

# **PUBLIC ACCOUNTS COMMITTEE**

## **(1976-77)**

**(FIFTH LOK SABHA)**

**TWO HUNDRED AND TWENTY-NINTH REPORT**

**PROCUREMENT OF FURNACES  
AND  
DISPOSAL OF FIRED EMPTY CARTRIDGE CASES**

**MINISTRY OF DEFENCE**

**[Paragraph 7 & 20 of the Report of the Comptroller  
and Auditor General of India for the year 1972-73,  
Union Government (Defence Services)]**



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**Date 28/10/76**

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## INTRODUCTION

I, the Chairman of the Public Accounts Committee as authorised by the Committee do present on their behalf this Two Hundred and Twenty-Ninth Report of the Public Accounts Committee (Fifth Lok Sabha) on Paragraphs 7 and 20 of the Report of the Comptroller and Auditor General of India for the year 1972-73—Union Government (Defence Services), relating to Procurement of Furnaces and Disposal of Fired Empty Cartridge Cases.

2. The Report of the Comptroller and Auditor General of India for the year 1972-73—Union Government (Defence Services) was laid on the Table of the House on the 25th April, 1974. The Committee (1974-75) examined paragraphs 7 and 20 relating to Procurement of Furnaces and Disposal of Fired Empty Cartridge cases on the 5th, 6th and 21st December, 1974. Written information in regard to the Paragraphs was also obtained from the Ministry of Defence and other Ministries|Departments concerned.

3. The Committee (1976-77) considered and finalised this Report at their sitting held on the 27th August, 1976. Minutes\* of the sittings of the Committee form Part II of the Report.

4. A statement showing 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.

5. The Committee place on record their appreciation of the commendable work done by the Chairman and Members of the Public Accounts Committee of 1974-75 in taking evidence and obtaining information for the Report.

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

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\*Not Printed. (One copy in cycle style laid on the Table of the House and five copies placed in Parliamentary Library.)

(vi)

7. The Committee would also like to express their thanks to the officers of the Ministry of Defence, Department of Defence Production and the National Small Scale Industries Corporation for the co-operation extended by them in giving information to the Committee.

H. N. MUKERJEE,

*Chairman,*

Public Accounts Committee.

NEW DELHI;

*August 28, 1976*

Bhadra 6, 1898 (Saka)

# I

## PROCUREMENT OF FURNACES

### *Audit paragraph*

1.1. In February 1967 it was decided by Government to import four furnaces each of 1,200 pounds capacity offered by a foreign Government. Three of these furnaces were to be installed in factory 'A' and one in factory 'B'.

1.2. The furnaces (cost: Rs. 8.62 lakhs) were received in May 1970. But these were of 5,000 pounds capacity each instead of 1,200 pounds capacity offered. The foreign Government stated (October 1971) that the higher capacity furnaces supplied had technical advantages over the lower capacity furnaces earlier offered.

1.3. In April 1971, factory 'B' informed the Director General, Ordnance Factories, that as its scrap arisings were about 40 tons per month the furnace, if installed in that factory, would remain idle for a considerable period in a month. The factory also pointed out that for installing the furnace a building costing Rs. 1.83 lakhs would have to be constructed. It was, therefore, decided in June 1971 to instal the furnace in factory 'C'. Factory 'C' stated in August 1971 that it was not possible for it to instal the furnace due to "technical and production reasons".

1.4. The three furnaces received in factory 'A' could not also be installed and used in that factory because on re-examination of the proposed augmentation scheme of that factory it was decided (February 1973) to set up an integrated plant for brass melting, rolling and cupping at factory 'C' where it was proposed to utilise the furnaces. The Ministry stated (January 1974) that the proposal to set up the integrated plant at factory 'C' had to be given up due to lesser requirement of an ammunition and also financial constraints. Thus the four furnaces received in May 1970 remained unused (January 1974).

1.5. The Ministry stated (January 1974) that the furnaces were proposed to be installed in factories 'C' and 'D' for melting and pigging fired cartridge cases of small arms ammunition mentioned in paragraph 20.

[Paragraph 7 of the Report of the Comptroller & Auditor General of India for the year 1972-73, Union Government (Defence Services)]

1.6. The Committee learnt from Audit that the Director General Ordnance Factories, Calcutta, had informed the General Managers of four factories ('E', 'F', 'G' and 'H') on 2 May 1966 as follows:

"It has been observed that non-ferrous scrap arisings at the main machining factories tend to accumulate, raising problems all along like shortage of accommodation, contamination etc. To obviate the above position, it has been decided that the machining factories will arrange for installation of small|medium size melting units generally of the crucible type (oil fired) to undertake melting and pigging of all such scrap. The scrap thus pigged can be stacked or stored conveniently without fear of any future contamination, and if the pigging is undertaken with sufficient care, a major portion is likely to be reutilised in services stores manufactured with consequent saving of foreign exchange, as the virgin metals comprising the non-ferrous alloys are of imported origin....For the method of melting, generally oil-fired tilting type of crucible melting of 400 lbs. down to 200 lbs. capacity may be adopted. The latter is proposed to take care of miscellaneous|smaller quantities of non-ferrous metal turnings and borings, and the former may be utilised for larger quantities."

The Committee further learnt from Audit that in response to this communication, the General Manager, factory 'G' had stated (21 May 1966) as follows:

".... the amount of the scrap obtained from our machine-shops is almost negligible not warranting for a furnace to be obtained to pig the scrap. Whatever scrap we obtain from our SAA (Small Arms and Ammunition) Section, they are graded accordingly (since they are not contaminated) and despatched to melting factories.

The scrap obtained in our machine shops is used to the best advantage in our small non-ferrous foundry. Therefore, no action to procure any furnace as mentioned in your letters under reference is being taken."

1.7. Though the General Managers of these four factories had initially been instructed, in May 1966, to arrange for the installation of small|medium size melting units of 200 lbs|400 lbs. capacity, the Director General, Ordnance Factories, had, according to Audit,

subsequently (December 1966) informed the General Manager of factories 'A', 'B', 'G' and 'H' as follows:

"Action has already been taken in this office for the procurement of 4 Nos. of Low Frequency Induction furnaces of capacity—1200 lbs. each from U.S.A. offered for installation, one each at your factories. Ministry of Defence have already been intimated that U.S.A. offer has been recommended for acceptance provided the supply materialises within 9 to 12 months."

1.8. Since the initial decision apparently was to instal only small/medium size furnaces of 200 lbs/400 lbs capacity, the Committee enquired into the considerations that had weighed with the Director General, 'Ordnance Factories, to recommend subsequently the acceptance of low frequency furnaces of a much larger capacity (1200 lbs). In a note, the Department of Defence Production replied:

"In May 1966, the DGOF had directed....Factories.... ('E' and 'F'),....Factory.... ('G') and....Factory ('H') to arrange for the installation of small/medium melting furnaces of capacity 200 to 400 lbs. to undertake melting and pigging of Brass Scrap arisings in these machining factories.

The procurement of 1200 lbs. furnaces had been decided earlier as a part of modernisation plan of....Factories. The requirements were based on renewal and replacement demands that had been received from....and....(Factory 'C')."

1.9. In this connection, the Committee were given to understand by Audit that the Ministry had stated (January 1974) as follows:

"The offer of 4 furnaces of 1200 pounds capacity each was received from the United States Government as a part of the Military Credit Sales Programme along with a number of other items for modernisation of Ordnance Factories in September 1966. The programme was a sequel to the visit of a delegation including the then Director General, Ordnance Factories immediately after the Chinese aggression, which was subsequently suspended in the wake of hostilities with Pakistan in 1965 and was resumed as far as non-lethal items were concerned in 1966. The offer in respect of the four furnaces was received in September

1966 and was formally accepted in February 1967, on behalf of the Government of India by the Military Attaché, Embassy of India on advice from this Ministry. The terms of payment for the sale programme was 10 per cent down payment and the balance in 20 equal half yearly payments. The furnaces supplied by the United States Government were procured from Ajax Magnethermic Corporation, United States of America."

1.10. According to the Audit paragraphs, the cost of the four furnaces received in May 1970 was Rs. 8.62 lakhs. During evidence tendered before the Committee, the Secretary, Department of Defence Production, however, stated in this regard as follows:

"Before we take up this paragraph for consideration, I would like to correct a few figures. The cost of the furnace was shown as Rs. 8.62 lakhs in sub-para 2 of paragraph 7. The firm price which we ultimately accepted from the Americans came to \$ 45,921 per furnace, that is Rs. 14.14 lakhs in rupee value including transport and handling charges. Of this amount of Rs. 14.14 lakhs, payment made up till now is Rs. 7.7 lakhs—half of the total amount—and the balance half is to be paid in instalments which is the normal practice under the arrangement."

