per cent*. At about the same time his superior, the Zonal Chief Engineer, issued instructions, on grounds of financial stringency, that the equipment be procured for payment in 1974-75. On the advice of the Commander Works Engineer, agreement was reached with the firm (October 1973) on the deferment of the delivery to 30th April 1974.

In March 1974 the Garrison Engineer reiterated his suggestion of August 1973 and pointed out that:

— the work had not been properly planned;

— the fluctuation in the voltage did not normally go beyond the permissible limits; and

— the 'by-pass' arrangement was estimated to cost Rs. 1 lakh.

Thereafter, the Commander Works Engineer enquired (26th March 1974) from the Director General, Supplies and Disposals if the order could be cancelled on grounds of economy. The Director General, Supplies and Disposals took up the matter with the firm who did not agree to cancellation (20th April 1974) since the equipment was ready and had been offered for inspection on 3rd April 1974. In view of this, the Commander Works Engineer confirmed on 14th May 1974 that the voltage stabiliser might be supplied. The delivery date was also extended to 31st July 1974 at the request of the firm.

The equipment was received in August 1974 in damaged condition; the transformer oil had partly leaked out and some parts were missing. The firm was apprised of this position and it offered to carry out the rectifications (August 1974). However, the equipment had neither been repaired by the firm nor commissioned so far (February 1977) *i.e.* 2½ years after its delivery.

In the meantime, the Commander Works Engineer initiated a revised estimate (September 1974) for Rs. 4.82 lakhs for the equipment as well as the 'by-pass' arrangement and the revised estimates are yet to be sanctioned (February 1977).

The Department of Supply stated (February 1977) that the delay of 2 years in concluding the contract was due to a number of technical clarifications after the tender had been received, revision of specifications and negotiations with the single tenderer.

The Ministry of Defence stated (February 1977) that the equipment was ordered when the voltage fluctuations were beyond the permissible limits and that, notwithstanding the subsequent improvement, the voltage stabiliser and the 'by-pass' arrangement (omitted earlier through oversight) were considered necessary for the proper functioning of the installation.

38. Non-utilisation of weigh-bridges

Mention was made in paragraph 14 of the Audit Report, Defence Services, 1961 of five 60-ton weigh-bridges (cost : Rs. 1.25 lakhs) purchased from a firm in 1957 for use in Engineer Stores Depots/Parks for weighing wagon and lorry loads, which had been lying unutilised in stock.

The Public Accounts Committee (1961-62) had commented on the delay in the installation of these weigh-bridges in para 25 of their 43rd Report (2nd Lok Sabha). The installation of these weigh-bridges at 5 stations was sanctioned by the Ministry of Defence in February 1959 at a cost of Rs. 3.27 lakhs (inclusive of the cost of weigh-bridges) which was later (November 1962) revised to Rs. 2.79 lakhs for 4 stations. A review of the further progress made in regard to the installation/utilisation of the weigh-bridges at the 4 stations revealed the following:

Station 'A'

The weigh-bridge was installed at the Engineer Park in February 1963. It was re-calibrated to the metric system in April 1964 and linked with the rail track in August 1964. In April 1965, while testing the weigh-bridge, the Railway authorities found that the machine was showing incorrect weight on heavy loads. The firm, when asked to repair the weigh-bridge, stated (August 1965) that the working parts were jammed due to its not having been used, and recommended its overhaul.

In February 1967, the Garrison Engineer reported to the Commander Works Engineer that the weigh-bridge (intended for 4-wheeled wagons) would need modification to cater for 8-wheeled wagons. Since this would have required replacement of the weigh-bridge, the matter was not pursued.

The repair and overhaul of the weigh-bridge was completed in July 1970 and a test certificate issued by the Railway authorities in August 1971. The weigh-bridge could not, however, be commissioned due to a dispute about the payment for the Railway staff to be employed for weighing the wagons.

The weigh-bridge involving a total expenditure of Rs. 0.81 lakh is thus yet to be put to use, 19 years after its procurement. Maintenance and interest charges for the loop line at the rate of Rs. 2,772 per annum are meanwhile being paid to the Railways since 1963.

Station 'B'

The weigh-bridge installed at the Engineer Park (sanctioned cost : Rs. 0.43 lakh) was commissioned in November 1961 but went out of order in September 1966. The firm was asked to carry out necessary repairs which were, however, held up due to a dispute over the payment of firm's bill for Rs. 1,750 (March 1972). Necessary repairs (cost : Rs. 7,420) were carried out and the weigh-bridge re-commissioned in December 1973.

Station 'C'

The weigh-bridge installed at the Engineer Stores Depot in January 1963 (sanctioned cost : Rs. 0.98 lakh) could not be commissioned due to a dispute in regard to the payment for Railway staff to be employed for weighing the wagons. Due to the closing down of the Engineer Stores Depot, the weigh-bridge was transferred in April 1976 to another Stores Depot where it was awaiting installation (December 1976).

Station 'D'

The weigh-bridge was installed at the Engineer Stores Depot in August 1962 (cost : Rs. 0.34 lakh). In March 1965 it was re-calibrated to the metric system. In October 1966 the Railway authorities issued the test certificate. However, due to delay in reaching an agreement with the Railway authorities on the terms and conditions for the use of the weigh-bridge, it could be put to use only from 30th January 1973. With the closing down of the Engineer Stores Depot in March 1976, the weigh-bridge was awaiting disposal (November 1976).

The Ministry of Defence stated (December 1976) that the delay in the installation and commissioning of the weigh-bridges concerned the Railways as well, and the matter would require further investigation.

39. Installation of geysers

In October 1970 Government sanctioned the provision of geysers in the quarters of married and single officers. A Board of Officers was convened in February 1972 to determine the requirement of geysers at 5 stations. Although it was known even then that no piped water supply was available at one of the stations, the Board of Officers had stated that all facilities existed for providing geysers at that station. In October 1972, the Sub-Area Commander sanctioned the provision of 76 geysers at that station together with underground and overhead tanks and semi-rotary hand-operated pumps (to be operated under the users' arrangements) as no piped water supply was available.

Seventy-six geysers were procured by the Military Engineer Services in February 1973 and their warranty period expired in February 1974. In March 1974 a contract was concluded by the Garrison Engineer for the installation of these geysers and related services and this work was completed in August 1974 at a total cost (including the cost of geysers) of Rs. 1.49 lakhs.

In June 1975, the Garrison Engineer stated that these geysers, which could not be put to use because of scarcity of water at the station, would be put to use after the execution of a water supply project recommended by a Board of Officers (held in February 1975) at an estimated cost of Rs. 11.92 lakhs.

The Ministry of Defence stated (December 1975/January 1976) that water was available at the station and the users had categorically confirmed that the geysers were being used.

However, the Garrison Engineer stated in July 1976 that:

— the geysers were being used as and when required;

— since no water supply scheme had come through till then, water was manually brought to a 400-gallon tank kept at the ground level and then pumped manually with a semi-rotary pump to an overhead tank of 1,800-litre capacity under the units' own arrangements; and

— in winter the water was collected in the lower tank either by melting snow or by collecting water from nearby springs.

It was later clarified (August 1976) that 20 persons (troop labour) were deployed for this purpose.

The Station Commander, however, informed Audit in August 1976 that the geysers were not in use since their installation, no person was deployed/employed for filling of water tanks, and that the system was not being used. The Station Commander added that since the geysers were not being used, fuel was being provisioned for officers for bathing purposes.

The Ministry of Defence stated in January-February 1977 that the geysers might not have been used regularly due to the manual effort involved in carriage and pumping of water to the overhead tank. The Ministry stated further that with the execution of the water supply scheme in 2 phases (phase I sanctioned in October 1976 at an estimated cost of Rs. 1.63 lakhs to be completed by May 1977 and phase II yet to be sanctioned), the geysers would be connected to piped water supply and used 'more regularly'.

40. Non-utilisation of a machine

In February 1965 Government sanctioned the provision—among other items of equipment—of a plate bending and straightening machine for use in a Naval workshop. In June 1965 the Naval Headquarters placed an indent for this machine (estimated cost : Rs. 0.50 lakh) on the Director General, Supplies and Disposals. Since a composite plate bending and straightening machine was not available in the country, in October 1966 the Naval Headquarters proposed the procurement of two separate machines *viz* a plate bending machine and a plate straightening machine. In October 1967 the Director General, Supplies and Disposals concluded a contract with a firm for the supply of these two machines at a cost (exclusive of sales tax) of Rs. 0.75 lakh and Rs. 1.05 lakhs respectively.

The procurement and non-utilisation of the plate bending machine was commented upon in paragraph 42 of the Audit Report, Defence Services, 1974-75. The contract for the plate straightening machine stipulated delivery by 15th February 1968. At the firm's request the delivery period was extended on

8 different occasions between May 1968 and June 1970, the Director General, Supplies and Disposals retaining the right, however, to levy liquidated damages for delayed supplies. The machine was finally despatched by the firm in June 1970 after a delay of 28 months and a token amount of Rs. 2,940 was levied by way of liquidated damages.

The machine received in July 1970 is still awaiting installation. The Ministry of Defence stated (January 1977) that the machine would be put to use on the commissioning of the Naval dry dock (December 1977).

