TWO HUNDRED AND FOURTEENTH REPORT

PUBLIC ACCOUNTS COMMITTEE (1983-84)

(SEVENTH LOK SABHA)

SHORTFALL IN THE PRODUCTION OF AN EQUIPMENT AND INVENTORIES AND WORKS-IN-PROGRESS IN ORDNANCE FACTORIES

MINISTRY OF DEFENCE (DEPARTMENT OF DEFENCE PRODUCTION)

[Paras 8 and 12 of the Report of C&AG of India for the year 1981-82 (Defence Services)]

Presented in Lok Sabha on 30 April, 1984
Laid in Rajya Sabha on 30 April, 1984

LOK SABHA SECRETARIAT
NEW DELHI

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CORRIGENDA TO TWO HUNDRED AND FOURTEENTH REPORT OF THE PUBLIC ACCOUNTS COMMITTEE (1983-84).

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20.1.1984 (FN)
23.2.1984 (AN)
26.4 1984 (AN)

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INTRODUCTION

I, the Chairman of the Public Accounts Committee, as authorised by the Committee present on their behalf this Two Hundred and Fourteenth Report on Paras 8 and 12 of the Report of C & AG of India for the year 1981—82, Union Government (Defence Services) relating to 'Shortfall in the Production of an Equipment' and 'Inventories and Works-in-Progress in Ordnance Factories'.

2. The Report of the Comptroller and Auditor General of India for the year 1981-82, Union Government (Defence Services) was laid on the Table of the House on 15 April, 1983. The Public Accounts Committee examined the above paragraphs (reproduced at Appendices I and II) at their sittings held on 19-20 January and 23 February, 1984. The Committee considered and finalised this Report at their sittings held on 26 February 1984. Minutes of the sittings form Part II* of the Report.

3. The Report has highlighted the fact that the establishment of production facilities for a vital defence equipment and its Parts I, II and III in collaboration with foreign firms undertaken in early Sixties at a cost of Rs. 27.37 crores has failed to produce the desired results. There had been delay in the production o the equipment and Part I that has been produced is defect-prone and cannot be relied upon. Even after 20 years, the Equipment has not been fully indigenised. Production of the modern version of the equipment undertaken at the cost of Rs. 56.55 crores which had to replace the present version by 1985 is nowhere in sight. There had been idle capacity of plant, machinery and labour while the Army's requirements were partially met by resorting to imports at enormous cost. Even after 20 years of establishing production facilities, the country is still dependent on imports of some major components involving outgo of foreign exchange. The Committee have desired that defects should be rectified early and also effective steps initiated to indigenise the equipment completely. They have also urged the Government to expedite production of modern version of the equipment.

The Report has also brought out the fact that Ordnance Factories are saddled with heavy stocks of surplus inventories over and above the prescribed level of 9 month's consumption. In 17 out of 34 factories the surplus inventories in 1981-82 was as high as Rs. 149 crores. Besides there had been heavy accumulations of disposable scraps amounting to Rs. 18, crores at the end of March 1979 and gross neglect in the maintenance of stocks in the Ordnance Factories. The valuable scraps received in the Factories as early as mid-Fifties have not been disposed of. The Committee have desired physical verification of stocks and initiation of urgent steps for their disposal.

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* Not printed. One cyclostyled copy laid on the Table of the House and five copies placed in Parliament Library.

4. For reference facility and convenience, the observations and recommendations of the Committee have been printed in thick type in the body of the Report and have also been reproduced in a consolidated form in Appendix III to the Report.

5. The Committee place on record their appreciation of the assistance rendered to them in the matter by the Officers of the Comptroller and Auditor General of India.

6. The Committee would also like to express their thanks to the Officers of the Department of Defence Production for the cooperation extended by them in giving information to the Committee.

NEW DELHI;
April 28, 1984
Vaisakha 8, 1906 (S)

SUNIL MAITRA
Chairman,
Public Accounts Committee.

REPORT

CHAPTER I

(*Para 8 of the Report of the C &AG of India for the year 1981-82, Union Government (Defence Services) relating to shortfall in production of an equipment.)

1.1 Government entered into an agreement in August 1961 with a foreign firm 'P' for purchase of prototypes and production models of an equipment, licence to manufacture it indigenously and for obtaining design knowledge, complete data and technical assistance in setting up a factory and in establishing production of the equipment. The collaborator firm was selected for the manufacture of the equipment after a comparative paper evaluation based on selective offers received. The equipment was selected keeping in view financial considerations. 3 agreements were also entered with 3 other foreign firms for obtaining licence, drawings and specifications etc. and necessary technical assistance for establishment of indigenous manufacture of Part I, II and III respectively of the equipment which were not being manufactured by the firm 'P'. In January, 1962 Government sanctioned Rs. 16.12 crores (increased to Rs. 17.27 crores in January, 1967) to establish production facilities for production of 100 numbers of the equipment per annum in a single shift of 8 hours including parts I, II and III of the equipment. In February, 1966, Government sanctioned Rs. 84.43 lakhs for additional Civil Works to enable the factory to run on double shifts so that the out-turn might be raised to 160 numbers per year.

1.2 The Committee desired to know if any equipment/machinery was also procured to house in the building constructed under the sanction for additional civil works and if so, what were the details of such equipments etc. indicating cost, month and year of procurement and installation. The Department of Defence Production in a note stated that sanction for additional civil works was obtained for Dust Proof Assembly Shop and Epuipment Assembly Shop. No machine tools were procured to be housed in these buildings since the operation to be carried out in these buildings was hand assembly operation only. However, the following overhead cranes were procured and installed for handling heavy materials and assemblies :—

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* Appendix I

Particulars of Crane	Date of procurement.	Cost
(i) 20 Tonne EOT Crane—4 Nos.	11/76	Rs. 19.88 lakhs
(ii) 15 Tonne EOT Crane—1 No.	2/77	Rs. 4.73 lakhs
(iii) Jib Cranes 12 Nos.	9/77	Rs. 4.80 lakhs
	Total :	Rs. 29.41 lakhs

Date of Installation of the Cranes are as follows :—

(i) 20 Tonnes EOT Crane—4 Nos. Installed in November, 1976.

(ii) 15 Tonnes EOT Crane—1 No. Installed in February, 1977.

(iii) Jib Crane—12 Nos. Installed in September, 1977.

The requisite plant and machinery for the factory was mostly in position during 1964 to 1966 and the remaining during 1967. All the shops of the factory started working two shifts of 9 hours from 1968-69. Against the Army's total requirement for 549 numbers of the equipment by March, 1972 the factory could supply only 389 numbers in all during the 7 years from 1965-66 to 1971-72.

1.3 Presenting a broad perspective of the project, the Secretary, Department of Defence Production stated before the Committee :—

"It was a daring decision taken because the equipment had not been produced by the collaborators nor by the factory. It was on the drawing board. Along with the collaboration agreement and the decision to go in for the manufacture of the equipment an order was placed on the collaborators for 40 equipments to be imported, including 2 prototypes. The prototypes were to be evaluated and put on trial by the army before production could begin. The collaborators themselves fulfilled this order which was placed in August, 1961 in the year 1965-66. The order placed in 1961 on the collaborators was for the initial supply of 38 equipments and 2 prototypes and it took them five years to make the deliveries. These were ordered concurrently along with the collaboration agreement entered into with the collaborators themselves. After the project sanction, there is a basic gestation period, before the stabilisation of production. In this case, the equipment was on the drawing board when the agreement was made in August, 1961."

1.4 Asked if it was a new design, the witness replied :—

"It was a totally new and improven design in the sense that it had not been produced and tried out earlier....."

1.5 The Committee desired to know if any stipulation had been made at the time of procurement of these prototypes and if so what were these stipulations including the ones regarding the period withing which these were to be supplied and the quantity etc. The Defence Production Department ha ve in a note furnished to the Committee stated as under :—

"Two prototypes were received only after signing the collaboration agreement. As per the agreement first prototype was to be ready for acceptance tests at Collaborator's works not later than 27 months from the date of signing agreement which was 11th August, 1961. Second prototype was to be ready for delivery to the Government of India at Collaborator's works not later than 28 months from the date of signing of agreement.

First Prototype :

(i) Assembled at Collaborator's plant on	Feb. 63
(ii) Trials Completed on	Jul. 63

Second prototype

(i) Assembled at Collaborators plant on	Mar. 64
(ii) Trials completed on	Apr. 64
(iii) Shipped from collaborator's country in	May. 64"

1.6 Explaining the position further the Secretary (DP), stated during evidence :—

"In 1965-66, four such equipments were produced. In 1966-67, 21 equipments were produced. From 1967-68, the main attempt was not only to attain the target as was projected but also to gradually indigenise production of these equipments. In 1967-68, the indigenisation was 42% and by 1969-70 it went upto 58%. In 1972-73, it was 62% in 1974-75, it was 79%, in 1977-78, it was 89% and in 1979-80, the indigenisation achieved was 92%. Now, it takes a great deal of time. labour effort and coordination to establish sources for not only production but development before production of components, parts, assemblies and sub-assemblies. A large part of the equipments production is dependent on supplies from other sources like public sector undertakings, Ordnance Factories, trade and industry and to some extent imports. The balance of 8% would be import content still. This aspect of progressive indigenisation has a very important bearing on the production capacity that can be attained from year. to year. Another aspect of this project is that while in about 1966-67, the main plant and equipment and civil works were completed, just before that a view was taken that we should run the plant in two shifts and produce 160 equipments per year. This was in February,

1966. A study team went into this aspect and a decision was taken. The second shift was, however, not immediately found feasible because we had to train the people and they had to acquire skills. So, this again would take two to three years to attain that kind of production capacity. The installed capacity does not become effective from the year the decision was taken. There is a gestation period there is a lead time. The capacity is dependent not merely on plant and machinery but also dependent on the infrastructure available in the country."

1.7 The Committee enquired if the phased programme of indigenisation of production was envisaged in the agreement concluded with the foreign collaborator for manufacture of the equipment, the witness replied :—

"This is not so stated in agreement. I will check up. However, it is a matter of implementation of the national policy."

1.8 He further explained that it was not normally laid down in the Agreement that in the first year we would reach 60 per cent and so on and so forth. That was not laid down in the Collaboration agreement.

1.9 Drawing attention to the fact that the agreement entered into with the foreign Collaborator *inter-alia* included the licence to manufacture the equipment hundred per cent indigenously and for obtaining design knowledge complete data and technical assistance in setting up of a factory and in establishing production of the equipment, the Committee pointed out that there had been continuous and significant import of certain components even after 20 years of establishing production facilities. In this context, they asked if the indigenisation plan was ever discussed with the Collaborator, the witness replied :—

"We do not tell them. We obtain all the drawings and it is for me to develop a source in the country either out of my own unit or through ancillaries....."

1.10 He further clarified :

"Even to this day, to the best of knowledge, we do not discuss indigenisation with them."

1.11 The Committee enquired if there was any plan of total indigenisation, the witness replied :

"The effort in the factory was to maximise the indigenisation..... indigenisation is our basic goal."

1.12 In a subsequent note furnished to the Committee detailing plans drawn to achieve indigenisation of components of the equipment the Department of Defence Production have stated that Government have fully seized of

the need for maximum indigenisation of the equipment. Action for indigenous manufacture of certain components was taken in hand on receipt of drawing and specifications from the collaborators. It was envisaged at the time of concluding the contract that about 50 numbers of equipment would be imported and the following would be the indigenous contents :

Equipment Sl. No.	50-100	35%
,,	100-150	40%
,,	150-250	45%
,,	250-350	60%
,,	350-450	75%
,,	450-500	85%
,,	Average	57%

1.13 The progress on indigenisation was being reviewed regularly. Actually 40 Equipments were imported in assembled condition and the indigenisation (by value) achieved is given below :—

Equipment Sl. No.	41-90	42%
,,	91-140	55%
,,	141-240	56%
,,	241-340	60%
,,	341-440	62%
,,	441-490	62%
,,	Average	56%

1.14 As per the annual accounts for the year 82-83, 94% by value of the equipment has been indigenised.

1.15 Asked if the Department has devised any time-schedule to achieve indigenisation, the witness stated :

> "I cannot say that.....I can only say that in the equipment, 92 per cent indigenisation has been achieved over a period of time..... ...such a schedule did not possibly exist in the Sixties. Now that there is infrastructure available in the country, we have a project in hand, and steps have been initiated for indigenisation 2-3 years before production is likely to commence. This is done by stripping the equipment in use. From now on, that kind of planning is going on. It was not so in the early sixties or seventies."

1.16 The Committee wanted to know the actual increase in production vis-a-vis the extent of increase in production envisaged as a result of introduction of the second shift. The Department of Defence Production have in a note stated :

> "The increase in capacity envisaged with introduction of second shift was from 100 to 160 equipments. However, as pointed out by the

Study Team in 1970, 25% of the capacity was required for spares and the optimum production possible with the installed capacity was 120 Nos. The production actually achieved by 72-73, was 120 Nos."

1.17 The reasons for failure to achieve the targets and consistent short-fall in production of the equipment were investigated in September-October, 1970 by a Study team appointed by the General Manager of the factory.

1.18 The Study team observed that the optimum production of the equipment that could be achieved with the installed capacity would be 120 numbers against the target of 160 as 25 per cent of the capacity would be required for manufacture of spares for which no capacity had been created. The study team further observed that even that this reduced production could not be achieved due to several factors *viz.* timings recommended by the collaborator having not materialised and required upward revision ; separate provision not made for development work for establishing production of different components of the equipment and its other versions ; inadequate allowance made for unavoidable machine break-downs and uneven flow of materials : extra machining of the components required due to non-availability of materials of correct sizes ; and inadequate material handling facilities. To over-come these deficiencies Government sanctioned in December, 1970 Rs. 36.55 lakhs for procurement of certain balancing machine tools and additional material handling equipment.

1.19 The Committee enquired why the need for additional material handling equipment could not be visualised earlier. The Secretary, Defence Production replied :

"The collaborato rs were originally assigned the task of designing the lay-out only for 100 equipments per year."

1.20 Asked if the additional balancing equipment was required for the original capacity of 100 equipment a year or for the revised capacity on two shift basis. The Department have in a note replied :

"Sanction was accorded by the Government for the purchase of balancing equipment to achieve the target of 1971-72 (i. e. 120 equipments type I and II)

1.21 After reviewing the requirements of the Army a long term production programme was drawn up for the factory in January 1971, according to which production of the equipment including all types was required to be stepped up to 200 numbers by 1974-75 alongwith adequate spares. Additional investments totalling Rs. 10.10 crores were made periodically till 1978 to overcome the various deficiencies in the planning of capacity to 200 numbers of the equipment per annum in two shifts, the designed production was not achieved till March 1981. The rated capacity for production of the equipment in the factory, the

production achieved and the percentage of shortfall in the production during the 11 years from 1971-72 to 1981-82 are as under :

Year	Rated capacity	Production achieved (all types)	Percentage of shortfall
1971-72	120	90	25
1972-73	140	120	14
1973-74	140	95	32
1974-75	140	99	29
1975-76	140	94	33
1976-77	200	177	11.5
1977-78	200	173	13.5
1978-79	200	163	18.5
1979-80	200	133	33.5
1980-81	200	140	30
1981-82	200	133	33.5

1.22 It would be seen from the above that the production fell short of the rated capacity by 14 to 33.5 percent in spite of the remedial action taken on the recommendations of study team in 1970 and high level Committee in 1975 to improve the production. Replying to a query from the Committee in this regard the Secretary. Defence Production stated during evidence :

> ".....Soon after this decision was taken for induction of balancing equipment, there was a review of requirements, and we needed to step up production to 200 equipments per year at that stage. In October 1971 and May 1974, additional sanctions were issued of the value of 7 crores for civil work and plant and equipment. The period 1971 to 1974 was taken for the arrival of plant and machinery, and for the buildings to house them to raise the capacity to 200. The requirement for 200. really was to become effective from 1974-75.

1.23 The Committee were further told that 184 equipment were produced during 17 years of production.

1.24 The Committee pointed out that during the 17 years of production, average outturn of the equipment had been 109 and for this low level of average production, the need for expansion of capacity from 169 to 200 would not have arisen. It appeared that the capacity had been expanded to make up for the loss of production due to underutilisation of the existing capacity during 1971-74 when the production was even less than 100 equipments against the installed capacity of 160. Reacting to these observations of the Committee the Secretary, Defence Production stated during evidence :

> "The negative answer to that would be that the investments were made aiming at the realisation of 160 and then 200 tanks a year as against

which, the actual achievement had come to 175 in 1976-77 and 1977-78; in certain years, there was a set back. In the total time-frame, as it happened, there has lately been a tapering of production Whereas the national capacity was available, the manpower was not deployed to the extent that we could. If one were to surmise, one could say that the capacity was at the level of 175. Unlike a processing industry, materialisation may not always be to the extent of installed capacity. A pragmatic approach had to be taken on the basis of which the target of production was set from year to year for the subsequent three or four years depending upon the users requirements and availability of resources. These targets were substantially met. At the moment my answer is negative. Rupees 7-8 crores of investment were sanctioned in 1970-71 and 1974 but the capacities materialised only in 1976-77 and in 1979-80."

1.25 It has been stated in the Audit Report that systematic overtime was resorted to in the factory to achieve the targets which were never achieved. The production ranged between 94 to 99 equipments in the years 1973-74 to 1975-76 Asked why there had been underutilisation of man-power and plant and machinery, the witness replied :

"Sir, to some extent that was inevitable."

1.26 The Committee enquired if it could not be avoided by better planning in the earlier years of production, the witness stated :

"In earlier years the capacity did not exist. If you specifically point out these three years; that is, 1973-74 upto 1975-76, the targets were met though there were certain capacity shortfalls. There were certain reasons also for that, which were beyond the control of the Factory. There were problems about power; there were problems relating to supplies of Armour plates from Rourkela; there were tooling problems. There were increased production of spares. Some problems could be identified only in late 1970. In retrospect what we find is this: we would not have been able to maintain the level of 175."

1.27 The Committee enquired if it was not due to inadequate planning that balancing requirements and low capacity utilisation could not be foreseen in 1966 when second shift was planned. The witness replied :

"I agree, that balancing equipment should have been foreseen."

1.28 The Audit para states that 23 numbers of type II version of the equipment were procured from another foreign country at a cost of Rs. 4.26 crores when there was no pending order with the factory for this type of equipment. The Ministry have stated (December, 1982) that there were slippages in the production of the equipment at the factory and the supply could be effected by the factory by further reduction in the production of the equipment which was not acceptable.

1.29 The Commitee desired to know how this had happened and the reasons why this requirement could not be envisaged earlier. In reply, the Department of Defence Production have in a note stated that "the Slippage in production of Type I of the equipment during 1973-74 to 1975-76 occured due to the following reasons which were beyoned the control of the factory :

(a) Short supply of Armour plates from Rourkela Steel Plant which were vital for production of equipment.

(b) Non-availability of adequate toolings on account of acute power shortage in Tamil Nadu affecting supply of toolings to the factory by the firms located in Tamil Nadu State.