Since the figures furnished varied widely from what had been indicated in the Audit paragraph, the Committee asked why the correct figures had not been indicated when the draft Audit paragraph was received in the Ministry. The witness replied:

"This correction came to my notice only recently."

When the Committee pointed out in this connection that even if the final figures were not available while replying to the draft paragraph and there was a likelihood of the figures being revised later, this fact ought to have been intimated to Audit, the witness replied:

"We will do that hereafter. In fact, I am myself terribly embarrassed about it."

1.11. Since allocation of funds for the purchase of four furnaces of 1200 lbs capacity must have been made on the basis of the estimated price of the furnaces when a decision was taken to accept the offer of the foreign government, the Committee enquired into the financial implications worked out at the time of acceptance of the offer. The Secretary, Department of Defence Production, replied:

"In 1967, the estimate was \$ 40,000 each. At that time the rupee value of this amount was Rs. 8.62 lakhs."

Observing that the cost of the furnaces indicated in the Audit paragraph was, therefore, not incorrect, the Committee desired to know the reasons for the substantial increase in the price. The witness stated:

"There were two reasons. First, the price per furnace went up a little by 5,921 dollars and then the devaluation took place."

Asked whether there was any devaluation when the offer of the foreign Government was accepted, the witness replied:

"The original payments were made earlier than the devaluation. The devaluation was announced on 6 June 1966. One payment was made in March 1966."

He added:

"The original estimated figure was 40,000 dollars each and they increased the price to 45,000 dollars which we accepted."

1.12. The Audit paragraph points out that when the furnaces were received in May 1970, they were found to be of 5,000 lbs. capacity each instead of 1,200 lbs. initially offered. The Committee learnt from Audit that in January 1974, explaining the background in which the larger capacity furnaces had been accepted, the Ministry had stated as follows:

"The furnaces were received in India in May 1970. It was found that the furnaces supplied were of a higher capacity than those originally offered. On enquiry, it was intimated by United States Army authorities that the furnaces as supplied had technical advantages over the lower capacity furnaces earlier offered and the then Dy. DGISM (Director General, India Supply Mission) Washington had in fact suggested and accepted the procurement of the larger capacity furnaces."

The Committee also learnt from Audit that in July 1971, the Director General, Ordnance Factories had informed the Ministry as follows:

"4 Nos. Low Frequency Induction Furnaces were recommended for acceptance by this office against item Def: 5 (Master List Ref: A-48) or D. India DUY offer (Revision No. one).....

On receipt of the furnaces, the concerned factories have reported that the furnaces are found to be of higher capacity i.e. 5000 lbs. Actually the furnaces accepted against the aforesaid offer were of 500 kg. (i.e. 1200 lbs.) capacity and not of 5000 lbs. It is, therefore, not understood how these furnaces with high capacity have been supplied against our requirement of 500 kg.

In view of above, Ministry of Defence may kindly take up the matter with the appropriate authorities to ascertain as to how these high capacity furnaces have been supplied."

1.13. With reference to the statement of the foreign Government (October 1971) incorporated in the Audit paragraph that the higher capacity furnaces supplied had technical advantages over the lower capacity ones earlier offered, the Committee were informed by Audit that the Department of Army Headquarters, United States of America, Material Command, Washington, had informed the Government of India as follows:

"The available 1200 pound induction furnaces would have been a high frequency water cooled coreless type with a higher operating cost and low refractory life from thermal shock resulting from the necessity of dumping the coreless type furnace daily.

The channel type furnace provided can, even though the capacity is rated larger (16000 lbs. per hour) melt as little as 1200 pounds per heat or 6000 pounds per day as specified in India specification Number SL30."

1.14. The Committee, therefore, enquired whether it had not been indicated by the US Army authorities that the furnaces of 1200 lbs. capacity offered initially were of the low frequency type and, if so, how they had stated later in October 1971 that these were high frequency furnaces. In a note, the Department of Defence Production replied:

"The furnaces originally offered by the Foreign Government were low frequency induction furnaces for melting brass and other non-ferrous alloys, of capacity 500 kilograms.

The U.S. Army in their letter No. AMCIL-MS/4 dated 15th October, 1971 clarified the circumstances for the supply of a higher capacity furnaces. The original specifications provided for a low frequency channel type induction furnace of 500 kilograms capacity. It would appear that the furnaces available with the USA at that time were of

1200 lbs. induction furnace of high frequency water cooled coreless type which had a high operating cost and low refractory life."

1.15. Since it had been stated in the Ministry's letter of January 1974 to Audit (referred to in paragraph 1.12) that it was only on receipt of the furnaces that 'it was found' that they were of a higher capacity than those originally offered, the Committee asked whether any intimation in this regard had been received by the Government of India. The Secretary, Department of Defence Production, replied in evidence:

"There was no previous intimation."

The Committee, therefore, desired to know why Government had decided to accept the larger capacity furnaces. The witness replied:

"From the chain of events, it looks as if that even after May 1967 when the American technicians came over here and discussed the specifications with us, we were still insisting on 500 kg. capacity. Subsequently, we discovered in 1971 that the furnaces supplied were of higher capacity than what we had indented for."

1.16. Referring, in this connection, to the Ministry's reply to Audit in January 1974 that the US Army authorities had, *inter alia*, intimated that the Deputy Director General, India Supply Mission, Washington, had 'in fact suggested and accepted the procurement of the larger capacity furnaces', the Committee enquired whether this communication did not indicate that the India Supply Mission had accepted the furnaces. The Secretary, Department of Defence Production replied:

"This is a doubtful point. When we protested that these furnaces were of a higher capacity, they represented the whole matter to the Military Attaché. In this connection, I will send you a copy of the representation."

Copies of the correspondence exchanged in this regard between the Ministry of Defence and the Embassy of India, Washington, furnished, at the Committee's instance, by the Department of Defence Production are reproduced in Appendix I.

1.17. The Committee found from the letter dated 15 October, 1971 from the US Army Headquarters, Material Command that one "Mr. Sethi, the Indian Representative, suggested and accepted the procurement of the four larger capacity furnaces" and, therefore, de-

sired to know the factual position in this regard. The Secretary, Department of Defence Production, stated in evidence:

"There was one Mr. Sethi who, the American authorities stated, had agreed to accept them. However, Sethi left Government service in March, 1967. In May 1967, the Americans sent a technical team over here. They had important discussions with the officers of the DGOF where the specifications were settled."

Asked whether the DG, ISM was authorised to accept modifications in the offer without consulting and the concurrence of the indentor, the witness replied in the negative. In reply to another question as to why the Defence Ministry had not taken up this matter with the Director General, India Supply Mission, the witness stated:—

"In this matter, he was not clearly involved, because Mr. Sethi was directly operating under us. I do not know what discussion had taken place between him and the other side."

Asked whether Mr. Sethi had accepted the higher capacity furnaces in 1967, the witness replied:

"He left Government service in March 1967."

To another question whether the higher capacity furnaces had, therefore, been accepted in 1967, the witness replied:

"It could not have been later on."

1.18. Since the decision to procure furnaces of 1200 lbs. offered by the US Government had apparently been taken in February 1967, the Committee asked whether the Government of India had informed the US technical team, that was stated to have visited India in May 1967, that higher capacity furnaces would not be acceptable.

The Secretary, Department of Defence Production replied:

"During the discussions, DGOF clearly stipulated furnaces of the lower capacity, i.e. 500 kgs."

1.19. The Department of Defence Production furnished, at the Committee's instance, an extract from the relevant minutes of the meeting held on 18, 19 and 22 May 1967, in the Office of the Director General, Ordnance Factories, between the US technicians and the officials of the DGOF, which is reproduced below:

"After study of specification prepared by the US Team based on 'Ajax Wyatt' make and also after study of the pamphlet, Shri.....stated that at the time of initial starting

of the furnace, molten metal is required to be poured in. At this stage Shri ...., ADG/P(F) was called in, who explained that decision had already been taken to procure small oil fired furnace, which will be required for starting of Ajax Wyatt furnace....are already using one Ajax Wyatt furnace full time for melting of leaded brass borings received from....Therefore, Ajax Wyatt furnace will be very suitable for melting of leaded brass borings at the 4 machining factories.....After considering these points, the specification prepared by the US team was accepted."

