

PUBLIC ACCOUNTS COMMITTEE
1967-68

SIXTEENTH REPORT
(FOURTH LOK SABHA)

**(Appropriation Accounts (Defence Services), 1965-66
and Audit Report (Defence Services), 1967—Defence
Production)**

29006(1)
4-3-1968



LOK SABHA SECRETARIAT
NEW DELHI

February, 1968/Magha, 1889 (Saka)

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CORRIGENDA TO THE SIXTEENTH REPORT OF P.A.C.
(1967-68) (PRESENTED TO LOK SABHA ON 29.2.68).

<u>Page</u>	<u>Para/ Col.</u>	<u>Line</u>	<u>For</u>	<u>Read</u>
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(1967-68)

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*Declared elected on the 30th November 1967, *vice* Shri Mohammad Yunus Saleem, ceased to be a Member of the Committee on his appointment as Deputy Minister.

INTRODUCTION

I, the Chairman of the Public Accounts Committee, as authorised by the Committee, do present on their behalf, this Sixteenth Report on the Appropriation Accounts (Defence Services), 1965-66 and Audit Report (Defence Services), 1967—Defence Production.

2. The Appropriation Accounts (Defence Services), 1965-66 together with the Audit Report (Defence Services), 1967, was laid on the Table of the House on 25th July, 1967. Paras of the Audit Report (Defence Services), 1967 dealt with in this Report were examined by the Committee at their sitting held on 18th October, 1967 (afternoon). The Committee considered and finalised this Report at their sittings held on 31st January, 1968 and 3rd February, 1968. Minutes of the sitting of the Committee form Part II* of the Report.

3. A statement showing the summary of the main conclusions/recommendations of the Committee is appended to the Report (Appendix IV). For facility of reference these have been printed in thick type in the body of the Report.

4. The Committee place on record their appreciation of the assistance rendered to them in the examination of these Accounts by the Comptroller and Auditor General of India.

5. They would also like to express their thanks to the officers of the Ministry of Defence, Department of Production, for the co-operation extended by them in giving information to the Committee.

NEW DELHI;
February 13, 1968
Magha 24, 1889 (Saka)

M. R. MASANI,
Chairman,
Public Accounts Committee.

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

MANUFACTURE OF ORDNANCE STORES***Unnecessary Extension of Monorail—Para 3, Page 4:***

In July, 1955, Government accorded sanction, *inter alia*, for the extension of a monorail in an Ordnance factory by 560 feet, at a cost of Rs. 0.34 lakhs. The extension was considered necessary for speedy movement of materials from the main store building to the new extrusion plant being built in the factory.

1.2. The steel frame work was completed in August, 1960, at a cost of Rs. 0.49 lakh but the electric motor cage and the lifting tackle (estimated cost Rs. 0.05 lakh) have not been procured yet the extended monorail has not been opened to traffic (January 1967).

1.3. The factory management has stated that, on the basis of the present capacity of the extrusion plant, only about 60 to 75 tonnes of stores would require to be carried per month by the extended monorail. This would be equal to just one trip per day. The extended monorail is thus not likely to be utilised adequately even if it is completed and brought into use.

1.4. The Ministry stated in February, 1967, that it was proposed to conduct a detailed enquiry to find out the circumstances leading to the extension of the monorail.

1.5. During evidence the Committee referred to the audit para and enquired: (i) why the steel frame was completed five years after the sanction was accorded, and (ii) the motor cage and lifting tackle were not procured even after seven years of the completion of the steel frame work in 1960. The Secretary Ministry of Defence (Production) stated that the monorail was part of a bigger project—the extrusion press. It could only be used after the main project was completed. The extrusion press was sanctioned by the Government in 1955, commenced in 1966 and completed in 1960. The monorail had, however, not yet been completed.

1.6. Referring to the time taken in setting up the extrusion press, the witness stated that first its approval was taken from Government, then action was initiated to acquire it, set up the civil works, prepare detailed estimates and call for tenders etc.

1.7. The Committee enquired if it meant that plan and estimates were not drawn up, when the project was thought of. The witness replied: "Indication of capacity, cost etc. are given but without detailed planning." He added that "it would be more correct to say that the detailed plans for civil works, etc. were not put up to Government when the original scheme was sanctioned. It is not normally done." He further stated: "It may result in a lot of fruitless effort if the Government finally do not accept the idea of having an extrusion press or having an extrusion press of 2000 tonnes."

1.8. In regard to the delay in the procurement of motor cage and electric lifting tackle, the Secretary, Defence (Production) stated that an investigation in that case had been ordered. He felt that some time in 1960, the then General Manager of the factory decided that with the material moving equipment which the factory then had, it was unnecessary to proceed with the monorail and he stopped the work. The General Manager did not, however, report to the Director General, Ordnance Factories, that the work on the monorail had been stopped. It was in 1963, that the Director General, Ordnance Factories, noticed during his visit to the Factory, the monorail, and 'considered that a wasteful expenditure'. The Director General, Ordnance Factories, also thought that it was unnecessary to have the monorail in that factory, as the factory had already the material handling equipment. The Director General, Ordnance Factories, had thereupon decided to shift the monorail to another factory and instructions to that effect had already been issued.

1.9. In response to a query, the witness stated that the original portion of the monorail was being fully utilised and roughly 750 tonnes per month were being carried over it.

1.10. The Committee asked: "Was it thoroughly examined whether the monorail was required or not" before sanction for its construction was given. The witness replied: "At that time the view expressed by the management was that the monorail would be a desirable feature and would be economical". He added that "it was considered essential, that is why it was sanctioned".

1.11. In response to another query, the witness stated: "There was defect in thinking in design because it is not practicable to have a monorail going like that and then to branch off without transshipment". The witness added: "This is an error of our experts. Even after the engineers had pointed out that transshipment would be necessary, it is possible that the work could have been suspended altogether at that stage".

1.12. The witness disclosed in response to a query that the reason "why the work on monorail was suspended and why no approval of Director General, Ordnance Factories, was taken for that", was being investigated. An inquiry was made about the papers relating to the project from the engineering staff in February, 1967, but they were unable to locate the records. Copies of the correspondence etc. were now being obtained from other offices.

1.13. In reply to a question, the witness stated that the General Manager of the factory left the service some years ago, and the explanation of others concerned in this matter, would be asked for after the investigation report was received. The witness added that the investigation was started about 10-11 months back and it had taken a long time because the papers were not traceable.

1.14. The Ministry have also furnished a note on the execution of this project, which is at Appendix I.

1.15. In regard to the conception and sanction of the project the Ministry have stated: "The main project for the establishment of Extrusion Press was conceived in 1951. This involved an expenditure of Rs. 36.9 lakhs and Government sanction to the acceptance of necessity of this expenditure was issued on 3rd December, 1951. The capacity envisaged in the sanction was 3,500 tons. Subsequently, on technical and other considerations, it was decided to procure a 2,000 ton Press and also change the location. The revised proposal was approved by the Government and sanction was issued on 28th February, 1955. Administrative approval for the civil works at a total cost of Rs. 13.27 lakhs was issued on 21st July, 1955. The extension of the monorail involving an expenditure of Rs. 76,500 was only a small part of a much bigger project costing Rs. 46.5 lakhs connected with the installation of a 2000 ton Extrusion Press."

1.16. Indicating the general procedure for formulating a project by the Director General, Ordnance Factories, and issue of sanction by the Government the Ministry have stated: "The D.G.O.F., on the basis of a careful assessment of his requirements with reference to the existing capacities, the product-mix, process selection, size and location of the plant, capital and operating cost of the project, foreign exchange expenditure etc. and keeping in view the demand of the users for particular items, prepares a statement of case wherein all this information is furnished in full. This statement is submitted to the Government for acceptance of the necessity for the project. The cost of the project as worked out and indicated in

the statement of case is approximate and is based on enquiries made from trade firms and/or knowledge available of plant and machinery, civil works estimates worked out in consultation with MES etc. Detailed plans for civil works or detailed tender enquiries for plant and machinery are not made at this stage as the possibility of the proposal being rejected or modified by Government cannot be ruled out. The Ministry examines the proposal in consultation with the Ministry of Finance (Defence) and takes a decision on the question of necessity of the project with such modifications as are considered necessary. A Government sanction is thereafter issued which authorises the DGOF to proceed with placing of indents for plant and machinery and take procurement action."

1.17. The Ministry have also stated in their note: "The fact that the monorail was not being used or even completed was first noticed by the DGOF during his visit to the Factory in 1963. He observed that the Factory was utilising road transport for conveying stores in question since 1961, when the Press was installed and that the monorail was not being used. He agreed to the dropping of the monorail scheme and decided to shift the monorail to another Ordnance Factory, where a non-ferrous rolling mill was to be set up. This, however, did not materialise, as the proposal for, rolling mill was subsequently dropped. In February, 1967, the DGOF ordered an enquiry, specially to bring out the circumstances in which the monorail was planned and constructed, but not completed, and also to ascertain why it was found not practicable to connect the extension to the main line. The enquiry were handicapped for want of all the relevant papers at the Factory or with the MES. While the enquiry could not bring out the full facts, the following conclusions have been reached based on the enquiry report and further discussions with DGOF and his Officers:—

- (i) "In December, 1955, while preparing the detailed plan for the extension of the monorail, the Chief Engineer had pointed out that there were technical difficulties in branching off a monorail from the main line."
- (ii) "The General Manager of the Factory had then considered various possibilities including construction of an independent monorail from the Stores to the Extrusion Shop and alternatively unloading from the main line and loading the proposed extension monorail at a take off point on the main line. In view of the fact that the Factory did not at the time have enough road transport for the purpose

and having regard to the disadvantages of high cost in having an independent line, wastage of space and congestion at the Stores Section etc., the General Manager decided to have the monorail extension without connecting with the main line, but with transshipment of stores between the two monorails."

- (iii) "By the time the Extrusion Press was commissioned in 1961, the material handling facilities available with the Factory had considerably improved as they had received 2 Lister Trucks in 1957 and 6 in 1959. As a result, the Factory was able to carry out the work of conveyance of stores to the Extrusion Shop more conveniently by road. 10 more Battery Trucks were supplied to the Factory in April, 1965 in pursuance of a general policy decision taken after the hostilities in 1962 to supply material handling equipment to all Ordnance Factories. In view of this, the Factory having managed without the monorail extension, further steps were not taken to complete the work."
- (iv) "Despite all efforts files on the extension of monorail have not been traced. He could not in particular locate any instructions by the Factory or the Director General, Ordnance Factories, to suspend the work of construction of the monorail. There were also no papers to show that the Factory had at any stage reported to the Director General, Ordnance Factories, that the monorail was no longer necessary. It appears that the Factory Management felt that it would not be possible to put the extended monorail to any great use and it did not pursue the question of construction of monorail but also failed to inform the DGOF Headquarters regarding this change in the project. It is, however, not possible to come to a definite conclusion at this stage in the absence of the relevant papers on the subject."

1.18. The Ministry's note also states "Government propose to dismantle the monorail and instal it in a factory, where it would be more useful. DGOF is at present examining whether it can be erected at another Ordnance Factory. Before a decision is taken, the economics of the operation at its new place will be fully examined."

"As the Inquiry Report was not fully satisfactory, the DGOF has been asked to go into the question again and try and trace the previous records on the subject or to reconstruct them on papers which can be traced so that it may be possible to ascertain the

specific reasons for a technically unsound decision to construct a monorail and also why the work on its construction was given up without appropriate authority's sanction. After ascertaining all these facts, Government will also consider the measures which should be taken with a view to avoid recurrence of such instances in future."

1.19. Apart from the fact that the extended monorail has remained inoperative for the last seven years, the Committee are concerned at the manner in which projects for the consideration of Government are prepared and accepted without critical scrutiny. It will be recalled that the extension of the monorail was part of the bigger project for the setting up of an extrusion press. The venue of the extrusion press was not only changed but its size was also drastically reduced from 3,500 tons as sanctioned in 1951 to 2,000 tons in 1955. This clearly shows that the proposals were not prepared in depth and with adequate care and that the scrutiny of these proposals before sanction by Government was also far from satisfactory, with the result that revisions were made time and again.

1.20. The Committee feel that if the economics and technical feasibility of the proposal for the extension of the monorail had been scrutinised in 1955 or in 1959 when lister trucks were procured by the factory, it should have been possible to prevent this infructuous expenditure.

1.21. It is also strange that relevant papers on the extension of the monorail are not forthcoming and that an inquiry into the matter has been ordered only recently by Government. The Committee hope that, apart from fixing responsibility for the lapse, Government will tighten up the procedure for drawing up, submission and sanction of projects so that such instances of infructuous expenditure do not recur. The Committee suggest that Government should also take an early decision about the disposal of the extended monorail which is lying unused at the factory.