CHAPTER 8

ARMY

41. Heavy discharge of recruits at a Regimental Centre

Regulations require a recruiting officer to ensure the selection of the right type and best quality of recruits for enrolment. To that end, every recruit approved in the preliminary inspection is required to be interviewed individually for a detailed assessment, *inter alia,* of his motivation and suitability for the armed forces. Those finally selected are medically examined for their physical fitness.

After ensuring that the recruit understands the implications of all conditions of service, an undertaking is obtained of his willingness to put in the prescribed years of service.

After enrolment, the recruits are put through training and periodical tests in order to assess their progress and to weed out those found unsuitable:

— Company Commander's test	—12th week
— Training Officer's test	—24th week
— Commandant's test	—36th week

Any recruit failing in any of these tests is relegated to 'lower week' for a maximum period of 3 months, and if he fails to make the grade he is discharged.

A review in Audit of the intake and discharge of recruits in an Army Regimental Centre over a period of 3½ years revealed an abnormal spurt in the rate of discharge in 1975 and thereafter:

Year	Intake during the	Discharge year	Percentage of discharge
	No.	No.	
1973	522	15	2.9
1974	1,067	10	0.9
1975	838	202	24.1
1976 (up to June)	498	285	57.2

It may be mentioned that the percentage of discharge to intake during the same period at another Centre varied between 0.3 and 4.2 only.

Of the total intake of recruits for 1975 and January—June 1976, 695 (about 52 *per cent*) were enrolled during two months (December 1975 and January 1976), of which 202 recruits (about 29 *per cent*) were discharged up to June 1976.

An analysis by Audit of the reasons for the heavy discharge of recruits during the period under review revealed that 265 recruits (52 *per cent*) were discharged at their own request (on compassionate grounds) and 226 recruits (44 *per cent*) on ground of unsuitability :

	1973	1974	1975	1976 (up to June)	Total
—at own request on compassionate grounds	1	1	54	209	265
—unlikely to become an efficient soldier	8	2	142	74	226
—other reasons, e.g. medical grounds, undesirable, etc.	6	7	6	2	21
	15	10	202	285	512

The recruits discharged during January 1975—June 1976 at their own request (54 *per cent*) and on ground of unsuitability (44 *per cent*) had served for periods ranging up to and over 12 months as under :

	At own request			Unsuitability		
	1975	1976	Total	1975	1976	Total
Up to 3 months	5	68	73	2	—	2
4-6 months	21	129	150	47	51	98
7-9 months	16	7	23	43	15	58
10-12 months	8	—	8	45	—	45
Over 12 months	4	5	9	5	8	13
	54	209	263	142	74	216

This involved the State in an expenditure of Rs. 9.07 lakhs.

The Ministry of Defence stated (December 1976) that most of the discharges 'at own request' were effected within the first six months as the new recruits found the 'going too tough'. As regards discharges on the ground of unsuitability, the Ministry stated that bulk of the discharges took place after the Company Commander's test held after 12 weeks of training.

42. Non-utilisation of married accommodation

The key location plan for certain Army units to be located at a station was approved by Government in October 1968. Thereafter, for the provision of married accommodation for the Army units, 5 separate recce-*cum*-costing and siting boards were convened in September 1969—one for each category of personnel *viz.,* Officers, Junior Commissioned Officers, Havildars, Other Ranks and Non-combatants. Based on their recommendations, the Command Headquarters issued 5 separate sanctions on 'station' basis—one for each category of personnel (each limited to Rs. 20 lakhs, being the ceiling for sanction to individual works), during January 1970, for an aggregate amount of Rs. 91.01 lakhs.

Later, these sanctions—except that for 24 officers' quarters (Rs. 19.72 lakhs)—were cancelled (February 1970) and 4 fresh sanctions were issued during February—June 1970, on the basis of Army units, for the construction of a total of 264 quarters at an aggregate cost of Rs. 71.73 lakhs. In all, 288 quarters were sanctioned as detailed below :

Date of sanction	Cost		No. of quarters		
	Original	Revised	Officers	Others	Total
	(Rs. in lakhs)				
14th January 1970 .	19.72	19.98	24	—	24
27th February 1970	19.64	19.99	—	78	78
21st March 1970 .	18.68	18.74	—	79	79
11th April 1970 .	18.10	18.19	—	36	36
16th June 1970 .	15.31	17.40	—	71	71
	91.45	94.30	24	264	288

The work was executed through contracts placed for the most part during 1970-71. Meanwhile, the units for which the married accommodation was intended moved out of the area during 1971. The construction of all the 288 quarters (excluding external services) was completed by March 1973 at a cost of Rs. 57.81 lakhs. Of these, on an average about 125 quarters (officers: 15; others: 110) representing 43 *per cent* of the married accommodation constructed remained vacant during March 1973 to September 1976.

An expenditure of about Rs. 0.49 lakh was incurred on the watch and ward of the vacant buildings (September 1976). Besides, furniture of the value of Rs. 0.31 lakh (out of that valued at Rs. 1.42 lakhs procured in March 1972) was lying unutilised (February 1977).

The Command authorities stated (July 1974), *inter alia,* that the Army personnel located at the station were not bringing their families due to inadequate educational/shopping/recreational facilities and exorbitantly high cost of living. It would appear, therefore, that these factors were not given due consideration at the time sanction was accorded for the provision of married accommodation.

The Ministry of Defence stated (February 1977) that consequent on the recent move of certain Army units to this station, about 50 to 60 *per cent* of the officers' quarters and about 80 *per cent* of the other quarters and most of the items of furniture were expected to be utilised.

43. Avoidable expenditure on the acquisition of land

In September 1960, Government sanctioned, *inter alia,* the acquisition of 946.70 out of 961.57 acres of land requisitioned (in 1948) at a station for construction of accommodation for Army units. The land was acquired during 1964—1969 at an approximate average cost of Rs. 2,200 per acre.

The remaining 14.87 acres of the requisitioned land consisted of 10.66 acres of vacant land and 4.21 acres with buildings and assets. The vacant land was not considered suitable for the project as the area was surrounded by civil construction. In August 1968, the Sub-Area Commander recommended that the vacant land (for which a rental compensation of Rs. 947 per annum was being paid) be de-requisitioned. However, on the basis of a statement made by the Army authorities at a meeting held in the Ministry of Defence in February 1969 that the land was being utilised by the Army and that the entire area of 14.87 acres was required for the key location plan at the station, it was decided to acquire the same. Accordingly, in March 1969, Government sanctioned acquisition of the land at a cost of Rs. 1.49 lakhs (Rs. 10,000 per acre). In May 1971, the State Government issued a notification under the Requisitioning and Acquisition of Immovable Property Act, 1952 vesting the property absolutely in the Union Government. In October 1972, the Special Land Acquisition Collector recommended a compensation of Rs. 8.13 lakhs for the land. This was considered to be on the high side by the Deputy Director, Military Lands and Cantonments who, in March 1973, proposed a compensation of Rs. 6.60 lakhs (average cost : Rs. 44,385 per acre) and sought revised sanction for the payment of compensation.

While this matter was under consideration, the Command Headquarters intimated (January—April 1974) that the land, surrounded by civil construction, was not suitable, being inadequate for the Army's requirements and that 10.66 out of 14.87 acres might be given to a local house building society. However, the Army Headquarters proposed (September 1974) that the land might be given to the State Government in exchange for land of equal value. Efforts made to secure the former owners' acceptance to the re-conveyance of the land also did not succeed. The Ministry of Law, when consulted, advised (February 1975) that it was not legally possible at that stage to go back on the acquisition. Consequently, in June 1975, Government sanctioned the payment of the revised amount of compensation of Rs. 6.57 lakhs.

The Ministry stated (March 1977) that the land had been utilised off and on by units in transit and local units and that the land was proposed to be utilised for the construction of married accommodation to be sanctioned in 1977-78/1978-79.

44. Requisitioning of hotel buildings

A. Land measuring 8.09 acres at a cantonment was leased out from July 1934 to an individual for the construction of a hotel for service officers, for an initial period of 30 years, on an annual rental of Rs. 250 (later increased to Rs. 286 from April 1943). In terms of the lease deed the hotel was required to be kept in good condition and fit for occupation.

In 1947 the hotel building was declared as 'evacuee property' and, in December 1957, it was sold in public auction to 13 co-purchasers for Rs. 2.21 lakhs.

In March 1963 sanction was accorded by the Area Headquarters for the requisitioning of the hotel at an annual rental compensation of Rs. 12,000. The premises had earlier been inspected by the Sub-Area Commander and the Garrison Engineer and it was found that the building needed repairs to make it habitable. The cost of repairs was estimated at Rs. 31,504 (March 1963). Thirty (out of 32) suites together with servant quarters and garages were requisitioned by the District Magistrate (May 1963). The annual rental compensation for the requisitioned premises was fixed (March—June 1964) by the District Magistrate at Rs. 40,002 (excluding Rs. 3,318 for maintenance and Rs. 1,320 for scavenging charges), though the Cantonment Board had assessed the annual rental of the property for purposes of local taxes at Rs. 12,000 per annum.

In November 1963, the Garrison Engineer reported that almost all the requisitioned suites required extensive repairs and were not habitable. The 30-year lease for the land expired on 30th June 1964, and only one of the 13 co-lessees came forward (September 1964) to renew it. In January 1965, the Area Headquarters recommended to the Command Headquarters that either the hotel building be de-requisitioned or, alternatively, approval be accorded for carrying out repairs to the building at a cost of Rs. 36,510. The Command Headquarters, however, did not agree and decided instead (February 1965) to acquire the hotel building in consideration of the high recurring rental payments.