The specifications of the furnaces accepted at this meeting were as follows:

Item No.	Ref. No.	Nomenclature	Quantity	Remarks
Udy Offer 5.	A-48	Low frequency induction furnace \$40,000	4	Specification based on Ajax Wyatt furnace accepted.

(Lining for two years will be supplied. Refractor selected should be such that they are manufactured in India.)

1.20. Asked whether the offer as modified for the supply of 5,000 lbs. furnaces instead of 1,200 lbs. furnaces had been accepted between February and May 1967, the Secretary, Department of Defence Production replied in evidence:

"Sethi might have done it before his departure in March."

He added:

"I presume that Sethi might have discussed the matter with them."

To another question whether no other officer had succeeded Shri Sethi, the witness replied:

"That post was abolished because there was no work."

Asked whether the Government of India had thereafter taken up the matter with the US Army authorities and, if so, what reply had been received in this regard, the witness replied:

"They told us that these furnaces were better for our use than those which they were manufacturing; they also told us that these were capable of tackling very small heat."

1.21. The Committee desired to know whether the US authorities had specifically stated that they were not in a position to supply furnaces of 1200 lbs. capacity. The Secretary, Department of Defence Production stated in evidence:

"There was one sentence from which we could infer that the type of furnaces which we wanted, they were not manufacturing them. I will read out for your information. It says:

'The available 1200 pound induction furnaces would have been a high frequency water cooled coreless type with a higher operating cost and low refractory life from thermal shock resulting from the necessity of dumping the coreless type furnace daily'."

Since the offer to supply lower capacity furnaces had apparently been accepted in February 1967, the Committee asked how this could have been modified subsequently unless the manufacturers had gone out of production in respect of the lower capacity furnaces. The witness replied.

"As far as I recollect, while the tentative offer was made, it was confirmed after they had gone into discussion with their own firm."

1.22. Asked whether the technical advantages, indicated by the US Army authorities, of the higher capacity furnaces had been examined by the users before their acceptance, the Department of Defence Production, in a note furnished to the Committee, replied:

"The original acceptance was for the specified furnaces of 500 kilograms capacity as offered. The fact that a higher capacity furnace has been supplied came to notice only after their receipt in May 1970."

1.23. The Committee desired to know whether after the higher capacity furnaces had been received, the difficulties in utilising them had been brought to the notice of the US Government. The Secretary, Department of Defence Production, stated:

"Apart from one protest to which that reply was received, we did not press the matter."

He added:

"Frankly speaking, the matter was shelved. The DG also put up two proposals for augmentation of melting capa-

city and these had been under discussion. So, the intention of the Government seemed to be that these furnaces could be utilised in a major augmentation programme."

1.24. The Committee learnt from Audit that the Department of Supply, in a communication dated July 23, 1974 addressed to Audit, had stated as follows:

"Shri B. R. Sethi was the concerned Dy. Director General in ISM, Washington from 12th January, 1965 to 10th March, 1967. He was deputed to the mission from the Directorate of Planning and Coordination, DGOF Cell, Ministry of Defence, New Delhi. He belonged to the Indian Ordnance Factory Service and his work related to the procurement of U.S. machinery through U.S. Military sources for modernisation of the Ordnance factories in India and for provision of the new ordnance factory at...

The various files opened by Shri Sethi during his tenure in Washington were forwarded by him to DGOF Calcutta under letter No. CS|ISM|7 dated 8th March, 1967.

Shri B. R. Sethi, the then DDG, Washington, who is reported to have suggested and accepted the procurement of the furnaces of higher capacity of 5000 lbs. each instead of 1200 lbs. capacity tendered resignation long ago and is no longer in service."

Since it had been stated that the various files handled by Shri Sethi had been forwarded by him to the Director General, Ordnance Factories, in March 1967, the Committee desired to know whether these files had not been gone through on receipt and they had not indicated the acceptance of higher capacity furnaces. In a note, the Department of Defence Production stated:

"5 files were received by the DGOF from DGISM, Washington in 1967. These files were gone through in DGOF's office. There was no indication in those files about the acceptance of a higher capacity furnace."

1.25. The Committee desired to know why Shri Sethi had resigned from Government service and where he was at present. The Director General, Ordnance Factories, stated in evidence:

"He is working in America. He is working with Picadilly Arsenal in the United States. I do not know when he tendered the resignation."

Asked whether they were suppliers of equipment to the Government of India, the witness replied in the negative.

1.26. The Committee desired to know the details of the firm(s) and business concern(s) where Shri Sethi had been employed immediately after his resignation from the Indian Ordnance Factory Service and whether those firms had any dealings with the Government of India, the Committee also enquired whether Shri Sethi had been entrusted with the finalisation of any other similar contracts and, if so, whether any review of these cases had been made. In a note, the Department of Defence Production replied:

"Department of Supply were requested to supply information asked for by the PAC. The Department of Supply advised us to obtain the same from our Military Attaché in Washington. The Military Attaché has been demim- officially addressed. He has informed that he is collecting the information and will forward to us, as soon as it is available."

Subsequently, in May 1975, the Department informed the Committee in this regard as follows:

"We had again requested our Military Attaché in Washington to ascertain present whereabouts of Shri B. R. Sethi through the Consular and Economic Wings of our Embassy. The Military Attaché has stated that the Embassy has no information about Shri Sethi and reference to U. S. authorities has also not brought any useful information.

DGS&D and DGOF have also stated that they have no information regarding whereabouts of Shri Sethi. They have also stated that they are not aware as to whether Shri Sethi was entrusted with the finalisation of any other contract."

1.27. Since it had been stated earlier that apart from one protest launched with the US authorities, the difficulties involved in utilising the higher capacity furnaces were not pressed further, the Committee desired to know whether Government had taken the view that since the furnaces had, in any case, been received, it would be a good proposition to try and utilise them. The Secretary, Department of Defence Production stated:

"From the financial point of view, I think we are correct, because we got them at cheaper rates."

He added:

"These furnaces having landed over here, we tried to find out how we could use them."

In this context, the Director General, Ordnance Factories, stated in evidence:

"At that time, we only protested that these furnaces were not according to our specification. Later on, the question of their being used came."

1.28. As has been pointed out earlier, in paragraph 1.7, the Director General, Ordnance Factories, had informed the General Managers of Factories 'A', 'B', 'G' and 'H', in December 1966, that the four furnaces of 1200 lbs. capacity to be procured from USA would be installed in these four factories. In this connection, the Committee learnt from Audit that the Director General had furnished (January 1974) the following information:

"The machining factories (Factories 'F', 'G' and 'H') pleaded their inability to instal these furnaces. On enquiry it was stated by the General Manager.....(Factory 'A') that these furnaces could be utilised in their factory for augmenting their melting capacity. It was then decided by Director General, Ordnance Factories on 5th November, 1969 that it would be advantageous to instal 3 furnaces at.....(Factory 'A') and 1 at....(Factory 'B'). ....(Factory 'G') and ....(Factory 'H') having pleaded their inability to instal the furnaces allotted to them earlier, they were omitted."

The Committee also understood from Audit that the Ministry had stated (January 1974) in this regard as follows:

"The scrap arisings in those factories, where it was earlier proposed to utilise the furnaces did not justify the installation of such large capacity furnaces. A project to augment the existing brass melting capacities at.....(Factory 'A') was under consideration and it was therefore proposed to instal 3 of the furnaces at....(Factory 'A') and the fourth one at .....(Factory 'B')."

1.29. According to the Audit paragraph, since factory 'B' subsequently (April 1971) informed the Director General, Ordnance Factories that the furnace, if installed in the factory, would remain idle

for a considerable period in a month, it had been decided, in June 1971, to install the furnace in Factory 'C'. As regards this decision, the Committee understood from Audit that the Director General had stated:

"As pleaded by.... (Factory 'B') that a 5000 lbs. capacity furnace will not match their requirements, it was decided that one of the furnaces should be installed at.... (Factory 'C') and in lieu they will spare their 1200 lbs. capacity furnace to.... (Factory 'B') which will be suitable for the purpose of.... (Factory 'B') and as such a letter dt. 10th June, 1971 was issued to..... (Factory 'C') for their comments."