Planning and Production Control

Production of Tail, Units—Para—4, Page—4.

1.22. In July, 1960, Government accorded sanction for expansion of facilities in an Ordnance factory, at a cost of Rs. 23.29 lakhs, for the progressive indigenous manufacture of 400 numbers per month of two models of the tail units of a bomb, in collaboration with a foreign firm. Each tail unit costs about Rs. 750.

1.23. Production was established in June, 1962. Up to September, 1966, however, only 6,077 units (about $\frac{1}{4}$ of the rated capacity) were turned out, as shown below, although the factory had more than adequate orders to utilise the capacity fully and the Air Force had been stressing the urgency for supply of the tail units:—

	Capacity	Actual outturn
1962-63	4,000	649
1963-64	4,800	2,908
1964-65	4,800	240
1965-66	4,800	1,322
*1966-67 (till Sept. 1966)	2,400	967
*Oct. 1966-Sept. 1967	4,800	1,971

As a result, some of the machines procured and installed for the project remained fully or partially idle.

1.24. In explaining the shortfall in production the Director General, Ordnance Factories, has stated that:—

- (a) "although production capacity of 400 units in one eight-hour shift was envisaged", the installed capacity is "insufficient to produce 400 units even in 2 ten-hour shifts".
- (b) Production was also adversely affected by non-availability of imported components/materials in time; "part quantities of the materials/components" indented for the initial production of 3,855 units "were received only in October, 1966"; similarly, supplies against indents submitted in August—September, 1963, continued to be received up to February, 1966. Further, "these components/materials were not received in one consignment to form a stock for regular production at planned rate. There was also not a steady flow of these consignments. Even when these consignments were received at Bombay Port, some of these remained untraced at the Embarkation Headquarters in Bombay for quite some time. In some cases consignments were received at the factory in water logged condition and the components/materials received, in defec-

* Figures taken from the Ministry's written note.

tive condition, were not permitted for utilisation by the Service Inspector."

- (c) Besides, "some of the materials/components which were expected to be indigenously available could not be procured from indigenous sources and had to be imported."

1.25. The year-wise figures of target/achievement in respect of the percentage of indigenous content are not readily available. It was, however, observed that although only initial production of 3,855 tail units (most of which were turned out by 1964-65) was planned for production with supply of components/materials of imported origin, 50—55 parts of the tail units continued to be imported for subsequent units also.

1.26. The Secretary, Defence (Production), informed the Committee during evidence, that "Government sanction was obtained on the basis of what is stated in the Audit para, namely, manufacture of 400 tail units per month in one shift". "The capacity for the tail units was 400 on two shifts and not on one shift. An error came into the papers and as far as our Headquarters are concerned, it has continued on that basis."

1.27. It was further stated that the original statement about the manufacturing capacity of the unit must have been made by the Director, General Ordnance Factories, Headquarters and that Government took that statement as correct.

1.28. Asked what was the present capacity, the witness replied that capacity with the containers, a factor which was not taken into account earlier was 250 sets of tail units per month on the basis of two shifts working. He amplified "that 400 were contemplated only for tail units, not with containers. If we have no containers to manufacture, then the capacity was 400 for two shifts."

1.29. When it was pointed out that there was deficiency in the production even on the basis of the capacity stated above, the witness stated that there were two other reasons for that. First "at that time the container the British used was a hardboard container, but we had a steel container for the tail-unit under development. As our people finally developed a steel container, it was felt that this

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PART II—MINUTES*

17th Sitting held on 18th October, 1967 (A. N.)

44th Sitting held on 31st January, 1968 (P. N.)

50th Sitting held on 3rd February, 1968 (A. N.)

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

container had also to be produced." The witness further stated that without a container, the tail-units could not go and thus part of the capacity had to be used for the production of the container, Secondly, the components ordered on the collaborator had not arrived in time.

1.30. The witness stated, in reply to a query, that the first order was for the import of 3,855 components, which were received by about the beginning of 1964 and the production was completed by the middle of 1964. Explaining further, the witness stated that 3,788 tail-units were supplied upto 1964-65 and the remainder in the next four months. Giving the details of orders for the tail-units placed on the Director General of Ordnance Factories, the Secretary, Ministry of Defence (Production) stated that there were two types of tail-units, for which orders had been placed in 1962, but 'it was fortunate that the Director General of Ordnance Factories did not place orders for components very quickly because in 1964, these orders were cancelled and changed into the other type.'

1.31. When asked about the statement of the Director General of Ordnance Factories, reproduced in the Audit para, that 'Even when these consignments were received at Bombay port, some of these remained untraced at the Embarkation Headquarters in Bombay for quite some time', the witness stated that every time advice of import was received, during the last three years, a special officer was deputed to Bombay to look after the interests of ordnance factories. But sometimes labels were not there, the advice did not reach and sometimes both were not there, or the parcel got lost on the way or was not traced, then the consignments took a long time to reach the factories. Referring to the receipt of consignments in water logged condition etc., the witness stated, "It has happened because the storage space at the Embarkation Headquarters is limited, there is no proper shelter and if there is rain, water gets into the parcels and it affects them". The witness, however, added that it was not an experience of universal application as it happened in a few cases.

1.31. In reply to a query it was stated that no tail-units were issued without proper inspection. There was a rejection of less than 3 per cent in the production of tail-units, but there was no rejection in the assembly of units.

1.32. In regard to the indigenous content of the tail-units, the witness stated that in the case of one type, of which only limited quantities were required, it was 57.09 per cent for 1963-64, and it had continuously remained so. Tail-units of this type were no longer

required. As regards the other unit, its indigenous contents during the last four years were as under:—

Years	Indigenous content
1963-64	83.38 %
1964-65	83.30 %
1965-66	83.76 %
1966-67	92.24 %

The witness added that efforts were made to procure most of the items from indigenous firms, but in some cases they had failed.

1.33. In reply to a query as to whether efforts had been made in the Research Laboratories to develop special paint required for the tail-units, the Ministry have stated as under:—

“The requirement of paint for tail-units is comparatively small. Development of special type of paint required for the tail-units would not therefore, have been worthwhile.”

1.34. The foreign exchange spent on the import of components/materials required for the production of tail-units during the last five years was as under:—

Year	For Tail-Unit (First Type)	For Tail-Unit (Second Type)
	Rs.	Rs.
1962-63	156,010.00	2,64,338.80
1963-64	2,78,677.60	2,47,503.73
1964-65	34,558.05	24,473.96
1965-66	32,885.89	1,56,495.74
1966-67	15,047.47	41,034.88

1.35. The Committee are not convinced that it was only through a clerical error that the production capacity for the tail-units at the time of obtaining the sanction was stated to be 400 per one shift whereas it should have been 400 per two shifts. The Committee

are also not convinced by the Ministry's contention that the aforementioned capacity did not cover the manufacture of containers which form an integral part of the tail-units. The Committee need hardly state that the economy of a project is essentially related to its capacity and, if through a clerical error or otherwise, the capacity is wrongly stated to the extent of 100 per cent, it is obvious that all other calculations would also go wrong. It is this aspect of the matter which causes concern to the Committee. They would, therefore, suggest that a thorough enquiry should be made as to how the production capacity of the unit came to be wrongly stated in the proposals submitted to Government for sanction and how the mistake was not discovered

1.36. The Committee are also unable to appreciate the wide variations in the outturn of the tail units: it fell from 2908 in 1963-64 to 240 in 1964-65 but rose again to 1971 for the period from October, 1966 to September, 1967. This shows that the outturn has not been properly planned and the work has not been stabilised even though it was taken in hand more than five years ago. The Committee would also like to draw attention to the explanation given by the Director General, Ordnance Factories, to Audit that there was a delay in getting the imported material/components from abroad and in procuring certain materials from indigenous sources. The Committee feel that to have an assured rate of production it is essential that the requisite materials and components should be made available in time.

1.37. The Committee are also disturbed to find that some of the consignments containing imported components/materials were received at the factory in a water-logged condition. The Committee feel that adequate arrangements for the handling of these and other defence consignments should be provided at Embarkation Headquarters, Bombay, so as to eliminate the chance of damage by rain.

Manufacture of "common" items—Para 5, page 6.

(a) *Stores manufactured in more than one factory.*

1.38. In the following instances, certain stores were manufactured in two different Ordnance factories even though the unit cost of production in one was higher than that in the other. The manufacture of certain quantities in the costlier factory entailed extra ex-

penditure of about Rs. 9.79 lakhs (in 1964-65 Rs. 3.15 lakhs and in 1965-66 Rs. 6.64 lakhs).

Item	Factory in which manufactured	Unit	Unit cost of production		Total extra cost of manufacture in costlier factory	
			1964-65	1965-66	1964-65	1965-66
			(Rs.)	(Rs.)	(Rs. lakhs)	(Rs. lakhs)
I	C	No.	211.44	274.11	1.95	5.35
	D	No.	191.04	198.03		
II	D	No.	131.81	124.98	1.20	1.29
	C	No.	111.74	104.32		

1.39. The Ministry have stated in April, 1967, that a "Method study Cell in headquarters of the Director General, Ordnance Factories, is charged with the task of reviewing and comparing costs of common items with a view to rationalise the distribution of manufacture of these items amongst the factories. It should, however, be noted that distribution of workload cannot be done only on cost basis and that under exigencies of services demands it may be necessary to take deliberate decisions for manufacture of certain components in factories at rates which may be higher than what is possible in certain other Ordnance factories."

(b) Stores manufactured as also purchased

1.40. In the instances cited below, the unit cost of production of certain stores in Ordnance factories was much higher than the price at which certain quantities were procured from the trade; the extra expenditure on manufacture in Ordnance factories during 1964-65 (Rs. 1.14 lakhs) and 1965-66 (Rs. 7.64 lakhs) amounted to Rs. 8.78 lakhs.

Item	Source of Supply	Unit	Unit cost of production/purchase		Total extra cost of manufacture in Ordnance factory	
			1964-65	1965-66	1964-65	1965-66
			(Rs.)	(Rs.)	(Rs. lakhs)	(Rs. lakhs)
III	Factory F	Tonne	..	229.10	..	2.39
	Trade	Tonne	..	154.00	..	
IV	Factory G	No.	..	4.35	..	2.39
	Trade	No.	..	3.25	..	
V	Factory H	No.	0.42	0.49	1.14	2.25
	Trade	No.	0.33	0.33	..	
VI	Factory J	No.	..	4.13	..	0.62
	Trade	No.	..	2.95	..	

1.41. The Secretary, (Production), informed the Committee that the Method Study Cell at the Headquarters of the Director General of Ordnance Factories commenced working in 1965 with a very small staff. In the General Managers' Conference held in 1966, it was decided that there should be Method Cell not only in the Headquarters, but also in each factory. The witness stated that the Method Cell had been established in three factories and they were in the process of being set up in other factories. He added that it had also been decided to strengthen the Cell at the Head-quarters. The witness, however, expressed the difficulty in getting experienced persons to man the Cell. He added that to meet the deficiency men were being trained for various jobs, viz., production processes, utilisation of labour and machines.

1.42. The Committee were informed that the Method Cell had been functioning for two years and it had taken up some broad problems for investigation. The recommendations made by the Cell were under implementation. The witness stated that the items mentioned in the Audit para, had not yet been examined by the Cell as it had problems of wider implication under examination.

1.43. Referring to the particular store, the cost variation in the manufacture of which at two Factories had been mentioned by the Audit, the witness stated that during 1963 there was a sudden increase in the demand of those stores. The Factory, manufacturing them was unable to meet the entire demand. The work was, therefore, entrusted in addition to another Factory.

1.44. The witness stated that it had been mentioned that the store manufactured by the first factory was costlier than the second. He added "The fact as far as 1965-66 is concerned, is otherwise. That we did not point out to Audit earlier." He further added that one of the reasons why the store manufactured at one Factory was costlier than the store manufactured by the other, was that the store manufactured by that included a number of items of spares whereas the store manufactured by the other factory did not include any spares. The first factory in 1965-66 had improved the method of production and its cost had therefore come down. The other Factory was new and highly mechanised. He added: "High mechanisation given no special advantage for such an item; in fact it is a disadvantage on higher overheads." He further stated "Whereas in major, sustained long-term, items we would want to compare and do compare, in the case of same items produced more than in one factory, where demand for such items arises, then the Director General, Ordnance Factories, makes an *ad hoc* allocation to make use of whatever capacity is available." He added that in most cases 'the

delivery schedule was the decisive factor and not the cost'. The witness further stated "that in an Ordnance Factory the system we have hitherto followed is that we calculate a standard overhead and we apply it on all items. In a commercial undertaking, you would have supervision depending upon the amount of supervision required for that item. So even for a simpler item manufactured in in an Ordnance Factory, you will find that the costs are generally higher."