(c) Short supply of various bought out materials and components by Public Sector Undertakings trade sources and the collaborators.

1.30 Against the total demands for 2254 numbers of the equipment till 1980 the factory could supply 1715 numbers leaving a balance order of 539 numbers in March 1982. The balance of 520 numbers of Type I of the equipment has been decided to be completed (in 4 years) by 1985-86. In this context; the Committee asked when the capacity is 200 numbers per annum, why the targets have been fixed@ 130 numbers per annum and how the capacity of the factory is proposed to be utilised after 1985-86. In reply, the Department have stated that "Besides production of Type I of the equipment, the factory started production of another Type of equipment (Type-III from 1978-79). Out of five manipulators available for fabrication of some parts of the equipment, one was converted to take up the fabrication of parts for the equipment Type-III. Thus the production capacity of the factory working even on two 10 hour shifts would come down from 200 Nos. to 160 Nos. for type-I. The factory is not working on two 10-hour shifts. As such the actual achievable capacity is far below 160 Nos."

1.31. It has been further stated that "while fixing the targets, the total quantity of orders outstanding to be supplied are taken into account and production programme is arranged in such a manner that there is even flow of production and manpower does not remain idle.

1.32. Government have decided to produce another type of equipment after completion of the existing order. for which a licence production agreement had already been concluded and production planning action has already been initiated. Spares and Part I for Type I of equipment would also be manufactured to meet the requirements of spares for maintenance and overhaul of the existing Fleet. As such the Government is fully seized with the problem and the capacity available will be gainfully utilised for manufacture of spares and Part I for maintenance and overhaul of the equipment and for manufacture of components, sub-assemblies etc. for the new type of equipment proposed to be manufactured at the Ordnance Factory."

1.33 Till 1971, there were frequent break downs of the equipment supplied to the Army due to high incidence of premature failures of Part I of the equipment. The Committee enquired the reasons for increasing the production of the equipment and supplying the same to the army when the equipment was defect prone. In reply, the Secretary, Defence Production stated during evidence :

> "....the power pack of the equipment was running into trouble from time to time. These mainly increased the requirements of spares. These matters are being debated even now and trials of other versions of Part I are going on."

1.34 In a subsequent note furnished to the Committee, the Department of Defence Production have stated as under :

> "As per the Collaboration Agreement signed in August 1961 for the manufacture of the Part I of the equipment, with the setting up of the facilities at the factory the manufacture of prevalent version of Part I which was then current was taken in hand. However, as per the Collaboration Agreement, the collaborators were required to transfer improvements brought about by them in the design of equipment to India during the currency of the agreement.
>
> That version of part I was found to have certain inherent design defects. Taking into consideration the weakness areas of it, on the advice of the Collaborator a new version's manufacture was introduced with characteristics improved over the current version.
>
> In 1976 another version of Part I was introduced with a totally new air filteration system as it was visualised that ingress of dust with the air was leading to the premature failure on account of seizer of pistons, breakage of liners etc. The liner interferences were also re-adjusted. The design of liners was changed. However, some defects are still noticed.
>
> The problems faced in India with current version and the new versions of part I were similar to those faced by the Collaborators also".

1.35 In another note furnished to the Committee the Defence Production Department have clarified that "the premature failure of the Part I has been an experience of not only us but also that of the collaborators".

1.36 The Committee desired to know the mean life of Part I of the equipment and also the numbers of Part I which worked according to the stipulations. The Department have in a note stated :

> "The mean life achieved by the Part I based on a large population is 1750 Kms/220 RCR (Rev. Counter Reading), for new Part I. Based on this mean life, it can be said that there have been 230 cases of premature failure of Part I."

1.37 As about the number of Part I overhauled prematurely, the note stated :

> "No periodicity for overhaul of Part I of the equipment has been laid down. 1268 Part I have been overhauled till 31.1.84. Of these 230 Part I can be said to have been overhauled prematurely."

1.38 It has also been stated in reply to a query by the Committee that "all equipments being produced at the factory are fitted with Part I with imported technology."

1.39. In pursuance of additional requirements indicated by the Army in December 1973 to build up a 'pool' Government sanctioned Rs. 0.85 crore in two instalments to raise the production capacity for part I of the equipment by 75 numbers from 200 to 275 per annum. The factory failed to meet the capacity with the result that only 32 per cent against 40-50 per cent of the requirements could be met after import of 232 numbers at a total cost of Rs. 7.74 crores. Although, the augmented production facilities were available from 1978-79 onwards and the factory was expected to supply 75 numbers per annum for the pool, only 144 numbers were supplied during the 4 years 1978-79 to 1981-82. Asked about the reasons for the shortfall in production, the Secretary, Defence Production stated during evidence as under :

> "After 1977-78 there had been no import. From 1974-75 to 1977-78 there was an import of 148 numbers of Part I. There was a hump and they reduced the requirement. The point is that there was already a backlog at the time of the indent. After the indents were placed, they were met partly by import and partly by indigenous production. When the indigenous production picked up, import was stopped."

1.40 He admitted that about 50 per cent demand was met by imports.

1.41 Admitting that it was a significant import, the witness further stated :

> ".....but it would be the result of a situation , created by premature failures of Part I over a period of time since inception..... for which there would be a need to set up a spare pool so that the equipment were kept active....."

1.42 The witness further admitted that "the defect pointed out by the Army in 1975 still persists."

1.43 The Committee desired to know the specific steps take to indigenise the production of various components of Part I of the equipment which were being imported during the last 20 days and asked how much indigenisation of Part I; parts had been achieved on account of these efforts. The Department of Defence Production have in a note stated that in September 1965, a detailed

itemised price list was obtained from the collaborator of Part I which has been taken as basis for working out the percentage of indigenisation in subsequent years.

2. The Power Pack comprised of 32 main assemblies which in turn Comprise of a total of 1865 Nos. of components items and sub assemblies etc.

3. The first stage of indigenisation consisted of assembly of the Power Pack from CKD's 25 sets of which were imported in the initial stages. The assembly of the Part I from CKDs, testing, painting etc. formed 15% of the value of the imported complete Part I. Thus the indigenisation (by value) achieved in respect of the first 25 numbers of Part I made from imported CKD was 15%.

4. In the second stage, 55 sets of components in the form of fiinished machined, semi-machined raw material and items of proprictary nature of suppliers other than the collaborator were imported and the Part I completed. The percentage of indigenisation by value achieved in case of these 55 numbers of Part I worked out to 37%.

5. Since then, continuous efforts were made for indigenisation of not only items, sub assemblies, components which pertain to collaborator responsibility, but also those which are of proprietary nature and obtained as brought out items by the collaborator. The items which were the responsibility, of the collaborator and where detailed design and process schedules were made available, could be indigenised in a much shorter period. By reverse engineering, production of very large number of even proprietary items was also taken up in the country.

6. As the position stands today, out of 1865 items, 1834 items have been indigenised leaving 31 items only, which are being imported.

7. These 31 items comprises 9% of the total value of the complete Part I. These items belong to the category of (Proprietary) items obtained by the collaborator from outside sources. These items are mostly Bearings, Chemicals which are obtained from specialised firms.

8. Out of these 31 items, Pistion Assembly Air and Pistion Assy Exhaust being relatively of higher value were also taken up under the programme of indigenisation. 1969-70 a proposal was drawn for setting up a Joint Sector Venture with Government and M/s. India Pistons, Madras. However, the proposal did not fructify.

9. Subsequently efforts were made with the following manufacturers of Pistons to indigenisation 1-60 Pistons :-

(i) M/s. Auto Pistons

(ii) M/s- Goetze

(iii) M/s. Shriam Pistons

(iv) M/s. Escorts

(v) M/s. Jainson Pistons

efforts to develop the pistons with these firms also failed.

10. Efforts were then made to develop the source for individual items of the piston assembly and development orders were placed in respect of 16 items which form the piston assembly. Some of these items have already been developed and efforts are being made to develop the remaining items.

11. So far as *Connecting Rod* is concerned, indigenisation was achieved as early as 1969.

12. It would be observed that against 1961 expectation of indigenisation of maximum 88%, 94% of indigenisation has been achieved for the equipment system as a whole. In respect of Part I alone 91% indigenisation has been achieved."

1.44 The Committee enquired is the Deapartment of Defence Production have developed any version of Part I of equipment with indigenous technology. In reply the Department have stated that a new version of Part I with an ultimate capacity of achieving an output of 1500 HP is under developmen. at CVRDE Avadi for application on modern version 'M' of the equipment "Incidentally, it may be stated that Part I for the equipment are being manufactured at factory, to meet the requirements as original equipment as well as for replacements (pool requirement of the Army) However, no indigenous development of the Part I has so far been undertaken for application on the equipment. For replacement of the present Part I fitted on the equipment some alternate versions of Part I are under trials and evaluation and no decision has been taken so far."

1.45 Although production had started in 1965, estimates indicating quantum of labour, materials etc. for the manufacture of the equipment had not yet been standardised and no incentive system was introduced in the factory.

1.46 The Committee enquired why the estimates for the manufacture of the equipment etc. have not been standardised so far. The Department of Defence Production have in a note stated as under :

" Collaboration did not provide any standard estimate. They only supplied process schedule giving approximate processed time. These timings did not include essential element like set up time, standard allowances and system delays. Operations like inspection, rectification and trials were not listed. In the initial stage of production in the factory it was held that the process schedules themselves could be kept as an ideal timing achievement to be armed at.

Hence no standard estimates as adopted in other ordnance factories which work on piece work system, was introduced. The production control at the factory is computerised and it is adopting the format of bill of materials and process sheet for authorising drawal of

materials and booking of labour which were found adequate for cost control. Now that the production is going off the line shortly, the introduction of standard estimate is not considered necessary."

1.47 The Committee asked about the steps taken by the factory to standardise it on a just and rational basis. In reply the General Manager of the factory stated during evidence :—

"On the labour estimates and the actual booking, when we got the design, we got the process-sheets and the process sheets gave the timings for the processing items and components. We have assemblies, sub-assemblies and testing which are involved at all stages. We developed a large number of systems for which nobody has given any timing to us. Timings for these have to be specific to our conditions. The process timing of individual components is one thing and the total time taken by the system is another thing. The total time that is taken is available and the attempt is there to reduce it. But we are not able to make any significant reduction on it because the process of assembly, testing and rectification of defects become non-standard areas where fixing of predetermined timings become difficult."

1.48 Systematic over time was also resorted to in the factory to achieve targets. Despite fall in production there was increased overtime work during 1979-80 to 1981-82 as compared to 1978-79 as indicated below :—

Year	Total number of equipments produced	Industrial Establishments		Non-Industrial establishment/ non-Gazetted Officer	
		No. of over time hour (in lakhs)	Amount paid (Rs. in lakhs)	No. of over time hours (in lakhs)	Amount paid (Rs. in lakhs)
1978-79	163	24.05	94.15	9.03	44.78
1979-80	133	25.76	17.19	9.71	53.48
1980-81	140	24.79	99.57	9.08	41.55
1981-82	133	25.69	122.45	9.22	54.75

1.49 The Ministry of Defence have stated that the increased over-time was due to manufacture of a large quantity of components and special Jigs, tools and special fixtures for them for future production of the equipment.

The Committee asked why a large quantity of components, special jigs, tools and fixtures for future production was manufactured during overtime hours when the main items of production lagged behind. In reply the Department Defence Production Ministry of Defence have stated :—

> "The main item of production did not lag behind due to production of special jigs, tools and fixtures for future production."

1.50 The Committee desired to know the value of special jigs, tools & fixtures manufactured for future requirements and when these were actually utilised for production and what was the total value of these jigs, tools and fixtures, etc, still lying unutilised. In reply the Ministry have stated in a note :—

> "Total value of tools, jigs, and fixtures produced during 1979-80, 1980-81 and 1981-82 were Rs 76.76 lakhs, Rs. 83.92 lakhs and Rs. 70.41 lakhs respectively. These tools were manufactured in tune with the production programme of the equipment and mostely utilised in current production. The quantum and value for the residual items and value for utilisation in future are difficult to quantity. However, these details are being attempted to be ascertained.

1.51 The Audit para further points out that productivity linked bonus amounting to Rs. 25.03 lakhs and Rs. 27.67 lakhs was paid to the civilian workers in 1979-80 and 1980-81 respectively in spite of the fact that productively index during these years had fallen to 69 and 82.4 per cent respectively much below the permissible limit of 90. This together with the excessive manhour employed for production of the equipment inflated its direct cost.

1.52 The equipment was expected to be out dated after 1985. However, one Defence Production Secretary stated during evidence :—

> "It is stated that this equipment is coming to an end in 1985 but this is not the case. We are producing equipment in 1685-86 also. This equipment will be with the army for another 10-15 years. Therefore, the Part I replacement is being considered as a high priority item."

1.53 In order to replace the equipment, development of a modern version 'M' had been taken up in 1974 at a revised cost of Rs. 56.55 crores. The project envisaged in 1974 manufacture of 12 prototypes. As per the time schedule, 4 prototypes were to be offered for trials within 6 years, i. e. April, 1980 and the remaining 8 by April, 1982. The bulk production was to commence within 10 years, i. e. by April, 1984. However, in 1982 even prototypes were not completed When asked about the position of the development of the new equipment, Defence Production Secretary stated in his evidence before the Committee :—

> "It is entirely a new development and a new Part I with different technology is being developed hopefully to suit the Indian conditions

and this development is now under way and it is expected that in another 8-12 months the prototype will be really at the expected horse power."

1.54 When asked if it meant that the present equipment will continue to our main equipment still 2000, the witness stated :

"We have an interim equipment also. Between the present equipment phasing out and the production of the new equipment, this is the interim weapon which is being used at present."

1.55 The Committee asked about the delay in the manufacture of prototypes of modern version 'M', the Secretary, Defence Production stated during evidence :

"...so far as the projection made at that time is concerned, that obviously was unrealistic."

1.56 He further told the Committee that no country in the world is known to have developed de-novo such an equipment in less than 15-17 years. "So our estimate of 10 years was very ambitious."

1.57 The Committee asked when the regular production of modern version 'M' will take place after the normal gestation period. The witness replied :

"I will not speculate on it. It depends upon the availability of drawings,technical documentation plant and machinery procurement. The first prototype came in 1984."

1.58 In reply to a further query on this point, he added :

"Until the prototypes are evaluated, all the rest is a guess work."

1.59 With a view to establish indigenous production of a vital defence equipment, and its Parts I, II and III, Government entered into 5 collaboration agreements with some foreign firms for purchase of prototypes and production models of the equipment, licence to manufacture and for obtaining design knowledge, complete data and technical assistance in setting up of a factory and establishing production facilities. An outlay of Rs. 16.12 crores (later on increased to Rs. 17.27 crores in January 1967) was sanctioned to establish production facilities for 100 numbers of the equipment and its Parts I, II and III per annum in a single shift of 8 hours. In February 1966, additional outlay of Rs. 84.43 lakhs was sanctioned for civil works considered necessary to enable the factory to run double shift to increase the production to 160 numbers of equipment a year. The Committee are, however, surprised to find that when Government decided to set up production facilities for the equipment, the said equipment was simply on the drawing board and was not manufactured even by the Collaborators. Hence, there was no reliable

data available about the performance of the equipment. No wonder subsequent experience with the equipment has not been happy as Part I of the equipment has been subject to frequent failures. The Committee are unhappy that Government thought it prudent to undertake production of an unproven equipment whose performance was not put to test anywhere. The Committee expect Government to draw adequate lessons from their experience in this case and ensure that only equipment of proven design and performance are chosen in future.

1.60 The Agreement entered into with the foreign collaborator envisaged, inter-alia, licence to manufacture the equipment hundred per cent indigenously. However, the Committee find that there had been a significant import of components even after 20 years of establishment of production facilities. The Agreement envisaged that there would be progressive indigenisation of components starting with 35 per cent at the initial stage of production, reaching to the level of 85 per cent at the production of 450 and more equipments. This level of production was reached in 1972-73, but the level of indigenisation achieved at that time was only 62 per cent (by value). Even in 1974-75, the indigenisation achieved was only 79 per cent, i.e. much below the target of 85 per cent envisaged in the agreement. Even today, 20 years after the establishment of the initial production facilities, the country is still dependent on the Collaborators for some vital components. What is really surprising is that no phased programme or time-schedule was drawn up to attain total indigenisation of the equipment. The same lapse was repeated in the indigenisation of Part I of the epuipment. Over the years, 9 per cent indigenisation has been achieved by value and the country is still dependent on imports for 9 per cent of the value of components including some high value items such as piston, bearings and chemicals. This is not a happy position. With the rapid strides made in the later part of the Seventies and early Eighties in building the industrial infrastructure in the country, the Committee feel, achievement of total indigenisation is not a difficult proposition. The Committee would like the process of indigenisation speeded up so as to achieve total indigenisation in the near future. The Committee further desire that in future as and when manufacturing capacity of any equipment is set up in the country, a programme of indigenisation should be prepared and target date for complete indigenisation fixed and every effort made to achieve the targets as envisaged.

1.61 The Committee are disappointed to find persistent failures in the factory in achieving the production targets with the result that Army's requirements of the equipment have remained unfulfilled. Although the production in the factory had started in 1965 with a production capacity of 100 weapons a year and all the shops of the factory were working two shifts from 1967 and the production capacity was raised to 160 numbers a year, the factory could supply only 368 numbers in all during 7 years from 1965-66 to 1971-72, i. e., an average of about 53 weapons per year against the Army's total requirement of 549 numbers by March, 1972. In addition, the factory produced and supplied prototype of another version of the equipment in 1967-68 and supplied 10 numbers each of this versions to the Army during 1970-71 and 1971-72 against their requirement for 33 numbers during 1967-68 to 1970-71.

1.62 The reasons for failure to achieve the targets were investigated by a study team in September-October, 1970 appointed by the General Manager of the factory. The study team found that the optimum production that could be achieved could be 120 against the target of 160 equipments as 25 per cent of the capacity would be required for manufacture of spares for which no capacity had been created.

1.63 The Committee are surprised that while laying down targets of production, it never struck the authorities to provide for the production of spares. This clearly shows the casual manner in which planning for the project was done. The Committee would like to be apprised of the reasons for such a serious omission.

1.64 The Committee find that according to the study team, even this reduced production of 120 equipments a year could not be achieved because of several factors *viz.* timings recommended by the collaborator having not materialised and required upward revision; no separate provision having been made for development work for establishing production of different components of the equipment and its other versions; inadequate allowance made for unavoidable machine break-downs and uneven flow of materials, extra machining of the components required due to non-availability of materials of correct sizes and inadequate material handling facilities To overcome these deficiencies further investment of Rs. 36.55 lakhs for procurement of certain balancing machine tools and additional material handling equipment was made. The Ministry have explained that these factors could not be thought of at initial stage of establishing production facilities because 'the collaborators were assigned the task of designing the lay out only for 100 equipments per year.' The Committee find this argument unconvincing as they feel that the authorities should have visualised the need for this additional equipment while expanding the capacity to 160 numbers of equipment per year on the basis of double shift. Why it was not done needs explanation.