1.30. However, Factory 'C' had also stated, in August 1971, that it was not possible for it to install the furnaces on account of "technical and production reasons." Elaborating these 'technical' aspects further, the Director General, Ordnance Factories was understood to have furnished the following reasons to Audit (January 1974):

- (i) there were 14 furnaces available at the factory of which a maximum of 11 could be operated at a time and the new furnace could not be connected to the present sub-station;
- (ii) the furnace could not be accommodated in the existing bay;
- (iii) a separate tapping would be necessary for connecting the furnace to the power supply; and
- (iv) an additional 2500 lbs. furnace would be required.

The following were the 'production reasons' indicated by the Director General to Audit:

- (i) the rated capacity of the furnace being high, it could not be utilised fully;
- (ii) a very large size turn table would be necessary to accommodate the moulds and for this purpose, extra space would be required on the shop floor, which was, however, not feasible to provide in the existing lay out;
- (iii) there would be a considerable fall in temperature during the pouring of the metal; and
- (iv) a lifting crane of about 20 ton capacity would be required if the furnace has to be removed for maintenance.

1.31. The three furnaces sent to Factory 'A' in May 1970 had also, according to Audit, remained unused (January 1974). In this context, the Committee learnt from Audit that the Ministry of Defence had stated (January 1974) as under:

"The above augmentation proposal (to augment the existing brass melting facilities at Factory 'A') was subsequently re-examined and it was decided that apart from the partial rehabilitation of ... (Factory 'A'), setting up of a new integrated plant for brass melting, rolling and cupping at... (Factory 'C') to meet the full requirements of Brass Cups was found necessary. In this proposal it was suggested that...million rounds per month of.... Brass Cups and....million rounds of....Brass Cups per month should be produced in the new unit proposed at.... (Factory 'C') while.... (factory 'A') should enlarge their capacity to meet their requirement of gilding metal cups for bullet envelope for all types of small arms ammunition and brass cups for....ammunition. To implement the above augmentation programme, it was proposed to utilise the furnaces in the new unit contemplated at... (Factory 'C').

The above proposals had again to be reviewed subsequently in the context of the drop in the requirement of Ammunition and also the financial constraints. The proposal to set up a separate unit at....(Factory 'C') for brass melting and rolling was, therefore, given up".

The Ministry had further stated :

"....Meanwhile, the need has arisen for increasing the melting capacity to melt and pig the heavy accumulation of small arms ammunition fired cartridge cases. This type of scrap which cannot be utilised for production within the Ordnance Factories is being pigged and sold to National Small Industries Corporation at prices negotiated from time to time. The existing capacity for pigging of such scrap being limited, the question of augmenting the same to meet the increased requirement of NSIC (National Small Industries Corporation) and to clear the heavy accumulation of SAA (Small Arms Ammunition) Cartridge Cases Scrap in the Ordnance Depots at a faster rate was discussed in the meeting of the Raksha Utpadan Board on 26-10-1973 and a decision has been taken to

in this context, the Secretary, Department of Defence Production informed the Committee as follows:

"In 1970, when these furmaces arrived, our thinking was whe-  
ther it was worthwhile spending another Rs. 1 crore to  
install them or keep them as it is.... these furmaces were  
not the same as what we had originally asked for. Today,  
I have gone through the papers and say that these can  
be used for augmenting their melting capacity in.....  
(Factory 'A'). So it is for the Government to take a  
view."

1.62. **Explaining**, during evidence, the reasons for the non-utilisation of the turnaces, the Director-General, Ordinance Factors started:

subsequently, in November 1974, the Department of Defence Pro-  
duction informed the Committee that the furnaces were still to be  
installed and that it should be possible to utilise the full capacity  
of the furnaces provided the auxiliary equipment and facilities  
required were also sanctioned. The Department also added that a  
proposal in this regard was under consideration.

instal additional capacities. The turnaces in question are proposed to be utilised for the above purpose and it is proposed to install 2 at. .... (Factory C) and 2 at. .... (Factory D).”

question of imbalances. Even now, the rolling capacity in the DGOF mills is much larger than the melting capacity which we possess. At the same time, in the present situation, we find that the requirement of..... cartridge and other cartridge cases are of an order, for which we do require this high melting capacity. We want, therefore, to revive that augmentation proposal. As a matter of fact, this was put up by my predecessor for financial examination; but during 1973 we could not find the funds. It was, therefore, shelved; but we had asked the DGOF to try and find the best use for these furnaces. We were thinking of using the furnaces for pigging scrap. But the DGOF is now thinking of putting up a proposal costing Rs. 1.54 crores for setting up these furnaces in Ordnance Factories for augmenting melting capacity for manufacturing cartridge cases. I do not know whether I will be able to steer it through Finance, because constraints are there. We feel that these furnaces, as we had bought them and in the condition in which they are, should give us value for the money; and it would be a waste to dispose of them. Should it come to a crunch and we are forced to sell them even internally through auction, we would not be put to a loss."

The Director-General, Ordnance Factories added :

"The present proposal which I have put up, it was raised in the RUB (Raksha Utpadan Board) and all these papers were put up to the Board."

1.33. At the Committee's instance, the Department of Defence Production furnished copies of the Briefs prepared for the 9th and 11th meetings of the Raksha Utpadan Board on the subject along with the relevant extracts from the minutes of the meetings of the Board. While the question of increasing the pigging capacity for Brass Ingots in the Ordnance Factories had been considered at the 9th meeting of the Board held on 26 November, 1973, the issues of rehabilitation of Brass strip making capacity in the Ordnance Factories and the offer of a complete Rolling Mill Plant as well as increasing the pigging capacity in the factories had been considered at the 11th meeting held on 24 April, 1974. The relevant extract from the minutes of the 9th meeting is reproduced below:

"DGOF confirmed that it would be possible to pig about 600 tonnes of brass per month but this would need some

additional civil works in the shape of runner line shed, quenching arrangements, etc. He roughly estimated the cost of the civil works to be Rs. 25 lakhs. In view of the considerable financial benefit that will accrue to Government from the sale of brass, it was decided that DGOF should come up with the required proposals for additional civil work. It was also decided that DGOF would inform the National Small Industries Corporation as soon as the first 600 tonnes of brass were melted and pigged."

1.34. According to the Brief on the increase in the pigging capacity for brass ingots in Ordnance factories prepared for the 11th meeting, there were two proposals under consideration, viz.: (i) augmentation of the pigging capacity in one of the factories and (ii) installation of the four American furnaces in Factories 'C' and 'D'. While the augmentation project was estimated to involve civil works of about Rs. 10 lakhs for a capacity of 125 tonnes of brass per month, the General Manager of Factory 'C' was to prepare a Project Report for the installation of the four furnaces. The relevant extract from the minutes of the 11th meeting is reproduced below:

"DGOF mentioned that the... (Factory 'C') would be a better place for installing the additional four furnaces for pigging of brass. This was because... would be near to the selling area of... DGOF did not think that... (Factory 'A') would be suitable as it was already fully loaded. MGO felt that establishment of this facility... would be better because it would then be convenient to transfer the cartridges etc. from the Command Ordnance Depots located nearby. It was decided that DGOF should settle the location taking all aspects into consideration and submit a Project Report to Government."

1.35. The Committee pointed out in this connection that proposals to augment the melting capacity of Ordnance factories had admittedly been under consideration from 1962 onwards and a proposal for financial concurrence also appeared to have been submitted earlier and desired to know whether the financial advantages likely to accrue by spending nearly Rs. 1.5 crores for installing the furnaces costing Rs. 14 lakhs had been worked out in detail. The Secretary, Department of Defence Production stated:

"We have not worked it out fully."

Asked in what form the proposal had been considered in 1973, the witness replied:

"That proposal was a much larger one. It was a Rs. 17 crores affair and it involved an integrated plant with full rolling facilities. The DGOF now proposes a melting scheme, without cold rolling mills to make small arms and cartridge cases; as this latter part will be an expensive proposition."

The Committee, therefore, desired to know whether this implied that Government had still not taken a final decision in regard to these furnaces and that only on account of inflation and other factors, the likelihood of a loss in the transaction was minimised. The Committee also desired to know how much more time would be required for taking a decision in this regard. The witness stated:

"We have checked up the present price of these furnaces. It came to Rs. 7.50 lakhs per piece. This is the quotation of the American firm today."

He added:

"The DGOF says that his proposal will be with us in a month. I do not know how much time the discussions with Finance will take."