1.45. "The under absorption and over-absorption of overhead charges would refer only to fixed over-head charges. The overhead charges are divided into two categories—variable and fixed. Underabsorption of overhead charges—and also over-absorption occur only in the fixed over-head portion."

1.46. Stating reasons for under-absorption the witness stated: "We maintain the ordnance factories with a view to their being prepared to meet the demand of Services in an Emergency". The witness added that in peace time the load on a factory was very low. The capacity engaged during that time might be only 30 per cent or 40 per cent of the full capacity. Therefore, it would not be fair to load the entire overhead charges on the limited production. He further stated "If the factory works 30 per cent capacity you would recover 30 per cent overhead charges which you would incur at the level of full output and the balance would be shown as under absorbed fixed overhead charges. The underabsorbed overhead charges are a measure what we call war insurance of the factory. The over-absorption occurs in the opposite circumstances, viz., when the factory works at more than one shift, as it happens in an Emergency—two shifts or so. Then the supervision charges do not double although the labour force doubles with the result that at the fixed rate of recovery the overhead charges shown in the cost of production are higher than the charges actually incurred. The difference is thrown up in the accounts as overabsorption."

1.47. The Secretary, Defence (Production), explained, in response to a query, that the allocation was made to the most suitable factory by the Director General, Ordnance Factories provided the factory was not engaged on a higher priority item. The witness stated that as pointed out by the Audit it was correct that the orders were allotted on the basis of past performance, but it was not correct to say that no capacity charts and load charts were available. Capacity and load charts were available for major items, and not of minor items. He added that there were hundreds of thousands of smaller items, charts of which could not be maintained by the Director

General, Ordnance Factories while sitting in Calcutta. He stated that decentralisation had to be allowed and as far as main or high priority or long term items were concerned, their details were available. As regards the cost of production in the factories the witness stated that, they were today in a position to compete with any foreign Government in any well established item and they could even make a profit, especially after devaluation. He added that if a small item manufactured in an ordnance factory was expensive, it should not be assumed that the factory was running inefficiently. The witness also furnished figures indicating the increase in production in certain items during the last four years, which he said were the "teeth of production."

1.48. In a note furnished to the Committee, the Ministry have stated that "one of the primary objects of the Method Study Cell and on which the cell is at present concentrating on, is to study the processes and the methods of manufacture and suggest improvements to the method of manufacture so that maximum production and also maximum utilisation of material with minimum wastage are achieved. While the Method Study Cell can be employed to study the problem of distribution of workload between different Ordnance Factories, it is not possible at this stage to undertake this task as the availability of expert man-power does not permit it."

So far as the Method Study Cell has studied four cases.

1.49. In regard to the distribution of work-load amongst different Ordnance Factories for the same item, the Ministry have stated that it is a "matter for the higher management at Director General, Ordnance Factories, Headquarters" who exercise their judgment on the basis of "past experience and load capacities." However, the efforts at rational distribution of similar items between different factories are at present being concentrated on major items. The Ministry have added that distribution of five items have so far been made on that basis.

1.50. The Committee agree that the most important consideration for the production of stores for defence purposes is the time factor and the priority indicated by the Forces. The Department of Defence Production have now a very large number of manufacturing units and a number of them are capable of producing the same item of equipment. It is, therefore, absolutely essential that, for any rational distribution of orders, the management should have a clear idea not only of the capacity available, the capacity booked and the spare capacity remaining, but also a precise idea of the relative cost and time factor involved. The Committee are not able to appreciate

now in the absence of such basic data, the Director General, Ordnance Factories, is able rationally to distribute the orders in the interest of achieving economy and efficiency. The Committee therefore, cannot too strongly stress that the Method Study Cells in the Department of Defence Production should effectively discharge their responsibilities by providing reliable data for the rational distribution of orders for the manufacture of stores and equipment in the Ordnance Factories.

1.51. The Committee referred to sub-para (b) of the Audit para and enquired why the cost of production of certain items in Ordnance Factories was high as compared with the price at which they were procurable in the open market. Referring to item III in the Audit para, the Secretary, Defence (Production), replied that the plant for the manufacture of the item in question was not an economic unit. The plant was established in 1942, based entirely on what was the requirement at that time. The plant was being utilised to produce the quantity of the stores required and according to its capacity, whereas for an economic production the plant should have production capacity 10 items more than its present capacity.

1.51A. The witness also maintained that "Despite the fact it is uneconomic, our prices are fairly competitive". In response to a query the witness stated that there was no intention to make the plant economic, as large quantities of the store were available in the market and the plant was able to meet the present requirements of the factory.

1.52. As regards the third item, where the cost of production per tonne was Rs. 229.10 in the ordnance factory and Rs. 154.00 in the trade, the Ministry's note states "that this supply relates to A/Ts contracted for much earlier. The same firm which quoted Rs. 154.00 per tonne in August, 1964, quoted Rs. 204.96 in December, 1965. The current selling price quoted by M/s. Fertilizers, Trombay is Rs. 285.00 per tonne for Government institutions and Rs. 305.00 per tonne for non-government bodies, exclusive of excise duty and taxes. The actual cost at ordnance factory in question at present is Rs. 286.66 per tonne."

1.53. The Ministry have also stated in their note:—

".....Even after trade establishes manufacture, it is not possible to completely off-load the manufacture of these items from the Ordnance Factories to trade. It is also desirable to keep the technique alive in Ordnance Factories."

It has also been stated that the "possibility of off-loading such items to trade is constantly under consideration."

1.54. Stating the general position of the plant and machinery in the ordnance factories, the witness said, "We have made an assessment and we find that the average age of our plant and machinery is about 25 to 30 years, and the oldest plant is more than 100 years old." The witness added, "We are running them on because we need them and we need the end-products". The witness however, informed the Committee that the plant and machinery were being modernised over a period, and every year more and more plant was being renewed and modernised.

1.55. Price, generally speaking, is an index of the efficiency of manufacture. The Committee, therefore, feel that the exercise undertaken by Audit of comparing the unit cost of production in Ordnance factories and the price at which the same goods are available from the trade is a useful and significant one. The Committee note that "the possibility of off loading such items to trade is constantly under consideration". The Committee would like the Department to extend the scope of this exercise to include other items of equal quality which are available at a comparatively cheap price from the trade and where there is no risk of the supplies failing at a crucial time. In case such a step results in labour becoming surplus to requirements in any Ordnance Factory, measures should be taken to train and deploy them gainfully in alternative capacities in the same or other Ordnance Factories.

1.56. The Committee need hardly add that, in the planning of the future requirements of Ordnance factories, care should be taken to ensure not only full utilisation of the existing capacities in the Ordnance factories, but also to consider seriously whether it would not be better to procure the stores, specially those which carry no security risk, at competitive prices from industry, specially in days of recession and under utilisation of capacity.

1.57. The Committee needs hardly point out that the procurement of defence supplies from civil industries in peace time has the added advantage of providing a cushion for increasing the supplies at short notice during an emergency.

Rejections in manufacture—Para 6, Page 7.

1.58. Rejections in manufacture in Ordnance and Clothing factories may be unavoidable or avoidable. Unavoidable rejections are inherent in the manufacture of an article and are taken into account while estimating the cost of manufacture. All rejections over and

above those included in the standard estimates of cost are regarded as avoidable.

1. Avoidable rejections

1.59. The major part (Rs. 42.14 lakhs) of the avoidable rejections; which totalled Rs. 44.81 lakhs in 1965-66, occurred in 5 factories; of these, 2 factories have shown a consistent increase in the last few years (which is only partly explained by increase in production).

1.60. The avoidable rejections exceeded Rs. 50,000 in each case in 7 cases (Rs. 4.66 lakhs), Rs. 1 lakh each in 11 cases (Rs. 15.29 lakhs), and Rs. 5 lakhs in 1 case (Rs. 5.04 lakhs). An analysis of these 19 cases, involving a loss of Rs. 24.99 lakhs in all, showed that

(a) all the rejections were in respect of stores the manufacture of which had already been established—in 5 cases over 10 years ago, in 6 cases over 5 years ago, in 2 cases over 3 years ago, and in the remaining 6 cases within the last 3 years;

(b) bulk (10 cases involving a loss of Rs. 17.24 lakhs) of the rejections occurred in the course of manufacture; the remaining rejections (9 cases involving a loss of Rs. 7.75 lakhs) occurred at the stage of proving the product:—

(i) The avoidable rejections in manufacture compared as follows with the normal rejections provided for in the estimates of costs:

	Number of cases	Total Rs. lakhs
Over 100% of normal rejections	2	6.44
Over 33-1/3% of normal rejections	5	6.86
Upto 33-1/3% of normal rejections	3	3.94
	10	17.24

The management have attributed the rejections in manufacture to the following causes:

Cause of Rejection	Number of cases	Rs. lakhs
Bad material	6	12.25
Bad material and bad workmanship	4	4.99*
	10	17.24

*Factory concerned is unable to give the break-up of rejections on account of bad material and bad workmanship.

In all the 6 cases of rejections due to bad material, the material had been received from other feeder factories where it had already been tested and passed before dispatch; 3 of these cases, involving Rs. 8.08 lakhs, related to manufacture of the same item.

(ii) **The rejections at the stage of proving the product occurred in spite of the fact the stores had been passed by the factory and/or service inspectors at different stages of manufacture as required; the rejections were apparently due to some shortcoming in the "manufacturing technique".**

1.61. **Each case of avoidable rejection is required to be explained and regularised. Avoidable rejections totalling Rs. 69.67 lakhs which occurred till March, 1965 had, however, not been regularised upto September, 1966; of this Rs. 4.20 lakhs pertained to the period up to 31st March, 1962.**

II. Check on reasonableness of unavoidable rejections provided for in estimates of cost.

1.62. **The normal rejection inherent in the manufacture, allowed for in the estimates of cost, is determined by the General Managers of factories; no check is exercised by Director General, Ordnance Factories, even if :—**

- (a) **new item is taken in hand or the process of manufacture is changed, and/or**
- (b) **similar items are manufactured by different factories.**

1.63. **At the instance of Audit, Government agreed in December, 1961, that the Director General should conduct a systematic test check of the reasonableness of the unavoidable rejections provided for in estimates by the factories. Such a check will enable the management to ensure :—**

- (i) **that the unavoidable loss allowed for in the estimates of cost is the lowest possible consistent with the standard of manufacture desired; and**
- (ii) **that the manufacture in Ordnance factories is undertaken economically.**

1.64. **The additional posts of Deputy Assistant Directors General in the Office of the Director General, were also sanctioned in 1961 for this purpose. The work of test checking the estimates was stated to be still in a stage of infancy.**

1.65. The witness referring to the points brought out in the Audit para stated that there were 19 cases which were well established and in which there were a large number of rejections. He added that those rejections were based on single warrants. He added that the Audit had picked up warrants which had shown the largest rejections, in a production over a long period. The witness, however, stated that in those 19 cases there were 12 different items and out of those 12 items seven dealt with explosive-filled items in which there were no un-avoidable rejections. Four items were empty shells for the production of which the factory depended upon the forgings which came from another factory.

1.66. When it was pointed out that both were Government factories, the witness stated that the factory which supplied the forgings had very old machines, the result that its forgings could not be passed fully. He added that to that extent concession was given as the production capacity had to be put to the best use.

1.67. The Committee pointed out that if one factory was not producing a product which was satisfactory, its acceptance by the other "at the beginning, and later on, rejecting after spending money towards manufacture is a bad economic proposition". The Secretary, Department of Defence Production replied "I agree". Asked why that was not discontinued, the witness replied: "Then we will not get even what we are getting now."

1.68. Pointing out that the management had attributed the rejection in manufacture to two causes—(i) in a number of cases it was bad material, (ii) bad material and bad workmanship,—the Committee asked why the bad material was accepted and whose was the bad workmanship? The Director General, Ordnance Factories replied that the factory, which produced the item, asked for the best type of forgings which would give least trouble. But the factory, where forgings were done had very old plant and it could not keep the concentricity forgings. The witness added that while in machining operations efforts were made to bring concentricity within acceptable service limits, a certain percentage, more than normally allowed, does get rejected. He added "But we have to carry this process because the remaining capacity is not sufficient to meet the service requirements."

1.69. The Director General, Ordnance Factories, stated that the other reasons why more rejection had been shown by the factories in a certain year, was that, as the two check studies had revealed, the rejections in many cases were shown in subsequent years, though

actually production had taken place in the earlier years. He added "The normal practice whether right or wrong, for the establishment is to hold over the rejections and to show the rejections as late as possible. When the warrant is closed in a subsequent year, the rejections are shown in that year."