1.65 After reviewing the requirements of the Army, a long term production programme was drawn up for the factory in January 1971 and it was decided to step up the production to 200 numbers by 1974-75 alongwith adequate spares. An additional investment of Rs. 10.10 crores was made periodically till 1978 to overcome the various deficiencies in the planning of capacity to 200 numbers of the equipment per annum in two shifts. The expanded capacity of 200 equipments a year was established in 1976-77, but there had been shortfall in production ranging from 11.5 per cent to as high as 33.5 per cent from the period 1976-77 to 1981-82. It is indeed disturbing that after attaining a production of 163 numbers in 1978-79, the production started falling and the number of equipment manufactured was 133, 140 and 133 in 1979-80, 1980-81 and 1981-82 respectively. Because of the under-utilisation of capacity during the first 17 years of production the average production was only 109 numbers of equipments a year. Thus, despite heavy capital investment totalling Rs. 27.37 crores over the years and remedial action taken to streameline the production on the recommendations of the factory's study team in 1970 and the high level committee set up in 1975, the project failed to achieve the targeted production. The committee consider it deplorable. They

desire that the reasons for the failure of the factory to achieve targeted production should be investigated by a high level committee in order to fix responsibility.

1.66 Another surprising aspect is that while on the one hand production in the factory was falling, the overtime paid was on the increase. This is evident from the fact that in 1978-79, 163 numbers of equipments were produced and the amount of overtime paid to industrial establishment was Rs. 94.15 lakhs. In 1979-80, the factory could produce only 133 numbers of equipments, but the amount of overtime paid rose to Rs. 117.19 lakhs. In 1981-82 again, the production of the equipment remained the same, but the amount of overtime rose further to Rs. 122.15 lakhs. This is, to say the least, indicative of complete absence of management and financial control. The Department of Defence Production have stated that the increased overtime was necessitated by manufature of a large quantity of components and special jigs, tools and special figures for them for further production of the equipment. The total value of tools, jigs and fixtures produced during 1979-80, 1980-81, and 1981-82 were Rs. 76.76 lakhs, Rs. 83 92 lakhs and Rs. 70.41 lakhs and these are stated to have been mostly utilised in the current production programme and the value of residual items for utilisation in future are stated to be difficult to quantify. The Committee find little justification in resorting to overtime for production of required in future when main production of the equipment was far below the rated capacity of the factory and resources under-utilised. It is a pity that in spite of resorting to systematic overtime payments, the factory could not achieve the targets and the shortfall in the supply of equipment was met by depressing the War Wastage Reserve and keeping the units at hard scale.

1.67. The Committee note that productivity index during these years had fallen to between 69 and 82.4 per cent *i.e.*, much below the permissible limit of 90. The Committee would await the steps taken to improve labour productivity.

1.68 The Committee observe that 23 numbers of type II version of the equipment were procured from another foreign country at a cost of Rs. 4.26 crores even when there was no pending order with the factory for this type of equipment and there was overall decline in the level of production of type I of equipment in the factory. It has been stated that the supply could be effected by the factory by further reduction in the production of the equipment which was not acceptable. No doubt, factors like short supply of certain materials and bought out components inadequate tooling and power failures had been contributing factors for low level of production in the factory, but all the same the Committee feel that these problems were neither insurmountable nor of lasting nature. The production of type II version of the equipment could have been managed in the Factory itself with better planning and foresight and the country could save Rs. 4.26 crores in foreign exchange.

1.69 The Committee are concerned to note that the installed capacity of 200 numbers of equipments was not being fully utilised at the Factory even though there were pending orders for 539 number of equipments as in March, 1982. The

Department of Defence Production has decided to execute these orders in four years by 1985-86 @ 130 numbers per year. It has been stated that besides production of Type-I of the equipment the factory has started production of another Type of equipment and 20 per cent of the production capacity out of the total 200 numbers has been diverted to it. The Committee are perturbed to find that even the remaining capacity of 160 numbers of equipment for Type I was not being utilised fully as the factory was not working on two shifts. The Committee have already expressed their concern on the underutilisation of the installed capacity in the preceding paragraphs. They would like Government to ensure that the installed plant and machinery and also the man-power deployed are fully utilised.

1.70 The Committee view with serious concern the fact that there have been frequent break downs of the equipment supplied to the Army due to high incidence of premature failures of Part I since its inception though it had been fitted with components produced with imported technology. Modified versions of Part I tried on the equipment also failed to improve the position. Consequently, out of the total of 1268 numbers of Part I overhauled till 31 January 1984, 230 had to be overhauled prematurely adding not only to the increased requirement of spare components but also endangering the defence of the country. It has been pleaded that premature failure of Part I had been the experience of the collaborator also. This, in the view of the Committee, is a poor consolation. The fact remains that due to this defect in this vital part of the equipment, not only there has been extra expenditure, but the battleworthiness of the equipment has become doubtful. What is a matter of still deeper concern is that in spite of efforts, it has not been found possible to overcome this defect. The Committee have no doubt that this sorry state of affairs has arisen because of selection of an uproven and untested design. The Committee urge that the Defence R & D Organisation should take up the challenge and with their technological competence should be able to overcome the defects at the earliest.

1.71 The premature failure of Part I, increased the demand for it resulting in significant imports. To build a pool of 40-50 per cent of requirement as indicated by the Army, Government resorted to import of 232 numbers of Part I at a cost of Rs 7.74 crores. The factory failed to meet the pool requirements of Part I even though its production facilities had been augmented at the cost of Rs. 0 85 crores by increasing capacity from 200 to 275 numbers per annum. The augmented capacity was available from 1978-79 onwards, but the factory could supply only 144 numbers of Part I during 4 years till 1981-82 against the expected supply of 300 numbers. The Committee feel that this is yet another instance of the failure of the factory to meet its obligations resulting in avoidable outgo of scarce foreign exchange.

1.72 The Committee observe that although production had started in the factory in 1965, estimates of quantum of labour, materials etc. required for the manufacture of the equipment had not been standardised The Department of Defence Production have contended that the collaborators did not provide any standard estimate. They only supplied process schedule giving approximate process timings which did not include essential element like set up time, standard all-

owance and system delays. Operations like inspection, rectification and trials were not listed. In the initial stages of production in the factory it was held that the process schedules themselves could be kept as an ideal timing achievement to be aimed at. The General Manager, of the factory stated that "the total time that is taken is available and the attempt is there to reduce it, But we are not able to make any significant reduction on it." The Committee are not convinced of this line of argument. They feel that it would have been better if the standard estimates had been obtained and standardised by the factory. The Committee hope that this will be done atleast now.

1.73 The Committee are concerned to note that the development of modern version 'M' of the equipment which has to replace the current version of the equipment after 1985, taken up in 1974 at a cost of Rs 56.55 crores has not made much headway. The project schedule envisaged in 1974 that four prototypes would be offered for trial by April 1980 and another 8 in the next two years by April 1982. Bulk products planned to commence within 10 years, i. e , by April 1984. It is distressting to note that the first prototype was developed as late as in 1984, *i.e.*, four years behind schedule upsetting the entire production plan. Even this had to be done on an imported Part I of the epuipment as the indigenous Part I of the requisite capacity could not be developed. Until prototypes are evaluated, time period required for regular production cannot be precisely estimated. Thus, the regular production of the modern version of the equipment is nowhere in sight. The Secretary (DP) frankly admitted that the projection made at that time was obviously unrealistic. He however contended that no country in the world is known to have developed *de-novo* such an equipment in less than 15-17 years. The Committee cannot but express their serious displeasure at the tendency of the authorities to make such unrealistic estimates thereby raising false hopes. This is still more serious when such an unrealistic estimate is made in the case of a vital equipment for the defence of the country. This is a case of very poor planning of a vital defence equipment. The emerging picture that Committee visualise is quite disturbing. The current version of the equipment which is at present in use is defect-prone and cannot be relied upon; the modern version which has to replace it, is nowhere in sight. No doubt an intermediate version has been imported and is in use but the production facilities for the same have also not been set up. They hope that Government would take appropriate action not only to expedite the development of modern version of the equipment but also to make arrangements in the interregnum to be self-reliant in the production of intermediate version of equipment till the regular production of the modern version commences.

CHAPTER II

(*Para 12 of the Report of C&AG of India for the 1981-82 (Defence Services) relating to Inventories and Works-in-progress in Ordnance Factories)

2.1 The inventory holdings and works-in-progress in the ordnance factories during the period 1980-82 had been as shown below :

Year	Inventories	Works-in-progress	Total production	Material components
		(in crores of Rupees)		
1980-81	525.77	224.52	671	458
1981-82	583.54	252.75	787.2	541.15

2.2 It has been pointed out in the Audit Report that a considerable portion of this stock was surplus to requirements. On a rough basis with reference to the expected holdings for 9 months requirements in case of inventories and 6 months life for manufacturing warrants in case of works-in-progress, stores and works-in-progress of the value of Rs. 197 crores approximately were surplus. The Committee desired to know the reasons for excess stock holdings in Ordnance Factories. The Ministry of Defence, Department of Defence Production in a note furnished to the Committee have stated as follows :—

"The Ordnance Factories are, essentially a captive industry of Defence for the supply of arms, weapons, ammunition, equipment, and other defence stores, to the three Services. This is a 'single-customer single supplier' system, in which the Armed Forces demand their requirements from the Ordnance, Factories and Ordnance Factories receive their almost entire manufacturing load from the Services. On receipt of indents from the Services, the Ordnance Factories draw up a production plan to meet the user's requirements upto the specified quantities and within the specified time, as determined by the capacities in the Ordnance Factories. Inventories in the Ordnance Factories are held to support this function. It is ensured by the Ordnance Factories that production operations are not delayed for want of material and there are no stock-out situations.

The inventory holdings in the Ordnance Factories are directly related to the production levels not only in the relevant year, but also the production programme planned for the next year. In Ordnance Factories, the importance

*Please see Appendix II.

of inventory control and materials management has been recognised from the very beginning. Clear and specific Government instructions have been issued from time to time laying down the principles for holding of inventories. According to the existing instructions issued by Government, Ordance Factories are authorised to hold inventories for 9-12 months' requirements of imported items, 9 months requirement of difficult indigenous items and 6 months requirement of other indigenous items. The above limits laid down in the existing Government instructions relate to the materials required for production purposes and do not include waste/obsolete stock or maintenance stock.

On an analysis of the inventory holdings in the Ordnance Factories, the following picture emerces :

Year	Total inventory	Value of Production	Break-up of inventories						
			Working Active	STOC Slow moving	Non-moving	WASTE/ OBSOLETE	SURPLUS	MAINTENANCE	
66		%age increase	%age increase						
			(Rs. in Cr.)						
As on									
31.3.80	417	-	600	—	317	36	17	14	4 20
31.4.91	526	+26%	671	12%	396	32	34	19	4 41
31.3.82	584	+11%	787	17%	449	31	27	24	7 46

2.3 It would beseen from above that of the total inventories of Rs. 526 and Rs. 584 crores respectively during the years 1980-81 and 1981-82, the cost of surplus stores, scrap, slow and non-moving stores add upto 89 crores each year."

2.4 The Committee desired to know the reasons for accumulation of non-moving, slow-moving and surplus stores. The Department of Defence Production have stated that a comparison of the holdings of slow-moving and surplus stores from 1980-81 to 1982-83 will show that the position has improved considerably :

	As on 31st March		
	1981	1982	1983 (As Per prov. A/C.)
	(Rs. in crores)		
Slow-moving	31.98	30.69	26.48
Non-moving	34.34	26.85	20.55
Surplus (including scrap)	19.27	24.72	15.69
Total :	**85.59**	**82.26**	**62.72**

2.5 Stores which have not been drawn for a continuous period of 1 year from the date of receipt are classified as slow-moving and stores which have not been drawn for a period of 3 years more are classified as non-moving. It has been stated that 'the above type of stocks cannot be regarded as surplus altogether to the requirements, since most of these items rebate to maintenance spares for plant & Machinery, which may not be used regularly.'

2.6 Asked if excess holdings were reviewed regularly and if so what steps were taken to control the excess stocks, the Ministry have replied that "the position regarding the inventory holdings in the Ordnance Factories has improved as compared to 1980-81. The level of inventories in the Ordnance Factories is reviewed at the level of Ordnance Factory Board and is also periodically monitored by a High Level Committee in the Department of Defence Production, comprising of Secretary (DP) as Chairman, Ordnance Factory Board and FA DS as members. The following steps have been taken in this regard :

(i) ABC analysis of the inventories.

(ii) Staggering of deliveries to match with production requirements.

(iii) Disposal of non-moving/surplus/obsolete stock. Special Task Forces have been set up in the Ordnance Factories to identify the problem areas and take suitable remedial measures.

The surplus/obsolete stores mainly constitute the waste, scrap, repairable and servicable stores. After reviewing all such surpluses and exploring the possibility of alternative utilisation, the question of retention or disposal of stores is considered and well laid procedures exist for declaring surplus stores to other Factories and other Defence Services.

A half-yearly return on the level of inventories in the various OFs has been prescribed to monitor more closely the stock-holdings, especially the disposal of waste/obsolete/surplus stock."

Inventories

2.7 It has been stated in the Audit Para that the overall stock holdings in terms of 9 months' consumption in the ordnance factories had gradually increased from 9.63 to 11.21 during 1978-79 to 1980.81 as indicated below :—

Year	Average inventory held during the year	Average monthly consumption during the year (in crores of rupees)	Stock holding in terms of months' consumption
1978-79	332.43	34.51	9.63
1979-80	384.30	37.35	10.29
1980-81	417.57	42.08	11.21

2.8 A review of the position of the individual factories on similar basis revealed that during 1980-81 out of 34 factories, the cost of excess holdings beyond 9 months in 17 factories was approximately Rs. 149 crores.

2.9 The Committee enquired about the basis of average 9 months inventory norms and asked whether the same could not be reduced. The Secretary, Defence Production stated during evidence :—

"What goes into the manufacture of these 300 items of major equipments and 10,000 types of assemblies that take place would run into Millions. Our purchases are through numbrous agencies. The explanation is that if a private and public sector fails in its commitment on a contract there is nothing that you can do except 1 percent damages. But here you have to meet the requirements because this is an industry dedicated to war insurance."

2.10 He added :—

"In the last resort the inventory holding in the units is of secondary importance because it is adefence industry and you have to meet the targets of production laid down regardless of other factors. Nevertheless we are computerising now. They will be made use of. There are some areas where the deficiency has to be set right. These are problem areas which have been identified and our task-force is working on this actively."

2.11. The witness further told the Committee that the norm of 9 months were laid down in 1978.

2.12. The Committee pointed out that a number of public sector undertakings use a large number of imported components in their manufacturing process and they are allowed to import components half yearly on the basis of their requirements. In this context when asked if there were any such norms for ordnance factories, the witness replied in the negative saying :

"There is no norm for a factory."

2.13. The Committee pointed out that in some developed countries, manufacturing units keep their inventories as low as half day's or one day's requirements and enquired if, in this context, 9 months' inventory norm were not on higher side. In reply, the witness stated :

"The situation in India is such that I do not think that in the next 15 years you will have a situation where you can operate on half day's inventory."

2.14 He further contended :

"These figures, if I may submit. cannot be taken by themselves. When you are valuing the inventory holdings, you have to take the production levels and also the projection levels. We have three-fold increase in the last 8 years in the value of production and we are contending that the inventory levels have maintained that kind of balance. There are areas for further improvement and control, but at this level there is no deterioration. Increase in inventory build up will necessarilly be related to projection build up."

2.15 The Committee asked why in 197 Factories the stock was for 10-28 months requirements in terms of months' consumption when norms fixed were for 9 months requirements. The Department of Defence Production have in a note stated :

"The level of inventories in any Ordnance Factory in a particular year depends mainly upon the production programme, which is determined, amongst other factors, by the capacity and availability of matching material/Components. Excepting 10 Ordnance Factories, which are self-contained units other Ordnance Factories are dependant upon feeder Factories. Accordingly, these Factories are required to procure and stock items from the feeder Factories and trade. Whenever there is hold up in the supplies of matching items, there is an excess of unbalanced supplies.

"It may be added that the computation of the level of inventory holdings in terms of months consumption is being done at present on the basis of past consumption levels. In the fitness of things, the stock-holdings should be computed with reference to the levels of consumption for the period for which the inventories have been procured. With the increasing level of volume of production, the inventory holdings in terms of months consumption, especially of working stock, will be within the prescribed levels on the basis of future planned levels of production."

2.16 The Committee asked whether there was any system to exercise check so that the holdings may not exceed rougnly 9 months recuirements and if so, why check could not be exercised in 17 factories. In reply, the Department have stated in a note :

"According to the procurement procedure quotations tender can be floated only after the quantities proposed to be purchased have been vetted by the Aceounts Officer, on the basis of actual stocks held, dues-in in respect of supply orders already placed and balance requirements only are obtained in order to maintain the production programme, depending upon the lead time involved in the procurement.

In order to avoid over-provisioning, it has been provided in Government instructions that provisioning should not be made on the basis of the entire demands of the Services but on the basis of what the

DGOF/General Managers realistically expect to produce out of the demands during a particular provisioning period. Ordnance Factory Board has issued fresh instructions to all the General Managers to examine each item of category 'A' stores and to declare unwanted stores as surplus or to make appropriate adjustment against uture purchase proposal for reducing inventory holding *vide* Circular No. 01/6/MM dated 29.8.1983."

2.17 With the object of tackling the problem of inventory holdings on a high level, task forces had been constituted in June 1982 in all factories to carry out thorough analysis of the inventory position for taking remedial measures and reports received from the task forces in respect of 15 factories were under examination and that the stock in terms of number of month's consumption had recorded a decrease from 11.21 in 1980-81 to 11.04 in 1981-82.

2.18 Clarifying the position, the Secretary, Defence Production during evidence stated that "if we were to apply the criterion of taking the stocks at the end of the year and relating it to the following year's production", the inventory shown as 11.21 and 11.04 in 1980-81 and 1981-82 "comes down to about 10.4 or 10.5".

Task Forces

2.19 The Committee asked if the reports of the task forces have been finalised and if so, what were their findings and to what extent their recommendations have been implemented, in reply, the Department of Defence Production have stated in a note :

"Task Forces were set up in all Factories for the first time last year. They were, in the first instance, to identify the 'A' category items based on the value of stock held in the inventory, ensure correctness of store accounts of these items, correct discrepancies, if any and then analyse the physical stock to determine the necessity for those holdings with reference to requirement for production. Only some of the Factories were able to complete their studies last year. Accordingly, all the Factories have been asked to set up the Task Force again this year in 4/83, and they have been asked to study and submit the findings urgently. The studies are to be completed by the Factory Task Forces for this year and are still awaited.

2.20 The Task Forces have *inter alia*, pointed out that 'Priced Store Ledgers in Ordnance Factory, Khamaria and Gun Carriage Factory, Jabalpur are in poor shape and a detailed investigation is necessary. In particular incorrect ledger rates in Ordnance Factory Khamaria and discrepancies between the bin cards and ledger balances in Gun Carriage Factory, Jabalpur need to be rectified' (para 15.4).