The requisitioned suites never remained totally unoccupied according to the Ministry, as some of the suites, though declared dangerous and unfit for occupation, were occupied by some of the officers at their own risk. Between August 1968 and February 1969, however, they remained totally unoccupied. Eight suites which were unfit for occupation continued to be totally unoccupied even after February 1969.

In September 1969 the Ministry of Defence sought the advice of the Ministry of Law on the question of exercising the right to 're-enter' the premises on the ground that the lease for the land had not been renewed by the lessors and the hotel was not kept in good condition.

The Ministry of Law opined (October—December 1969) that the Army authorities having continued to pay the rental compensation (for the requisitioned property) upto September 1968 (*i.e.,* beyond the expiry date of the original lease for the land), the co-lessees were deemed to be 'tenants holding over'. The Ministry added that, in the event of a breach of the terms of the lease in regard to proper maintenance of the building, forfeiture was possible only after serving a notice on the co-lessees and giving them an opportunity to rectify the breach in accordance with the procedure laid down in the Transfer of Property Act (1882). The Ministry added further that it should also be possible to effect a proportionate reduction in the rental compensation in respect of suites which were not habitable.

During 1970—1972 repairs to the hotel building were carried out by the Military Engineer Services out of the funds retained (for maintenance) and made available (Rs. 16,991) by the civil authorities. Eight suites could not, however, be made habitable due to paucity of funds.

In February 1972, the Ministry of Defence sanctioned the acquisition of lease-hold rights of the land together with the hotel building at an estimated cost of Rs. 4.34 lakhs. However, soon after (March 1972), it was decided by the Ministry first to renew the lease (retrospectively from 1st July 1964) for a further period of 30 years at an enhanced rental (of Rs. 429 per annum) and to initiate the acquisition proceedings thereafter. The lease was renewed in October 1976 and the acquisition proceedings were initiated in November 1976.

A sum of Rs. 4.04 lakhs (representing 'on account' payment at 80 *per* cent of rental compensation) for the period May 1963—March 1976 was paid to the owners. The proportionate rental for the suites that could not be put to use together with the expenditure on watch and ward (August 1964—March 1976) amounted to about Rs. 1.69 lakhs.

The Ministry of Defence stated (January 1977) that some of the suites remained un-inhabitable due to lack of repairs and paucity of funds. The Ministry added that since the decision to renew the lease and to acquire the lease-hold rights on the property had been taken almost simultaneously, it was decided to renew the lease before acquiring the lease-hold rights and that the renewal of lease had been delayed due to administrative reasons and not due to any delay on the part of the owners.

B. The ownership of all land within cantonment limits vests in the Government. Any grant to occupy land in the cantonment does not confer any property rights on the lessee and is resumable at one month's notice. In such a case, the estimated value of buildings erected thereon is payable to the owner by way of compensation.

In October 1962, the owners of a hotel building situated in a cantonment volunteered to rent it out to the Army authorities for use as residential accommodation for the duration of the emergency and 12 months thereafter. The building, then on lease on a monthly rental of Rs. 1,600, was the subject of civil litigation between the lessee and the owners. The owners suggested (January 1963) that the whole property be requisitioned under the Defence of India Act, 1962.

In February 1963 the Area Headquarters sanctioned the requisition of the building at a rental compensation of Rs. 22,800 per year (or Rs. 1,900 per month) in order to provide accommodation to separated officers' families. In March 1963 the Collector issued an order requisitioning the property, and possession of the building (comprising 45 suites and some other rooms) was taken over, in stages, during October 1963—May 1964. In the meantime (November 1963), the dispute between the owner and the original lessee was settled by compromise whereby the latter surrendered his tenancy rights.

Thirty-one out of the 45 suites were converted into 15 married officers' quarters instead of separated officers' family accommodation as originally envisaged. As regards the remaining 14 suites (taken over in February 1964) the Garrison Engineer reported (April—August 1964) to the Sub-Area/ Station Headquarters that these were in a dilapidated condition, not fit for occupation, and required repairs to the tune of Rs. 65,600. The owners, however, asked (September 1964) for their de-requisitioning without any claim for rent for the period these had remained under requisition. In April 1965 the owners informed the Military Estates Officer that unless these 14 suites were de-requisitioned within 3 months, their earlier offer of September 1964 would be treated as cancelled.

In June/July 1965, the Collector fixed the quantum of rental compensation payable to the owners at Rs. 933 per month (exclusive of taxes and rent of furniture) and rejected the original lessee's claim for loss of business. Since the owners and the original lessee did not accept the decision of the Collector, in March 1966 the matter was referred to an arbitrator appointed by the State Government in terms of Section 30 of the Defence of India Act, 1962.

Meanwhile, in November 1965, the owners reiterated their earlier request for the de-requisitioning of 14 dilapidated suites. On the basis of a sanction accorded by the Area Headquarters these suites were accordingly de-requisitioned by the Collector in December 1965. The owners took possession of the de-requisitioned portion in January 1966 and, after repairs, let it out on a monthly rental of Rs. 3,000.

In November 1967, 8 more suites (4 married officers' quarters) were reported to be in a dangerous condition, requiring extensive repairs, and in November 1969 it was decided by the Army Headquarters, with the approval of the Ministry of Defence, to de-requisition these suites subject to the owners agreeing to a proportionate reduction in rental compensation. In December 1969, the Collector issued the order for their de-requisitioning without specifying the reduced rental compensation payable for the remaining property. However, later in September 1970, the Ministry of Defence issued instructions that de-requisitioning be held in abeyance.

Meanwhile, the arbitrator, in his award (November 1969) assessed the rental compensation for the whole property at Rs. 6,997 per month from the date of requisition (October 1963/May 1964) to 30th December 1965 and at Rs. 5,100 per month thereafter. The arbitrator also awarded a compensation of Rs. 5,000 to the original lessee for the loss of business. Thus rental compensation amounting to Rs. 0.42 lakh had to be paid in respect of 14 dilapidated suites till their de-requisitioning in December 1965. An appeal against the arbitrator's award was rejected in July 1970 by the High Court.

In November 1970, the Ministry of Defence sanctioned the resumption of a portion (2.093 acres) of the site of the building (pertaining to 17 suites under requisition) on payment of compensation of Rs. 0.66 lakh for the structures standing thereon. On 1st February 1971, the Ministry issued the notice to the owners for resumption and symbolic possession was taken, after 30 days, on 2nd March 1971. The owners filed a writ petition in the High Court against the resumption order and secured an interim injunction for the maintenance of *status quo* (October 1975). However, pending final disposal of the petition, rental compensation—from the date of resumption (March 1971) to September 1975 at the (proportionate) rate of Rs. 734 per month for the property still under requisition and from October 1975 at the rate of Rs. 5,100 per month for the property under requisition/resumption—was to be deposited in the Court.

The proportionate rental compensation in respect of the various suites for the period they remained vacant (upto September 1976) amounted to Rs. 2.65 lakhs. Of the 15 quarters for married officers, 6 remained vacant continuously for 98—107 months during November 1967—September 1976 while 8 others for 21—36 months during July 1968—March 1971.

The Ministry of Defence stated (February 1977) that:

— while no Board of Officers was detailed to inspect the building before it was requisitioned, the premises had been inspected by the Military Engineer Services and the medical authorities;

— eight suites (4 married officers' quarters) which were declared dangerous for occupation by the Garrison Engineer (November 1967) could not be de-requisitioned as on another similar occasion the owners had not agreed to accept *pro-rata* reduction in compensation. These as well as 6 other suites (2 married officers' quarters) were being used for storage of cement/stores; and

— the loss had been caused mainly by the award of the arbitrator who did not take into account the undertaking given by the owners not to claim compensation for suites which were later found to be unfit and had to be de-requisitioned.

CHAPTER 9

NAVY

45. Utilisation of a Naval jetty

Mention was made in paragraph 23 of the Audit Report, Defence Services, 1968 of a naval jetty completed in April 1966 (cost : Rs. 2.04 crores), which could only be put to limited use by the naval vessels due to accumulation of silt in the basin. In September 1969 the Ministry of Defence had informed the Public Accounts Committee that on receipt of the recommendations of the Central Water and Power Research Station, capital dredging would be carried out in the basin and once the dredging was completed the jetty would be put to full use. The 99th Report (4th Lok Sabha) of the Public Accounts Committee also refers.

Earlier in November 1966/July 1969, the Central Water and Power Research Station had recommended, *inter alia,* the provision of a flushing channel to serve as a silt trap—to flush the silt out of the basin. This recommendation could not, however, be implemented due to the existence of rock and the non-availability of a suitable dredger. In June/July 1969 the dredging of the channel (about 3,500 ft. long and 6 ft. deep) was entrusted to a foreign firm (on a barter basis), but dredging had to be stopped when rock was encountered after 1,800 ft. During January—March 1970, a portion of the basin was dredged with a Naval dredger. The Public Accounts Committee was informed by the Ministry in August 1970 that after initial dredging upto 15 ft. the jetty had been put to use from April 1970. However, siltation in the basin continued and in 1971 the depth was reduced to 8 ft., seriously impairing the use of the jetty.