1.70. Asked whether there was any plan to modernise the present forgings plant, the witness stated that a part of the plant had been modernised and that a similar plant was coming up in another factory on a much larger scale. He added till that was completed the present plant had to be used. In reply to a query, he also stated that it might be possible to close down the present plant if the demand did not go beyond the present requirements and the new plant came up to the scale planned.

1.71. Referring to the particular factory where rejections in the manufacture of a particular ammunition item was 46.5 per cent, the Secretary, Defence (Production), stated that the same was set up in 1942 and "it runs thoroughly inefficiently". He added that Government wanted to close the factory on the very first day possible, but they had to continue with that, as otherwise the alternative was to import, which Government did not want to do.

1.72. Referring to the Audit para, wherein it had been stated that the major part (Rs. 42.14 lakhs) of the avoidable rejections, which totalled Rs. 44.81 lakhs in 1965-66, occurred in 5 factories, the Committee enquired how that was so. The Director General Ordnance Factories replied, "That is what we have to investigate whether it is really due to inefficiency of use of bad forgings and substandard materials in exigencies."

1.73. The Ministry of Defence have given reasons for rejections amounting to Rs. 15.58 lakhs, Rs. 3.49 lakhs, Rs. 8.84 lakhs, Rs. 8.72 lakhs and Rs. 5.51 lakhs for the five factories as under:

Factory—I:

"Rejections in this factory are mainly due to bad material. Despite various precautions taken which casting the ingots and rolling them into billets for eliminating the defective material, certain bars still have internal flaws which can only be detected when finally the item is machined. This rejection is, therefore, a part of the process and may be termed as *unavoidable** and could

*It is understood from Audit that the rejections in this case were over and above the (estimated) percentage of unavoidable rejections provided in the cost estimates.

not be reduced until full conditioning facilities including ladle degassing, in-line scarfing and other ancillary facilities are established by way of modernizing our existing steel mills."

As regards "Bad workmanship", it should be stated that despite best precautions being taken, rejections would be unavoidable since some intricate operations are involved at different stages."

Factory—II:

"The causes of rejection in this factory are also the same as stated above. The main function of this factory in regard to the store in question was to complete the machining. The defects are revealed only after certain operations have been completed and as such it was not possible to detect such defects in the material in the earlier stages."

Factory—III:

"The causes of rejection in this factory are all due to the fact that they used indigenous steel sheets in the manufacture of certain equipment. The percentage of rejection, however, falls within the permissible limit provided in the estimate."

Factory—IV:

"It may be pointed out, in this connection that in the manufacture of ammunition stores, only components/materials which have passed proof are accepted by the Services Inspector, and are, thereafter used. Necessary inspection/check is carried out by Inspectors at every stage of manufacture. Accordingly, no conclusive reasons can be attributed to the rejections due to failure at proof; it is however our experience that design characteristics in some of the new items are so tight that despite all care some lots after filling fail in proof. This occurs in the parent countries also."

1.74. The Committee enquired whether at the time of fixing price a realistic percentage of rejections was taken into account. The Secretary, Defence Production, stated that the estimated price included the estimated rejections. He added: "The unavoidable rejection, and all other rejections over and above the unavoidable rejections will be written off as a loss". He added that "the Government deliberately decided not to put it on the cost so that experts can sit down and examine why their rejections are high".

1.75. In reply to a specific question whether any independent check is exercised on the reasonableness of unavoidable rejections, the Ministry have stated:

"Based on past experience, certain percentages are provided in all estimates of rejections as unavoidable. These are reviewed in the light of experience of rejections and the estimates are refixed accordingly as and when warranted. The percentages as provided in the estimates are generally with the agreement of the Local Accounts Officer and cases, where there is any disagreement between the Management and Local Accounts Officer, are referred to Director General, Ordnance Factories, Calcutta for review. Action is taken accordingly to adjust the percentage of rejections. It should, however, be added that this is only a method of exercising a check on the rejections."

1.76. The Committee desired to have detailed information from the Department of Defence (Production) on the following points:—

- (i) Justification for avoidable rejections in 19 cases involving more than Rs. 50,000 in each case, after the manufacturing technique had been fully established and whether it indicates lack of quality control in the process of manufacture.
- (ii) Adequacy of inspection of stores in the feeder factory and whether feeder factory is aware of the standard required by the receiving factory.
- (iii) Reasons for rejections occurring at the stage of proof in 2 cases after the items had been passed in inspection at all the intermediate stages.

- (iv) Difficulties in prompt investigation of the losses arising out of avoidable rejections and their regularisation and whether the delay in investigation of such losses is likely to result in wasteful process being continued.
- (v) Whether it is not possible to examine the defects in each batch of production immediately so that defects are removed in subsequent batches of manufacture.

1.77. The information received from the Ministry on these points is reproduced below:—

“For each major item of manufacture in each Factory, after the item has been fully established for a few years, the management, after considering all aspects of production and inspection, fix a percentage of rejection which is inherent in technique of manufacture and can be termed as ‘wastage’ in the process. This wastage is indicated as a percentage of production which is termed as ‘Unavoidable Rejection’. It is, however, actually observed during manufacture of the item in subsequent years that rejections do occur in some of the warrants at a higher percentage. These extra rejections are of two categories. The first relating to defective material i.e., Castings, Forging Bad materials and such other components which, although accepted in the earlier stage either in the same factory or in the Feeder Factory, were subsequently rejected due to defects being noticed in machining and subsequent stages in the machining/assembly factory. The other category is of bad workmanship where the defects have been pinpointed as a fault in workmanship in the stages in which it is detected.”

“As regards inspection, it is to be generally stated that materials are tested by the Inspectors in the Feeder Factories for chemical and physical properties only. It is possible, in certain instances, that some incipient defects such as blow-holes, internal cracks, inclusions etc., may remain undetected in individual ingots. The materials can also deteriorate during storage before they are taken up for use. Such defects will only be detected by the Inspector when the material is subjected to further processes such as machining, bottling, short-blasting etc.”

“All the precautions that have been stipulated according to the standard practice of inspection have been or are being rigidly followed in all the stages right from the stage of

casting of ingots for the shells, bombs etc. In spite of these precautions, defects in the material that are considered as inherent in the material itself are revealed at the stage of subsequent operations and cannot in all cases be located earlier. Even after the item has been established for a number of years such defects can occur and in fact they cannot be eliminated altogether although quality control is rigidly followed."

"Three cases out of 19 where avoidable rejections occurred at the final stage of proving, relate to one Ordnance Factory,, but all three refer to the same item. These lots functioned satisfactorily at filled empty proof and filled detonation proof stage. Failures in the form of blinds occurred at filled gun proof. Investigations showed that bulk of the rejections falling under the category of blinds were due to block of flash hole in the masking shutter. This defect has since been overcome."

"The other cases of failure at proof relate to items in another ordnance factory. One of the items is a particular type of cartridge. This is mainly due to the plant being too old, lay-out outmoded and control of processes very difficult."

"The case of regularising a loss due to avoidable rejections comes up only when the cost card is closed and the accounts authorities give the figure for the losses involved. If the reasons mention losses due to defective material and/or components supplied by feeder factories, the loss statement cannot be prepared without reference to the feeder factory. There is generally an argument between the various factories before the cause for the fault can be pin-pointed. Besides, in many cases the Inspectorate has also to be consulted for full particulars of the material and the orders against which these had been supplied."

"There is, therefore, invariably some time lag before the General Manager can prepare a case for final sanction of the loss statements."

"If the preliminary investigation revealed certain lapses on the part of any particular section or sections in a Factory, they are immediately informed and a closer watch is kept to avoid such lapses either in production or in inspection. Production is not stopped immediately after noticing any defects in a particular lot, as this will lead to loss of production, however, if defects occur substantially in more than one lot, then investigation is made in detail. To this

extent, some waste is likely to occur. Investigations are, therefore, held as expeditiously as possible to reduce to a minimum any possible continuation of a faulty process."

"As already pointed out earlier, the aim is to examine the defects in any batch of production with a view to removing such defects in subsequent batches of production, but at the same time, it has to be seen that in this process, production is not held up completely."

1.78. The Committee are distressed to note that, in all the six cases of rejection reported by Audit, bad material of the value of Rs. 12.25 lakhs was supplied by other feeder factories under Government where it had already been tested and passed before despatch. This raises not only the question of the adequacy of the procedure for inspection which permits such bad material to be passed by the feeder factories, but also the larger question of efficiency and the reliability of materials and goods supplied by such ordnance factories direct to the Armed Forces.

1.79. The Committee feel that it should be possible for Government to evolve, in consultation with the feeder and user ordnance factories and Armed Forces, satisfactory standards for quality control. It should also be impressed on the Inspectorate staff that the standards for passing materials and components should be strictly enforced and improved. Where rejections in the manufacture of a particular item are detected to be unduly high, a thorough investigation should be carried out with the utmost expedition so as to devise suitable remedial measures to check the losses and the possibility of introducing inspection at various stages should be fully considered.

1.80. The latest position about regularisation of rejections is given in Appendix II.

1.81. The Committee are not happy over the delay of several years in evolving a procedure for the regularisation of losses arising from these rejections. The Committee feel that, apart from the formality of regularising these losses, what is more important is to analyse the reasons so as to take effective remedial measures.

1.82. The Committee feel that apart from the check of the avoidable percentage of rejections provided in the estimates which might be undertaken by the attached financial officers, it is incumbent on

the Director General of Ordnance Factories, as the technical head of the Organisation, to ensure that:

- (i) the unavoidable loss allowed for in the estimates of cost is the lowest possible consistent with the standard of manufacture desired; and
- (ii) manufacture in Ordnance Factories is undertaken economically.

The Committee would like the Director General to keep these two aspects specially in view and take effective measures to discharge these responsibilities.

The Committee would like to be informed of the action taken by the Director General of Ordnance Factories in pursuance of these recommendations.

Work in Progress—Para 7, Page 9:

1.83. The work in progress in Ordnance and Clothing factories at the end of the year has been steadily increasing during the last three years. Expressed as a percentage of total cost of production during the year, the work-in-progress amounted to 16.30 percent at the end of 1965-66, as against 14.41 percent at the end of 1964-65 and 12.37 percent at the end of 1963-64.

1.84. The work in progress on 31st March, 1966, totalled Rs. 25.15 crores; this comprised of expenditure on incomplete orders (Rs. 23.40 crores), outstanding development charges (Rs. 1.28 crores), and Rs. 0.47 crore pertained to capital works. The table below shows the age of the work in progress relating to incomplete orders and development charges.

Year in which work started	Work in progress on 31st March, 1966		
	Incomplete orders Rs. crores	Developmental charges Rs. crores	Total Rs. crores
1955-56 and prior	0.02	0.06	0.08
1956-57 to 1962-63	1.10	0.18	1.28
1963-64 and 1964-65	3.59	0.62	4.21
1965-66	18.69	0.42	19.11
TOTAL	23.40	1.28	24.68

1.85. The expenditure on incomplete orders excludes expenditure on the components which have been finished and are awaiting assembly. Such components in stock on 31st March, 1966, were valued at Rs. 7.39 crores; of these, components costing Rs. 6.12 lakhs were awaiting assembly for over 3 years.

1.86. *Incomplete Orders*—The expenditure incurred on orders which have not been completed for over 3 years alone amounted to Rs. 1.12 crores.

The delay in completion of the orders has been broadly attributed to:—

- (i) want of capacity;
- (ii) inadequate provisioning and production control;
- (iii) changes in priority of manufacture mainly at the instance of indentors; and
- (iv) cancellation, curtailment or suspension of orders by indentors.

1.87. In June, 1963, Government sanctioned setting up of a mechanised system of provisioning and production control with a view to avoiding delays and lack of coordination in the progressing of orders.

1.88. The machines required for the purpose were commissioned in April—September, 1964; the system has, however, not yet fully got going.

1.89. In the meantime, a Study Group on production control, set up by the Director General, Ordnance Factories, in April, 1966, found that:

- (i) orders are allotted to different factories mainly "on the basis of experience and past performance"; "capacity charts and load charts are not available" and orders are, therefore, generally placed "without much of a check on the feasibility of production" within the required period;
- (ii) the present methods of control on completion of work are also not entirely satisfactory.

1.90. The team observed that the above had resulted in a large number of outstanding orders, particularly in the case of spares.