2.21 In para 15.8, the Task Force have recommended examination of the existing procedure of flow of documents to ensure that receipt vouchers are received in accounts and posted in the ledger prior to the related issues. Para

15.9 of the Report of the Task Force urged quick location of 1000 missing vouchers pertaining to 1978-79 for posting in the bin card and in the ledgers to enable quick completion of the reconciliation. It also recommended computerisation of Priced Store Ledger in view of the vast number of ledger folios which keeps on increasing (para 15. 11). The Task Force have also desired to make available mechanical aids like calculators and provision of a separate Accounts Officer exclusively incharge of the Material Section in each of the Ordnance Factories (Paras 15.12 & 15.13).

2.22 The recommendations made by the Task Forces and the action taken by the Department of Defence Production on their implementation are placed at Annexure I.

2.23 It would be seen that the Task Forces had found serious deficiencies in the maintenance of accounts ledgers, bin cards *vis-a-vis* actual number and other procedural matters and had recommended detailed investigation and rectificatory steps. In this context, the Committee desired to know the rectificatory steps taken to streamline the procedure. In reply, the Secretary, Defence Production stated in evidence :—

> "All aspects are being gone into with reference to cost verification, with reference to particular items etc. Of course, it is a major task..... At this point of time, I can only say that it is not merely impropriety but it may be irregularity also. We would certainly investigate. Primarily, vouchers were not posted and there was shortage of staff for a period of time. That is why, I made exception to two units. This is one of the two factories. We have yet to determine finally. The process has started two years ago and it is rather complex. We hope that it will be finalised in the next 6 to 8 months. The point that you have mentioned certainly be borne in mind."

2.24 He further continued :—

> "Whatever irregularities have been found as a result of the study undertaken by the task force, these are being rectified. All the systems are are being modified to the extent necessary. We will see that all the procedural improvements are effected. But basically it seems to be more of a situation created by the work having fallen in arrears due to inadequate staff and inadequate supervision. What is "used up" is shown as an inventory. That is what bothers us. The inventory shown in the books of accounts is not really the inventory. It would have been consumed. The value of production would have been understated or the adjustments would not have been made in the books of accounts. All that will be looked into."

2.25 He agreed with the Committee that care should be taken to see that further procurement is regulated to avoid excess inventory and that there might have been some pilferage also. He further stated :—

"In this case, it gives you a false picture of inventory which does not exist. It has to be conditioned to each unit separately. The instructions do exist that we should avoid building up the inventory. This has been made the personal responsibility of the General Managers so that they cannot leave it to the supervisors and store controllers. The General Managers have been made responsible to keep a watch on the inventory stock-pile or the level of inventory going up."

2.26 The Committee enquired about the reasons for Task Forces not completing the analysis of inventory position in the remaining 19 factories. The Secretary, Defence Production replied during evidence :—

"It is because the problems were enormous and also they had to find additional staff for this purpose.....In fact that was a good thing that the task forces did not complete the work. There was a major problem of arrears in accounting and in postings and adjustments."

2.27 Asked if this was the reason for task forces not being able to complete their job, the witness replied :—

"Part of it is right, we have entered into the issue and we will resolve the problem which could not be done in 1981-82."

Scrap holdings

2.28 The scrap holdings in the ordnance factories had gradually increased from Rs. 10.19 crores at the end of March 1979 to Rs. 12.58 crores at the end of March, 1980, Rs. 15.16 crores at the end of March 1981 and to Rs. 18 crores at the end of March, 1982 as their utilisation was restricted due to non-availability of required facilities and disposal by sale was not commensurate with the rate of their accumulation. Out of the total scraps of Rs. 15.16 crores as on 31st March 1981, the holdings in 4 factories alone amounted to Rs. 11.68 crores. In one of them, about 109 tonnes of cupronickel scrap in bullet forms (Cost : Rs. 20.68 lakhs) received in March 1956 from a sister factory and 112 tonnes of fired cartridge cases (Cost : Rs. 25.11 lakhs) received from other sources mainly during March to October 1972 were awaiting disposal (March 1982).

2.29 The Committee desired to know the reasons for gradual increase in the scrap holdings in the Ordnance Factories and the action taken to liquidate these holdings. The Department of Defence Production have in a note stated that scrap holdings in the Ordnance Factories have shown an increase on account of increased turn-over in production. According to Government instructions, graded scraps both ferrous and non-ferrous are first offered to melting factories before disposing them through auctions. The note further states that "disposal of scrap is receiving full attention. Efforts are in the process to scrutinise arisings of ferrous scraps, and their utilisation in the melting factories for recycling purposes. Steps have also been taken for entering into conversion cont-

racts in respect of non-ferrous scraps with a view to conserve valuable virgin metals. Notable achievements made by the Ordnance Factories in giving impetus to the disposal of scraps can be appreciated from the following :—

> "During the last two years primary thrust has been given in recycling the scraps for maximum utilisation.
>
> (i) Firstly close coordination is being made with Metallurgical factories in respect of their input requirements so that all available scraps from other Factories which can be used by the Metallurgical Factories are channellised for optimum utilisation.
>
> (ii) In the second part the remaining scraps are further analysed on the basis of their potential or recycling through trade. By this a number of items particularly copper and copper based alloy and aluminium which were hithertofore being purchased out right are now being obtained through conversion contract.

2.30 Further expeditious actions have been taken by resorting to running contracts for such of these scraps which are of no use to Ordnance Factories and whose arisings are more or less uniform."

2.31 The Committee were told during evidence that non-ferrous scraps which cannot be utilised in useful production are sold to trade.

2.32 According to the instructions issued by the Government in 1978, while disposing non-ferrous scraps special reservations upto 30% each for copper and copper based alloys including brass scraps are to be made for Small Scale Industrial units and export-oriented units at a concessional rate of 10 per cent less than the sale price. The Committee asked about the quantity of non-ferrous scraps sold to these units during 1980-81 and 1981-82. The Member OFB stated in evidence :—

> "In 1980-81, it was 95 metric tonnes sold to the SSI units, to export units 22 metric tonnes and to others i.e. in the open market 195 metric tonnes was sold...In 1981-82 it was 180 metric tonnes to the SSI units, to exporting units 20 metric tonnes to others it was 803 metric tonnes."

2.33 He clarified that "in case no SSI units comes forward then it was considered a non-reserved quota. The quote for SSI units is sub-divided into the of 5 tonnes each in case it is more than 5 tonnes. If it is less than 5 tonnes so lots may be of one tonne."

2.34 The Committee drew the attention of the witness to the fact that often it was alleged that scrap from Ordnance factories was not available to small scale sector and when it was available, it was beyond the reach of these units. Clarifying the position, Secretary Defence Production stated :—

"The procedure is that they would be divided into lots of one to five tonnes. Five tonnes is the maximum depending on the quantity placed at our disposal."

2.35 The Committee pointed out that financially it might not be possible for small scale industrial units to consume purchased in lots of 5 tonnes. In reply the witness stated :—

"We will see to it. We shall see what we can do in it."

2.36 The Committee desired to know the action that had been taken to dispose of the 109 tonnes of cupronickel scrap (cost Rs. 20.68 lakhs) and 112 tonnes of fired cartg. cases (cost Rs. 25.11 lakhs). The Defence Production Department in a note have furnished the following details :—

"*Cupronickel scrap—109 Tonnes*"

OFB has intimated that considering the material worth in terms of its basic content of Nickel and Copper, both scarce material in the country the store was retained for eventual utilisation. However, not finding any outlet, a decision was taken by DGOF in 1971 to dispose this of. Open Tender enquiry was floated in 1971 but the best price obtained was Rs. 6,710.00 per M/T against the Ledger Rate of Rs. 15,860.00 per M/T. As such, the offer could not be accepted. Since then intensive efforts were made to dispose of the scrap. In January 1972, fresh Tenders were issued, the highest offer received was Rs. 5,726.11 per M/T. This rate was also not acceptable. Fresh tenders were again called in December 1972 and the rate obtained was Rs. 5,711.00 per M/T as such not accepted. From this exercise it became evident that the scrap as such was not acceptable to the market unless the bad contamination is removed. In order to remove lead, attempts were made for de-leading during the melting process, but could not be done due to lack of spare capacity in the factory after meeting the production requirement.

The items was offered to NSCIC in February 1977 but noreponse was received from them. Attempts were also made to approach specialised firms like M/s. Indian Lead, dealing in lead, in 1979, but no fruitful result could be obtained. The last disposal action was taken in January 1983 by Tender Enquiry, but again the offer obtained was Rs. 13,211.00 per M/T against the re-valued Ledger Rate of Rs. 23,76.00 per M/T. Under this condition, it was felt real worth of the store is required to be assessed before fresh action for disposal is attempted. For this purpose, a Board is constituted, which has since completed chemical analysis of the store. The findings of the Board and re-classification of the scrap are expected shortly.

Fired Cartg. cases—112 Tonnes

OFB has intimated that 112 M/T Silicon Brass Scrap representing Fired Carg. Cases was received from COD, Jabalpur during 1972.

These were retained for likely future requirement for use for Silicon Brass 130 mm Cartg. Cases. However, on later examination it was felt that since circulation of Silicon Brass and 70:30 Brass in Brass Melting Factories involves hazards of mix-ups, the same could not be utilised. In November 1982 intimation was received from Ordnance Depot Dehu Road that disposal of 130 mm Silicon Brass fired cartg. cases has been planned through DGS&D. Finally, it has been decided in December 1982 by OFB to dispose of the scrap and accordingly the scrap has been declared to DGS&D for disposal, who are the disposing authority for similar Depot arisings of Fired Cartg. Cases. The result of physical disposal of this scrap will be communicated in due course."

2.37 Audit have stated that there had been other accumulation of scraps (quantity 293.80 tonnes) valued at Rs. 80.56 lakhs mainly prior to 1977-78 and in a case prior to 1968. The latest position of liquidation of these scraps as stated by the Department of Defence Production is as under :—

(i) *Copper Scrap Gr. II* : This scrap consists of 95% copper and 5%Zinc. Though the item is not suitable for use at Metal and Steel Factory, Ishapore, it has been decided to retain this scrap for use by other Non-Ferrous Melting factories for manufacture of gliding metal etc.

(ii) *Copper Scrap Gr. III* : This scrap is mainly obtained from old copper conductors/plain tinned or enamelled and free from insulation materials lead etc. and copper scrap recovered from machinery, are not useful of manufacture of Service Stores. Action for disposal has Since been taken and Tender enquiry will be opened in December 1983.

(iii) *Cupro-Nickel Scrap-NM-2* : The entire quantity has been despatched to Ordnance Factory, Katni, *vide* Issue Voucher No. 80020-S dated 7.9.1982 for 10 M/T and the balance afterwards. The whole transaction was completed by 11/82.

(iv) *N.F. Mixed Metal Scrap-NM-2* : Being a mixed Scrap of brass of various grades these are not suitable for use. Action is in hand to dispose off this scrap. Tender enquiry will be opened during December 1983.

(v) *Cupro-Nickel Scrap Gr. II* : This item will be retained for manufacture of Cupro-Nickel Band. A part of the quantity of approximately 2 M/T has already been used."

2.38 The Department of Defence Production have taken the following measures for expeditous clearance of scraps and surpluses in the Ordnance Factories :—

(a) Entering into running contracts in respect of ferrous, coal/coke dust, cinder ash, etc.

(b) Entering into conversion contracts for brass sheets of specials grades and sizes required for bullet/cortg. cases manufacture. Close monitoring is carried out for disposal of surplus stores as well as unwanted repairable stores."

Works-in-Progress

2.39 In their 52nd Report (4th Lok Sabha), the Public Accounts Committee had stressed the need for clearance of orders expeditiously as the delay in execution of orders apart from pushing up cost and hampering operational efficiency, might cause infructuous expenditure. In their Action Taken Note the Ministry of Defence had assured the Committee that every effort would be made to reduce the time lag between the placing of orders and supply. However, Audit have pointed out that as against 12.37 to 16.30 percent during 1963-64 to 1965-66 in relaction to the cost of production, the works-in-progress had steadily increased from 27 percent of the cost of production at the end of March 1977 to 33 percent and the end of March 1981 as shown below :—

Year	Cost of production during the year	Works-in-progress at the end of the year	Percentage of works-in-progress to cost of production
		(In crores of rupees)	
1976-77	518.33	141.31	27
1977-78	545.58	161.16	30
1978-79	550.57	177.27	32
1979-80	600.06	196.44	33
1980-81	670.99	224.52	33
1981-82	787.25	252.75	32

2.40 During 1980-81, in 6 factories the percentage even ranged between 48.74 and 92.62 individually.

2.41 The Committee asked if the factories had examined the reasons for up ward trend of the works-in-progress and if so, what were the findings. In reply, the Department of Defence Production have stated in a note that "there was no increasing trend during the last 3 years." The Department have further stated that the level of work in progress for the years 1977-78 to 1981-82 have been expmined in respect of non-filling factories and it is seen that in 68% of the Factories the work-in-progress figure has shown a downward trend. During 1981-82 the work-in-progress was within 20% in 14 factories and the number of factories in which the work-in-progress was over 50% was 6.

2.42 The following factors lead to accumulation of work-in-progress :

(a) Overall increased production activities to maximise production and to meet the enhanced production targets.

(b) Accumulation of finished stores issued in anticipation of clearance at proof at the end of the year and time involved in the proof clearance of the store.

(c) Investigation on account of malfunction at proof.

(d) Lead time required from the component stage to sub-assemblies, sub-assembly to final assembly and issues which are about 10 to 11 months in case of Ordnance Stores.

2.43 The Committee desired to know the control exercised to check the abnormal increases in the works-in-progress. The Department of Defence Production have in a note furnished to the Committee stated as follows :—

> "Ordnance Factory Board has taken concrete measures to reduce the levels of work-in-progress. The percentage of work-in-progress to value of production recorded a decrease from 33.40% in 1980-81 to 31.76% in 1981-82. All the General Managers have been advised to take corrective measures to bring down the work-in-progress. Ordnance Factory Borad is aiming at reduction of work-in-progress to substantiallv less than 30%."

2.44 The works-in-progress in the Ordnance Factories on 31 March 1981 totalled Rs. 224.52 crores; Comprising Rs. 3.67 crores for development works and 220.85 crores for other works.

2.45 According to the prescribed procedure manufacturing warrants are normally to be completed in 6 months and stores which can be produced during this period to be included in them; in exceptional cases duration of manufacturing warrants may be extended by the Ordnance Factory Board on factories' request, but such cases should be limited to the minimum. However, no time limit for completion of development warrants has been laid down. The Audit para points out that 9279 manufacturing warrants which were issued during and prior to 1977-78 and on which an expenditure of Rs. 12.73 crores was incurred remained incomplete at the end of March 1981 even after 3 years or more after issue. Warrants one year old and more numbered 23412 involving a locked-up capital of Rs. 47.80 crores. There were 146 development works and 2900 other works pertaining to the period 1952-53 to 1975-76 and Rs. 5.04 crores had been expanded on them. The Committee desired to know the present position of these pending works. The Secretary, Defence Production stated in evidence as under :—

"The overall outstanding of warrants as on 1.1.84 shows considerable improvement when compared with 1.4.82. For outstanding warrants of 1975-76 vintage, the value has come down from Rs. 16 crores to Rs. 9 crores."

2.46 He further explained :

"In most of these cases it is documentation. If it were some pending item of production, they would not have waited for such a long period of time. It would be some arrears of documentation. When an ordnance factory takes up an item for production, you have to do documentation for it—the components of labour, overhead, capital and so on. That must have been in arrears all these years. In the last two years we have been making every single effort to wipe out all the old warrants. Now most of it would be paper or clerical work. The Audit figures were from 1952-53 to 1975-76 Rs. 5.04 crores. The next figure was Rs. 7.69 crores. The total comes to Rs. 13 crores. Currently, it has come down to Rs, 7.5 crores."

2.47 The Committee enquired about the reasons for delay in completion of works started during the period 1952-53 to 1975-76. In reply, the Member OFB stated :—

"These are development items. Both design and establishment of quality of production has taken that time. The number of warrants that were outstanding on 31.3.1981 was 48,255 and on 31.3.83 the number was 32079. On an average, 68,000 warrants are issued every year. Out of this, on the same basis, approximately about 65,000 warrants get completed in the same year.....There are two warrants of the year 1959-60 which remain uncompleted. These were completed in August except regularisation of the losses pertaining to these warrants. As soon as those losses get sanctioned, these warrants would get closed. These warrants could not be completed, because the development process was not completed. Now it has been decided that these developments will not be required. That is why the expenditure incurred in regard to these two warrants requires to be regularised."

2.48 Clarifying the position, the Secretary Defence Production added :—

"The basic point is that these are not real production orders. Suppose one R & D item is designed. At the proto-type stage the product has to be converted into production model; drawings have to be made, they have to be tried, tested and evaluated and then finally come for the production. The first half of the production then goes for trial and finally only it is done. In a very few cases, in the totality of operations there would always be some, a very small number

where the drawings are sealed and production begines; sometimes it has happened in the past that some developmental order would have been taken on, started, but never reach fruition. They die a natural death It is only a matter of documentation and writing off."

2.49 The Committee desired to know the number of manufacture warrants that stood suspended/cancelled at the end of March, 1981 after manufacture commenced against them and their financial repercussion The information, as furnished by Ordnance Factory Board in reply is as follows :—

Factory	No. of Warrants	Financial repercussion
Gun and Shell Factory Cossipore	29	13.76 lakhs (confirmation of vetting by AO/ GSF awaited).
Ordnance Factory Ambajhari	1	0.39 lakhs
Gun Carriage Factory Jabalpur	7	1.00 lakh
Ordnance Factory Muradnagar	5	3.44 lakh
Ordnance Factory Khamaria	9	13.49 lakhs
Ammunition Factory Kirkee	5	10.83 lakhs
Ordnance Factory Chanda	50	6.26 lakhs
Ordnance Factory Ambarnath	4	3.88 lakhs
Ordnance Factory Kanpur	2	2.28 lakhs
	111	55.33 lakhs

2.50 Audit Para has mentioned a case where orders placed on a factory in December 1969 and April 1970 for two types of ammunition were cancelled in 1980 due to delay in establishment of their manufacture and supply involving financial repercussion of Rs. 107.32 lakhs including cost of documentations obtained from a foreign Government.

2.51 The Committee desired to know the reasons for failure to establish the manufacture of the two types of ammunition for which technical documents were received from foreign Government and enquired whether the infructuous expenditure on cancellation of the orders has since been regularised. The Department of Defence Production have in a note furnished to the Committee stated as under :—

"The technical documentation from the foreign Government for manufacture of 2 types of ammunition was obtained in 1967. The programme for supplying the development orders of 1000 Nos of one type of ammunition in 73-74 and 9000 Nos of the same type of ammunition in 74-75 was initially laid down. The manufacture of the

second type of ammunition was to commence after completion of manufacture of the first type of ammunition. The Factory concerned could not keep upto the programme due to delay in establishment of manufacture of the ammunition since the approved specifications were sent by the Research & Development organisation after finalising the design of the propellant prime combination only in September 75 and the cartridge cases and shells against the orders placed in June/Sept. 70 were not supplied by the sister Factories; clearance for bulk manufacture of these components was given by the Inspectorate in March 77 and Oct. 78 respectively.