When the Committee observed in this connection that the time factor did not appear to matter at all in a Ministry where it should have greater importance, the witness replied:

"I think we should be able to decide in about 4 months' time."

1.36. Referring to the statement made in the Audit paragraph that it was proposed to install these furnaces in Factories 'C' and 'D' for melting and pigging fired cartridge cases of small arms ammunition mentioned in paragraph 20 of the Audit Report (this case has been discussed in a subsequent section of this Report), the Committee enquired into the latest views of the Government in this regard. The Secretary, Department of Defence Production replied:

"To tell you frankly, the pigging of SAA cartridge cases was a proposal which I myself had mooted. Frankly, it was

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a stop-gap arrangement. We knew very well that these furnaces were much too large and this was a secondary use to which they can be put."

The Committee asked when the Director General, Ordnance Factories had first initiated the proposal for utilising the furnaces for melting and pigging fired cartridge cases of small arms ammunition. In a note, the Department of Defence Production replied :

"The question of utilising the furnaces received from the United States of America for melting and pigging fired cartridge cases has been under consideration of the Director General, Ordnance Factories since November, 1973."

1.37. Since any equipment would normally be accompanied by relevant literature on specifications, installation details, etc., the Committee desired to know whether it was known from the relevant literature on the furnaces that the installation cost would be over a crore of rupees. The Director General, Ordnance Factories replied in the negative and added :

"Nobody applied his mind to that point of it."

Asked whether the indentor was not under an obligation to make sure of all the details and specifications in regard to installation, the witness replied :

"Quite right, but if you go through the background, we really wanted a small furnace, and a normal casting machine would have met the need, but with this melting charge, if you want to have hundred per cent utilisation, you want a continuous casting machine, you cannot do it on a turn table and still use it hundred per cent."

1.38. The Committee desired to know whether the furnaces would deteriorate in condition if unused. A representative of the Ordnance Factories Directorate stated in evidence :

"If a furnace is installed and kept unutilised, the lining will deteriorate. If it is kept in storage and under cover, it will not deteriorate."

Asked whether there would be no deterioration even if the furnace had been unpacked, the witness replied :

"If kept under a shed, that would be alright."

To another question whether the lining of the furnaces was imported ready-made or had to be done indigenously, the witness replied :

"The furnaces came with two sets of lining only. They had to procure this indigenously according to the specifications of the suppliers so that we do not perpetuate import."

1.39. When the Committee pointed out that on the one hand though the furnaces had been imported in 1970 after spending a considerable amount of foreign exchange, these had not been utilised for over four years, while on the other hand, as had been pointed out by Audit in paragraph 20, considerable quantity of precious raw material available in the scrap arisings in the Ordnance factories were not being retrieved by melting and recycling, a representative of the Defence Ministry stated in evidence :

"I agree that it is a national waste that on the one hand, we purchased four furnaces and then we kept them without commissioning for some reason or the other."

1.40. Since it had been stated during evidence that the Director General, Ordnance Factories was thinking of submitting a fresh proposal costing about Rs. 1½ crores for setting up the furnaces, the Committee called for details of this proposal and its financial implications. A copy of the proposal was accordingly furnished to the Committee by the Department of Defence Production who added that the proposal had been examined in consultation with the Ministry of Finance (Defence) at a meeting held on 8 April, 1975, when it was decided that the economics of the proposal should be examined in relation to the decision on the setting up of a Metal Bank which was already under consideration of the Government.

1.41. According to the proposal submitted by the Director General, Ordnance Factories, for the installation of the four furnaces, at Factory 'C', one of the furnaces will 'generally remain idle' for lining and repairs, etc. It has been estimated that with its present working hours and at 75 per cent efficiency, the factory should be able to produce approximately 560 tonnes of brass ingots per month. This is based on the information furnished by the furnace manufacturers that the average melting rate for Brass is 1,000 lbs. per hour at 200 KW (rated capacity of the furnace). Considering

that it will take approximately half an hour for recharging and another half an hour for pouring and the batch capacity of the furnace being 5000 lbs., it will take approximately 4½ hours for one melt (3½ hours for actual melting plus 1 hour for charging and pouring.). Thus, in one shift of 9 hours (as per present working hours), two heats can be obtained and in a month of 25 days working two shifts per day the three furnaces should produce 15,00,000 lbs. of Brass Ingots or say 750 tonnes, which at 75 per cent efficiency comes to 560 tonnes per month. On the assumption that there would not be much change in the production programme of the factory, the Director General has estimated that the factory can utilise part capacity of these furnaces to meet the load and the balance for the production of pigs for sales to the National Small Industries Corporation depending upon the requirements.

1.42. Various ancillary items and auxiliary plant and equipment such as initial heating and charge preparation equipment, casting equipment, diesel generating set, cranes, weighing machines, dross handling equipment, metallurgical analysis and testing equipment, air compressors, power equipment, other mechanical equipment and spares, etc., would be necessary for commissioning the four furnaces. A new building with a plinth area of approximately 3,200 sq. metres has also been considered unavoidable in the absence of the requisite floor area in the existing shops.

1.43. Since the manufacturers had supplied mainly the furnace shells, lining formers, lining and insulation material, furnace fitting equipment, furnace power panel and control panel only, it has been assessed that the following additional equipment of capital nature would be essentially required in order to make the furnaces operational :

- (i) Fume Exhaust equipment.
- (ii) Mild steel platforms round the furnaces.
- (iii) Strip heaters.
- (iv) Mechanical mixer.
- (v) Lining and insulation material.
- (vi) Spares for normal running and maintenance.
- (vii) Oil fired equipment to replace the existing Gas-fired equipment.

1.44. The factory where the furnaces are proposed to be installed was also stated to have been in contact with the manufacturers of the furnaces, Ajax Magnethermic Corporation, USA, to ascertain the type and prices of the ancillary items required for such an installation. A copy of the letter dated 11 September, 1974 addressed to the Factory, which was furnished to the Committee by the Department of Defence Production, is reproduced in Appendix II.

1.45. In regard to detailed information about the furnaces, the proposal of the Director General goes on to add :

"After a thorough study|check of the literature and other information supplied with the Furnaces, it has been seen that certain vital information relating to the furnaces has not been received|obtained. It would be essential to obtain|buy the following from the furnace makers for carrying out the installation|maintenance of the furnaces :

- (i) Complete layout for the 'fume' exhaust system for the furnaces fumes with details of the equipment and their specifications.
- (ii) Full assembly drawings of the furnace equipment with the instruction to carry out assembly and erection of the furnaces.
- (iii) Layout details of the furnace platforms with particulars and specifications.
- (iv) Chemical composition and physical properties of the various types of lining material required for the furnace.
- (v) Specification and drawings of important equipment like :
  - (a) Inductor (Coils and core).
  - (b) Auto-transformer.
  - (c) Contactors.
  - (d) Capacitors.
  - (e) Control and metering panels.
  - (f) Thermocouples.

(vi) Hydraulic unit for furnace tilting."

1.46. Dealing with the casting methods, the Director General, after taking into consideration various aspects like (i) various types of service stores produced, (ii) the current method of production, (iii) inspection requirements, etc., had come to the conclusion that either the conventional book type chilled mould casting or semi-continuous Vertical Casting would be suitable to meet the requirements.

1.47. The financial implications of the proposal have been indicated by the Director General as under :

Item	Conventional Book type Chilled Mould casting Amount (Rs. in lakhs)	Semi-continuous vertical casting Amount (Rs. in lakhs)
(i) Cost of auxiliary plant and machinery including spares freight, customs duties, erection, etc.	70.46	84.67
(ii) Cost of Civil works & services	41.60	41.60
(iii) Cost of training personnel and services of maker's engineers for a short duration (if necessary)	1.50	1.50
<b>TOTAL :</b> or Say	<b>113.56</b> 113.60	<b>127.77</b> or Say 127.80
Foreign exchange component	14.00	25.70

1.48. The time schedule for the project has been estimated as follows:

(i) Time required for obtaining Administrative Approval for Civil Works	6 months
(ii) Time required for completion of Civil Works	30 months
(iii) Installation & Commissioning of Machinery	9 months
<b>TOTAL :</b>	<b>45 months</b>
less overlap prior to completion of Civil Works	3 months
<b>TOTAL TIME SCHEDULE FOR THE PROJECT</b>	<b>42 months</b>

1.49. As stated earlier, this proposal had been examined by Government at a meeting held on 8 April, 1975. The minutes of the meeting, a copy of which was furnished to the Committee by the Department of Defence Production, are reproduced in Appendix III.