1.91. During the period 1962-63 to 1964-65, the indentors cancelled or suspended orders for 20 items on which an expenditure of Rs. 1.50

crores had already been incurred. The orders for the manufacture of these stores were placed on the factories long ago as shown below:

Year of earliest order for the store	Cancelled		Suspended	
	Number	Rs. crores	Number	Rs. crores
1955-56 and prior	5	0.13
1956-57 to 1960-61	2	0.03	3	0.89
1961-62 and 1962-63	3	0.06	7	0.39
Total	10	0.22	10	1.28

1.92. Cancellation of orders for 10 items has entailed an unproductive expenditure of Rs. 0.22 crore; the expenditure of Rs. 1.28 crores already incurred on the manufacture of 10 suspended items will also be rendered unproductive if it is ultimately decided to cancel the orders.

1.93. Government issued instructions in October, 1959, that losses/infructuous expenditure incurred by the Ordnance and Clothing factories in the manufacture of stores, orders for which were subsequently cancelled or curtailed by the indentors, should be formally written off by the competent authority and exhibited in the Appropriation Accounts. These instructions have, however, not been implemented till now; such losses, therefore, continue to escape the notice of Parliament.

1.94. (b) *Development charges*—Development charges are normally required to be absorbed in production within a period of 7 years. In the case of Machine Tool Prototype Factory, however, an expenditure totalling Rs. 20.03 lakhs incurred over 7 years ago, on development of machine tools, has not yet been charged off. Of this, Rs. 7.15 lakhs pertain to machines, the orders for which have since been cancelled or suspended; action to write off this expenditure is stated to be under consideration.

1.95. The Ministry's attention was invited in a written questionnaire to the recommendation of the Estimates Committee contained in their 68th Report (1st Lok Sabha) that;

“a central watch, by means of progress report, should be kept by the Director General, Ordnance Factories, over the extent and volume of orders (priority as well as others) lying unexecuted with the Ordnance Factories for over six months and these progress reports should specify the rea-

sons for the delay in execution of orders and should be submitted quarterly to the Director General of Ordnance Factories, who should closely scrutinise these reports to see that the causes of delay are removed as far as possible, so that production could be expedited".

They were asked whether the progress reports were being received regularly from all the factories, the action taken after reviewing those reports and the total value of incomplete work orders as on 31st March, 1967.

1.96. The Ministry have in their reply stated as follows:

"It is confirmed that a central watch by means of progress reports is kept by the Director General of Ordnance Factories over the extent and volume of orders lying unexecuted with the Ordnance Factories. Periodical reports conveying production position in respect of all extracts are duly checked at DGOF's Headquarters and forwarded to respectively indentors for their scrutiny and remarks. The bottlenecks/difficulties pointed out by the factories are looked into and cleared off wherever necessary."

"The value of incomplete warrants other than capital work as on 31st March, 1967 is Rs. 27,66,630 and Departmental capital works Rs. 55,72,132. These figures are provisional. The provisional figure of cost of production of articles in Ordnance Factories in 1966-67 is Rs. 156,99,55,506. The proportion of incomplete warrants other than capital works to the total cost of production is therefore, only 17.6% which cannot be considered to be on the high side."

1.97. The Committee desired to know what remedial action had been taken by Government in the light of the recommendations made by the Study Group. The reply received from the Government is reproduced below—

"The Study Group is a departmental probe and some of the observations made in the report are not acceptable to the DGOF. The suggested shortcomings referred to in the report of the Study Group have been under examination for adopting remedial measures, where necessary.

While the DGOF may not, in every case, ascertain from the factory the feasibility of production of a particular item of stores considerable expertise and knowledge are available in DGOF's Headquarters to ensure that work is by

and large allocated to various factories duly taking into account their installed capacity. Capacity and load charts are also available on all major items. Production problems are discussed threadbare in the internal meetings held at the DGOF's Headquarters/Factories and also at the periodical production review meetings and Armament Committee meetings. There are, of course, occasions when it becomes necessary to overload factories when the service requirements are such that they have to be met anyhow and cannot be met otherwise than by stretching the production potentialities of factories to the maximum extent possible."

1.98. The Committee are disturbed to find that "capacity and load charts (of the ordnance factories) are not available" for most of the items and that orders are generally placed "without much of a check on the feasibility of production." It is, therefore, no surprise to the Committee that the percentage of incomplete warrants has risen during the last three years from 12.3 at the end of 1963-64 to 17.6 in 1966-67. The Committee feel that, to check this malady the Director General should evolve effective instruments of control which can be provided only through a methods and cost study.

1.99. The Committee desired to know the action taken by Government on the observations of the Study Group that a large number of orders for spares remained outstanding even though the Ordnance Factories had the capacity to manufacture them. The reply received from the Ministry of Defence is reproduced below:—

"Generally spares are for the equipment which are being/have been manufactured in the various Ordnance Factories. Where the equipment is not in current manufacture, there is likelihood of some delay in accommodating manufacture of some of the spares, as it means start of production *ab initio* and necessary capacity may not be readily available for the time being. Where the equipment is already in current manufacture, there is generally no delay in supply of spares.

The quantity for such spares are so small that trade will not be attracted for taking up the manufacture whereas the item having been established in the factory in the past, the tools, jigs, fixtures and gauges are invariably available in the factory; as such, there is no problem in the actual manufacture when the forging/machining capacity becomes available.

In actual practice, demands for specific quantities of spares are placed by the Services on DGOF who places extracts on the finishing factories which in turn issue warrants to the manufacturing sections. Taking into account the economic unit of manufacture, warrants can be increased in anticipation of future extracts. Thus there is generally a cushion with which to meet emergent demands from Services which by and large safeguard the operational utility of the weapons with the Services."

1.100. As spares are vital for maintaining operational efficiency of arms and equipment with the Armed Forces, the Committee suggest that the Director-General, Ordnance Factories, should devise a systematic procedure to undertake their manufacture and supply in keeping with the requirements.

1.101. Since capacity for the manufacture of these spares is admittedly available with the Ordnance Factories, there should be no reason for arrears of demand to accumulate.

1.102. The Ministry have furnished the following explanation for the delay of over 8 years in writing off the losses/infructuous expenditure incurred by the factories due to cancellation/curtailment of orders:--

"Government orders regarding regularisation of losses incurred as a result of cancellation of demands on the Director General, Ordnance Factories, were issued under Ministry of Defence U.O. No. 14(3) 59/SO3/D(O) dated 3-10-1959. In implementing these orders Director General, Ordnance Factories, ran into certain difficulties in respect of the cancellation of particular items. Starting from this it was found that though Government orders existed, the actual procedure was not quite clear and considerable correspondence and notings had to be exchanged between Director General, Ordnance Factories, Army Headquarters, Ministry of Defence and Ministry of Finance (Defence) before a decision could be reached. One of the difficulties which required considerable discussion was the extent of responsibility to be shared between the indenter and the producer in the case of items for which demands were to be cancelled. Final orders were issued by the Department of Defence Production on 25-8-1967 and the main Ministry of Defence on 1-9-1967. As the points involved required considerable examination at various levels, the final orders could not be issued earlier. However, Government agree

that the long delay of 8 years is not justified and care will be taken to ensure that such delays are not repeated in future."

1.103. The Committee agree with Government that the long delay of eight years in arriving at a decision regarding the writing off the losses was not justified. The Committee feel that Government should look into the circumstances in which this abnormal delay of eight years took place with a view to fixing the responsibility and devising ways and means of avoiding a recurrence of such cases.

1.104. Now that a decision has been arrived at and final orders have been issued by Government, the Committee hope that action will be taken to finalise the losses infructuous expenditure incurred by factories due to the cancellation curtailment of orders by the indentors.

1.105. The Committee also suggest that, while scrutinising the cases of infructuous expenditure, the reasons for it should be carefully analysed with a view to taking effective remedial measures to reduce such losses to the minimum.

The Committee had desired to be furnished with notes on the following points:

- (i) value of orders pending due to inadequate provisioning;
- (ii) reasons for components of the value of Rs. 6.12 lakhs awaiting assembly for over three years;
- (iii) whether any part of this relates to assemblies whose manufacture has been cancelled;
- (iv) how the finished or semi-finished items, the orders for which have been cancelled are disposed of;
- (v) whether the Ministry have examined the reasons for suspension and delay in manufacture of 2 items which have a financial repercussion of Rs. 94.82 lakhs;
- (vi) whether there was any likelihood of utilising the finished components pertaining to the 20 items involving an expenditure of Rs. 1.5 crores, orders for which were cancelled or suspended during 1962-63 to 1964-65.

1.106. The Information has been furnished by the Ministry.

1.107. In regard to the value of orders pending due to inadequate provisioning, the Ministry has stated that;

"..... ordinarily there is no delay in provisioning action for material. The actual deliveries however, do not always materialise in the expected time resulting in some cases of holdups in manufacture Non-materialisation of supplies is in a few cases due to delay in clearance for import while possibilities of import substitute are examined, non-availability of shipping space or goods not being upto standard and not passing inspection at the time of acceptance After experience of each such delay, suitable action is taken to place orders earlier than usual, or precautionary steps taken such as bringing in vital stores only in Indian ships etc."

The Ministry have further stated that:

"..... despite our best efforts and even after provisioning action is taken in time, there have been cases of delay in materialisation of supplies. Our effort always is to reduce them to the minimum".

1.108. The Ministry have also stated that an essential pre-requisite to control material planning is the codification of material—the objective being—to classify, estimate and to give code numbers to all items held on stock in the Ordnance Factories so that the item can be identified by a common item code or folio number. The Ministry had added that this process involves a number of steps, which are complicated. Codification of 3,50,000 items had, however, been done from early 1964 to December, 1966.

1.109. In connection with the components (costing Rs. 6.12 lakhs) which were awaiting assembly for over 3 years, it is observed from the Ministry's note that one Factory is responsible for holding a large portion (approximately Rs. 8.63 lakhs) of such components and the reason for that is "the cancellation of orders for some of the items."

1.110. Most of these items have become surplus to the requirements and were being circulated to the likely users.

1.111. In regard to the cancellation or suspension of orders for Rs. 1.50 crores in respect of 20 items, the Ministry have stated that "by and large the reasons for cancellation/suspension are:

(i) change in General Staff equipment policy and/or

- (ii) sufficient stock being available with D.O.S. For example, in the case of Ordinarily the time lag from the time a demand is made by the services for replacement of a particular ammunition item to the final issue of the newly introduced filled ammunition, is 3 to 4 years as a number of components and a number of factories may be involved. As such it cannot be contended that delay in supply lead to suspension of orders."

1.112. Referring to the two items which have a financial repercussion of Rs. 94.82 lakhs, the Ministry have stated that "reduction in the financial repercussions is not anticipated except to the extent that alternative use is made of boxes and containers."

1.113. The Ministry have also stated that they have reviewed the position of the 20 items and have found that "in most of the cases the semis and even the components cannot be utilised for any other stores."

1.114. In regard to the basis on which development of the machines was undertaken, and on which an infructuous expenditure of Rs. 7.15 lakhs had been incurred, by a factory, the Ministry have stated that the factory "was set up in the initial stage to design, develop and manufacture prototype machinery suitable for production of armament stores in India." The Ministry have added that "between the time the factory was established and 1956, the country had made strides/plans for rapid progress in machines tool production and the Government considered it necessary to rationalise the production of machines to meet the increasing demand in the country for various types of machines."

1.115. As regards the sum of Rs. 7.15 lakhs incurred on these machines the Ministry have stated that "it is under consideration as to whether this can be written off as a loss . . .".

1.116. Regarding adjustment of the balance of Rs. 13 lakhs, the Ministry have stated in their note as under:—

"It is not proposed at this stage to take action for absorption of the balance of Rs. 13 lakhs as the capacity has, at present, been diverted for manufacture of components for guns and trucks. When the manufacture of truck components is shifted to the Vehicles Factory, the machine Tool Prototype Factory will once again revert to the manufacture of machines at which stage the absorption of the balance amount will be considered".

1.117 The Committee would like Government to devise suitable remedies in the light of experience so as to reduce to a minimum infructuous expenditure on account of the cancellation of orders.

1.118. The Committee need hardly stress that, with better coordination between the user (the Defence Forces) and the manufacturers (the Ordnance Factories), it should be possible to get at the earliest information about variations in demand due to changes in requirements. Similarly where the development of manufacture of a store is likely to take considerable time, close liaison should be kept by the D.G.O.F. to make sure that the user's demand has not in the meantime undergone a radical change or ceased so that expense on a developmental effort is not continued unnecessarily. The Committee cannot strongly stress the need for reducing the present time lag of three to four years between the placing of orders and supply so that the production programme can be more easily adjusted in the light of changing requirements.

II

PROCUREMENT AND UTILISATION OF STORES AND EQUIPMENT

Unco-ordinated procurement of paint—Para 13, Page 18:

On 12th July, 1963, an Ordnance factory initiated action for procurement of 83,120 litres of red-oxide paint, costing Rs. 2.08 lakhs, for painting certain types of ammunition boxes/carriers. The Director General, Supplies and Disposals, entered into necessary contracts in October, 1963, and these required delivery to be made in October, 1963 to September, 1964; supplies were received in December, 1963 to September, 1964.