In July 1971 the Naval Command Headquarters set up a study team to recommend measures for the effective use of the jetty. The study team observed that the flushing channel (as suggested by the Central Water and Power Research Station) would not be effective unless it was extended to the other side of the jetty, and suggested, instead, an alternative proposal involving an opening of about 400 ft. to be cut on the jetty itself to allow the natural flushing out of silt. In September 1971 the Central Water and Power Research Station pointed out that in the absence of the flushing channel recommended by them earlier the siltation pattern had changed considerably, and that major dredging would, therefore, have to be undertaken along with the construction of the flushing channel.

A Board assembled in September 1972 to consider the feasibility of cutting a flushing channel by controlled blasting of rock recommended (May 1973) that :

— due to the changed conditions at the site, there was no need for excavating a flushing channel;

— capital dredging be restricted initially to provide a mooring pool upto a depth of 10/12 ft.;

— the Central Water and Power Research Station be asked to carry out a study of the anticipated pattern of siltation after the provision of a mooring pool;

— the practicability of deepening the pool upto 22 ft. should be considered later.

In May 1974, the Central Water and Power Research Station reported to the Naval Headquarters that on the basis of model studies a depth of 12 ft. in the limited mooring pool would involve 0.88 million cubic yds. of capital dredging (later estimated at Rs. 1.05 crores) and 0.30 million cubic yds. of maintenance dredging (Rs. 36 lakhs per annum) and reiterated its earlier suggestion for the provision of a flushing channel which would reduce the maintenance dredging.

The Ministry of Defence stated (May 1976) that with a view to finding a permanent solution by providing, if necessary, a flushing channel, the Central Water and Power Research Station had been asked to carry out fresh model tests and furnish a report. The Ministry stated further (March 1977) that model tests were being carried out by the Central Water and Power Research Station and their firm recommendations were awaited.

While the utilisation of the jetty continues to be restricted to barges—the required draught being maintained through departmental dredging by the Naval Dockyard—in November 1971 it was noticed that the jetty itself had developed serious defects. Boards of Enquiry convened by the Admiral Superintendent, Naval Dockyard/Naval Command in December 1971/December 1972 reported:

— large cracks ranging from 3 ft. to 7 ft. on the beams;

— corrosion in most of the bearing plates and cross beams, rendering the rocking action ineffective;

— corrosion in reinforcement and deterioration of concrete in some of the cross beams making them dangerous;

and attributed these to the

— unsuitability of the original specifications (provided by the Engineer-in-Chief, Army Headquarters) for marine structures; and

— failure and negligence on the part of the Garrison Engineer and the Naval Armament Supply Officer to properly inspect and maintain the jetty.

In March 1973 the cost of repairs to the jetty was estimated by the Garrison Engineer at Rs. 19.07 lakhs. Further, in November 1974 the Garrison Engineer noticed a tilt in the caisson of the jetty and widening of the expansion joints, further restricting the use of the jetty. A study of the design calculations by the Zonal Chief Engineer attributed the tilting/sinking of the jetty to defective design. While no remedial measures have yet been decided upon, the Zonal Chief Engineer ruled out any dredging beyond 12 ft.

The Ministry of Defence had informed the Public Accounts Committee in September 1968 that the original proposal for the jetty included a provision of Rs. 13.22 lakhs for capital dredging assessed at 0.32 million cubic yds. (—) 22 ft. in the mooring pool and (—) 10/12 ft. in the anchorage/turning circle. The quantity of capital dredging involved is now assessed at 5.24 million cubic yds. (February 1976) which is mainly due to continued siltation, and which at rates prevailing in October 1974 would cost about Rs. 6.28 crores.

46. **Setting up of a steam Test House**

Introduction

With the object of speeding up the testing of refitted auxiliary machinery in a test bed and reducing thereby the non-operational periods of ships under refit, the Ministry of Defence approved in September 1965, a proposal to set up a steam Test House at a Naval dockyard at an estimated cost of Rs. 20.88 lakhs (foreign exchange : Rs. 11.32 lakhs). A Project Officer was appointed (July 1966) for coordination and execution of the project.

In December 1966 the Naval Headquarters proposed that the scope of the project be enlarged to include facilities for prototype testing of auxiliary equipment being developed indigenously for installation in the Naval ships under construction in India.

On the recommendation of the Naval Headquarters (based on competitive quotations) approved by Government in July

1967, firm 'A' was entrusted with the task of preparing the preliminary Project Report. The firm submitted its report in November 1968 with the following estimates of the project cost:

(Rs. in lakhs)

	Total cost	Foreign Exchange
Civil Works	9.95	—
Equipment	57.74	12.91
Spares	1.54	0.39
Freight	1.50	—
Erection	4.10	—
Consultancy Services	10.10	—
Contingencies @5%	4.25	—
Total	89.18	13.30

The time for completion of the project (from the date of approval of the Project Report) was indicated as 24 months; this was subject to the availability of detailed drawings, technical and soil data, prompt issue of tenders/placement of contracts, etc.

Meanwhile, in September 1968, the Ministry of Defence entered into a collaboration agreement with a foreign firm for the indigenous manufacture (by a public sector undertaking) of auxiliary equipment for ships under construction in the country. This agreement envisaged that test facilities (for the equipment to be manufactured) would be established by the Navy and made available by March/April 1970.

Appointment of Consultants

In November 1968 the Naval Headquarters recommended that the project be entrusted to firm 'A' for execution on a 'turn-key' basis. Against the time schedule of 24 months projected in the preliminary Project Report, the Naval Headquarters indicated that the entire project would be completed progressively within 15 months (March 1969—May 1970). The proposal was accepted in April 1969 and in July 1969 Government sanctioned the project at a cost of Rs. 89.18 lakhs (foreign exchange : Rs. 13.30 lakhs).

Later, in November 1969, the Naval Headquarters indicated that the firm was not agreeable to undertake the project on a 'turn-key' basis and may be appointed as the Consultants, the execution of the project being entrusted to the Director General, Naval Dockyard Expansion Scheme, assisted by the Project Officer.

In May 1970, a letter of intent was issued by the Ministry of Defence appointing the firm as the Consultants. A formal consultancy agreement was, however, executed in March 1971 and made effective, retrospectively, from May 1970. According to the agreement the Consultants were responsible for basic services (*viz.*, layout, cost estimates, drawings and specifications etc.), technical and design engineering services and project management services. The agreement envisaged that—subject to the boiler being made available by Government by August 1971—the entire project would be completed by September 1971, that is, within 16 months from the effective date of the agreement and 6 months from the date of signing of the agreement. The Consultants were to be paid a sum of Rs. 10.10 lakhs. Of this, a sum of Rs. 8.82 lakhs was to be paid in 21 equal monthly instalments from April 1971 to December 1972 whereas the scheduled completion date for the project was September 1971. The balance of Rs. 1.28 lakhs was payable after satisfactory operation of the Test House for 6 months.

Revisions of project estimates

The project cost was initially (1965) estimated at Rs. 20.88 lakhs (foreign exchange : Rs. 11.32 lakhs). The project was sanctioned in July 1969 at an estimated cost of Rs. 89.18 lakhs (foreign exchange : Rs. 13.30 lakhs). During execution of the project the estimates were revised from time to time. While the increases were being periodically reported to the Ministry of Defence, in April 1972 the Ministry called for updated/revised estimates; these were submitted by the Director General, Naval Dockyard Expansion Scheme in February 1974 indicating a revised cost of Rs. 257 lakhs, revised again, in July 1975, to Rs. 298.22 lakhs (foreign exchange : Rs. 37.78 lakhs)—reflecting a total increase of Rs. 209.04 lakhs (234 *per cent*) over the sanctioned cost:

(Rs. in lakhs)

Project Estimate	Civil works	Mechanical works	Electrical works	Consultancy fees	Misc.	Total
July 1969	10.45	49.97	18.66	10.10	—	89.18
March 1971	15.59	42.90	15.54	10.10	10.38	94.51
July 1971	30.00	83.95	23.63	10.10	—	147.68
September 1971	[illegible]6.35	104.26	23.78	10.10		164.49
December 1971	[illegible].91	116.81	23.78	10.10		180.60
January 1972		147.59		10.10		190.10
May 1973	3[illegible]0	133.58	23.44	10.10		206.10
February 1974	39.00	176.17	29.91	10.10	1.82	257.00
July 1975	38.74	202.77	41.11	10.10	5.50	298.22
Increase	28.29	152.80	22.45	—	5.50	209.04
Percentage	271	306	120	—	—	234

The following is a broad analysis of the increase of Rs. 209.04 lakhs over the sanctioned estimates:

	Increase (Rs. in lakhs)	*Per cent* over sanctioned estimate	*Per cent* of total increase
Under-estimation, escalation, delays etc.	111.86	125	54
Change in the scope of work	73.12	82	35
Indigenisation	8.52	10	4
Increase in import duty	4.88	5	2
Omissions	3.00	3	1
Miscellaneous	7.66	9	4
	209.04	234	100

The main reasons for increase were attributed to the following:

— original estimates were based on budgetary quotations (mid-1968 price level) and were exclusive of duties and taxes;

— initial tenders revealed as much as 100 *per cent* increase in cost;

— the preliminary Project Report did not fully provide for all facilities and certain items were omitted in the original estimates due to uncertainty about their quantum;

— functional and technical changes/requirements which became inescapable during development of detailed engineering designs;

— increase in the contract cost of the generator test load station;

— escalation in costs of imported items and increase in customs duty;

— indigenous computer controlled data logging system as against imported system;

— contingencies and variations in existing contracts;

— substitution of imported pipes by indigenous pipes.