1.50. It would be evident from the preceding paragraphs that the procurement and installation of low-frequency induction furnaces to cater to the modernisation plan of ordnance factories had been handled in an unsatisfactory and unbusiness like manner. The United States Government had offered, in September 1966, four furnaces of 1200 lbs. capacity each, at a cost of Rs. 8.62 lakhs (revised subsequently to Rs. 14.14 lakhs mainly on account of devaluation of the Rupee), as part of a Military Credit Sales Programme for the modernisation of ordnance factories in India. This offer was formally accepted, in February 1967, on behalf of the Government of India by the Military Attache, Embassy of India, Washington, on advice from the Defence Ministry. The specifications of the furnaces appear to have been settled finally in May 1967, during the visit to India of a technical team of the United States Government, when the Director General, Ordnance Factories, is stated to have 'clearly stipulated' that furnaces of 500 kilograms (1200 lbs.) capacity alone would be acceptable. In spite of this stipulation, the furnaces, on their actual receipt in May 1970, were found to be of 5,000 lbs. capacity each.

1.51. It appears from a communication some seventeen months later (dated 15 October, 1971), from the US Army Headquarters, Material Command, explaining the circumstances in which the higher capacity furnaces had been supplied, that one Shri Sethi, the Indian representative, had 'suggested and accepted the procurement of the larger capacity furnaces'. It is inconceivable to the Committee how Shri Sethi deputed to the India Supply Mission, Washington, from the Directorate of Planning and Coordination, DGOF Cell, Ministry of Defence, as a liaison officer in this regard could have accepted, on his own initiative, modifications in the originally accepted offer without the concurrence of the authorities at home. Stranger still is the fact that neither the US Government nor the relevant files opened by Shri Sethi during his tenure in Washington and forwarded to the Director General, Ordnance Factories, had ever indicated the acceptance of the higher capacity furnaces. The mystery deepens when it is found that after having allegedly accepted the higher capacity furnaces, the said Shri Sethi managed to resign from Government service and disappear without leaving a trace behind.

1.52. From the sequence of events leading to the supply of the 5,000 lbs. capacity furnaces instead of the 1200 lbs. capacity ones, it would appear that these furnaces could have been accepted if at all, by Shri Sethi only between February and March 1967. If this were so, it remains to be explained why the US technical team which visited India in May 1967, when the specifications were finally settled and the supply of 500 kilograms (1200 lbs) capacity furnaces was being insisted upon by the Director General, Ordnance Factories, never informed the Indian Government that Shri Sethi had on his own accepted the higher capacity furnaces and that the lower-capacity furnaces of the requisite specifications were not available. It is significant that it was only more than four years later (October 1971) the US Army authorities claimed, on an enquiry from the Government of India after the actual receipt of the furnaces, that these furnaces had certain technical advantages over the lower-capacity ones earlier offered and that Shri Sethi had accepted them. Many of the missing links in this obviously dubious transaction can, perhaps, be explained only by the aforesaid Sethi, whose present whereabouts are reported to be unascertainable. Though the Committee were informed by the Director-General, Ordnance Factories, during evidence, that Sethi was working with Piccadilly Arsenal in the United States, they have been subsequently told that the efforts made to ascertain his whereabouts through the Consular and Economic Wings of the Indian Embassy as well as the US authorities have not brought forth any useful information.

1.53. The manner in which this deplorable case has been handled from the start by the Government of India has also been very unsatisfactory. Though the higher-capacity furnaces were received in May 1970, it was only in July 1971, that is, fourteen months later, that the Military Attaché, Embassy of India, was asked by the Defence Ministry to look into the reasons for the supply of 5000 lbs. capacity furnaces against the requirement of 1200 lbs. capacity furnaces. In reply, a communication dated 15 October, 1971 from the US Army Headquarters, Material Command, was vouchsafed to the Department of Defence Production on 21 October, 1971. This long delay in seeking vital clarifications in regard to an important item of supply calls for an adequate explanation. The Committee are also surprised that apart from this rather lukewarm protest, the matter was not pursued further with the US authorities but was just shelved. Though the likelihood of loss in the transaction might have been minimised on account of inflation and other attendant factors, as a result of which the price of the furnaces has subsequently gone up, the Committee feel that, since some doubt in re-

gard to the acceptance of the higher capacity furnaces by Shri Sethi apparently existed and the files handled by Shri Sethi and received by the Director-General, Ordnance Factories, in 1967 also contained no indication of the acceptance of the higher-capacity furnaces, the Defence Ministry ought to have probed this issue further and ascertained, with reference to whatever documentary evidence the US authorities had to support their contention, the correct factual position in this regard. That this was not done is highly deplorable.

1.54. The manner in which the entire deal has been handled gives rise to serious misgivings in the mind of the Committee. Serious suspicion in regard to the said Shri Sethi's bona fides is, in the circumstances, inescapable. The Committee would require Government to have a stern probe into the entire episode. It is difficult to believe that Shri Sethi's whereabouts cannot be located and his version of whatever had happened cannot be secured and examined. The Committee would like particularly also to be reassured about the linkage, if any, of the US firms, Ajax Magnethermic Corporation, which had supplied the furnaces, and of Piccadilly Arsenal, in which Shri Sethi is stated to have been employed after his resignation. This information is essential to the inquiry that the Committee have in mind.

1.55. The Committee are further perturbed to find that the question of procurement and installation of furnaces had been handled, ab initio, in a slipshod fashion, apparently without adequate consultations with the actual users as to the possible utilisation of the furnaces indented for. To make things worse, there has been considerable delay in the implementation of the decision in regard to the augmentation of the melting capacity in and modernisation of the ordnance factories though the programme in this respect had been conceived as far back as in 1962, just after the Chinese aggression. According to the decision communicated, in December 1966, by the Director-General, Ordnance Factories, the four furnaces of 1200 lbs. capacity each ordered initially were to be installed in factories 'A', 'B', 'G' and 'H'. It is, however, not clear to the Committee why factory 'G' had been selected for the installation of one of the furnaces, when the General Manager of the factory had clearly stated in May 1966 itself, that the quantity of scrap arising from the machine shops in the factory was 'almost negligible', and that the installation of even a much smaller furnace of 200/400 lbs. capacity was not warranted. Factory 'H' had also subsequently pleaded its inability to instal the 1200 lbs. capacity furnace, when it was decided, in November 1969, to instal three of

the furnaces in factory 'A' and one in Factory 'B'. It is evident that there had been no proper and adequate assessment of the actual requirements of the different ordnance factories for these furnaces. Since this is certainly not the way purchase proposals involving considerable investment in foreign exchange ought to be processed, the Committee trust that, learning from the experience of this case, Government will seriously examine what is wrong with the system of planning, formulation and implementation of such schemes and take suitable and early steps to see that the shortcomings are overcome.

1.56. The net outcome of this episode so far has been that after a fruitless quest to find a possible user for the unwanted higher capacity furnaces among the different ordnance factories, these furnaces are even yet to be installed and commissioned. Factory 'B', in which one of the furnaces was to be installed, appears to have pleaded that a 5000 lbs. capacity furnace would not match its requirement and would remain idle for a considerable period in a month. It was, therefore, decided, in June 1971, to instal the furnace in factory 'C', which also pointed out, in August 1971, that it was not possible for it to accept the furnace on account of various 'technical and production reasons'. The three other furnaces received in factory 'A' could not also be installed and used in that factory because on re-examination of the proposed augmentation scheme of that factory, it was decided, in February 1973, to set up an integrated plant for brass melting, rolling and cupping at factory 'C', where it was proposed to utilise the furnaces. As this proposal had also to be given up subsequently on account of lesser requirement of ammunition as well as financial constraints, another proposal to utilise the furnaces for the melting and pigging of the fired cartridge cases of small arms ammunition (a case which has been discussed subsequently in this Report) in factories 'C' and 'D' had been mooted as a stop-gap arrangement, though the furnaces would have been much too large for this purpose. The Committee are distressed that Government having taken the view that since the larger capacity furnaces had, in any case, been received, it would be wise to try and utilise them, it has still not been possible to utilise the furnaces so far.