2.2. It was observed that 50,400 litres out of 83,120 litres were indented for in excess of requirements, as indicated below:—

- (i) 30,240 litres were provisioned for ammunition boxes though the Director General, Ordnance Factories, had ordered on 28th May, 1963, that further production of the boxes should be discontinued and instead they should be purchased from trade.
- (ii) In the case of another ammunition box, the indent was based on a monthly production of 20,000 boxes, though on 12th June, 1963, the Director General, Ordnance Factories, had instructed the factory, after checking its requirements, to make provision on the basis of a target production of 15,000 boxes per month; this resulted in excess demand of 20,160 litres.

2.3. No action was taken to cancel the excess quantity indented for, though the contracts were entered into in October, 1963, and the supply was to be completed by September, 1964.

2.4. The remaining 32,720 litres became unnecessary on 17th January, 1964, when the Director General, Ordnance Factories, ordered suspension of manufacture of two ammunition carriers. 59,000 litres were still due to be received on that date; the factory management, however, took action to cancel the outstanding orders

only on 12th May, 1964, four months after receipt of the orders suspending manufacture (in spite of the fact that the Director General, Ordnance Factories, had directed that immediate action should be taken for necessary adjustment in the provision of stores). The supplier did not agree to curtailment of the order at that late stage.

2.5. In September, 1964, the factory management declared 83,000 litres of red-oxide paint as surplus to requirements and in December, 1965, increased this to 97,000 litres; the surplus (which includes some stock carried over from past) is valued at Rs. 2.60 lakhs. Out of this only about 30,000 litres have since been transferred to other factories; the balance of 67,000 litres is still in hand (December, 1966).

2.6. In response to written queries of the Committee the Ministry have furnished a detailed note relating to the above case.

2.7. From the note, it is observed that a Board of Enquiry has been set up on 13th September, 1967, by Director General, Ordnance Factories to investigate into the 'causes and circumstances of excess provisioning' of the store and to determine loss if any and other related matters.

2.8. The Committee hope that, on receipt of the Report of the Board of Enquiry, remedial measures will be taken to avoid a recurrence of such cases.

2.9. With regard to the delay of four months in cancelling the indents after receipt of orders for suspension of manufacture, the Ministry's note states, "the circumstances under which the delay of four months in cancelling the indent after receipt of orders for suspension of manufacture occurred are under investigation by the Board of Enquiry."

2.10. It has further been stated in the Ministry's note that "by and large the procedure obtaining in the factories to ensure coordination between the manufacturing and provisioning sections is satisfactory and there is no defect in the existing procedure as such."

2.11. The Ministry have also in their note stated that "the current market rate of this type of paint ranges between Rs. 3.65 to Rs. 6.15 per litre. The last paid rate against A/T for similar paint was Rs. 2.05 per litre. Therefore, even if the paint is disposed of in the open market. It will fetch significant profit to the state.

2.12 It will be appreciated, therefore, that excess provisioning of the paint has not resulted in any loss to the State. On the other hand, were it become necessary to purchase the paint from the open market, the procurement would have to be done at higher rate."

2.13. The Committee do not appreciate the contention of the Ministry. Excess provisioning of stores done erroneously results in the blocking of capital which could well be used elsewhere to greater advantage.

Delay in installation of heavy machines, Para 22(a), page 27.

2.14. In the instance given below, there was considerable delay in installation of a heavy machine, costing Rs. 6.44 lakhs, due to lack of proper planning.

Ordnance factory.—In August, 1963, Government sanctioned purchase of an electric arc furnace, estimated to cost Rs. 6.44 lakhs, to augment the production of steel ingots in an ordnance factory for forging gun barrels.

2.15. The indent for the furnace was sent to the Director General, Supplies and Disposals, in August, 1963, within a few days of Government's sanction for its purchase. However, although the furnace was known to be available ex-stock in a European country, action to get sanction for the connected civil works (Rs. 1.70 lakhs) was initiated only in April, 1964, 8 months later; the sanction was accorded in July, 1965, 15 months still later, the delay being due to "long drawn out procedure for sanction of civil works". The contract for the civil works was entered into in June, 1966, after a lapse of another 11 months; this delay has been attributed to the need for change in foundation drawings (supplied by the manufacturer) which was noticed only after the civil works were sanctioned.

2.16. The furnace was received in the factory in October, 1964; one of the 53 packages, which was misplaced in the port, was received later in January, 1965. The civil works were expected to be completed only in May, 1967 and the management hoped to commission the furnace in November, 1967.

2.17. Asked about the reasons for the delay in executing the works and installing the machinery the Ministry have stated in their note (at Appendix III) that it can be divided into three parts:—

- (a) 8 months from August 1963 to April, 1964 i.e. between placement of indent for the furnace and initiating action to get sanction for civil works;

(b) 15 months from April, 1964 to July, 1965 i.e. between convening the sitting Board and issue of sanction for civil works; and

(c) 11 months from July, 1965 to June, 1966 i.e. between sanction of civil works and conclusion of the contract.

2.18. They have also stated that the delay mentioned at (a) above represents the time normally required for getting the transaction cleared through State Trading Corporation, Ministry of Industry, Chief Controller of Imports and Exports etc. and the formalities prior to entering into the contract with the supplier.

2.19. In regard to (b) and (c), they have stated that "Government are of the opinion that the delays were of a procedural nature and could have been reduced."

2.20. The Committee also note from the Ministry's reply that in the supply order placed by D.G.S. & D., no 'performance clause' was stipulated. However, the normal warranty period regarding repairs/replacement of defective parts during the period of 12 months after arrival of the equipment at destination or 15 months of the date of shipment, whichever is earlier was included in the contract. This warranty period is already over.

2.21. The Ministry expect that the erection of the furnace will be completed by March, 1968, and put into operation by April, 1968.

2.22. The Committee are disturbed to find that it has taken the Ordnance Factory almost five years since the communication of the sanction in August, 1963, to instal the arc-furnace which was required to augment the production of steel ingots for forging gun barrels. The Committee deprecate such inordinate delay in the commissioning of work connected with the augmentation of capacity for vital armaments in ordnance factories.

2.23. What is even more distressing is the fact that the delays in this case could have been reduced. There was a lack of coordination regarding the purchase of arc-furnaces and the construction of civil works. The Committee desire that the Department of Defence Production should coordinate the purchase of costly machinery and the execution of civil works in such a manner that the machinery ordered is utilised according to the schedule prescribed for its erection

III

TENDERS AND CONTRACTS FOR WORKS

Award of contracts for works in Ordnance factories without obtaining competitive tenders, para 32(a) page 45.

In October, 1960, a Board recommended the provision of an effluent disposal plant in an Ordnance factory for treating industrial effluents before discharge into a river.

3.2. In December, 1962, the General Manager of the factory invited tenders for only supply and erection of the equipment; the design data and drawings for the connected civil works were also to be supplied by the successful tenderer. The lowest tender (Rs. 3.04 lakhs) received was accepted in July, 1963.

3.3. In their quotation, the lowest tenderer had intimated that detailed civil engineering design would be undertaken only if the contract for the connected civil works was also given to them; alternatively, they offered to furnish essential data for making the designs with the suggestion that the civil works contract may be awarded to any reputed firm of contractors after finalisation of the order on them for supply and erection of the plant. Government accepted the latter alternative on the advice of the Director General, Ordnance Factories, and, accordingly, in July, 1963, issued sanction for only purchase of the plant and its erection.

3.4. The Chief Engineer of the project, who had not been consulted earlier, was requested in August, 1963, to undertake the connected civil works based on essential data to be furnished by the firm. He pointed out that such specialised works—where a host of civil works were also designed and patented by the main firm—should be executed by the same firm which had supplied the equipment, and not by two separate agencies as this would only impair the efficiency of the plant. The General Manager of the factory then obtained quotations for the execution of the civil works from only the firm which had been given the order for the plant. The work was eventually given to this firm for Rs. 8.19 lakhs, after negotiation, although the Chief Engineer had estimated the cost at Rs. 6.30 lakhs in February, 1965, before the contract was concluded.

3.5. The procedure adopted resulted in quotation of civil works being obtained from only one of the firms which had been invited to supply and erect the plant and this deprived Government of benefit of competitive bidding for civil works.

3.6. In response to Committee's queries the Ministry have furnished the following information:

- "(i) Action of the D.G.O.F. in inviting tenders for supply and erection of the plant was in accordance with the practice generally followed in similar* cases before and after 1962. Since the M.E.S. are the agency for carrying out civil works for the D.G.O.F. and as, in the past also, similar* works had been undertaken by the M.E.S., the D.G.O.F. had proceeded on the basis that the civil works for this project also would be undertaken by the M.E.S. The D.G.O.F. had, therefore, confined the calling of tenders only to the supply and erection of mechanical equipment while the construction of the works was left to be carried out by the M.E.S.
- (ii) As explained in (i) above, the normal procedure in such works is that the D.G.O.F. consults the M.E.S./Chief Engineer only in respect of the civil works while so far as the procurement of plant and machinery is concerned, this is done by D.G.O.F. on his own. Since the D.G.O.F. had assumed, on the basis of past experience, that civil works would be carried out by the M.E.S., he had not considered it necessary to consult the Chief Engineer before inviting tenders for the plant in December, 1962.
- (iii) (a) The firm which supplied the plant had given two alternative i.e. (a) the detailed civil engineers design could be undertaken by them, if relevant construction contract was also given to them; (b) essential data would be furnished to other civil engineers/contractors to enable them to make a final design.
- (b) While accepting the second alternative, the D.G.O.F. did not consult the Chief Engineer, because as explained in (i) above the M.E.S. had undertaken, in the past similar type of civil works on basis of essential data furnished by suppliers in respect of specialised plants.
- (c) When the Project Officer forwarded in September, 1963. the quotations for the Civil Works to the M.E.S., the Chief

*The Ministry have clarified to Audit that the terms "such works similar works and similar cases" used in the note were intended to connote specialised factory works and not erection of effluent plants.

Engineer held the view that the M.E.S. would not be responsible for the work and that the specialised firm which had supplied the plant should undertake the work.

- (d) There was no need for D.G.O.F. to consult the firm as to whether they would agree to guarantee the performance of the plant even if the civil works were entrusted to another firm on the basis of essential data furnished by it, because the firm had themselves already made clear that their performance guarantee for the plant would not be affected, even if the civil works were got done by any other reputable agency.
- (iv) The original cost of civil works offered by the firm in February 1964, was Rs. 9.44 lakhs. After negotiations with them, they brought down the cost in May, 1964 to Rs. 8.19 lakhs. This quotation was examined by the Ministry of Finance in consultation with the E-in-C. This was considered high as compared to the M.E.S. estimates of Rs. 6.30 lakhs. But the M.E.S.'s estimate was for a work which they were not prepared to undertake nor did their estimate include design charges or cover any performance guarantee. Since E-in-C had advised that in view of the special features of the effluent system, it was most essential that the connected Civil works are also designed and executed by the plant suppliers, it was decided to accept firms offer.
- (v) The work has been completed in January, 1967 and the plant commissioned in the same quarter, is working satisfactorily.

3.7. The entire question of inviting "composite quotations" and the procedure which should be followed in executing works of specialised nature has been re-examined in considerable detail in meetings held with the E-in-C, Ministry of Finance (Defence) and the D.G.O.F. and the following decisions have been taken:—

- (i) M.E.S. should ordinarily be able to carry out the civil works if they are furnished with the designs, drawings and specifications.
- (ii) Before going for tenders for specialised plants, the D.G.O.F. should indicate broad details to the E-in-C and obtain his advice. Based on this advice, he should take further ac-

tion to call for either composite or separate tenders for civil works and plant and machinery.

- (iii) If subsequently, the engineers, for any reasons, feel that contrary to their earlier advice, it would not be possible for them to execute the civil work, a decision would be taken by Government on merits of each case as to the agency, to which the civil works should be entrusted."

3.8. The Committee hope that the procedure outlined above for calling composite or separate tenders for civil works and plant and machinery will be strictly followed in future. Consistent with the needs of economy, the Committee feel that the acquisition and installation of plant and machinery on the one hand and the construction of civil works on the other should proceed in a co-ordinated manner so that delays in the installation of machinery or in the construction of civil works are avoided.