As the weapon system was to go out of service after 79-80 and no supplies of ammunition were made, the Army desired that the manufacture of amunition should be completed by 79-80 or the orders cancelled without financial liability to them. It was decided to restrict the manufacture 500 Nos. of one type only by 79-80. However, no supplies were made, as lower priority was given to the manufacture of the ammunition in order to utilise the available capacity for manufacture of other important items of production. Completion of manufacture of 5000 Nos for wiping out the expenditure already incurred would have entailed further expenditure when the Army had no need for the ammunition The order for the ammunition was, therefore cancelled by Army.

The ammunition was substantially different from others under production in the Ord. Factories and it required considerable time for development of productionisation and delay in the productionisation would not have mattered much, had it not been superseded by better variety of ammunition on strategic and other considerations by the Army.

Infructuous expenditure incurred in this case has yet to be regularised. The loss will be regularised after the General Manager of the Factory has completed all the requirements. The General Manager has been Asked to expedite the regularisation process."

2.52 In respect of another order placed in December 1971 for 1 lakh numbers of an ammunition to be supplied by March 1973, only 49835 numbers were supplied till June 1974 due to inadequate supply or components by the sister factories and failure of lots in proof. As the ammunition thereafter was phased out of service the order was short-closed at 69259 numbers involving financial repercussion of Rs. 34.33 lakhs. The Committee enquire about the reasons for failure to supply 1 lakh Nos. of ammunition in time and asked if the infructuous expenditure (Rs. 34.33 lakhs) due to short-closure of the order has been regularised. The Department of Defence Production have replied as under :

The factory failed to supply the entire quantity of 1 lakh of ammunition due to inadequate supply of components like empty shells, tracer shell, mangesium powder ex-import and failure of filled fuzes at proof. Orders were short-closed due to phased withdrawal of ammunition from the Services. The question of acceptance/regularisation of financial repercussion is under consideration in consultation with the Army HQRS."

ANNEXURE I

(*vide* para 21)

Recommendations and Implementation of the Report of the Task Force of the Last Year

Para No.	Recommendation	Comments regarding implementation
1	2	3
15.1	Along with condemnation and disposal of obsole Plant Machinery, the associcated spares should also be disposed of. Further when alternate materials are stocked care should be taken to see that further procurement is regulated to avoid excess inventory.	Under examination.
15.2	The powers of GMs to declare stores as surplus and to dispose of unwanted stores require to be enhanced.	—do—
15.3	As mentioned in para 3.5 above, now that corrections to the value of inventory holdings have been carried out, the main thrust of the Task Forces should be to analyse the stores lying is inventory for more than 12 months and recommends steps for their disposal.	Specific instructions issued vide OFB Circular No. 01/6/MM dt. 29.8.83 (copy enclosed).
15.4	As the Priced Store Ledgers in both Ordnance Factory Khamaria and Gun Carriage Factory, Jabalpur are in poor shape a detailed investigation is necessary. In particular incorrect ledger rates in Ordnance Factory, Khamaria and discrepancies between the bin card and ledger balances in Gun Carriage Factory, Jabalpur need to be rectified.	C of A. (Fys) have already issued instructions to JCA I/C GCF Group of Fys to review the position and take necessary action in the matter.

1	2	3
15.5	The pricing of receipt vouchers, striking of the average ledger rates etc. done at Auditors level are at present subjected to 20% check at Section Officers level. No distinction is drawn between high value folios and low value folios It is recommended that an A, B, C, approach may be adopted by segregating 'A' folios and 'B' folios from the remaining 'C' folios. The percentage scrutiny by Section Officers of 'A' items should be 100% 'B' items 50% and 'C' tiems 10% Accounts Officers incharge of the Material Section should exercise a percentage scrutiny in respect of 'A' folios. The 'S' series for primary documents for stock items should be split up into three series for this purpose.	Necessary instruction has since been issued to all Accounts Officers by C of A. (Fys) Vide No. S/III/081/INV/TF dt. 19.4.83 (copy enclosed.)
15.6	In Factories like Ordnance Factory, Ambajhari, Ammunition Factory, Kirkee etc. belated transmission of primary documents from Stores Section to accounts had distorted the inventory figures in the ledgers to a significant extent as mentioned at paras 5.2. 5.7 and 7.1 above. Some checks to avoid such delays require to be introduced.	Instruction has since been issued by OFB vide No. 01/6/MM dt. 13.4.83 (Copy enclosed). (As in para I) do
15.7	In Ammunition Factory, Kirkee (Para 7.1) and in some other factories the skeleton list sent at the month and by Stores Section to Accounts Section contain blank numbers and these blank numbers are utilised at later date by the Stores Section for new vouchers raised later. This defeats the very purpose of sending the skeletion list to Accounts viz. to verify that all primary documents pertaining to a month have beenreceived in Accounts and accounted for, The practice of showing blank numbers in the skeleton list followed in many factories requires to be discontinued.	—do—

1	2	3
15.8	The built-in delays in the receipt of receipt vouchers in Accounts and the earlier posting in the ledgers of issues prior to receipts leading to unorthodox balances is due to the existing system of flow of documents. The existing procedure of flow of documents requires to be examined to ensure that receipt vouchers are received in Accounts and posted in the ledger prior to the related issues.	The Jt. Cs of A. Kirkee and Ambajhari Group of Fys. and two JCsA of Jabalpur have been asked to examine the recommendations with a view to suggest ways and meanst the inbuilt delays in flow of receipt vouchers and their posting in the ledgers after connected demand rates are posted.
15.15	To ensure concurrent reconciliation of ledger balance with card balance the priced store ledger should be posted with bin card balance at the time of posting of demand notes. This is possible as the DP cell of each Factory forwards the demand notes to the Accounts Office indicating on the reverse the bin card balance. The A.O. would thus be able to continuously monitor discrepancies between the bin card balances and the ledger balances.	They has also been asked to examine the recommendation at para 15.15 to ensure implementation at least for 'A' category items.
15.16	The in-built delays in the present system of receipt of receipt vouchers in the Accounts Office and their posting in the Ledger after connected demand notes have already been posted requires to be minimised. The intermediate points between the raising of receipt vouchers and the final posting are many and accounts for the delay.	As in page 2.
15.9	To enable quick completion of the reconciliation exercise in Vehicle Factory, Jabalpur, it is recommended that the store section of the Factory may quickly locate the 1,000 missing vouchers pertaining to 1978-79 for posting in the bin card and in the ledger.	Being examined.
15.10	Early action to make good the staff shortage in the Accounts Officers is recommended. Further, a review of the	C. of A. (Fys.) demand for establishment is under consideration by

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	scales for staffing is recommended so as to ensure that staffing is related to the requirements of the job and not merely to the physical volume of work.	the CGDA. A work study of the organisaion of C. of A. (Fys) is also going to be conducted shortly by the Staff Inspection Unit of Min. of Finance.
15.11	In view of the vast number if ledger folios which keeps on increase in year to year (despite instruction from OFB to GMS for eliminating dead folios) the Priced Store Ledger should be computerised.	Under Action.
15.12	Apart from switch over to computerised PSL, adequate mechanical aids like Facit Calculators etc. should be provided to the Auditors in the Material ledger group of the Accounts office.	The GMs are being requested to purchase the required number Calculators for their Accounts Offices.
15.13	In view of the magnitude of inventory holdings in each Ordnance Factory, a separate accounts Officer exclusively incharge of the Material Section should be provided in each Accounts Office. In the larger factories where inventory holdings exceed Rs. 20 Crores there should be separate Accounts Officer incharge of the ledger group of the Material Section. This would enable adequate support from the Accounts side to the efforts at inventory management by the General Manager of each factory.	Additional requirements of the A. Os is under examination.
15.14	Proper training and orientation should be given to the Officers and staff of the Material ledger group of each Accounts Office. For this purpose training programmes should be organised and staff deputed to attend professional courses.	Necessary instruction has been issued to organise suitable training of Accounts Staff engaged in Material Ledger Group in major centres.

2.53 As per instructions issued by Government, Ordnance Factories are authorised to hold inventories for 9-12 months of their requirement of imported items, 9 months requirement of difficult indigenous items and 6 months' requirement of other indigenous items. These limits relate to the materials required for

production purposes and do not include waste/obsolete stock or maintenance stock. However, the total inventory held during the years 1980-81 and 1981-82 by the Ordnance Factories was of the order of Rs. 526 crores and 584 crores respectively while the value of production during these years had been Rs. 671 crores and 787.25 crores respectively. The overall stock-holding in terms of months' cansumption has gradually increased from 9.63 to 11.21 during 1978-79 to 1980-81. However, the same has registered a marginal decline to 11.08 during 1981-82. The cost of excess stock holdings beyond 9 months in 17 out of 34 factories was very high at Rs. 1.49 crores.

It has been argued that level of inventory holdings should be computed with reference to level of consumption for the period for which the inventories have been procured, i.e. next year. Even after taking this factor into account, the Committee feel that level of inventories in Ordnance Factories is quite high and requires to be brought down drastically.

2.54 The Committee note that the level of inventories in the Ordnance Factories is reviewed at the level of Ordnance Factories Board and is monitored periodically by a high level Committee in the Department of Defence Production headed by the Secretary (DP). Some measures like ABC analysis, staggering of deliveries to match with production requirements and disposal of non-moving/ surplus/obsolete stock have been taken to reduce the level of inventories. Special Task Forces have also been set up at Factory level to identify the problem areas and take suitable remedial measures. The Committee also note that a procedure exists for review of surplus stores and their alternative uses, declaring surplus stores to other Factories and other Defence Services. Half-yearly returns have been prescribed on the level of inventory holdings in the various Ordnance Factories to montitor more closely the stock holdings especially the disposal of waste/obsolete surplus stock. Besides, there exists a well-defined procedure to prevent over-provisioning of stocks. However, the very fact that in spite of all these provisions and measures, the inventory holdings in the Ordnance Factories are at such a high level clearly shows that either these measures and instructions have not been followed strictly or these have failed to produce expected results. The Committee would like the matter to be reviewed by the Ministry of Defence (Department of Defence Production) urgently and steps taken to bring down the inventory holdings in each factory to a reasonable level.

2.55 The Committee understand that public sectore undertakings using imported components in their manufacturing process are allowed to import components half yearly on the basis of their projected requirements. However, in the case of Ordnance Factories no such norms are prescribed. Instead, they are authorised to hold inventories of imported items to the tune of their 9-12 month's requirements. The Committee would like the Department of Defence Production to make a detailed study of the practice obtaining in public sector undertakings in this regard and take measures to revise their holdings on similar lines.

2.56 The Committee note that the present scale of inventory holdings was prescribed long back. The Committee also understand that in some of the deve.

loped countries, manufacturing units keep their inventory holding as low as one day's requirement. No doubt, because of infrastructural bottlenecks and state of industrialisation it is not possible to come down to that level of inventory-holdings in this country in the near future, nor would it be desirable to keep inventory holdings in Ordnance Factories at such a low level, but considering the considerable strides made by the country in the field of industrialisation since Independence and availability of transport facilities the Committee feel that the norm of 9 months' requirement of stock-holding evolved long back should be reviewed with a view to bring it down to a reasonable level and thus avoid un-necessary blocking of capital.

2.57 The Committee observe that with a view to indentify 'A' category items of stock in the inventery holdings of Ordnance Factories, to ensure correctness of store accounts of these items. conpect discrepancies and analyse the physical stock to determine the necessity for these holdings with reference to their requirements for prodoction, Task Forces were set up in all the Ordnance Factories. However, in only 15 out of 34 Factories, Task Forces have completed their studies so far. The reasons for non-completion of their studies are stated to be lack of additional staff and pending arrears in accounting, postings and adjustments of stocks. The Ordnance Factories have again been asked to set up Task Force to study the proclems. The Committee hope that all the impediments in the proper functioning of Task Forces will be removed and all the Task Forces would be able to submit their findings on time. The Committee would like to be apprised in due course of the findings of the Task Forces and the action taken by the Department of defence Production in the light of their recommendations.

2.58 From the findings of some of the Task Forces who have submitted their Reports last year, the Committee note that glaring cases of gross neglect in the maintenance of stocks in Ordnance Factories have came to light. It has been pointed out, *inter alia*, that priced Store Ledgers in 2 of the Ordnance Factories namely Ordnance Factories, Khamaria and Gun Carriage Factory, Jabalpur were in poor shape and required detailed investigation. Incorrect ledger rates in Ordnance Factory Bhmaria and discrepencies between bin card and ledger balances in Gun Carriage Factory, Jabalpur needed to be rectified. The Task Force have also reccommended examination of the existing procedure of flow of documents to ensure that receipt vouchers are received in accounts and posted in the ledger prior to related issues. There had been 1000 missing vouchers pertaining to the year 1978-79 and for posting in btn card and the ledger to enable quick reconciliation these were to be located. The Secretary (DP) candidly admitted that "it is not merely impropriety but it may be irregularity also". He also agreed that "there might be some pileorage also". The Task Forces have also recommended computerisation of Priced Store Ledgers and provision of mechanical aids like calculators and posting of a separate Accounts Officer incharge of mechanical sections in each of the Ordnance Factories. While Government have already initiated action on some of the recommendations and discrepancies have been set right, action on some of their recommendations is still stated to be under consideration. The Committee have been told that all aspects were being examined with a view to take rectifica-

tory steps. The Committee are of the view that the irregularities pointed out by the Task Forces like missing vouchers and non-posting of bin cards, etc. are of a serious nature and these may involve defalcations and misappropriations of large amounts. The Committee recommend that these lapses should be investigated thoroughly with utmost expedition and responsibility fixed. Immediate steps should also be taken to briug about procedural improvements so as to guard against the recurrence of these lapses. The Committee will like to be apprised of the concrete steps taken in this regard.

2.59 The scrap holdings in the Ordnance Factories had gradually increased from Rs. 10.19 crores at the end of March 1979 to Rs. 18 crores at the end of March 1982 as their utilisation was restricted due to non-availability of required facilities and disposal by sale was not commensurate with the rate of their accumulation. Out of the total scrap holding of Rs. 15.16 crores as on 31 March 1981, the holding in 4 factories alone amounted to Rs. 11.68 crores. In one of them about 109 tonnes of cupronickel scrap costing Rs. 20.68 lakhs received in March 1956 from a sister factory and 112 tonnes of fired cartridge cases costing Rs. 25.11 lakhs received during 1972 were awaiting disposal. According to Government instructions, graded scraps both ferrous and non-ferrous are first offered to melting factories before disposal through auction. It has been stated that cupronickel scrap was initially retained for eventual utilisation. However, when no outlet was found it was decided in 1971 to dispose it of. Open tenders were floated in 1971, January 1972, December 1972 and January 1983 but the rates quoted were found to be far less than the ledger rates. The offer made to National Small Scale Industries Corporation in February 1977 also did not evoke any response. Nor could any fruitful results be obtained from specialised firms approached in 1979. Lately, a Board has been constituted to assess the real worth of the store before making fresh attempts for its disposal. The Committee would like to express their unhappiness that scarce metal valued at lakhs of rupees could not be put to use for three decades. The Committee would like that physical verification of the stock to be done by an independent authority and the results of the verification initiated within 3 months. After the verification is complete, urgent steps be taken for the disposal of these scraps."

2.60 Similarly, 112 tonnes of Silicon Brass Scrap valued at Rs. 25.11 lakhs representing Fired cartridge cases was lying unutilised since 1972. Besides, some other scraps valued over Rs. 80 lakhs (quantity 293.89 tonnes) pertaining to the period prior to 1977-78 and in a case prior to 1968 have not been utilised so far. It has been stated that some measures like running contracts and conversion contracts have been entered into for expeditious disposal of these scraps. The Committee have already commented adversely about this fact in their 145th Report (7th Lok Sabha) on 'Delay in disposal of fired cartridge cases". They hope that not only the present holdings would be disposed of expeditiously but steps would also be devised to make use of the further arisings concurrently.

2.61 The Committee note that non-ferrous scraps which connot be put to useful production by Ordnance Factories are sold to trade. According to the

instructions issued by Government in 1978, while disposing of non-ferrors scraps special reservations up to 30 percent of copper and copper based alloys including brass scraps are to be made for units in the Small Scale Sector and export-oriented units each at a concessional rate of 10 percent. The scrap so reserved for SSI units is offered in lots of 5 tonnes each and in case the total quantity offered is less than 5 tonnes, the lots may be of one tonne each. In case no SSI unit comes forward to bid for scrap then the entire quantity is considered as non-reserved. The Committee feel that quite often it may not be possible for small scale units on account of their smallness to consume the entire raw material offered to them in lots of 1 to 5 tonnes and financially also on account of their limited resources to bid for such large quadtities of costly metals. This is amply clear from the fact that of the total quantity of a little over 1003 tonnes scrap offered for sale in 1981-82, the share of SSI units was only 180 tonnes. The Secretary (DP) assured the Committee during evidence that "we will see to it. We shall see what we can do about it". The Committee would like Government to examine the matter and amend the procedure in this regard suitably with a view to enable small scale units to purchase copper and copper-based alloys including brass for their requirements in small lots.

2.62 The Committee note that the works-in-progress have steadily increased to 27 per cent of the cost of production at the end of March 1977 and further to 33 per cent at the end of March 1981. In terms of total cost the works-in-progress at the end of March 1982 totalled Rs. 252.75 crores against the total production of Rs. 787.25 crores. During 1980-81, the percentage of works-in-progress to cost of production in 6 Ordnance Factories has ranged between 48.74 and 92.62 individually. This indicates a very sorry state of affairs. The Committee regret that this increase has taken place in spite of the assurance held to the Committee as early as 1968-69 that every effort would be made to reduce the time-lag between the placing of orders and supply in response to their recommendation contained in the 52nd Report (4th Lok Sabha) on the subject. The Department of Defence production owe an explanation to the Committee in this regard. The Committee note that Ordnance Factory Board is aiming at reduction of works-in-progress to substantially less than 30 per cent' and all the General Managers have been advised to bring dwon the works-in-progress'. The Committee feel that the norm of works-in-progress at 30 per cent of the cost of production is also too high and efforts should be made to reduce it further. The Committee would also like the Ordnance Factories Board to devote particular attention to those Factories where works-in-progress are more than 50%.