In February 1976 Government issued a revised administrative approval for the project at an estimated cost of Rs. 299 lakhs (foreign exchange : Rs. 37.78 lakhs).

The Ministry of Defence stated (February 1977) that the costs indicated in the preliminary Project Report were based on preliminary data then available and that the detailed cost analysis could only be made after the basic engineering of the project has been accepted.

Performance by the Consultants

Conflicting views had been expressed even in the initial stages about the competence of the Consultants to handle the project. The Project Officer had stated (September 1969) that the firm had neither any previous experience in designing a Test House nor any familiarity with Naval equipment. The proposal was, however, approved by Government on the basis of the Naval Headquarters' assessment that the firm was the best available in the country. In October 1970, the Admiral Superintendent, Naval Dockyard reported to the Director General, Naval Dockyard Expansion Scheme that the Consultants had neither processed nor assimilated the mass of operating and performance data furnished to them, the tempo of design work had not been satisfactory, and that no serious attempt had been made to arrange the available data and formulate or enunciate the design concepts. At a high level meeting held in the Ministry of Defence in October 1972 the view was expressed that the delay in the completion of the project was to a considerable extent attributable to the Consultants.

Delay and its consequences

The project initially (April 1969) envisaged for completion by May 1970 and later (March 1971) by September 1971 was lagging behind schedule by over 5 years.

The Naval Headquarters had initially stated that the project had assumed major importance and that the setting up of all the facilities at the proper time must be ensured lest the whole programme of indigenous manufacture of Naval ships should be jeopardised. Again, in support of the appointment of the Consultants it had been urged that in view of the tight time schedule and the complex nature of the project it was beyond the competence of a single Project Officer to plan and execute the project. As against these targets, the actual progress had been very slow. The delay in the completion of the project was attributed to the Consultants by the Project Officer, the Director General, Naval Dockyard Expansion Scheme, and by the Ministry of Defence. Although the Naval Headquarters had in January 1969 indicated to Government that the detailed study undertaken by the Consultants outlining the broad details of machinery, estimates of costs and time schedule had been done under their guidance and approved by them, in June 1973 the Project authorities expressed the view that the time schedule given by the Consultants was unrealistic. The major weaknesses in the administration and control of the project by the Consultants were summed up by the Project Officer in July 1974 as under:

— lack of proper planning and coordination of work between different contractors;

— lack of proper supervision of contract work;

— lack of systematic and timely inspection and testing at the contractors' works;

— failure to follow correct contractual procedure in dealing with the contractors effectively.

In December 1974, the Consultants asked for an increase of Rs. 5 lakhs in the consultancy fee on the grounds of increase in their costs and a long extension of the project schedule due to reasons beyond their control. While recommending the proposal to the Ministry of Defence, the Director General, Naval Dockyard Expansion Scheme stated that there was strong justification for an increase in the consultancy fees and that an amount of Rs. 5 lakhs was reasonable. In October 1975 Government sanctioned an '*ex-gratia*' payment of Rs. 1 lakh to the firm.

As stated earlier, the project was intended, *inter alia*, for the testing of auxiliary equipment to be developed indigenously by a public sector undertaking by March/April 1970. During a review in November 1969 by the Ministry of Defence of the progress of the project, the Naval Headquarters proposed the setting up of temporary testing facilities in another public sector undertaking. These facilities were established in September-October 1972 and formal sanction of Government was issued, *ex post facto,* in March 1976 for Rs. 27.81 lakhs. However, since the indigenous manufacture of the auxiliary equipment also did not materialise as scheduled, auxiliary equipment required for the manufacture of three ships had to be imported at a cost of Rs. 103.36 lakhs in foreign exchange. The temporary testing facilities could be utilised during March 1973—August 1976 for the testing of certain components of auxiliary equipment of the value of Rs. 93.85 lakhs.

Although the Ministry of Defence stated (February 1977) that the steam Test House had been commissioned in December 1976, the Test House has yet to be handed over to the Admiral Superintendent, Naval Dockyard for operation (March 1977).

Other interesting features

(a) *Changes in the scope of work during execution*

(i) In September 1970, the users indicated that due to non-availability of the requisite quantity of water from the municipal sources, the design of the fresh water heat exchange system had to be changed to cater for sea water. After protracted discussions with the users the design specifications were finalised by the Consultants in March 1971. The change resulted in an additional expenditure of Rs. 6.70 lakhs including Rs. 2.55 lakhs for the provision of sea water intake pumps.

(ii) In August 1970, the users revised the project concept of test facilities to provide for simultaneous testing of ship's equipment resulting in four revisions of drawings, two years in the placement of orders and an increase of Rs. 23.5 lakhs in cost due to additional piping, installation and structural facilities and instrumentation.

(iii) In February 1974, the users indicated the requirement of (indigenous) computer controlled data logging system as a part of the instrumentation. The decision on the source of supply was taken in July 1975. The system was estimated to cost Rs. 16.25 lakhs. However, the proposal was dropped by the Naval Headquarters in July 1976.

(iv) In February 1974, the users also pointed out the requirement of additional laboratory equipment estimated to cost Rs. 4.60 lakhs bringing the total cost of laboratory equipment to Rs. 8.65 lakhs. The Ministry stated (February 1977) that out of the increase of Rs. 4.60 lakhs an amount of Rs. 2.25 lakhs related to customs duty. While indigenously available laboratory equipment (cost : Rs. 0.39 lakh) had been procured, in respect of items to be imported (value : Rs. 4.03 lakhs) foreign exchange was yet to be released.

(b) *Loss of warranty*

In November 1970, a contract was concluded with a foreign firm for the procurement of the boiler at a cost of Rs. 18.77 lakhs (revised in February 1974 to Rs. 28.17 lakhs inclusive of insurance, freight, customs duty etc.) against the initial provision of Rs. 13.77 lakhs in the sanction for the project. The boiler received in May 1972 and carrying a 24-month warranty was erected in March 1974, tested in November 1976 and commissioned in early December 1976, after the lapse of the warranty period.

CHAPTER 10

AIR FORCE

47. Setting up of repair/overhaul facilities for aircraft

A. An aircraft 'X' procured from abroad was inducted in squadron service in 1961. In 1962, it was decided by the Ministry of Defence to set up facilities for the repair and overhaul of the aircraft (airframe and aero-engine) at an Air Force repair depot together with similar facilities for two other aircraft of the same origin.

A protocol for the foreign supplier's assistance in the setting up of these facilities was concluded in January 1963 and sanctions for the requisite works services aggregating Rs. 6.49 crores were accorded by the Ministry of Defence, piece-meal, during October 1962—May 1971. Plant and machinery of the value of Rs. 3.57 crores were procured from abroad during 1965—1968.

A review of the facilities set up for aircraft 'X' revealed that while the life before overhaul of the aero-engine was roughly one-third of the life of the airframe, the facilities for the airframe were completed in April 1968 and those for the aero-engine in July 1973 at a total cost (exclusive of common facilities) of Rs. 28.24 lakhs :

(Rs. in lakhs)

Aircraft 'X'	Works services	Plant and Machinery	Total
Airframe	11.47	8.04	19.51
Aero-engine	5.92	2.81	8.73
Total	17.39	10.85	28.24

The delay in setting up the repair facilities was attributed by the Ministry of Defence (August 1972) mainly to the non-preparation of an overall detailed project report indicating the scope of work, estimated costs and a time-frame, and the inadequate organisational arrangements for a planned and coordinated execution of the project besides:

- a delay of nearly 3-4 years in the conclusion of agreements for the rendition of technical project reports for the engine repair facilities (April 1965) and for the airframe repair facilities (March 1966);
- modifications to the aero-engine test beds proposed by the foreign supplier in September 1966, finally resolved in May 1968;
- consequential delay in the planning of the related works services.

Based on the recommendations of the supplier, indents for 12,432 items of spares required for the repair/overhaul of the airframes and aero-engines (comprising an equivalent of 45 months' requirements) were placed by the Air Headquarters during April 1965—January 1970. Contracts could, however, be finalised only for 7,422 items. In 1970 it transpired and in March 1971 it was confirmed that supplies of spares would not be forthcoming since most of the items had gone out of production in the country of origin. According to the Ministry of Defence, the indents projected from time to time had not been fully met by the supplier nor was adequate notice received for the provisioning of life of type spares. The aircraft had, consequently, to be phased out in 1975.

Due to the delay in the setting up of the facilities and non-availability of the full range of spares, 31 *per cent* of the total arisings of airframes and 65 *per cent* of the total arisings of aero-engines had to be sent abroad for overhaul at a cost of Rs. 38.49 lakhs. The facilities set up indigenously could be utilised only to the extent of 32 *per cent* (of the total arisings) for airframes (1967-68 to 1970-71) and 11 *per cent* for aero-engines (1973-74) before the line was closed down and the aircraft phased out. The holdings of spares rendered surplus amounted to about Rs. 1 crore. Besides, aircraft and aero-engines of the value of Rs. 1.94 crores are held in stock in repairable condition awaiting disposal (March 1977).

The Ministry stated (March 1977) that the facilities set up were utilised for the repair/overhaul of other aircraft (of the same origin) and that a substantial part of these would continue to be used in future as well. The Ministry added that considerable experience had been gained which would be invaluable in setting up similar projects in future.