NEW DELHI;
February 13, 1968.
Magha 24, 1889 (Saka)

M. R. MASANI,
Chairman,
Public Accounts Committee.

APPENDIX I

(Reference para 1.14 of the Report)

MINISTRY OF DEFENCE

(DEPARTMENT OF DEFENCE PRODUCTION)

Extension of a Monorail

Please furnish a comprehensive note giving a chronological history of the project for extension of Monorail covering *inter-alia* the following points:—

- (a) Were detailed proposals regarding the extension of monorail submitted to Government for sanction. If so, were the proposals accompanied with documents showing its feasibility, financial implications, economics of its working, the necessity of the project and the time schedule for its completion.

If not, please state on what basis Government accorded sanction for the extension of Monorail.

- (b) Please also state the result of the enquiry being made into the case with special reference to the suspension of work on the monorail without approval of the competent authority. Please also indicate as to when it came to the notice of authorities that it was "not practicable to have monorail going like that and then to branch off without any transshipment". Please indicate the action taken in the matter since that date.
- (c) Please state how it is proposed to utilise the Monorail and whether its economics of operation at the new place have been gone into in detail.
- (d) Please indicate the measures taken and proposed to be taken to avoid the recurrence of such instances in future.

2. Please state whether any standing instructions have been laid down about the submission of defence production projects to Government for sanction. If these are not accompanied with detailed estimates, project reports etc., on what basis do the Government take a decision about the sanction|non-sanction of a project.

Please state the number and percentage of defence production project proposals which were not accepted by Government during 1955-56 to 1960-61.

REPLY

Point Nos. 1(a) and 2.

1. The Monorail extension was a small part of a much larger project, the technical feasibility of which was examined by the DGOF and detailed proposals regarding the extension of monorail were not submitted to Government for sanction.

2. The general procedure for formulating a project and issue of sanction by the Government requires that the DGOF, on the basis of a careful assessment of his requirements with reference to the existing capacities, the product-mix, process selection, size and location of the plant, capital and operating cost of the project, F.E. expenditure etc. and keeping in view the demand of the users for particular items, prepares a statement of case wherein all this information is furnished in full. This statement is submitted to the Government for acceptance of the necessity for the project. The cost of the project as worked out and indicated in the statement of case is approximate and is based on enquiries made from trade firms and/or knowledge available of plant and machinery, civil works estimates worked out in consultation with MES etc. Detailed plans for civil works or detailed tender enquiries for plant and machinery are not made at this stage as the possibility of the proposal being rejected or modified by Government cannot be ruled out. The Ministry examines the proposal in consultation with the Ministry of Finance (Defence) and takes a decision on the question of necessity of the project with such modifications as are considered necessary. A Government sanction is thereafter issued which authorises the DGOF to proceed with placing of indents for plant and machinery and take procurement action. DGOF is also authorised to take steps to get the approximate estimates for the civil works prepared by the engineers which is then submitted to the Government. After they have been scrutinised in detail in consultation with the Ministry of Finance, administrative approval based on the AE, with such modifications as may be found necessary, is issued which enables the engineers to proceed with the execution of civil works. (Also see paras 8 and 9 below).

Point No. 1(b)

3. The main project for the establishment of Extrusion Press was conceived in 1951. This involved an expenditure of Rs. 36.9

lakhs and Government sanction to the acceptance of necessity of this expenditure was issued on 3-12-1951. The capacity envisaged in the sanction was 3,500 tons. Subsequently, on technical and other considerations, it was decided to procure a 2000 ton Press and also change the location. The revised proposal was approved by the Government and sanction was issued on 28th February, 1955. Administrative approval for the civil works at a total cost of Rs. 13.27 lakhs was issued on 21st July, 1955. The extension of the monorail involving an expenditure of Rs. 76,500 was only a small part of a much bigger project costing Rs. 46.5 lakhs connected with the installation of a 2000 tons Extrusion Press.

4. Regarding the time schedule for the completion of the monorail extension, it had to be ready, unlike the other items of the civil works, by the time the Press was commissioned. The Press was actually commissioned in October 1961 and while according the administrative approval on 21-7-1955 for the civil works, including the monorail extension, Government had no reason to fear that the monorail extension would not be ready for use in time.

5. The fact that the monorail was not being used or even completed was first noticed by the DGOF during his visit to the Factory in 1963. He observed that the Factory was utilising road transport for conveying stores in question since 1961, when the Press was installed and that the monorail was not being used. He agreed to the dropping of the monorail scheme and decided to shift the monorail to another Ordnance Factory where a non-ferrous rolling mill was to be set up. This, however, did not materialise, as the proposal for rolling mill was subsequently dropped. In February, 1967, the DGOF ordered an enquiry, specifically to bring out the circumstances in which the monorail was planned and constructed, but not completed, and also to ascertain why it was found not practicable to connect the extension to the main line. The enquiry was handicapped for want of all the relevant papers at the Factory or with the MES. While the enquiry could not bring out the full facts, the following conclusions have been reached based on the enquiry report and further discussions with DGOF and his Officers:—

- (i) In December 1955, while preparing the detailed plan for the extension of the monorail, the Chief Engineer had pointed out that there were technical difficulties in branching off a monorail from the main line.
- (ii) The General Manager of the Factory had then considered various possibilities including construction of an independent monorail from the Stores to the Extrusion Shop and

alternatively unloading from the main line and loading the proposed extension monorail at a take off point on the main line. In view of the fact that the Factory did not at the time have enough road transport for the purpose and having regard to the disadvantages of high cost in having an independent line, wastage of space and congestion at the Stores section etc., the General Manager decided to have the monorail extension without connecting with the main line, but with transshipment of stores between the two monorails.

- (iii) By the time the Extrusion Press was commissioned in 1961, the material handling facilities available with the Factory had considerably improved as they had received 2 Lister Trucks in 1957 and 6 in 1959. As a result, the Factory was able to carry out the work of conveyance of stores to the Extrusion Shop more conveniently by road. 10 more Battery Trucks were supplied to the Factory in April, 1965 in pursuance of a general policy decision taken after the hostilities in 1962 to supply material handling equipment to all Ordnance Factories. In view of this, the Factory having managed without the monorail extension, further steps were not taken to complete the work.
- (iv) Despite all efforts files on the extension of monorail have not been traced. He could not in particular locate any instructions by the Factory or the DGOF to suspend the work of construction of the monorail. There were also no papers to show that the Factory had at any stage reported to the DGOF that the monorail was no longer necessary. It appears that the Factory Management felt that it would not be possible to put the extended monorail to any great use and it did not pursue the question of construction of monorail but also failed to inform the DGOF Hqrs. regarding this change in the Project. It is, however, not possible to come to a definite conclusion at this stage in the absence of the relevant papers on the subject.

Point No. 1 (c)

6. Government propose to dismantle the monorail and instal it in a factory, where it would be more useful. DGOF is at present examining whether it can be erected at another Ordnance Factory. Before a decision is taken, the economics of the operation and its new place will be fully examined.

Point No. 1(d)

7. As the Inquiry Report was not fully satisfactory, the DGOF has been asked to go into the question again and try and trace the previous records on the subject or to reconstruct them on papers which can be traced so that it may be possible to ascertain the specific reasons for a technically unsound decision to construct a monorail and also why the work on its construction was given up without appropriate authority's sanction. After ascertaining all these facts, Government will also consider the measures which should be taken with a view to avoid recurrence of such instances in future.

Point No. 2

8. The procedure followed on the basis of which Government take a decision about the sanction/non-sanction of a project is explained in para 2 above. Standing instructions were issued on this subject on 8th October, 1957, 5th May, 1958 and 23rd April, 1966.

9. Information on the various proposals of DGOF on Defence Production projects which were not accepted by the Government during the six years from April 1955 to March 1961 is being collected and will be sent as early as possible.

APPENDIX II

(Reference para 1.80 of this Report)

MINISTRY OF DEFENCE

(DEPARTMENT OF DEFENCE PRODUCTION)

Delay in Regularising Loss due to avoidable Rejections

Question:

The Audit Para points out that avoidable rejections totalling Rs. 69.67 lakhs which occurred till March, 1965 had not been regularised upto September, 1966.

Please furnish a note indicating *inter alia*:

- (i) the difficulties in prompt investigation of such losses?
- (ii) Is not the delay in investigation of such losses likely to result in wasteful process being continued?
- (iii) Is it not feasible to examine the defects in each batch of production immediately so that defects are removed in subsequent batches of manufacture?
- (iv) the present position of the regularisation of rejections?

Answer:

(i) The case of regularising a loss due to avoidable rejections comes up only when the cost card is closed and the accounts authorities give the figure for the losses involved. If the reasons mention losses due to defective material and/or components supplied by feeder Factories, the loss statement cannot be prepared with reference to the feeder Factory. There is generally an argument between the various factories before the cause for the fault can be pinpointed. Besides, in many cases the Inspectorate has also to be consulted for full particulars of the material and the orders against which these had been supplied.

There is, therefore, invariably some time lag before the General Manager can prepare a case for final sanction of the loss statements.

(ii) If the preliminary investigation revealed certain lapses on the part of any particular section or sections in a Factory, they are immediately informed and a closer watch is kept to avoid such lapses either in production or in inspection. Production is not stopped immediately after noticing any defects in a particular lot, as this will lead to loss of production; however, if defects occur substantially in more than one lot, then investigation is made in detail. To this extent, some waste is likely to occur. Investigations are, therefore, held as expeditiously as possible to reduce to a minimum any possible continuation of faulty process.

(iii) As already pointed out earlier, the aim is to examine the defects in any batch of production with a view to removing such defects in subsequent batches of production, but at the same time, it has to be seen that in this process, production is not held up completely.

(iv) The latest position in respect of the cases involving an amount of Rs. 69.67 lakhs pending regularisation upto September 1966 is given in the enclosed statement. (Annexure).

ANNEXURE

Latest position in respect of rejection outstanding and yet to be regularised.

	Rs.
M.S.F.	2,72,555·95
OFC	1,916·29
GSF	13,04,368·38
SAF	5,39,742·00
OFM	4,90,403·02
AFK	24,61,692·44
OF Shahjahanpur	16,964·37
OFK	10,80,655·08
OFB	755,576·91
MPF	1,435·60
RPI	1,27,862·52
TOTAL	63,53,172·56

APPENDIX III

(Reference para 2.17 of this Report)

MINISTRY OF DEFENCE

(DEPARTMENT OF DEFENCE PRODUCTION)

Delay in installation of heavy machines

Question:

- (i) Are Government satisfied that these delays were unavoidable?
- (ii) Please state when did the DGOF moot the proposal of acquiring an arc furnace and why was not a comprehensive proposal put up to Government for sanction.
- (iii) Have the civil works since been completed and the arc-furnace commissioned? Have any defects been found in its working and, if so, have they been set right by the suppliers?
- (iv) Have the suppliers given any warranty for the efficient functioning of the furnace? If so, how far was this warranty affected because of delay in its commissioning?
- (v) What is the extent to which the furnace is being used? What is the augmentation in the production of steel ingots and how does it compare with the initial expectation?

Reply:

- (i) The delay in this case can be divided into three parts:—
 - (a) 8 months from August 1963 to April 1964 i.e. between placement of indent for the furnace and initiating action to get sanction for civil works.
 - (b) 15 months from April 1964 to July 1965 i.e. between convening the Siting Board and issue of sanction for civil works; and
 - (c) 11 months from July 1965 to June 1966 i.e. between sanction of civil works and conclusion of the contract.

Government are of the opinion that the delays at (b) and (c) were of procedural nature and could have been reduced as explained.

The normal procurement time for the plant is 12 to 18 months. This period got reduced in the present case to about six months (the tender was accepted in April 1964 and furnace was received in the factory in October 1964, except for one out of the 53 packages which was received in January 1965). In the circumstances, the time normally available for carrying out civil works was not there in the present case; considering this it must be admitted that sufficient priority for execution of civil works for the plant was not given. The scrutiny of the civil works estimates by the Ministry of Finance in consultation with the E-in-C took time from January 1965 to July 1965. The foundation drawings could be made available to the MES by DGOF only in November 1965, since these drawings in a complete form, could be obtained from the suppliers only by November 1965. The MES also had to revise the foundation drawings to suit the actual soil conditions and they conclude the contract only in June, 1966.

Though the sanction for civil works had been issued on 23rd July, 1965, DGOF was able to issue the administrative approval on 26th November, 1965. The delay occurred in clarifying a certain discrepancy in a figure mentioned in Government sanction and issue of a corrigendum.

The delay mentioned at (a) above represents the time normally required for getting the transaction cleared through STC, Ministry of Industry, CCIE, etc. and the formalities prior to entering into the contract with the supplier. It must also be added that the Siting Board could not be convened before April 1964 because the lay out plans, on which the building plans depended, were received from the supplier only by the end of February, 1964.