2.63 According to the prescribed procedure, manufacturing warrants are normally to be completed within 6 months and stores which can be produced during this period are to be included in them ; in exceptional cases duration of manufacturing warrants may be extended by the Ordnance Factories Board at factories' request, but such cases should be limited to the minimum. However, the Committee find that 9279 manufacturing warrants issued prior to 1977-78 on which Rs. 12.73 crores had been expended still remained incomplete at the end of March 1981, even after 3 years or more after issue. Warrants which are one year or more old numbered 23,412 involving a locked-up capital of

Rs.47.80 crores. To make the things worse there were 146 development works and 2900 other work-in-progress and a sum of Rs. 5.04 crores had been expended on them. The Secretary (DP) contended before the Committee that 'the overall outstanding of warrants as on 1.1.1984 shows codsiderable improvement when compared with 1.4.82'- He further clarified that in most of these cases it was documentation which remained to be done and required clerical work. Efforts have been made in the last 2 years to wipe out all old warrants. The Committee would like Goverument to devise measures to ensure that not only the arrears of old warrants are wiped out; but the fresh accumulation of warrants is also not allowed to take place. Moreover steps should be taken to improve the documentation work in respect of these works-in progress. This assumes greater importance in view of the fact that in case of delay in completing these warrants, there is considerable risk of these becoming obsolete and entire expenditure becoming infrauctuous. To prevent such euentualities the committee would like the Department of Defence Production to review the position periodically in consultation with the indentor's for the stores being manufactured by them against such warrants.

2·64 The Committee are disturbed to note that 111 manufacturing warrants have been cancelled upto March, 1981 involving financial repercussion amounting to Rs. 55.33 lakhs. Further, in a caese orders placed on a factory in 1969-70 for two types of ammunition were cancelled in 1980, i.e., after 11 years d ue to delay in establishment of their manufacture and involving financial loss of Rs. 107.32 lakhs including cost of documentation obtained from a foreign Government. It has been stated that the delay occurred because of delayed approval of specifications by the Research and Development Organisation after finalisation of design of the propellant prime combination, delayed supply of components by sister factories etc. Yet in another case orders were placed in December 1971 for supply of one lakh numbers of an ammunition by March 197 ; only a part supply of 49835 numbers of ammunition could be effected till June 1974 due to inadepuate supply of components by sister factories and failure of lots in proof. As the ammunition was phased out, the order was short-closed involving financial repercussions of Rs. 34.33 lakhs. The Committee feel that with better planning and coordination such eventualities could have been avoided. They expect that suitable mechanism would be built in to minimise such infructuous expenditure in future.

NEW DELHI;

April 28, 1984.
Vaisakha 8, 1906 (S)

SUNIL MAITRA
Chairman
Public Accounts Committee.

APPENDIX I

(*Vide* **Chapter I**)

Shortfall in Production of an Equiptment

Audit Paragraph

Government eatered into an agreement (in August 1961) with a foreign firm 'P' for purchase of prototypes and production models of an equipment, the licence to manufacture it indigenously and for obtaining design knowledge, completed to and technical assistantce in setting up factory and in establishing production of the equipment. Three separate agreements were concluded (August 1961) with foreign firm 'G', 'R' and 'S' for obtaining, licence, drawings and specifications etc. and neccessary technical assistance for establishment of indigenous manufacture of parts I and II and III respectively of the equipment which were not being manufactured by firm 'P' and not covered by the agreement, concluded with it. A fifth agreement (August 1961) was with foreign Government for establishment of indigenous production of part IV of this equipment.

Mention was made of the shortfall in production of part IV in the ordnance factories and unsatisfactory performance of its sub-parts due to defective manufacture of components resulting in import of the Part, its sub-parts and components worth Rs. 8.88 crores till 1973 in paragraph 6 of the Audit Report (Defence Services) 1973-74. Their unsuitability for use by the Army and their replacement in estimated cost of Rs. 2.70 crores was commented upon in paragraph 19 of the Audit Report (Defence Services) 1978-79.

In January 1962 Government sanctioned Rs. 16.12 crores (increased to Rs. 17.27 crores in January 1967) to establish an ordnance factory with the capacity to produce 100 numbers of the equipment per annum in single shift of 8 hours including its parts I, II and III. In Feburary 1966, Government sanctioned Rs. 84.43 lakhs for additional civil works to enable the factory to run on double shifts so that the outturn light be raised to 160 numbers per year. The requisite plant and machinery for the factory was mostly in position during 1964 to 1966 and the remaining during 1969.

The first equipment (mainly by assembly of imported components and sub-assemblies) came out of the factory production line in December 1965. All the

shops of the factory started working two shifts of 9 hours from 1967. Against the army's total requirement for 549 numbers of the equipment by March 1972 the factory could supply only 368 numbers in all during the 7 years from 1965-66 to 1971-72. In addition the factory produced and supplied (1967-68) a prototype of another version of the equipment (type-II) and supplied to 10 numbers each of this versions to the Army during 1970-71 and 1971-72 against their requirement for 33 numbers (excluding prototype) during 3 years 1968-69 to 1970-71. In 1969-70 a prototype of a third version (type-III) of the equipment was also produced but no supply of this was made till March 1971.

The reasons for failure to achieve the targets and consistent shortfall in production of the equipment were investigated in September-October 1970 by a study team, appointed by the General Manager of the factory. The study team observed that the optimum production of the equipment that could be achieved with the installed capacity would be 120 numbers against target of 160 as 25 per cent of the capacity would be required for manufacture spares for which no capacity was created. According to the study team even this reduced targets of production could not be achieved due to several factors, *viz*:

(i) plant and machinery procured and installed were based on timings recommended by the foreign collaborators but experience of the past few years revealed that in most cases, the timings needed upward revision ;

(ii) no separate provision was made for development work for establishing production of different components of the equipment and its other versions ;

(iii) allowances made for unavoidable machine break downs and uneven flow of materials were inadequate ;

(iv) materials of the correct sizes were not available in the country and the factory had to use oversized materials necessitating extra machining ; extra machining capacity was also required for machining castings which had to be discarded subsequently due to casting defects ; and

(v) material handling facilities were grossly inadequate.

To overcome the deficiencies the study team recommended (September/October 1970) immediate procurement of certain balancing machine tools and additional material handling equipment. Government sanctioned Rs. 36.55 lakhs, for the purpose in December 1970 and most of those machines had been brought into use by August 1972.

Meanwhile after reviewing the requirements of the Army a long term production programme was drawn up for the factory in January 1971, according to which production of the equipment (including all types) was required to

be stepped upto 200 numbers by 1974-75 along with adequate spares. The Government expected to achieve this target in phases so that at the first stage the production could be stepped up to 140 numbers of the equipment during 1972-73. In October, 1971 Government sanctioned another sum of Rs.5.69 crores for procurement of additional plants and machineries. Additional accommodation was found necessary in October 1973 for the new machines, though initially it was held (1971) that the required space would be found by re-organising shops. Government sanctioned Rs. 1.23 crores in May 1974 (revised to Rs. 1.25 crores in April 1975) forthe additional accommodation. The increased production was to be achieved from 1974-75, but the construction of accommodation with connected equiptments was completed in November 1976, the shops was commissioned in December 1976 and the augmented facilities were available from 1976-77. To achieve the rated capacity for the equipment, Government also sanctioned piceemeal during February 1976 to October 1978 further additional amounts totalling Rs. 1.95 crores for augmenting for forge shop, construction of a dust proof assembly shop and commissioning of a moulding machine. The plant and machinery in the forge shops were commissioned in December 1979, the dust proof assembly shop was completed in January 1981 and the moulding machine was commissioned in Chittranjan Locomotive Works to meet the factory's requirements for castings.

During the 11 years from 1971-72 to 1981-82, the rated capacity for production of the equipment in the factory, the production achieved and the percentage of shortfall in production were as follows :

Year	Rated capacity	Production achieved (all types)	Percentage of short-fall
1971-72	120	90	25
1972-73	140	120	14
1973-74	140	95	32
1974-75	140	99	29
1975-76	140	94	33
1976-77	200	177	11.5
1977-78	200	173	13.5
1978-79	200	163.	18.5
1979-80	200	133	33.5
1980-81	200	140	30
1981-82	200	133	33.5

Thus, inspite of the implementation of the recommendations of the study team set up in 1970 to overcome the production difficulties and augmentation of facilities and equipments to step up production to specified numbers, the shortfall in production of the equipment contined even after 1971-72. In August 1975 Government set up a high level committee to look into the slippages in the production of the equipment in the factory to improve the production. The

committee made certain recommendations on the organisational structure of the factory, delegation of financial powers, production planning and control system, management and worker 'motivation' etc. These recommendations were mostly implemented by 1978 but the production of the equipment during the 3 years 1979-80 to 1981-82 did not show any improvement. The Ministry of Defence stated (November 1981) that the shortfall in production was due to short supply of various bought-out materials and components from the public sector, departmental sector and private firms both of indigenous and UK origin and unsatisfactory industrial relations situation througout the country during the period 1978-79 and 1979-80. Thus, although the factory was set up in 1965 at a total cost of Rs. 17.27 crores to produce 100 numbers of equipment per annum in a single shift and additional investments totalling Rs. 10.10 crores were made periodically till 1978 to overcome the various defficiencies in the planning of the factory and to raise the production capacity to 200 numbers of the equipment per annum in two shifts, the desired production was yet to be achieved (March 1982).

During September 1963 to March 1971 the demands placed on the factory for the equipment (all types) totalled 898 numbers. Although the review made in January 1971 indicated a requirement for 200 numbers per year of the equipment from 1974-75, demands for only 1356 numbers were placed (October 1974 to July 1980) on the factory in 11 years till October 1981. Against the total demands (2254 numbers) of which 1879 numbers were to be supplied by March 1982, the factory supplied in total 1719 numbers upto that period leaving a balance order of 539 numbers (520 type I+19 type III) in March 1982. Balance order (520 numbers) for type I is likely to be manufactured by 1985-86 at the rate of 130 numbers per year. though the factory has not been upgraded for productionising equipment of a new design, retrofitting of the equipment was going on as continuous process. Meanwhile, against order placed (January 1979 and May 1980) on a foreign Government for 218 numbers of different versions of the equipment at a total cost of Rs. 188.65 crores, 144 numbers were received during 1980/81. Besides, 23 numbers of type II version of the equipment were ordered for import (January 1980) from another foreign Government at a total cost of Rs. 4.26 crores though the orders on the factory placed during October 1967 to February 1975 for 112 numbers of similar equipment were completed by 1978-79 and there was no pending order with the factory for this type thereafter. The average cost of production (per item) of type I and II of the equipment in the factory is Rs. 31 lakhs and Rs. 17 lakhs respectively. The Army stated (January 1982) that the shortfall in supply of the equipment by the factory was met by depressing the War Wastage Reserve and by keeping the units at hard scale.

Till 1971, there were frequent breakdowns of the equipment supplied to the Army due to high incidence of premature failures of part I of the equipment. Steps were taken as per recommendations made by an investigation committee set up in December 1971 to improve part I. According to Army (January 1982), though there was no report at present on the operational

performance of the factory supplied equipment, part I was defect prone and its maintenance was heavy.

In pursuance of additional requirements indicated by the Army in December 1973 for part I of the equipment to build up a 'pool' of 40 to 50 per cent of the holdings of the equipment, Government sanctioned Rs. 0.55 crore in November 1974 and Rs. 0.30 crore in July 1976 for procurement of additional plant and machinery to raise the production capacity for part I in the factory from 200 to 275 numbers per annum. To build up the "pool', 157 numbers of part I were supplied by the factory from its production during the 5 years 1973-74 to 1977-78 and 232 numbers were imported (1970 to 1978) at a total f. o. b. cost of Rs. 7.74 crores against orders placed during August 1970 to April 1974. Although the augmented production facilities for part I were available from 1978-79 onwards and the factory was expected to supply 75 numbers per annum for the 'pool' only 144 numbers were supplied during the 4 years 1978-79 to 1981-82. As against the requirement of 40 to 50 per cent of 1715 numbers of the equipment supplied to the Army during the 16 years 1966-67 to 1981-82 (686-857 numbers), the holding of part I for the 'pool' at the end of March 1982 was only about 32 per cent (549 numbers). The Ministry of Defence stated (November 1981) that till March 1980 only 70 numbers of part I were outstanding. In fact the services had projected a reduced requirement, further, the Ministry stated that between October 1980 and March 1981 demands for 245 numbers of part I were placed stipulating unrealistic delivery schedule and that as a leadtime of 3 years was essential to plan production, action was being taken to obtain part I of the equipment from trade and public sector undertakings to meet Army's requirements.

The factory thus failed to provide the services with part I and huge foreign exchange expenditure had to be increased. While the augmentation of capacity required less than Rs. 1 crore, foreign ehchange outgo on import was more than Rs. 7 crores, which had to be resorted to as the equipment manufactured in the factory was not upto the mark. Furteer, there was lack of coordination between the factory and the users.

The equipment was expected to be outdated after 1985. In order to replace it, the qualitative requirements for a modern one 'M' to be in service during 1985 to 2000 were approved in August 1972. In May 1974 Govern ment sanctioned a project for design and development of the modern equipment by a Research and Development Organisation at a total cost of Rs. 15.50 crores subsequently revised to Rs. 56.55 crores (October (1980). The project envisaged manufacture of 12 prototypes. As per the time schedule 4 prototypes were to be offered for trials whithin 6 years (April 1980) and another 8 within 8 years (April (1982). The trickle production of the modern equipment was expected to commence within 9 years (April 1983) and bulk production within 10 years (April 1984). The prototypes were yet to be completed (March 1982). If the modern equipment is not introduced from 1985 as Planned, the Army would continue with the outdated model even beyond 1985, or depend on imports.

Some interesting features concerning production in the factory were as follows :—

(i) Although production started in the factory in 1965, estimate indicating quantum of labour, materials, etc. for the manufacture of the equipment had not yet been sandardised (March 1982) and no incentive system was introduced in the factory (March 1982).

(ii) Systematic overtime was resorted to in the factory to achieve targets Despite fall in production there was increased overtime work during 1979-80 to 1981-82 as compared to 1978-79 as indicated below :—

Year	Total number of equipments produced	Industrial Establishment		Non-Industrial estiblishment/ Non-Gazetted Officers	
		No. of overtime hours (in lakhs)	Amount paid (Rs. in lakhs)	No. of overtime hours (in lakhs)	Amount Paid (Rs. in) (lakhs)
1978-79	163	24.05	94.15	9.03	43.78
1979-80	133	25.76	117.19	9.71	53.38
1980-81	140	24.79	99.57	9.08	41.55
1981-82	133	25.69	122.15	9.22	54.75

The Ministry of Defence stated (November 1981) that the increased overtime was due to manufacture of a large quantity of components and special jigs, tools and fixtures for them for future production of the equipment. The main items of production were lagging and the capacity utilisation for production of tools, jigs, etc. do not seem to have any relevance since these must be in consonance with the manufacturing programme and actual manufacture of the equipment in question.

(iii) In 1980 productivity linked bonus was introduced for the ordnance factories as a whole, whereby productivity falls below 90 per cent as compared to the base year 1977-78 as 100, no bonus was payable considering the ordnance factories as a whole Rs. 25.03 lakhs and Rs.27.67 lakhs were paid to the civili workers of the factory on account of productivity linked bonus during 1979-80 and 1980-81 respectively in this factory though productivity index during these years in the factory had actually fallen to 69 and 82.4 per cent respectively as compared to the base year. As per provisional estimate (in the absence of standardisation of estimates) 1.40 lakhs manhours and 1.46 lakh manhours were needed by the assembly shop of the factory in the assembly of 133 numbers of the equipment during 1979-80 and 140 numbers during 1980-81. But 5.66 lakh manhours were actually

utilised during 1979-80 and 4.89 lakh manhours during 1980-81. The Total manhours utilised during 1979-80 and 1980-81 in excess for production of 265 equipments (7.69 lakhs) were equivalent to Rs. 154.54 lakhs in money value. The utilisation of excess manhours increased the direct labous expenditure per equipment by Rs. 0.57 lakhs during 1979-80 and Rs. 0.60 lakh during 1980-81. The Ministry of Defence stated (November 1981) that the estimates provided time required for assembly alone and did not cater for inspection time, rectification time, removal of major assemblies due to failure of brought out items and their rectifications. No action was taken to revise and standardise the estimates on a scientific basis.

(iv) The estimates for manufacture of the equipment and its sub-assemblies did not indicate the quantum of arisings of scrap recoverable from the shop floors. The Ministry of Defence stated (November 1981) that the scraps were returned by the shops to stock against indirect work orders. However, in the absence of any indication of the quantum of arisings in the estimates, it was not verifiable in audit whether the actual arisings were being correctly returned to stock.

(v) No shop budget committees for exercising control over the overheads were functioning in the factory as provided under the rules. As a result there was no effective cost control on the cost of production.

(vi) The value of slow-moving and non-moving stores in the factory as on 31st March 1981 was Rs. 2.87 crores and Rs. 3.79 crores respectively which has further increased to Rs. 3.88 crores and Rs. 4.09 crores respectively as on 31st March 1982. The Ministry of Defence stated (November 1981) that the accumulation of slow-moving and non-moving stores was mainly due to spares purchased alongwith the machines during the initial period of commencement of production in the factory. No study has been conducted to see what use it could be put to or disposal resorted to, in respect of the non-moving stores.

Summing up :—The following main points emerge :

(1) The project failed to achieve the replanned production of 200 numbers of the equipment, despite heavy capital investment totalling Rs. 27.37 crores over the year (1962 to 1978).

(2) Although the recommendations of the factory study team made in October 1970 and the high level committee set up in 1975 to improve the production were implemented by 1978, at a cost of Rs. 9.26 crores, there was no improvement in the production of the equipment and it declined during 1979-80 to 1981-82 as compared to the production during 1976-77 to 1978-79.

(3) In spite of resorting to systematic overtime payments the targets have never been achieved and the shortfall in supply of the equipment was met by depressing the War Wastage Reserve and by keeing the units at hard scale.

(4) The factory has not been upgraded for productionising equipment of a new design and to meet the requirements of the Army. Orders for import of 218 numbers of different versions of the equipment were placed in January 1979 and may 1980 at a total cost Rs. 188.65 crores. Besides 23 numbers of type II version of the equipment were ordered for import (January 1980) at a total cost of Rs. 4.26 crores.

(5) Although to build up a 'pool' Government sanctioned Rs. 0.05 crore to raise the production capacity for part I of the equipment by 75 numbers per annum the factory failed to meet the capacity with the result that only 32 per cent (against 40-50 per cent) of the requirement could be met after import of 232 numbers at a total cost Rs. 7.74 crores.

(6) The equipment was expected to be outdated by 1985 and replaced by a modern version of which even the prototype is yet (October 1982) to be produced.

[Paragraph 8 of the Report of the Comptroller and Auditor General of India for the year (1981-82, Union Government (Defence Services)]

APPENDIX II

(*Vide* Chapter II)

AUDIT PARAGRAPH—12

Inventories and works-in-progress in the ordnance Factories.

During the year 1980-81 the total production in the ordnance factories was of the order of Rs. 671 crores (material component : Rs. 458 crores).