B. The contract for the initial procurement of another aircraft from abroad (1967) which was inducted in squadron service in 1968, envisaged the supplier's assistance in the setting up of overhaul facilities in the country.

On the advice of two teams of foreign specialists which visited India during 1969/1970, the Air Headquarters recommended the location of overhaul facilities for the airframes and the aero-engines at stations 'X' and 'Y' respectively. These took into account the available facilities, trained personnel and accommodation (at station 'Y') with a view to commissioning the overhaul facilities within 3 years. These recommendations were accepted by the Ministry of Defence in September 1969 and May 1970.

Project Reports

Pursuant to two contracts concluded with the supplier (May—September 1970) the project reports for the setting up of repair facilities for the airframes/aero-engines were received in 1971 but these did not indicate the estimated cost of the projects or the time-frame for their completion.

In August 1971, the Ministry of Defence issued a 'go-ahead' sanction (Rs. 95 lakhs) for the works services for the aero-engine project. The total cost of the aero-engine project at about that time was estimated at Rs. 7.00 crores (works services : Rs. 3.00 crores ; plant and machinery : Rs. 4.00 crores).

Simultaneously, a separate proposal was mooted for the setting up of a repair base for the airframe at a total cost of Rs.11.65 crores (works services : Rs. 7.50 crores ; plant and machinery: Rs. 4.15 crores). While considering the proposal for setting up the repair facilities, the Ministry of Finance (Defence) had observed (October 1971) that since the aircraft was programmed for progressive phasing out from 1975-76, it would be possible to undertake overhaul of only about 46 *per cent* of the gross arisings of aero-engines. It was added that even if the project was commissioned in 1973-74, the cost of overhaul of the aero-engine would be prohibitive, the project would not be economically viable after 3 years, and that a delay of 2 years in establishing the overhaul facilities would reduce the utility of the project by 50 *per cent*. The project was, however, justified by the Air Headquarters on the following grounds:

— on the basis of extension in the life of the aero-engines to 3 overhauls and additional 25 *per cent* to cover premature withdrawals, the number of overhauls to be undertaken would be considerably more;

— the cost of overhaul of airframe abroad would be definitely high;

— the cost of the second overhaul of engines abroad would be 15 *per cent* higher than that of the first overhaul; and

— the aircraft was likely to continue in service for a considerable number of years (beyond 1975-76).

According to the Ministry (March 1977), the low utilisation (actual/anticipated) of installed capacity was attributable to the reduced overhaul arisings due to increase in the overhaul life of the airframe and reduction in the utilisation rate of the aircraft.

Repair of aero-engines abroad

In the absence of indigenous facilities, an expenditure of Rs. 11.39 crores was incurred during 1969-70 to 1976-77 on the overhaul of aero-engines abroad.

Procurement of spares

Indents for the overhaul spares were required to be placed on the basis of the norms of consumption received from the supplier in February 1972. Initial indents for 6,116 items of spares (estimated value : Rs. 6.85 crores) on the basis of anticipated number of overhauls of the airframes/aero-engines were placed by the Air Headquarters in January 1973. Only about 45 *per cent* of the items—airframes (60 *per cent*), aero-engines (26 *per cent*)—had been fully contracted as of May 1976:

Project	No. of items indented	Estimated cost (Rs. in crores)	Items contracted		Items not contracted
			Fully	Partly	
Airframe . .	3,445	5.63	2,069	271	1,105
Aero-engine . .	2,671	1.25	705	1,572	394
	6,116	6.88	2,774	1,843	1,499

The overhaul spares as received were found to be inadequate both in range and quantities. To make up the deficiencies, additional indents for 3,591 items (airframe : 2,062; aero-engine : 1,529) were raised during July 1975—January 1976.

In February 1975 when it transpired that 599 items of overhaul spares had gone out of production in the country of origin, a public sector undertaking was asked to explore the possibility of indigenous manufacture. According to the Ministry (March 1977), the undertaking had prepared (in consultation with the Air Force) a list of spares which could be manufactured by it and had also initiated a case for the manufacture of the first batch of these spares.

The Ministry stated (March 1977) that the installed capacity of the repair lines was intended to achieve the maximum potential. The Ministry added that the equipment/spares remained the same for partial out-puts and that the manpower in the overhaul lines was adjusted commensurate with the task.

Review of works services

A review of the execution of the works services revealed the following:

(a) *Airframe project*

(i) Steel and cement procured were much in excess of requirements; as a result, stocks of the value of Rs. 17.50 lakhs were held (March 1976) as surplus to requirements:

Item	Quantities (tonnes)					Value (Rs. in lakhs)
	Procured	Utilised	Transferred to to other works	Required for the project	Excess stock	
Steel	6,682	4,300	900	400	1,082	15.50
Cement	19,205	15,512	922	2,000	771	2.00

According to the Ministry of Defence, the construction of certain accommodation to temporary specifications (in lieu of permanent specifications originally sanctioned) and deletion of certain accommodation as per the users' requirements had resulted in lower utilisation of steel/cement.

(ii) Tenders for internal electrification were invited in December 1972 and received in March 1973. The lowest tender of Rs. 9.06 lakhs (valid up to 9th June 1973) was allowed to lapse in view of the directions of the Engineer-in-Chief withholding the release of the work. The tender was re-issued in October 1973 and a contract concluded (December 1973) by the Zonal Chief Engineer for Rs. 11.08 lakhs, thereby resulting in an extra expenditure of Rs. 2.02 lakhs. The work was completed at a cost of Rs. 11.84 lakhs in August 1975.

(iii) Three compressors required for compressed air supply for the technical buildings were sanctioned (June 1974/September 1975) at a cost of Rs. 11.66 lakhs. These compressors were required to be handed over to the users (Air Force) for operation and maintenance. Two of these compressors installed in April 1976 at a cost of Rs. 7.42 lakhs could not, however, be put to use as the users wanted the Military Engineer Services to undertake their operation and maintenance. According to the Ministry, these compressors were later taken over by the Air Force towards the end of June 1976.

(iv) Against the sanction for 76 quarters in 4-storey construction for married Flight Sergeants, 64 quarters were built in 4-storey construction and 12 in 2-storey under contracts concluded in 1972-73 and 1975-76 respectively, involving an additional expenditure of Rs. 0.45 lakh. The deviation from the sanction was stated by the Garrison Engineer to be due to the ready availability of drawings for a block of 16 quarters. Similarly, an airmen's mess sanctioned in 2-storey construction was built in single storey, involving an additional expenditure of Rs. 0.20 lakh (besides an additional area of 825 sq. m. of Government land utilised for this purpose).

(b) *Aero-engine project*

A contract for the provision of technical accommodation (Rs. 51.19 lakhs, later amended to Rs. 54.49 lakhs) was concluded by the Zonal Chief Engineer in June 1972. The work was required to be executed in three phases—phase I by 2nd July

1973, and phases II and III by 2nd January 1974. The work against this contract was, however, completed in February 1975 at a cost of Rs. 59.68 lakhs. In April 1976 the contractor preferred a claim for Rs. 13.07 lakhs on the following grounds:

	(Rs. in lakhs)
—extra work not envisaged in the contract	5.22
—compensation for prolongation of the performance period .	3.23
—increase in labour rates between May 1973-January 1974 .	3.18
—excess recoveries, increase in excise duty, etc.	1.44
	13.07

In June 1976 the Zonal Chief Engineer requested the Engineer-in-Chief for the appointment of an arbitrator for the settlement of the claim. An arbitrator was appointed by the Engineer-in-Chief in June 1976 and his award was awaited (March 1977).

48. Abnormal delay in the execution of a project

In May 1965, the Air Headquarters sanctioned civil works at a cost of Rs. 4.51 lakhs for an Air Force communication system at an airfield. A part of these facilities was already in operation in temporary accommodation on loan from the Director General, Civil Aviation. It was discovered by the Air Headquarters (June 1965) that the land for siting this installation was not available and the work could not, therefore, be taken up. An alternative site (5 acres) close to the existing facilities recommended by a Board of Officers (1965) was also not found suitable.

Later, in August 1967, a siting board recommended the location of the facilities on 13 acres of land (5 km. away) ; in view of the urgency of the project and to save time, the board proposed that the land might be acquired for this purpose; the siting board, however, suggested immediate requisitioning as acquisition proceedings would take considerable time. This proposal involving provision of extensive facilities (like construction of new roads, earth traverses, electrification, water supply and sewage disposal) was remitted by the Command Headquarters to the Air Headquarters in February 1969 and the Air Headquarters revised in July 1970 the earlier estimate of Rs. 4.51 lakhs (May 1965) to Rs. 10.97 lakhs.

On the basis of a no-objection certificate issued by the Deputy Commissioner of the district in November 1967, these estimates assumed that the land required for the project would be requisitioned. When approached for requisitioning of the land (October 1970), the Deputy Commissioner suggested (February 1971) that the land be acquired instead. In April 1972 Government sanctioned the acquisition of the land under the Requisitioning and Acquisition of Immovable Property Act, 1952 at an estimated cost of Rs. 6.05 lakhs. Since this land had not been requisitioned earlier (which is an essential pre-requisite for acquisition under the Act of 1952), the sanction had to be amended later (October 1972) to provide for acquisition under the Land Acquisition Act, 1894. Thereafter, acquisition proceedings for 12.85 acres of land were completed in February 1974 and a sum of Rs. 5.94 lakhs was transferred to the civil authorities (March 1974) as part payment of compensation (Rs. 6.62 lakhs).