1.57. While taking a decision to retain these furnaces and to try and utilise them, no one appears to have applied his mind to the economics of their installation. It has been assessed only subsequently that if the furnaces are to be utilised fully, certain auxiliary equipment and facilities, costing well over a crore of rupees,

would be necessary. In the circumstances, the Committee regret that the decision to retain the furnaces must be pronounced unsound. The implications of retaining them had obviously not been analysed properly before acquiescing in their supply. The Committee fear they must express displeasure at the apparent haste with which this decision had been taken with results that have meant loss to the country. This state of facts calls for an investigation which will, among other things, fix responsibility for the failure and suggest steps for the future.

1.58. The Committee have learnt that a fresh proposal for the installation and utilisation of the furnaces in factory 'C' for augmenting the melting capacity for manufacturing cartridge cases, costing about Rs. 1.14 to Rs. 1.28 crores, was submitted by the Director-General, Ordnance Factories and after consideration by the Department of Defence Production in consultation with the Ministry of Finance (Defence) at a meeting held on 8 April, 1975, it was decided that the economics of the proposal should be examined in relation particularly to the proposed setting-up of a Metal Bank which was already under consideration of Government. This exercise should have been completed by now. The Committee would like to know if a final decision in regard to the installation and utilisation of the furnaces has been arrived at.

## II

### DISPOSAL OF FIRED EMPTY CARTRIDGE CASES

#### *Audit paragraph*

2.1. Empty cartridge cases of fired small arms/ammunition are returned by units to ordnance depots for disposal. These cases made of brass are not reutilised in production of small arms/ammunition by Ordnance factories on account of impurities. There has been heavy accumulation of these empty cases in the ordnance depots since 1967.

2.2. Prior to 1967, the Director General, Ordnance Factories, had been accepting the bulk of these fired cartridge cases for smelting and conversion into brass pigs for sale to National Small Scale Industries Corporation. Small quantities which were mutilated by manual labour in ordnance depots were disposed of. Since 1967, however, the Corporation had not been purchasing brass pigs from the Director-General, Ordnance Factories, owing to differences over price. Consequently, the Director-General, Ordnance Factories, has been unable to accept these fired cartridge cases from ordnance depots.

2.3. In March, 1970, Government decided that the empty cartridge cases should be offered to the Director-General, Ordnance Factories, quarterly and if no acceptance was received from him within two months, they should be treated as scrap and disposed of. Before turning them over as scrap, the fired cartridge cases were to be mutilated/crushed. Even after the decision, there was no progress in disposal of fired empty cartridge cases as the question of mechanical mutilation of these cases was under consideration of Army Headquarters. The Ministry stated (December, 1973) that a suitable machine for this purpose had not been located.

2.4. As on 1st April 1973, 8,880 tonnes of empty fired cartridge cases, assessed value about Rs. 10.10 crores, had accumulated in 13

depots as against the accumulations of 5,963 tonnes worth Rs. 6.47 crores approximately as on 1st April 1970.

2.5. A Price Negotiating and Allotment Committee constituted by Government in December, 1972 for disposal of surplus stores to public/private sector undertakings decided in June 1973 to offer 666 tonnes of empty fired cartridge cases (mutilated by manual labour in ordnance depots) to National Small Scale Industries Corporation at the rate of Rs. 10.50 per kg. as against the highest price of Rs. 11.37 per kg. obtained during sale by auction of ten tonnes of brass scrap in an ordnance depot. The Ministry of Defence stated (December, 1973) that this sale was effected in July, 1973 and that further quantities of 165 tonnes and 280 tonnes respectively were sold to the Corporation in October, 1973 and December, 1973 at the rate of Rs. 10.50 and Rs. 13.75 per kg. respectively.

2.6. Fired cartridge cases of small arms ammunition accumulate at an average rate of 250 tonnes per month. The estimated requirement of National Small Scale Industries Corporation (3,000) tonnes per annum) would be adequately met by fresh arisings. The problem of liquidating the huge stock of 8,880 tonnes of small arms ammunition fired cartridge cases valued at Rs. 10.10 crores approximately which has been accumulating since 1967, therefore, remains largely unsolved (December, 1973).

[Paragraph 20 of the Report of the Comptroller and Auditor General of India for the year 1972-73, Union Government (Defence Services)].

2.7. According to the Audit paragraph, there has been a heavy accumulation of empty cartridge cases of fired small arms ammunition in the ordnance depots since 1967, which accumulate at an average rate of 250 tonnes per month, and that as on 1 April 1973, 8,880 tonnes of such cases, with an assessed value of about Rs. 10.10 crores had accumulated in 13 depots. The following statement, furnished at the Committee's instance by the Ministry of Defence, indicates the year-wise details of accumulations and disposal of these cases through the Director-General, Ordnance Factories and

the trade/National Small Scale Industries Corporation, during the period 1967—74:

(Quantity in tonnes)

Date	Accumula- tions held	Disposal	
		Through DGOF	Through trade/ NSIC
1-4-1967	1937	319	45
1-4-1968	3006	91	6
1-4-1969	5380	..	26
1-4-1970	7249	21	89
1-4-1971	8724	..	181
1-4-1972	10599	30	80
1-4-1973	10920	520	200
1-4-1974	8870	2308	691
1-11-1974	9416	757	518

2.8. Explaining, during evidence, the circumstances in which such large quantities of empty cartridge cases had accumulated, the Additional Secretary, Ministry of Defence stated:

"Upto 1962-63, whatever accumulations we had of cartridge cases, or what is called yearly arisings, were being disposed of by the DGOF after melting and pigging them. But during 1963, the Army had expanded considerably, as a result of which the DGOF was engaged in producing lot of additional ammunition. He could not, therefore, take up the work of pigging of these cartridge cases. It actually had started from around 1963. From then on, he began to take less and less of cartridge cases for pigging. During 1967, the DGOF could not sell these pigged cartridge cases to the National Small Industries Corporation, because there was disagreement in regard to price. During 1967, we had as much as 1937 tonnes and the figure was 7249 tonnes as on 1-4-1970 and 10,920 tonnes as on 1-4-1973. Thereafter it began coming down, because the price was agreed upon in 1972 between that Corporation and the Department of Defence Production and the former began lifting the stocks. As such, the accumulation as on

1-11-1974 stands reduced to 9,416 tonnes. Apart from asking the DGOF to increase the in-take for pigging, we have also, on our own, been trying to find out a suitable machine which will crush these cartridge cases, so that after crushing, they can be disposed of directly to that Corporation. If they are not crushed, they are liable to be reused as cartridges by subversive elements. Hence we would not dispose them of as they were, for security considerations. We tried various means of crushing them. Initially we tried through our EME workshops to find out a suitable press, to press them. It was not helpful; thereafter, we tried to get a crushing machine produced through some firms. One firm had produced a machine sometime during 1971, which was not satisfactory. But during 1973, a firm in Ghaziabad had produced a machine which was found satisfactory after a trial in June 1974. That machine is capable of crushing 3 tonnes a day. We have now placed orders for six machines. We propose to locate them in suitable depots, for crushing the cases. If these six machines are in position, as much as 4,000 to 5,000 tonnes of cases can be crushed. This amount is more than the normal arisings per year. As a result, even if the DGOF finds no capacity, we would still be able to crush the accumulations and dispose them of to the National Small Industries Corporation. I must say the problem is now well in hand and the Government hopes that within a year or two all these accumulations will be disposed of. Fortunately for us the price of non-ferrous metals has been going up all these years, with the result that the cartridge case which was fetching between Rs. 6 & 7 per K.G. in 1967-68 is now fetching more than Rs. 15 - a k.g. and Government stands to gain considerably".

2.9. The Committee asked when the proposal for the disposal of the empty cartridge cases after mutilation by crushing had been initiated. The witness replied:

"We started round about 1968. It took us four to five years to locate the machine for this purpose.

In March 1970, instructions were issued by the Ministry of Defence that stocks should be reported to the DGOF quarterly and if not accepted in seven months, these should be disposed of by salvage".