At the end of March 1981 the ordnance factories had inventories and works-in-progress of the value of Rs. 525.77 crores and Rs. 224.52 crores respectively. A review in audit revealed that a considerable portion of this stock was surplus to requirements and on a rough basis with reference to the excepted holdings for 9 months' requirments in case of inventories and 6 months' life for manufacturing warrants in case of works-in-progress, stores and works-in-progress of the value of Rs. 197 crores approximately were surplus. Further points noticed during review are discussed below :

A. Inventories.—According to the provisioning procedure the ordnance factories are authoriesed to hold inventories for 9 to 12 months' requirements of imported items, 9 months' requirements of difficult indigenous items. The compiled accounts or any other control register of the factories do not indicate the total accumulations/holdings of different types of stores in tonnage or money value. As such the overall average in terms of all the varieties may be roughly taken as 9 months' requirements. According to the Controller of Accounts (Factories) the overall stock holdings in the ordnance factories had gradually increased from 9.63 to 11.21 during 1978-79 to 1980-81 in terms of number of months' consumption during the period as indicated below :

Year	Average inventory held during the year	Average monthly consumption during the year	Stock holdings in terms of months' consumption
		(In crores of rupees)	
1978-79 . .	332.43	34.51	9.63
1979-80 . .	384.30	37.35	10.29
1980-81 . .	471.57	42.08	11.21

A review of the position of the individual factories on similar basis revealed that during 1980-81 out of 34 factories, in 14 the average inventory held was for 3 to 9 months' requirements, in 7 for 10 to 12 months' requirements and in 10 for 13 to 28 months' requirements (balance 3 factories being in initial/closing stage). The cost of excess holdings beyond 9months in 17 factories was approximately Rs. 149 crores.

The total cost of the inventories of the ordnance factories viz. Rs. 525.77 crores at the end of March 1981 included stores of substantial value for which there had been no issue at all during 3 years commencing from 1978-79 (Rs. 34.35 crores), scraps (Rs. 15.16 crores) and surplus stores (Rs. 4.11 crores). In addition, the cost of stores for which there had been no issue for 1 year was Rs. 31.98 crores. Large capital was locked up in these holdings for long period. The Ministry of Defence stated (November 1982) that with the object of tackling the problem of high level of inventory holdings, task forces had been constituted (June 1982) in all factories to carry out thorough analysis of the inventory position for taking remedial measures and reports received from the task forces in respect of 15 factories were under examination and that the stock in terms of number of months' consumption had recorded a decrease from 11.21 in 1980-81 to 11.04 in 1981-82.

The scrap holdings in the ordnance factories had gradually increased from Rs. 10.19 crores at the end of March 1980 and Rs. 15.16 crores at the end of March 1981, as their utilisation was restricted due to non-availability of required facilities and disposal by sale was not commensurate with the rate of their accumulation. Out of the total scraps of Rs. 15.15 crores as on 31st March 1981, the holdings in 4 factories alone amounted to Rs. 11.68 crores. In one of them about 109 tonnes of cupronickel scraps in bullet forms (cost Rs. 20.68 lakhs) received in March 1956 from a sister factory and 1.12 tonnes of favired cartridge cases (cost : Rs. 25.11 lakhs) received from other sources mainly during March to October 1972 were awaiting disposal (March 1982). The Ordnance Factory Board (OFB) stated (November 1981) that these scraps were not useful for the present programme of manufacture and that their disposal could not be effected for "security classification". In this factory the following are the few of other accumulations of scraps :

Nomenclature	Quantity (tonnes)	Cost (in lakhs of rupees)	Period of accumulation
Copper scrap Grade II . .	44.62	14.29	Mainly prior to 1977-78
Copper scrap Grade IV . .	73.88	21.82	Mainly prior to 1977-78
Cupronickel scrap Grade IP . .	54.33	21.09	Mainly prior to 1968

Non-ferrous mixed metal scrap NM-2 . .	101.50	15.65	Mainly prior to 1977-78
Cupronickel Grade IA . .	19.47	7.71	Mainly prior to 1970

The Ministry of Defence stated (November 1982) that instructions had been issued to all factories for expeditious clearance of scraps and surpluses. The Ministry added that the accumulation of scrap and obsolete stores in the ordnance factories and slow progress in their disposal would be discussed by a high level committee and corrective measures taken.

B. Works-in-progress.—In paragraph 7 of the Audit Report (Defence Services) 1967, comments were made on the delay in completion of orders after commencement of manufacture and resultant accumulation of works-in-progress in the ordnance factories. The Public Accounts Committee had stressed the need for clearance of these orders expeditiously in paragraph 1.22 of its 52nd Report (4th Lok Sabha, 1968-69). The Ministry of Defence then stated (November 1968) that every effort would be made to reduce the time lag between the placing of orders and supply. The annual accounts of ordnance factories, however, revealed that as against 12.37 to 16.30 percent during 1963-64 to 1965-66 in relation to the cost of production, the works-in-progress had steadily increased from 27 per cent at the end of March 1981 as indicated in the table below :

Year	Cost of production during the year	Works-in-progress at the end of the year	Percentage of works-in-progress to the cost of production
		(In crores of rupees)	
1976-77 . . .	518.33	141.31	27
1977-78 . . .	545.58	161.16	30
1978-79 . . .	550.57	77.27	32
1979-80 . . .	600.06	196.44	33
1980-81 . . .	670.99	224.52	33

During 1980-81 in 6 factories the percentages even ranged between 48.74 and 92.62 individually. The OFB stated (November 1981) that the factories had already been advised (June 1980) to examine the reasons for upward trend in the works-in-progress and to take remedial measures. The OFB, however, added (November 1981) that high percentage of works-in-progress in some of the factories were due to :

— frequent power interruption restricting production; and
— in filling factories a number of lots of ammunition and filled components though completed were under prokf and shown as semis.

The works.in-progress in the ordnance factories on 21st March 1981 totalled Rs. 224.52 crores; this comprised Rs 3.67 crores for development works and Rs. 220.85 crores for other works. The table below shows the age of the works-in-progress and the manufacturing warrants against which the works remaine dincomplete on 31st March, 1981.

Year in which works started	No. of manufacturing warrants			works-in-progress		
	Development works	Other works	Total	Development works	Other works	Total
					(In crores of rupees)	
1952-53 to 1975-76	146	2,900	3,046	1.13	3.91	5.04
1976-77 to 1977-78	196	6,037	6,233	0.56	7.13	7.69
1978-79 to 1979-80	186	13,947	14,133	0.50	34.57	35.07
1980-81	181	24,662	24,843	1.48	175.24	176.7
	709	47,546	48,255	3,67	220,85	224,12

According to the prescribed procedure manufacturing warrants are normally to be completed in 6 months and stores which can be produced during this period only are to be included in them ; in exceptional cases duration for manufacturing warrants may be extended by the OFB on factories request but such cases should be limited to the minimum. However, 9,279 manufacturing warrants (including 342 numbers on development works) whicn were issued during and prior to 1977-78 on which an expenditure of Rs. 12.73 crores was incurred remained incomplele at the end of March 1981 even after 3 years or more after these were issued. Warrants one year old and more numbered 23,412 on which Rs. 47.80 crores were locked up. The Ministry of Defence stated (November 1982) that instructions had been issued to all factories to constitute task forces to an reasons for carrying over each of the out-standing warrants as semis from year to year and to suggest and adopt effective remedial measures.

As the manufacturing warrants have been lying in complete for a long period in the ordnance factories, it is likely that a substantial portion of the stores, manufacture of which was taken up against such manufacturing warrants, would not be required by the indentors with passage of time. The OFB stated (November 1981) that "this may happen in a few cases only", but it was not clarified whether any detailed review in this regard in consultation with the

indentors was ever made. The OFB had also not furnished the details of those manufacturing warrants, which already stood suspended/cancelled after commencement of manufacture against them and the financial repercussions involved though called for in audit (March 1981). Mention was made in paragraph 12 of the Audit Report (Defence Services) 1979-80 that orders placed on a factory in December 1969 and April 1970 for 2 types of an ammunition were cancelled 1980) due to delay in establishment of their manufacture and supply involving financial repercussion of Rs. 107.32 lakhs (including cost of documentations obtained from a foreign Government). In respect of another order placed on the same factory in December 1971 for 1 lakh numbers of an ammunition to be supplied by March 1973 only 49,835 numbers were supplied till June 1974 due to inadequate supply of components by the sister factories and failure of lots in proof. As the ammunition thereafter was phased out of services, the order was short-closed at 69,259 numbers involving financial repercussion of Rs. 34.33 lakhs (revised to Rs. 29.19 lakhs in April 1981). The indentor refused to accept the liability for the loss March 1980) as the order was not completed within the scheduled period. The OFB stated (November 1981) that the indentor had been informed that the order was not completed due to phased withdrawal of he ammunition by the Services and that the acceptance of financial repercussion by the indentor was awaited. Further development had not been intimated to Audit (October 1982).

C. Finished components and products.—Besides inventories and works-in-progress, the ordnance factories had "finished semis" (finished components and products awaiting use or issue at the end of the year) worth Rs. 105.15 crores on 31st March 1981. This comprised finished components (Rs. 75.42 crores) and final products (Rs. 29.73 crores). The yearwise break-up of the accumulated finished semis is not available in compiled accounts. However, out of the finished components, 5848 tonnes of steel ingots, blooms, billets, etc. (cost : Rs. 90.64 lakhs) produced by factory 'F' since 1943-44 were surplus to requirements due to excess manufacture, change in specification or due to short-closure/cancellation of orders as mentioned in paragraph 25 of the Audit Report (Defence Services) 1980-81. In the same factory 96 items (296.22 tonnes) of brass rods, billets etc. (cost : Rs. 18.60 lakhs) and another 14 items of the same type of stores (11 items 42,360 numbers and 3 items—1,653.28 metres) (cost : Rs. 4.17 lakhs) manufactured during 1944 to 1965 were also lying in stock being unsuitable for use (March 1982). In factory 'K' out of total finished semis available on 31st March 1981 (cost : Rs. 1[illegible].84 crores) semis valuing Rs. 4.19 crores pertained to the years 1971-72 to 1977-78 and semis valuing Rs. 4.71 crores to the years 1978-79 and 1979-80. Though finished semis pertaining to very old period were available in various factories, no review was ever made to ascertain how much of them were surplus to the factories and require disposal.Summing up :

(i) Against the expected stock holdings for 9 months' requirements, the overall stock holdings in the ordnance factories in terms of number of months' consumption had gradually increased from 9.63 to 11.29 during 1978-79 to 1980-81. The cost of excess holdings beyond 9 months in 17 factories was approximately Rs. 149 crores (March 1981).

(ii) Out of the total inventories (cost : Rs. 525.77 crores) at the end of March 1981, the cost of surplus stores (declared), scraps and slow and non-moving stores totalled Rs. 85.60 crores.

(iii) As against 12.37 to 16.30 per cent during 1963-64 to 1965-66 in relation to the cost of production, the works-in-progress had steadily increased in the ordnance factories from 27 per cent at the end of March 1977 to 33 per cent at the end ot March 1981, the total cost of works in-progess at the end of March 1981 being Rs. 224.52 crores against the cost of production of Rs. 670.99 crores during 1980-81. In 6 factories the percentage ranged between 48.74 to 92,62 during 1980-81.

(iv) Although the normal life of a manufacturing warrant was 6 months, 9,279 manufacturing warrants which were issued during the prior to 1977-78 and on which an expenditure of Rs. 12.73 crores was incurred remained incomplete at the end of March 1981. Warrants one year old and more numbered 23,412 involving a locked up capital of Rs. 47.80 crores.

(v) Although manufacturing warrants were lying incomplete for a long period, no review in consultation with the indentors was made to ascertain their requirements for the stores manufacture of which was taken up against such warrants.

(vi) Cases of cancellation/short-closure by the indentors involving financial repercussion of Rs. 136.51 lakhs due to delay in manufacture and supply came to notice during test check.

(vii) In one of the factories finished components and products worth Rs. 4.19 crores pertaining to the years 1971-72 to 1977-78 were lying unused (March 1981).

[Para 12 of the Report of C & AG of India for the year 1981-82 (Defence Services) relating to Inventories and Works-in-Progress]

APPENDIX III

Statement of conclusions and recommendations

S. No.	Para No.	Minstry/ Deptt. concerned	Recommendations and observations
1	2	3	4
1	1.59	Defence Production	With a view to establish indigenous production of a vital defence equipment and its Parts I, II and III, Government entered into 5 collaboration agreements with some foreign firms for purchase of prototypes and production models of the equipment, licence to manufacture and for obtaining design knowledge, complete data and technical assistance in setting up of a factory and establishing production facilities. An outlay of Rs. 16.12 crores (later on increased to Rs. 17.27 crores in January 1967) was sanctioned to establish production facilities for 100 numbers of the equipment and its parts I, II and III per annum in a single shift of 8 hours. In February 1966, additional outlay of Rs. 84.43 lakhs was sanctioned for civil works considered necessary to enable the factory to run double shift to increase the production to 160 numbers or equipment a year. The Committee are, however , surprised to find that when Government decided to set up production facilities for the equipment, the said equipment was simply on the drawing board and was not manufactured even by the Collaborators. Hence, there was no reliable data available about the performance of the equipment. No wonder subsequent experience with the equipment has not been happy as Part I of the equipment has been subject to frequent failures. The Committee are unhappy that Government thought it prudent to undertake production of an unproven equipment whose performance was not put to test anywhere. The Committee expect Government to draw adequate lessons from their experience in this case and ensure that only equipment of proven design and performance are chosen in future.

1	2	3	4
	1.60	Defence Production	The Agreement entered into with the foreign collaborator envisaged, inter alia, licence to manufacture the equipment hundred per cent indigenously, However, the Committee find that there had been a significant import of components even after 20 years of establishment of production facilities. The Agreement envisaged that there would be progressive indigenisation of components starting with 35 per cent at the initial stage of production reading to the level of 85 per cent at the production of 450 and more equipments. This level of production was reached in 1972-73, but the level of indigenisation achieved at that time was only 62 per cent (by value). Even in 1974-75, the indigenisation achieved was only 79 per cent, *i.e.* much below the target of 85 per cent envisaged in the agreement. Even today, 20 years after the establishment of the initial production facilities, the country is still dependent on the Collaborators for some vital components. What is really surprising is that no phased programme or time schedule was drawn up to attain total indigenisation of the equipment. The same lapse was repeated in the indigenisation of Part I of the equipment. Over the years, 9 per cent Indigenisation has been achieved by value and the country is still dependent on imports for 9 per cent of the value of components including some high value items such as piston, bearings and chemicals This is not a happy position. With the rapid strides made in later part of the Seventies and early Eighties in building the industrial infrastructure in the country, the Committee feel, achievement of total indigenisation is not a difficult proposition. The Committee would like the proces of indigenisation speeded up so as to achieve total indigenisation in the near future. The Committee further desire that in future as and when manufacturing capacity of any equipment is set up in the country, a programme of indigenisation should be prepared and target date for complete indigenisation fixed and every comfort made to achieve the targets as evinsage.
3	1.61		The Committee are disappointed to find persistent failures in the factory in achieving the production targets with the result that Army's requirements of the equipment have remained unfulfilled. Although the production in the factory had started in 1965 with a production capacity of 100 weapons a year and all the shops of the factory were working two shifts from 1967 and the production capacity was raised to 160 numbers a year, the factory could supply

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			only 368 numbers in all during 7 years from 1965-66 to 1971-72, *i.e.* an average of about 53 weapons per year against the Army's total requirement of 549 numbers by March, 1972. In addition, the factory produced and supplied prototype of another version of the equipment in 1967-68 and supplied 10 numbers each of this version to this Army during 1970-71 and 1971-72 against their requirement for 33 numbers during 1967-68 to 1970-71.
4.	1.62 & 1.63	Defence Production	The reasons for failure to achieve the targets were investigated by a study team in September-October, 1970 appointed by the General Manager of the factory. The study team found that the optimum production that could be achieved could be 120 against the target of 160 equipments as 25 per cent of the capacity would be required for manufacture of spares for which no capacity had been created. The Committee are surprised that while laying down targets of production, it never struck the authorities to provide for the production of spares. This clearly shows the casual manner in which planning for the project was done. The Committee would like to be apprised of the reasons for such a serious omission.
5.	1.64	Defence Production	The Committee find that according to the study team, even this reduced production of 120 equipments a year could not be achieved becasue of several factors *viz.* timings recommended by the collaborator having not materialised and required upward revision; no separate provision having been made for development work for establishing production of different components of the equipment and its other versions; inadequate allowance made for unavoidable machine break-downs and uneven flow of materials; extra machining of the components required due to non-availability of materials of correct sizes and inadequate material handling facilities. To overcome these deficiencies further investment of Rs. 36.55 lakhs for procurement of certain balancing machine tools and additional material handling equipment was made. The Ministry have explained that these factors could not be thought of at initial stage of establishing production facilities because 'the collaborators were assigned the task of designing the lay-out only for 100 equipments per year.' The Committee find this argument unconvincing as they feel that the auth-

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			orities should have visualised the need for this additional equipment while expanding the capacity to 160 numbers of equipment per year on the basis of double shift. Why it was not done needs explanation.
6.	1.65	Defence Production	After reviewing the requirements of the Army, a long term production programme was drawn up for the factory in January 1971 and it was decided to step up the production to 200 numbers by 1974-75 alongwith adequate spares. An additional investment of Rs. 10.10 crores was made peridically till 1978 to overcome the various deficiencies in the planning of capacity to 200 numbers of the equipment per annum in two shifts. The expanded capacity of 200 equipments a year was established in 1976-77, but there had been shortfall in production ranging from 11.5 per cent to as high as 33.5 per cent from the period 1976-77 to 1981-82. It is indeed disturbing that after attaining a production of 163 numbers in 1978-79, the production started falling and the number of equipment manufactured was 133, 140 and 133 in 1979-80, 1980-81 and 1981-82 respectively. Because of the under-utilisation of capacity during the first 17 years of production the average production was only 109 numbers of equipments a year. Thus, despite heavy capital investment totalling Rs. 27.37 crores over the years and remedial action taken to streamline the production on the recommendations of the factory's study team in 1970 and the high level committee set up in 1975, the project failed to achieve the targeted production. The Committee consider it deplorable. They desire that the reasons for the failure of the factory to achieve targeted production should be investigated by a high level committee in order to fix responsibility.
7.	1.66	Defence Production	Another surprising aspect is that while on the one hand production in the factory was falling, the overtime paid was on the increase. This is evident from the fact that in 1978-79, 163 numbers of equipments were produced and the amount of overtime paid to industrial establishment was Rs 94.15 lakhs. In 1979-80, the factory could produce only 133 numbers of equipments, but the amount of overtime paid rose to Rs. 117.19 lakhs. In 1981-82 again, the production of the equipment remained the same, but the amount of overtime rose further to Rs. 122.15 lakhs. This is, to say the least, indicative of complete absence of

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			management and financial control. The Department of Defence Production have stated that the increased over-time was necessitated by manufacture of a large quantity of components and special jigs, tools and special fixtures for them for future production of the equipment. The total value of tools, jigs and fixtures produced during 1979-80, 1980-81, and 1981-82 were Rs. 76.76 lakhs, Rs. 83.92 lakhs and Rs. 70.41 lakhs and these are stated to have been mostly utilised in the current production programme and the value of residual items for utilisation in future are stated to be difficult to quantify. The Committee find little justificatian in resorting to overtime for production of items required in future when main production of the equipment was far below the rated capacity of the factory and resorces under-utilised. It is a pity that in spite of resourting to systematic overtime payments, the factory could not achieve the targets and the shortfall in the supply of equipment was met by depressing the War Wastage Reserve and keeping the units at hard scale.
8.	1.67	—do—	The Committee note that productivity index during these years had fallen to between 69 and 82.4 per cent i.e., much below the permissible limit of 90. The Committee would await the steps taken to improve labour productivity.
9.	1.68	—do—	The Committee observe that 23 numbers of type II version of the equipment were procured from another foreign country at a cost of Rs. 4.26 crores even when there was no pending order with the factory for this type of equipment and there was overall decline in the level of production of type I of epuipment in the factory. It has been stated that the supply could be effected by the factorys by further reduction in the production of the equipment which was not acceptable. No doubt, factors like short supply of certain materials and bought out components, inadequate tooling and power failures had been contributing factors for low level of production in the factory, but all the same the Committee feel that these problems were neither insurmountable nor of lasting nature. The production of type II version of the equipment could have been managed in the Factory itself with better planning and foresight and the country could save Rs. 4.26 crores in foreign exchange.