In May 1974 the user unit reported to the Command Headquarters that, due to the distance involved, it did not favour the site selected and that the facilities should be provided near the unit on the 'existing surplus land' which 'would be more economical and functionally more appropriate'. While forwarding this communication to the Air Headquarters, the Command Headquarters also pointed out (May 1974) that in view of a new communication system planned for that area the setting up of the facilities at the station would be redundant, and recommended de-acquisition of the land. Again in January 1975 the Command Headquarters reported that the transmitters held by the unit could continue to be used from the existing buildings and repeated the earlier proposal for de-acquisition of the land. However, in accordance with the instructions issued by the Air Headquarters in July 1975, 11.33 acres were taken over by the user unit in January 1976 and the balance 1.52 acres in August 1976.

Thus, despite elapse of over 11 years since the work was originally sanctioned at a cost of Rs. 4.51 lakhs (May 1965) and over 6 years since the estimates were revised to Rs. 10.97 lakhs (July 1970), the project has made no headway, nor has the land acquired in February 1974 at a cost of about Rs. 6.62 lakhs yet been put to use (January 1977).

The Ministry of Defence stated (January 1977) that the user unit's recommendation (May 1974) was not borne out by the findings of the Board of Officers held in 1967, and that the facilities were required. The Ministry added further that the sanction having lapsed, the Command Headquarters had been advised to issue a fresh sanction and that the work was proposed to be taken up in 1977-78.

49. Infructuous expenditure on a project

An Air Force Command Headquarters convened a Board of Officers in December 1962 to determine the works services for the provision of a new transmitting station. The Board recommended (January 1963) a site (10 acres of land) and estimated the cost of the project at Rs. 15.45 lakhs.

In February 1965—in anticipation of the administrative approval for the project—the Command Headquarters placed a firm demand on the Posts and Telegraphs Department for the provision of remote control lines by means of underground cables (57.6 km.). The Air Force undertook to pay, from the date of provision of the facility, provisional/final rent as fixed by the Posts and Telegraphs Department and to reimburse estimating fees, compensation, etc. in the event of cancellation of the requisition or of the facility before the expiry of the guarantee period (10 years).

In August 1966, the Air Force authorities informed the Posts and Telegraphs Department that, except for the perimeter cables, the work should be started only after the site had been determined. Later, in May 1967, a portion of the work of perimeter cables (9.6 km.) was cancelled.

The proceedings of the Board of Officers (1962) were not cleared by the Air Headquarters due, *inter alia,* to certain technical issues connected with the project which were decided only in October 1967 and August 1968. Thereafter, another Board of Officers convened by the Command Headquarters recommended (June 1969) the location of the project on the site selected by the earlier Board and indicated the requirement of land as 18.56 acres.

While the Posts and Telegraphs Department had procured (upto April 1969) 54.3 km. of cables, only 1.5 km. of cables were laid (June-July 1969) and the work was not progressed further.

In September 1970, the Air Headquarters while approving the recommendations of the second Board (1969), reduced the requirement of land by 5 acres i.e., to 13.56 acres. In February 1971, Government sanctioned the acquisition of this land at an estimated cost of Rs. 53,550 (later revised to Rs. 60,680 in December 1973 on the basis of actual cost of acquisition). In March 1971, the Air Headquarters accorded administrative approval for the provision of the transmitting station at an estimated cost of Rs. 14.14 lakhs (later revised to Rs. 14.85 lakhs in April 1974).

In January 1973, 13.56 acres of land were acquired. Later, in September 1974, the Command Headquarters reviewed the necessity for the work in the context of financial stringency and advised the Air Headquarters that, with an expenditure of

Rs. 1 to 2 lakhs, the existing station could easily serve the requirements for another 8 to 10 years, by which time the type of transmitting station as planned might be rendered obsolete. The project was given up in November 1974, and in March 1975 the Posts and Telegraphs Department was informed that, except for 3.2 km. of cables (required for the existing facilities), stores procured for the work would no longer be required by the Air Force.

The Posts and Telegraphs Department had incurred an expenditure of Rs. 6.62 lakhs upto March 1975. Claims aggregating Rs. 3.79 lakhs were preferred by the Posts and Telegraphs Department on account of interest charges on blocked funds upto March 1975 (Rs. 2.77 lakhs), estimating fees (Rs. 0.15 lakh) and departmental charges (Rs. 0.87 lakh). Interest charges amounting to Rs. 1.68 lakhs upto March 1972 were paid (November 1973) by the Air Force authorities (without the sanction of Government) and the remaining claims await settlement (February 1977). Further, the land (13.56 acres) acquired (January 1973) for the new transmitting station could not be put to any use.

The Air Headquarters stated (April 1976) that inordinate delay in finalising the board proceedings was due to their terms of reference not having been spelt out in sufficient detail, and non-representation of all the parties concerned on the boards.

The Ministry of Defence stated (February 1977) that:

— the requirement of perimeter cables was cancelled as the role envisaged for Air Force station had changed;

— the project was given up as it was likely to take 5 to 6 years for completion and the cost would have escalated to Rs. 25 to 30 lakhs; and

— the land would be exchanged or de-acquired.

50. Deficiency in auctioned stock

Salvaged aircraft/mechanical transport tyres and tubes are required to be accounted for by number as well as by weight. In December 1973 an Air Force wing sent a 'surplus report' to the Director General, Supplies and Disposals proposing the disposal, by auction, of 17,600 kg. of 'rubber old' (tyres and tubes). The number of tyres and tubes was, however, not indicated. The auction was fixed for 5th February 1974. Just before the commencement of auction, the Air Force wing notified the auction officer of an increase in the quantity to 20,070 kg. Again, the number of tyres and tubes was not indicated. The increased quantity was sold to the highest bidder for Rs. 1.46 lakhs. The sale release order specified the quantity auctioned as 20,070 kg. 'as a lot' and the last date for the removal of auctioned stores as 28th February 1974. The Station Security Officer of the Air Force wing was asked by the stock-holder to ensure that the auctioned stores were not tampered with till their removal by the successful bidder.

The purchaser deposited Rs. 0.40 lakh as earnest money on the date of auction and the balance of Rs. 1.06 lakhs on 13th February 1974. On 24th February 1974, the purchaser reported to the Director General, Supplies and Disposals as well as the Air Force wing that his representative had not been allowed to take delivery of the stores on 19th and 22nd February 1974 and that on 23rd February 1974 when he noticed half the quantity of auctioned stores missing and insisted on delivery by weight, delivery was not agreed to by the Air Force wing. On 14th March 1974, the Air Force wing replied that the stores had been sold on lot basis 'as and where they lie' and that there was no understanding to deliver the goods by weight.

On the representation of the purchaser, the Director General, Supplies and Disposals advised the Air Force wing (8th April 1974) to deliver the stores by weight, and also extended the period of delivery to 10th April 1974 (later extended to 29th June 1974). In May 1974 the Air Headquarters issued instructions for delivery of the stores to the successful bidder by weight as indicated in the bid sheet, with a marginal variation of 5—10 *per cent*. Only 7,409 kg. of the stores could, however, be delivered to the purchaser on 26th June 1974.

The Air Force wing, however, struck off charge the full quantity on the basis of an issue voucher dated 26th June 1974 for 20,070 kg. instead of 7,409 kg. actually delivered, and no 'loss statement' was raised for the quantity of 12,661 kg. short-delivered.

In the meantime, on 24th May 1974 the Air Force wing lodged a report with the police of a theft, during February—April 1974, of about 428 aircraft tyres from the auctioned stores in the salvage yard.

In July 1974, the purchaser served a legal notice on the Director General, Supplies and Disposals claiming a compensation of Rs. 1.39 lakhs for short delivery of 12,661 kg. of auctioned material, incidental charges, etc. On the advice of the Ministry of Law (July—November 1974) and in consultation with the Air Headquarters, the Director General, Supplies and Disposals refunded (February 1975) a sum of Rs. 92,103 being the proportionate value of 12,661 kg. of the auctioned stores short-delivered as well as another sum of Rs. 5,986 levied as ground rent.

One of the two Courts of Enquiry convened by the Air Command Headquarters (September 1974 and September 1975) to investigate the matter inferred that the pilferage might have occurred between October 1972—June 1974; no responsibility for the loss could, however, be fixed on any individual(s).

Meanwhile, the police authorities informed the Air Force wing that the case regarding the theft had, after investigation, been filed on 30th May 1975 as untraced.

The Ministry of Defence stated (January 1977) that they were not satisfied with the findings of both the Courts of Enquiry since the theft had taken place in the premises of the Air Force wing, and were considering the convening of another Court of Enquiry to pin-point responsibility and to suggest remedial measures.

51. Disposal of surplus stores

Mention was made in paragraph 7 of the Audit Report, Defence Services, 1969-70 of the extent of surplus and obsolete stores held in stock by the Defence formations and the progress of their disposal. In September 1971 the Ministry of Defence constituted a study team to review the existing disposal procedures and to identify the areas which impeded expeditious disposal. In paragraph 1.90 of their 82nd Report (5th Lok Sabha), 1972-73, the Public Accounts Committee observed that progress in the disposal of unwanted stores which occupied valuable storage space had been slow.

A mention was made in the Appropriation Accounts, Defence Services, 1974-75 (item 9 of Annexure III to paragraph 14) of the accumulation of large quantities of surplus and obsolete stores (*viz.,* engines, spares for engines/airframes) in respect of aircraft phased out or withdrawn from service.