(ii) DGOF recommended purchase of the furnace on 11th June, 1963. The furnace was readily available for shipment in Switzerland. Also, its capacity of 5 tons was exactly for the purpose for which DGOF wanted it. Preparation of a comprehensive proposal including civil works at that stage would have taken time and DGOF might not have been able to avail of this opportunity to get this furnace.

(iii) The civil works have almost been completed and the work of erection of the furnace is shortly to commence. It is expected

that the erection would be completed by March 1968 and the furnace would be operated by April 1968.

(iv) In the supply order placed by DGS&D, no performance clause was stipulated. However, the normal warranty period regarding repairs/replacement of defective parts during the period of 12 months after arrival of the equipment at destination or 15 months of the date of shipment, whichever is earlier was included in the contract. This warranty period is already over.

(v) As stated in para (iii), the furnace is yet to be commissioned. The expected production in steel ingots is 5,000 tons per month.

APPENDIX IV

Summary of main Conclusions/Recommendations

No.	Para No.	Ministry/Deptt. concerned	Conclusions/Recommendations
1	2	3	4
1	1.19	Deptt. of Defence Production	Apart from the fact that the extended monorail has remained inoperative for the last seven years, the Committee are concerned at the manner in which projects for the consideration of Government are prepared and accepted without critical scrutiny. It will be recalled that the extension of the monorail was part of the bigger project for the setting up of an extrusion press. The venue of the extrusion press was not only changed but its size was also drastically reduced from 3,500 tons as sanctioned in 1951 to 2,000 tons in 1955. This clearly shows that the proposals were not prepared in depth and with adequate care and that the scrutiny of these proposals before Sanction by Government was also far from satisfactory, with the result that revisions were made time and again.
2	1.20	-do-	The Committee feel that if the economics and technical feasibility of the proposal for the extension of the monorail had been scrutinised in 1955 or in 1959 when lister trucks were procured by

the factory, it should have been possible to prevent this infructuous expenditure.

It is also strange that relevant papers on the extension of the monorail are not forthcoming and that an inquiry into the matter has been ordered only recently by Government. The Committee hope that, apart from fixing responsibility for the lapse, Government will tighten up the procedure for drawing up, submission and sanction of projects so that such instances of infructuous expenditure do not recur. The Committee suggest that Government should also take an early decision about the disposal of the extended monorail which is lying unused at the factory.

The Committee are not convinced that it was only through a clerical error that the production capacity for the tail units at the time of obtaining the sanction was stated to be 400 per one shift whereas it should have been 400 per two shifts. The Committee are also not convinced by the Ministry's contention that the aforementioned capacity did not cover the manufacture of containers which form an integral part of the tail units. The Committee need hardly state that the economy of a project is essentially related to its capacity and, if through a clerical error or otherwise, the capacity is wrongly stated to the extent of 100 per cent, it is obvious that all other calculations would also go wrong. It is this aspect of the matter which causes concern to the Committee. They would, therefore, suggest that a thorough enquiry should be made as to how the production capacity of the unit came to be wrongly stated in the pro-

Dept. of Defence
Production

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-do-

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posals submitted to Government for sanction and how the mistake was not discovered.

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1.36

Deptt. of Defence
production.

The Committee are also unable to appreciate the wide variations in the outturn of the tail units: it fell from 2908 in 1963-64 to 240 in 1964-65 but rose again to 1971 for the period from October, 1966, to September, 1967. This shows that the outturn has not been properly planned and the work has not been stabilised even though it was taken in hand more than five years ago. The Committee would also like to draw attention to the explanation given by the Director General, Ordnance Factories, to Audit that there was a delay in getting the imported material/components from abroad and in procuring certain materials from indigenous sources. The Committee feel that to have an assured rate of production it is essential that the requisite materials and components should be made available in time.

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1.37

-do-

The Committee are also disturbed to find that some of the consignments containing imported components/materials were received at the factory in a water-logged condition. The Committee feel that adequate arrangements for the handling of these and other defence consignments should be provided at Embarkation Headquarters, Bombay, so as to eliminate the chance of damage by rain.

7

I. 50

Deptt. of Defence
production.

The Committee agree that the most important consideration for the production of stores for defence purposes is the time factor and the priority indicated by the Forces. The Department of Defence Production have now a very large number of manufacturing units and a number of them are capable of producing the same item of equipment. It is, therefore, absolutely essential that, for any rational distribution of orders, the management should have a clear idea not only of the capacity available, the capacity booked and the spare capacity remaining, but also a precise idea of the relative cost and time factor involved. The Committee are not able to appreciate how in the absence of such basic data, the Director General, Ordnance Factories, is able rationally to distribute the orders in the interest of achieving economy and efficiency. The Committee therefore, cannot too strongly stress that the Method Study Cells in the Department of Defence Production should effectively discharge their responsibilities by providing reliable data for the rational distribution of orders for the manufacture of stores and equipment in the Ordnance Factories.

8

I. 55

-do-

Price, generally speaking, is an index of the efficiency or manufacture. The Committee, therefore, feel that the exercise undertaken by Audit of comparing the unit cost of production in Ordnance factories and the price at which the same goods are available from the trade is a useful and significant one. The Committee note that "the possibility of off loading such items to trade is constantly under consideration". The Committee would like the Department to extend the scope of this exercise to include other items

1	2	3	4
			<p>which are available at a comparatively cheap price from the trade and where there is no risk of the supplies failing at a crucial time. In case such a step results in labour becoming surplus to requirements in any Ordnance Factory, measures should be taken to train and deploy them gainfully in alternative capacities in the same or other Ordnance Factories.</p>
9	I. 56	Dept. of Defence Production.	<p>The Committee need hardly add that, in the planning of the future requirements of Ordnance factories, care should be taken to ensure not only full utilisation of the existing capacities in the Ordnance factories, but also to consider seriously whether it would not be better to procure the stores, specially those which carry no security risk, at competitive prices from industry, specially in days of recession and under utilisation of capacity.</p>
10	I. 57	-do-	<p>The Committee need hardly point out that the procurement of defence supplies from civil industries in peace time has the added advantage of providing a cushion for increasing the supplies at short notice during an emergency.</p>
11	I. 78	-do-	<p>The Committee are distressed to note that, in all the six cases of rejection reported by Audit, bad material of the value of Rs. 12.25 lakhs was supplied by other feeder factories under Government where it had already been tested and passed before despatch.</p>

This raises not only the question of the adequacy of the procedure for inspection which permits such bad material to be passed by the feeder factories, but also the larger question of efficiency and the reliability of materials and goods supplied by such ordnance factories direct to the Armed Forces.

12 1.79

-do-

The Committee feel that it should be possible for Government to evolve, in consultation with the feeder and user ordnance factories and Armed Forces, satisfactory standards for quality control. It should also be impressed on the Inspectorate staff that the standards for passing materials and components should be strictly enforced and improved. Where rejections in the manufacture of a particular item are detected to be unduly high, a thorough investigation should be carried out with the utmost expedition so as to devise suitable remedial measures to check the losses and the possibility of introducing inspection at various stages should be fully considered.

13 1.81

-do-

The Committee are not happy over the delay of several years in evolving a procedure for the regularisation of losses arising from these rejections. The Committee feel that, apart from the formality of regularising these losses, what is more important is to analyse the reasons so as to take effective remedial measures.

14 1.82

-do-

The Committee feel that apart from the check of the avoidable percentage of rejections provided in the estimates which might be undertaken by the attached financial officers, it is incumbent on

the Director General of Ordnance Factories, as the technical head of the Organisation, to ensure that:

- (i) the unavoidable loss allowed for in the estimates of cost is the lowest possible consistent with the standard of manufacture desired; and
- (ii) manufacture in Ordnance Factories is undertaken economically.

The Committee would like the Director General to keep these two aspects specially in view and take effective measures to discharge these responsibilities. 3

The Committee would like to be informed of the action taken by the Director General of Ordnance Factories in pursuance of these recommendations.

The Committee are disturbed to find that "capacity and load charts (of the ordnance factories) are not available" for most of the items and that orders are generally placed "without much of a check on the feasibility of production." It is, therefore, no surprise to the Committee that the percentage of incomplete warrants has risen during the last three years from 12.3 at the end of 1963-64 to 17.6 in 1966-67. The Committee feel that, to check this malady the Director

General should evolve effective instruments of control which can be provided only through a methods and cost study.

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|----|-------|------|--|
| 16 | 1.100 | -do- | As spares are vital for maintaining operational efficiency of arms and equipment with the Armed Forces, the Committee suggest that the Director-General, Ordnance Factories, should devise a systematic procedure to undertake their manufacture and supply in keeping with the requirements. |
| 17 | 1.101 | -do- | Since capacity for the manufacture of these spares is admittedly available with the Ordnance Factories, there should be no reason for arrears of demand to accumulate. |
| 18 | 1.103 | -do- | The Committee agree with Government that the long delay of eight years in arriving at a decision regarding the writing off the losses was not justified. The Committee feel that Government should look into the circumstances in which this abnormal delay of eight years took place with a view to fixing the responsibility and devising ways and means of avoiding a recurrence of such cases. |
| 19 | 1.104 | -do- | Now that a decision has been arrived at and final orders have been issued by Government, the Committee hope that action will be taken to finalise the losses/infructuous expenditure incurred by factories due to the cancellation/curtailment of orders by the indentors. |

1	2	3	4
20	1.105	Deptt. of Defence Production	The Committee also suggest that, while scrutinising the cases of infructuous expenditure, the reasons for it should be carefully analysed with a view to taking effective remedial measures to reduce such losses to the minimum.
21	1.117 & 1.11	-do-	The Committee would like the Government to devise suitable remedies in the light of experience so as to reduce to a minimum infructuous expenditure on account of the cancellation of orders.

The Committee need hardly stress that, with better coordination between the user (the Defence Forces) and the manufacturers (the Ordnance Factories), it should be possible to get at the earliest information about variations in demand due to changes in requirements. Similarly where the development of manufacture of a store is likely to take considerable time, close liaison should be kept by the D.G.O.F. to make sure that the user's demand has not in the meantime undergone a radical change or ceased so that expense on a developmental effort is not continued unnecessarily. The Committee cannot strongly stress the need for reducing the present time lag of three to four years between the placing of orders and supply so that the production programme can be more easily adjusted in the light of changing requirements.

- 22 2.8 -do- The Committee hope that, on receipt of the Report of the Board of Enquiry, set up to investigate into the 'causes and circumstances of excess provisioning' of the store and to determine loss if any and other related matters, remedial measures will be taken to avoid a recurrence of such cases.
- 23 2.13 -do- The Committee do not appreciate the contention of the Ministry. Excess provisioning of stores done erroneously results in the blocking of capital which could well be used elsewhere to greater advantage.
- 24 2.22 -do- The Committee are disturbed to find that it has taken the Ordnance Factory almost five years since the communication of the sanction in August, 1963, to instal the arc-furnace which was required to augment the production of steel ingots for forging gun barrels. The Committee deprecate such inordinate delay in the commissioning of work connected with the augmentation of capacity for vital armament's in ordnance factories.
- 25 2.23 -do- What is even more distressing is the fact that the delays in this case could have been reduced. There was a lack of coordination regarding the purchase of arc-furnaces and the construction of civil works. The Committee desire that the Department of Defence Production should coordinate the purchase of costly machinery and the execution of civil works in such a manner that the machinery ordered is utilised according to the schedule prescribed for its erection.
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3.8

Ministry of Defence Dept:
of Defence Production.

The Committee hope that the procedure outlined above for calling composite or separate tenders for civil works and plant and machinery will be strictly followed in future. Consistent with the needs of economy, the Committee feel that the acquisition and installation of plant and machinery on the one hand and the construction of civil works on the other should proceed in a co-ordinated manner so that delays in the installation of machinery or in the construction of civil works are avoided.

8

Sl. No.	Name of Agent	Agency No.	Sl. No.	Name of Agent	Agency No.
27.	Bahree Brothers, 188, Lal-purrai Market, Delhi-6.	27	33.	Bookwell, 4, Sant Narnan-kari Colony, Kingway Camp, Delhi-9	28
28.	Jayans Book Depot, Chapparwala Kuan, Karol Bagh, New Delhi.	28	MANIPUR		
29.	Oxford Book & Stationery Company, Scindia House, Connaught Place, New Delhi-1	29	14.	Shri N. Chacha Singh, News Agent, Ram Lal Puri High School, Anwar, Imphal.	37
30.	People's Publishing House, Rani Jhansi Road, New Delhi.	30	AGENTS IN FOREIGN COUNTRIES		
31.	The United Book Agency, 48, Anrit Kaur Market, Pahar Ganj, New Delhi	31	15.	The Secretary, Establishment Department, The High Commission of India, India House, Alwyet, LONDON, W.C.-1.	
32.	Hind Book House, 32, Jangpeth, New Delhi.	32			

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