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10.	1.69	—do—	The Committee are conesned to note that the installed capacity of 200 numbers of equipment was not being fully utilised at the Factory even thongh there were pending orders for 539 number of equipments as in March, 1982. The Department of Defence production has decided to execule these orders in four years by 1985-86 @ 130 numbers per year. It has been stated that besides production of Type-I of the equipment the factory has started production of another Type of equipment and 20 per cent of the production capacity out of the-total 200 numbers has been diverted to it. The Committee are perturbed to find that even the remaining capacity of 160 numbers of equipment for Type I was not being utilised fully as the factory was not working on two shifts. The Committee have already expressed their concern on the underutilisation of the installed capacity in the preceding paragraphs. They would like Government to ensure that the installed plant and machinery and also the man-power deployed are fully utilised.
11.	1.70	—do—	The Committee view with serious concern the fact that there have been frequent break-downs of the equipment supplied to the Army due to hi$_{\varepsilon}$h incidence of premature failures of Part I since its inception though it had been fitted with components produced with imported technology. Modified versions of Part I tried on the equipment also failed to improve the position. Consequently, out of the total of 1268 numbers of Part I overhauled till 31 January 1984, 230 had to be overhauled prematurely adding not only to the increased requirement of spare components but also endangering the defence of the country. It has been the pleaded that premature failure of Part I had been the experience of the collaborator also. This, in the view of the Committee, is a poor consolation. The fact remains that due to this defect in this vital part of the equipment, not only there has been extra expenditure, but the battleworthiness of the equipment has become doubtful. What is a matter of still deeper concern is that in spite of efforts, it has not been found possible to overcome this defect. The Committee have no doubt that this sorry state of affairs has arisen because of selection of an uproven and untested design. The Committee urge that the Defence R & D Organisation should take up the challenge and with their technological competence should be able to overcome the defects at the earliest.

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12.	1.71	—do—	The premature failure of Part I, increased the demand for it resuling in significant imports. To build a pool of 40-50 percent of requirement, as indicated by the Army, Government resorted to import of 232 numbers of Part I at a cost of Rs. 7.74 crores. The factory failed to meet the pool requirements of Part I even though its production facilities had been augmented at the cost of Rs. 0.85 crore by increasing capacity from 200 to 275 numbers per annum. The augmented capacity was available from 1978-79 onwards, but the factory could supply only 144 numbers of Part I during 4 years till 1981-82 against the expected supply of 300 numbers. The Committee feel that this is yet another instance of the failure of the factory to meet its obligations resulting in avoidable outgo of scarce foreign exchange.
13.	1.72	—do—	The committee observe that although production had started in the factory in 1965, estimates of quantum of labour, materials etc. required for the manufacture of the equipment had not been standardised. The Department of Defence Production have contended that the collaborators did not provide any standard estimate. They only supplied process schedule giving approximate process timings which did not include essential element like set up time, standard allowance and system delays. Operations like inspection, rectification and trials were not listed. In the initial stages of production in the factory it was held that the process schedules themselves could be kept as an ideal timing achievement to be aimed at. The General Manager, of the factory stated that "the total time that is taken is available and the attempt is there to reduce it. But we are not able to make any significant reduction on it." The Committee are not convinced of this line of argument. They feel that it would have been better if the standard estimates had been obtained standarised by the factory. The Committee hope that this will be done at least now.
14.	1.73	—do—	The Committee are concerned to note that the development of modern version 'M' of the equipment which has to replace the current version of the equipment after 1985, taken up in 1974 at a cost of Rs. 56.55 crores has not made much headway. The project schedule envisaged in 1974 that four prototypes would be offered for trial by April 1980 and another 8 in the next two years by April

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			1982. Bulk production was planned to commence within 10 years, i.e., by April 1984. It is distressing to note that the first prototype was developed as late as in 1984, i.e. four years behind schedule upsetting the entire production plan. Even this had to be done on an imported Part I of the equipment as the indigenous Part I of the requisite capacity could not be developed. Until prototyes are evaluated, time period required for regular production cannot be precisely estimated. Thus, the regular production of the modern version of the equipment is nowhere in sight. The Secretary (DP) frankly admitted that the projection made at that time was obviously unrealistic. He however contended that no country in the world is known to have developed de-novo such an equipment in less than 15-17 years. The Committee cannot but express their serious displeasure at the tendency of the authorities to make such unrealistic estimates thereby raising false hopes. This is still more serious when such an unrealistic estimate is made in the case of a vital equipment for the defence of the country. This is a case of very poor planning of a vital defence equipment. The emerging picture that Committee visualise is quite disturbing. The current verion of the equipment which is at present in use in defect prone and cannot be relied upon; the modern version which has to replace it, is nowhere in sight. No doubt an intermediate version has been imported and is in use but the production facilities for the same have also not been set up. They hope that Government would take appropriate action not only to expedite the development of modern version of the equipment but also to make arrangements in the interregnum to be self-reliant in the production of intermediate version of equipment till the regular production of the modern version commences.
15	2.53	Defence production	As per instructions issued by Government, Ordnance Factories are authorised to hold inventories for 9-12 months of their requirement of imported items, 9 month, requirement of difficult indigenous items and 6 months' requirement of other indigenous items. These limits relate to the materials required for production purposes and do not include waste/obsolete stock or maintenance stock. However, the total inventory held during the years 1980-81 and 1981-82 by the Ordnance Factories was of the order of Rs. 526 crores and 584 crores respectively while the

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			value of production during these years had been Rs. 671 crores and 787.25 crores respectively. The overall stock-holding in terms of months' consumption has gradually increased from 9.63 to 11.21 during 1978-79 to 1980-81. However, the same has registered a marginal decline to 11.08 during 1281-82. The cost of excess stock holdings beyond 9 monts in 17 out of 34 factories was very high at Rs. 149 crores. It has been argued that level of inventory holdings should be computed with reference to level of consumption for the period for which the inventories have been procured, *i.e.* next year. Even after taking this factor into account, the Committee feel level that level of inventories in Ordnance Factories is quite high and requires to be brought down drastically.
16	2.54	do	The Committee note that the level of inventories in Ordnance Factories is reviewed at the level of Ordnance Factories Board and is monitored periodically by a high level Committee in the Department of Defence Production headed by the Secretary (DP). Some measures like ABC analysis, staggering of deliveries to match with production requirements and disposal of non-moving/surplus/obsolete stock have been taken to reduce the level of inventories. Special Task Forces have also been set up at Factory Level to identify the problem areas and take suitable remedial measures. The Committee also note that a procedure exits for review of surplus stores and their alternative uses, declaring surplus stores to other Factories and other Defence Services. Half- yearly returns have been prescribed on the levelof inventory holdings in the various Ordnance Factories to mointer more closcly the stock holdings especially the disposal of waste/obsolete/surplus stock. Besides, there exists a well-defined procedure to prevent over-provisioning of stocks. However, the very fact that in spite of all these provisions and measures, the inventory holdings in the Ordnance Factories are at such a high level clearly shows that either these measures and instructions have not been followed strictly or these have failed to produce expected results. The Committee would like the matter to be reviewed by the Ministry of Defence (Department of Defence Production) urgently and steps taken to bring down the inventory holdings in each factory to a reasonable level.

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17	2.55	do	The Committee understand that the public sector undertakings using, imported compnents in their manufacturing process are allowed to import components half yearly on the basis of their projected requirements. However, in the case of Ordanance Factories no such norms are prescribed. Instead, they are authorised to hold inventories of imported items to the tune of their 9-12 month's requirements. The Committee would like the Department of Defence Production to make a detailed study of the practice obtaining in public sector undertakings in this regard and take measures to revise their holdings on similar lines.
18	2.56	do	The Committee note that the present scale of inventory holdings was prescribed long back. The Committee also understand that in some of the developed countries, manufacturing units keep their inventory holding as low as one days's requirement. No doubt, because of infrastructural bottlenecks and state of industrialisation it is not possible to come down to that level of inventory-holdings in this country in the near feuture, nor would it be desirable to keep inventory holdings in Ordnance Factories at such a level, but considering the considerable strides made by the country in the field of industrialisation since Independence and availability of transport facilities, the Committee feel that the norm of 9 months' requirement of stock-holding evolved long back, should be reviewed with a view to bring it down to a reasonable level and thus avoid un-necessary blocking of capital.
19	2.57		The Committee observe that with a view to identify 'A' category items of stock in the inventory holdings of Ordnance Frtories, to ensure correctness of store accounts of these items, correct discrepancies and analyse the physical stock to determine the necessity for those holdings with reference to their requirements for production. Task Forces were set up in all the Ordnance Factories. However, in only 15 out of 34 Factories, Task Forces have completed their studies so far. The reasons for non-completion of their studies are stated to be lack of additional staff and pending arrears in accounting, postings and adjustments of stocks. The Ordnance Factories have again been asked to set up Task Force to study the problems. The Committee hope that all the impediments in the proper functioning of Task Forces will be removed and all the

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			Task Forces would be able to submit their findings on time. The Committee would like to be apprised in due course of the findings of the Task Forces and the action taken by the Department of Defence Production in the light of their recommendations.
20	2.58	Do	From the findings of some of the Task Forces who have submitted their Reports last year, the Committee note that glaring cases of gross neglect in the maintenance of stocks in Ordnance Factories have come to light. It has been pointed out *inter alia*, that Priced Store Ledgers in 2 of the Ordnance Factories namely Ordnance Factory, Khamaria and Gun Carriage Factory, Jabalpur were in poor shape and required detailed investigation. Incorrect ledger rates in Ordnance Factory Khmaria and discrepencies between bin card and ledger balances in Gun Carriage Factory, Jabalpur needed to be rectified. The Task Force have also recommended examination of the existing procedure of flow of documents to ensure that receipt vouchers are received in accounts and posted in the ledger prior to related issues. There had been 100 missing vouchers pertaining to the year 1978-79 and for posting in bin card and the ledger to enable quick reconciliation these were to be located. The Secretary (DP) candidly admitted that "it is not merely impropriety but it may be irregularity also". He also agreed that "there might be some pilferage also". The Task Forces have also recommended computerisation of Priced Store Ledgers and provision of mechanical aids like calculators and posting of a separate Accounts Officer incharge of mechanical sections in each of the Ordnance Factories. While Government have already initiated action on some of the recommendations and discrepancies have been set right, action on some of their recommendations is still stated to be under consideration. The Committee have been told that all aspects were being examined with a view to take rectificatory steps. The Committee are of the view that the irregularities pointed out by the Task Forces like missing vouchers and non-posting of bin cards, etc. are of a serious nature and these may involve defalcations and misappropriations of large amounts. The Committee recommend that these lapses should be investigated thoroughly with utmost expedition and responsibility fixed immediate steps should also be taken to bring about procedural improvements so as to guard against

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			the recurrence of these lapses. The Committee will like to be apprised of the concrete steps taken in this regard.
21	2.59	—do—	The scrap holdings in the Ordnance Factories had gradually increased from Rs. 10.19 crores at the end of March 1979 to Rs. 18 crores at the end of March 1982 as their utilisation was restricted due to non-availability of required facilities and disposal by sale was not commensurate with the rate of their accumulation. Out of the total scrap holding of Rs. 15.16 crores as on 31 March 1981, the holding in 4 factories alone amounted to Rs. 11.68 crores. In one of them about 109 tonnes of cupronickel scrap costing Rs. 20.68 lakhs received in March 1956 from a sister factory and 112 tonnes of fired cartridge cases costing Rs. 25.11 lakhs received during 1972 were awaiting disposal. According to Government instructions, graded scraps both ferrous and non-ferrous are first offered to melting factories befor disposal through auction. It has been stated that cupronickel scrap was initially retained for eventual utilisation. However, when no outlet was found it was decided in 1971 to dispose it of. Open tenders were floated in 1971, January 1972 December 1972 and January 1983 but the rates quoted were found to be far less than the ledger rates. The offer made to National Small Scale Industries Corporation in February 1977 also did not evoke any response. Nor could any fruitful results be obtained from specialised firms approached in 1979. Lately, a Board has been constituted to assess the real worth of the store before making fresh attempts for its disposal The Committee would like to express their unhappiness that scarce metal valued at lakhs of rupees could not be put to use for three decades. The Committee would like that physical verification of the stock to be done by and independent authority and the results of the verifiction intimated within 3 months. After the verification is complete, urgent steps be taken for the disposal of these seraps."
22	2.60	—do—	Similarly, 112 tonnes of Silicon Brass Scrap valued at Rs. 25.11 lakhs representing Fired cartridge cases was lying unutilsed since 1972. Besides, some other scraps valued over Rs. 80 lakhs (quantity 293.89 tonnes) pertaining to the period prior to 1977-78 and in a case prior to 1968 have not been utilised so far. It has been stated

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			that some measures like running contracts and conversion contracts have been entered into for expeditious disposal of these scraps. The Committee have already commented adversely about this fact in their 145th Report (7th Lok Sabha) on "Delay in disposal of fired cartridge cases". They hope that not only the present holdings would be disposed of expeditiously but steps would also be devised to make use of the further arisings concurrently.
23	2.61		The Committee note that non-ferrous scraps which cannot be put to useful production by ordnance Factories are sold to trade. According to the instructions issued by Government in 1978, while disposing of non-ferrous scraps special reservations upto 30 per cent of copper and copper based alloys including brass scraps are to be made for units in the Small Scale Sector and export-oriented units each at a concessional rate of 10 per cent. The scrap so reserved for SSI units is offered in lots of 5 tonnes each and in case the total quantity offered is less than 5 tonnes, the lots may be of one tonne each. In case no SSI unit comes forward to bid for scrap than the entire quantity is considered as non-reserved. The Committee feel that quite often it may not be possible for small scale units on account of their smallness to consume the entire raw material offered to them in lots of 1 to 5 tonnes and financially also on account of their limited resources to bid for such large quantities of costly metals. This is amply clear from the fact that of the total quantity of a little over 1003 tonnes scrap offered for sale in 1981-82, the share of SSI units was only 180 tonnes. The Secretary (DP) assured the Committee during evidence that "we will see to it. We shall see what we can do about it". The Committee would like Government to examine the matter and amend the procedure in this regard suitably with a view to enable small scale units to purchase copper and copper-based alloys including brass for their requirements in small lots.
24	2.62	do	The Committee note that the works-in-progress have steadily increased to 27 per cent of the cost of production at the end of March 1977 and further to 33 per cent at the end of March 1981. In terms of total Cost the works-in-progress at the end of March 1982 totalled Rs. 252.75 crores against the total production of Rs. 787.25 crores, During 1980-81, the percentage of works-in-progress to

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			cost of production in 6 Ordnance Factories has ranged between 48.74 and 92.62 individually. This indicates a very sorry state of affairs. The Committee regret that this increase has taken place in spite of the assurance held to the Committee as early as 1968-69 that every effort would be made to reduce the time-lag between the placing of orders and supply in response to their recommendation contained in the 52nd Report(4th Lok sabha)on the subject. The Department of Defence Production owe an explanation to the Committee in this regard. The Committee note that Ordnance Factory Board is aiming at reduction of works-in progress to substantially less than 30 per cent' and all the General Managers have been advised to bring down the works-in-progress'. The Committee feel that the norm of work-in-progress at 30 per cent of the cost of production is also too high and efforts should be made to reduce it further. The Committee would also like the Ordnance Factories Board to devote particular attention to those Factories where works-in-progress are more than 50%.
25	2.63	do	According to the prescribed procedure, manufacturing warrants are normally to be completed within 6 months and stores which can be produced during this period are to be included in them; in exceptional cases duration of manufacturing warrants may be extended by the Ordnance Factories Board at factories' request, but such cases should be limited to the minimum. However, the Committee find that 9279 manufacturing warrants issued prior to 1977-78 on which Rs. 12.73 crores had been expended still remained incomplete at the end of March 1981, even after 3 years or more after issue. Warrants which are one year or more old numbered 23,412 involving a locked-capital of Rs. 47.80 crores. To make the things worse there were 146 development works and 2900 other works-in-progress and a sum of Rs. 5.04 crores had been expended on them. The Secretary (DP) contended before the Committee that Cases the overall out-standing of warrants as on 1.1.84 show sconsiderable improvement when compared with 1.1.82'. He further clarified that in most of these cases it was documentation which remained to be done and required cleri cal work. Efforts have been made in the last 2 years to wipe out all old warrants. The Committee would like Government to devise measures to ensure that not only the arrears of old warrants are wiped out; but the fresh accumulation

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			of warrants is also not allowed to take place. Moreover, steps should be taken to improve the documentation work in respect of these works-in-progress. This assumes greater importance in view of the fact that in case of delay in completing these warrants, there is considerable risk of these becoming obsolete and entire expenditure becoming infructuous. To prevent such eventualities the Committee would like the Department of Defence Production to review the position periodically in consultation with the indentors for the stores being manufactured by them against such warrants.
26	2.64	do	The Committee are disturbed to note that 111 manufacturing warrants have been cancelled upto March, 1981 involving financial repercussion amounting to 55.33 lakhs. Further, in a case orders placed on a factory in 1969-70 for two types of ammunition were cancelled in 1980, i.e., after 11 years due to delay in establishment of their manufacture and involving financial loss of Rs. 107.32 lakhs including cost of documentation obtained from a foreign Government. It has been stated that the delay occurred because of delayed approval of specifications by the Research and Development Organisation after finalisation of design of the propellant prime combination, delayed supply of components by sister factories etc. Yet in another case orders were placed in December 1971 for supply of one lakh numbers of an ammunition by March 197 ; only a part supply of 49835 numbers of ammunition could be effected till June 1974 due to inadequate supply of components by sister factories and failure of lots in proof. As the ammunition was phased out, the order was short-closed involving financial repercussions of Rs. 34.33 lakhs. The Committee feel that with better planning and coordination such eventualities could have been avoided. They expect that suitable mechanism would be built in to minimise such infructuous expenditure in future.