The study team (set up in September 1971) submitted its report in May 1973. Based on its recommendations, in September—October 1974, the Ministry of Defence set up a Central Technical Team and evolved the following procedure and delegation of powers for the assessment and disposal of Air Force surplus stores:

Book value in a single category	Authority
Upto Rs. 1 lakh	Air Headquarters after scrutiny by the Technical Team.
Over Rs. 1 lakh and upto Rs. 5 lakhs	Air Headquarters with the concurrence of the Ministry of Finance (Defence).
Over Rs 5 lakhs and upto Rs 10 lakhs	Part-time Standing Committee in the Ministry of Defence.
Over Rs 10 lakhs	Ministry of Defence on the recommendation of the part-time Standing Committee.

The revised procedure did not, however, hasten the pace of disposal of surplus stores as their book value (in a single category) was usually more than Rs. 10 lakhs, thus requiring the approval of the Ministry of Defence in most cases.

Out of the total number of non-moving items, *viz.* 1,40,778 ('book value': Rs. 27.60 crores), only 28,649 items (20.4 *per cent*) of a 'book value' of Rs. 1.61 crores (5.8 *per cent*) could be disposed of by September 1976. In addition, 4,806 items (3.4 *per cent*) of a 'book value' of Rs. 0.76 crore (2.8 *per cent*) were referred for disposal by the Director General, Supplies and Disposals or by departmental auction. The remaining 1,07,323 items (76.2 *per cent*) of a 'book value' of Rs. 25.23 crores (91.4 *per cent*) were still awaiting decision in regard to their retention/re-utilisation or disposal.

The disposal (until September 1976) of the phased out aircraft, aero-engines and spares etc. amounted to 10.8 *per cent*, 12.1 *per cent* and 2 *per cent* respectively. The assessed value of the aircraft, aero-engines and related spares etc. still awaiting disposal amounted to Rs. 15.97 crores:

Type	Year of phasing out	Surplus stock			Assessed value
		Air-craft	Aero-engines	Spares etc.	(Rs. in crores)
		Nos.	Nos.	Items	
'A'/'B'/'C'* . .	1957-58	18	5	N.A.	0.07
'D' . . .	1969	36	115	5,100	2.32
'E'/'F'/'G' . .	1975	165	304	23,569	8.45
'H' . . .	1976	36	29	25,000	4.88
'J' . . .	1975	17	14	2,650	0.25
		272	467	56,319	15.97

In May 1974 all the assets of aircraft 'D' were referred to the Director General, Supplies and Disposals who was, however, reluctant to undertake their disposal. Later, in a meeting convened by the Defence Secretary in August 1975 it was decided

*second world war vintage.

that since the Director General, Supplies and Disposals had no experience in the disposal of surplus aircraft, the sale of these aircraft and related equipment be entrusted to the Officer on Special Duty in the Ministry of Defence who would process the proposals through a Committee comprising representatives of the Air Headquarters and the Ministries of Defence and Finance(Defence). On the basis of quotations received in June 1976 and subsequent negotiations with prospective buyers, in August 1976 the Committee recommended the offers aggregating about Rs. 22 lakhs in respect of aircraft 'C' and 'F' with the related aero-engines/spares (assessed value: Rs. 1.38 crores). The final outcome is still awaited (February 1977).

It was stated by the Air Headquarters (June 1976) that though there were no established means to ascertain the carrying cost of Air Force inventory, roughly 10—15 *per cent* of the cost of stores could be taken as the carrying cost. The phased out aircraft (including aero-engines and related spares etc.) were stated to be occupying 12,456 sq. metres of covered accommodation and 2,983 sq. metres of open space (August 1976). Considerable expenditure thus continues to be incurred on the care and custody of a very large quantity of surplus/obsolete stores for several years.

The Ministry of Defence stated (February 1977) that the matter was considered by the Ministries of Defence, Finance and Supply in January 1977 and it was expected that the inter-Ministerial Committee would be vested with full authority to determine ways and means for the disposal of surplus defence stores.

CHAPTER 11

OTHER TOPICS

52. Defence pavilion for the International Trade Fair

In June 1973, the Ministry of Foreign Trade notified its decision to hold an International Trade Fair during November-December 1974. At a meeting held in the Ministry of Defence in October 1973 it was decided to approach the Ministry of Foreign Trade for a site for the Defence pavilion in a prominent area and to entrust the construction of the new pavilion to the Military Engineer Services. In March 1974 a site (5,734 sq. metres) was allotted by the Ministry of Commerce which had also suggested the construction of a semi-permanent pavilion. Ground rent of about Rs. 3.44 lakhs (@Rs. 60 per sq. metre) per annum was payable to the Ministry of Commerce.

On 10th April 1974 the Zonal Chief Engineer floated tender enquiries for the construction of a new pavilion in anticipation of Government's approval. On 23rd April 1974, the Ministry of Defence accorded a 'go-ahead' sanction for preliminary work on the design and construction of the pavilion at a cost not exceeding Rs. 1 lakh followed, a week later, by an administrative approval for the work at an estimated cost of Rs. 36.78 lakhs. Fifty *per cent* of the expenditure on the construction of the pavilion was to be borne by public sector undertakings under the Ministry of Defence based on their turnover in the preceding year. On 30th April 1974, the Chief Engineer concluded a contract for the construction of the pavilion (2,564 sq. metres) at a cost of Rs. 27.92 lakhs, with 31st October 1974 as the date for completion. On 3rd July 1974, a contract was concluded for the internal electrification at a cost of Rs. 2.90 lakhs, with 27th December 1974 as the date for completion.

On 31st July 1974, the Ministry of Commerce (Department of Foreign Trade) notified its decision to postpone the International Trade Fair. By then an expenditure of Rs. 10.43 lakhs had been incurred on the construction of the pavilion and it was decided by the Ministry to continue with the construction work. The Ministry of Defence stated (January 1977) that by the time intimation about the indefinite postponement of the Trade Fair was received the construction of the pavilion had reached an advanced stage and it was decided to complete it with a view to avoid infructuous expenditure.

The pavilion was completed in December 1974 (cost : Rs. 33.36 lakhs) and has been lying vacant since then. Various alternative proposals for the utilisation of the pavilion (including its transfer to the Ministry of Commerce) were not found to be feasible or acceptable to the Ministry of Commerce. To the end of January 1977 an expenditure of Rs. 22,057 had been incurred on the care and custody of the pavilion.

The Ministry of Defence stated (January 1977) that according to a policy decision taken by the Ministry of Commerce, the pavilion could not be used for any purpose other than trade-oriented fairs/exhibitions. The Ministry of Defence added (February 1977) that it had the assurance of the Trade Fair Authority that the building would be taken over by them and made available to the Ministry of Defence for use in future exhibitions/fairs.

53. Delay in the implementation of a decision

In February 1970 the Central Governing Council for the Military Schools (presided over by the Raksha Mantri) decided on certain rationalisation of the ration scales initially prescribed in 1958. In pursuance of this decision, in July 1970 the Army Headquarters initiated a proposal for the revision of the scales, to be effective from 1st September 1970.

While the proposal was still under consideration, the Army Headquarters raised, in September 1970, the issue of upward revision of the rates of condiment allowance, both (ration scales and condiment allowance), to be effective from 1st January 1971. Since the question of condiment allowance was linked with the general issue for the Army as a whole, the Ministry of Defence decided in December 1970 to maintain *status quo* in this respect; the condiment allowance was processed separately and decision notified in July 1971.

The proposal for the revision of ration scales for military schools was revived by the Army Headquarters in April 1971 and approved (with some modifications) in May/August 1972. The revised scales were, thereafter, notified in December 1972, effective from 15th February 1973 that is, about 3 years after the initial decision by the Central Governing Council for the Military Schools, involving an avoidable recurring expenditure of Rs. 2.41 lakhs per annum.

Meanwhile, in a meeting held in March 1972 the Central Governing Council concluded that there was need for further revision of the ration scales. A study group constituted in September 1972 for this purpose recommended (September 1974) the adoption of simplified ration scales which were approved by the Governing Council in January 1975 for implementation with effect from 1st July 1975. The Ministry of Finance were of the view (August 1975) that even after the introduction of simplified ration scales, the cost of rations would be Rs. 5.31 per diem for military schools as against Rs. 3.80 for sainik schools. The Ministry of Finance felt that while some difference in cost of ration scales as between the two schools might be permissible, a large difference of Rs. 2 per diem (actual difference being Rs. 1.51) was not justifiable on any ground whatsoever and suggested that the Ministry of Defence re-examine the case. Pending examination of reducing the gap between the ration scales of the military schools and sainik schools, the non-acceptance of the recommendation of the revised ration scales, approved by the Governing Council in 1975, would result in a recurring avoidable extra expenditure. In the absence of price data (effective from 1st July 1975) for rations, the extra expenditure due to non-implementation of the decision of the Governing Council from 1st July 1975 is estimated at about Rs. 1.98 lakhs per annum at the prices obtaining in June 1974. The Ministry stated that the matter was still under examination (January 1977).

(M. C. SARIN)
Director of Audit, Defence Services.

NEW DELHI
Dated the 16 JUN 1977

Countersigned

(A. BAKSI)
Comptroller and Auditor General of India.

NEW DELHI
Dated the 16 JUN 1977