The following chronological sequence of the steps taken thereafter in this regard was indicated by the witness:

August 1970	•	•	•	Use of Stone Crushing Machines or crushers was tried by the Ammunition Depots, which was, however, not found successful.
December 1970	•	•	•	Unsuccessful efforts were made to procure suitable stone crushers.
March 1971	•	•	•	Naval Headquarters was approached who suggested the melting of the cartridge cases in a Rotary oil-fired furnace. This suggestion was not pursued as it was not satisfactory.
April 1971	•	•	•	Efforts were made to ascertain the availability of pneumatic presses, which, however, could not be procured.
January 1972	•	•	•	Decision taken to try the tender system, on an experimental basis, for the disposal of the cases. Labour was to be engaged to crush the cases, but this was not found satisfactory on account of the security considerations involved.
July 1972	•	•	•	EME tried, unsuccessfully, mutilation with power presses.
August 1973	•	•	•	A demonstration arranged by M/s. Premier Machines Ltd., New Delhi was found to be unsatisfactory.
September 1973	•	•	•	Suggestion made by the Engineer-in-Chief that the machine produced by Associated Machinery Corporation, Ghaziabad, be tried.
February 1974	•	•	•	A machine produced by the firm installed in an ammunition depot.
June 1974	•	•	•	Trials completed and machine found suitable.

The witness added:

"We have been continuously making efforts to find a suitable crushing machine and at last we have found a suitable crushing machine".

2.10. The Committee learnt from Audit that the Ministry of Defence had stated (April 1974) as follows:

"The new machines proposed to be installed in Ordnance installations are simple crushing machines with capacity for crushing 1½ tons to 2 tons per day. One such machine has since been positioned at Ammunition Depot....for trial purposes. The installation work including power connection has been completed. The functional suitability of the machine is being assessed. Further details

in this respect are awaited from the Ordnance authorities".

2.11. Since it had been stated that these machines were only simple crushing machines, the Committee desired to know why these could not be procured and installed earlier. The Additional Secretary, Ministry of Defence stated:

"The crushing machine was proved only in June 1974 and after it was proved, Government had sanctioned purchase of six machines. Those are in the process of being acquired and once they are acquired, the installation is not a problem. These six machines will be located at six different places where cartridges are being stored".

He added:

"...we made a lot of efforts to locate the machine but ultimately we found that this machine proved successful".

2.12. Asked how much each of these machine would cost, the witness replied:

"Rs. 30,000. One machine will be enough to meet all the cartridges. It is quite sufficient because its capacity is 3-tonnes per day and so for six machines the capacity works out to 5400 tonnes per year. But even allowing for lack of electricity and breakdowns, etc. we expect that not less than 4000 tonnes will be crushed every year which is more than sufficient for the arisings".

2.13. The Committee desired to know the details of the annual arisings of empty cartridge cases. The witness stated:

'It varies between 1100 and 2700 tonnes. The following is the yearly arisings:

These are the actual arisings".

The Committee enquired into the average annual arisings during the five year period from 1968-69 to 1972-73. The Master General of Ordnance replied:

"In this context I would like to say that there has been a certain amount of reduced training on this type of ammunition for the past two years. The average for five years- 1968-69 to 1972-73-comes to 2200 tonnes".

2.14. Since it had been stated that the total capacity of the six crushing machines would be 5400 tonnes per annum and the average annual arisings were only 2200 tonnes, the Committee enquired into the reasons for providing for such a large capacity which might remain unutilised. The witness replied:

"The point is that at the moment we have a large stock of cartridges, that is, about 9416 tonnes which have to be crushed. If we do not keep spare capacity, at a particular point of time we may not be able to cope with the crushing work. So, it is this particular backlog that will also be catered for along with the arisings. This is the first thing. The second thing is that after we have done away with all our accumulation, we would then put two of these machines into reserve".

The Committee desired to know the time by which it was expected that the accumulations of empty cartridge cases would be disposed of. In a note, the Ministry of Defence stated:

"As the machines have yet to be procured and installed, the exact period of time for liquidation of the accumulated quantity cannot be indicated at this stage. Every effort will be made to get the accumulated cartridge cases crushed and disposed of as early as possible".

In another note indicating the action taken for the procurement of the crushing machines, the Ministry stated:

"On 31st August 1974, Government sanction was accorded for procurement of 6 crushing machines at an estimated cost of Rs. 1.80,000 (excluding other charges) for installation in the Ammunition Depots.

Necessary action to procure these machines is being pursued actively".

2.15. According to the Audit paragraph, prior to 1967 the empty cartridge cases, after pigging, had been sold to the National Small Scale Industries Corporation and that since 1967, on account of differences over price, the Corporation had not been purchasing brass pigs. The Committee learnt that, in this context, the Ministry of Defence had informed Audit April 1974) as follows:

"The following quantities were offered to National Small Scale Industries in 1966:

(a) 500 M/T . . . . .	Rs. 6220 per M/T
(Copper 59%—65%)	
(b) 100 M/T . . . . .	Rs. 6220 per M/T
(Copper 65%)	
(c) 200 M/T . . . . .	Rs. 5750 per M/T
(Copper 58%)	

The above prices were acceptable to National Small Scale Industries Corporation but difficulties came up regarding payment of Excise Duty, Sales Tax, freight and terms and conditions of payment. These could be settled in August 1968 and the quantities offered as indicated above were lifted only in 1968-69."

2.16. The Committee desired to know why it should have taken nearly two years to come to a settlement with the Corporation in regard to the pigs. The Additional Secretary, Ministry of Defence, stated in evidence:

"In 1968, the Corporation offered a certain price, which they felt was too low. So, negotiations were going on between the Corporation and the Ministry of Defence, and ultimately, in 1972 only, the negotiations fructified and an agreed price was arrived at".

The Chairman of the Corporation added:

"There were two problems as far as the price was concerned. One is, as far as NSIC is concerned, what the market can really take. We have been persuading the ordnance factories and depots to try and give a reasonable price which

at the consumer's end would be on par with the market price. We offered a little lower price. They were asking for a higher price. They offered certain prices to us which they got through tenders. That would not be saleable because if you add to it the sales tax, freight and other trade elements, the price to the consumer would become much more than that at which he would be able to buy from the market. The other problem posed was the excise duty which was being claimed by the Excise Department on the offered price. The excise duty was very high, about Rs. 1500 per tonne. We could not afford to pay that excise duty for the second time. This problem had to be resolved with the different ordnance factories with which we dealt."

Asked whether it should have taken two years to resolve these technicalities between two Government agencies, the Additional Secretary replied:

"It took about two years, because we are also under the constraint of our Financial Advisers. We had to convince Finance also."

2.17. While conceding that a deliberate decision might have been taken to assist the small scale industries, the Committee asked why the process of arriving at an agreed upon price should have taken as long as two years. The witness replied:

"I am sorry that the negotiating committee of the Ministry of Defence took two years to come to this understanding, to come to an agreed price. But this is due to various factors, various difficulties, which the Chairman of the Corporation mentioned just now."

The Committee desired to know what objections, if any, had been raised by the Finance officers which might explain the time taken in resolving the differences. The witness stated:

"The Corporation did not agree to the price quoted by us for various reasons, which were explained by the Chairman of the Corporation. After that, a series of meetings took place, as a result of which, at the final meeting, as agreed price was arrived at."

In this context, a representative of the Department of Defence Production added:

"In regard to the pigged scrap, it was in 1957 that a policy decision was taken....The decision was taken in 1957 that the small scale industries should be assisted and, therefore, the pigged scrap should be sold to the NSIC. A pricing formula was also framed by the Government on 28th October, 1957.....The relevant portion was:

"The Grade I scrap would bear relation to the pure metal price in accordance with EMR. The other grades, according to their deficiencies, would be given reduction varying from 69 to 90 per cent of the EMR price'.

This was the pricing formula devised in 1957."

2.18. The Committee desired to know the prevailing prices of copper and zinc in the internal market. The Chairman of the National Small Scale Industries Corporation informed the Committee during evidence that while the price of copper ranged between Rs. 28 and Rs. 30 per kg., the price of zinc was Rs. 15 per kg. The Financial Adviser to the Defence Ministry stated in this connection:

"This is from the Economic Times of today. Price of Zinc—Rs. 15.50 per kg., Copper ingot—Rs. 29 per kg., Copper wire—Rs. 28—Rs. 30 per kg."

Asked whether one could buy zinc and copper at the quoted price, the witness replied:

"It depends."

In reply to another question whether the prices of copper were higher or lower a year earlier, the Chairman of the National Small Scale Industries Corporation stated:

"They were higher, about 80 per cent higher than what they are today."

Asked whether any steps were taken to safeguard against fluctuations in prices in respect of the scrap arisings, the witness replied:

"As far as Corporation is concerned, this is exactly what we try to do by resort to short-term contracts. Brass has a highly fluctuating market and once the prices go down, purchasers refuse to lift the material at the higher contracted prices. So, we try to have contracts for limited periods of three months and arrive at a fixed price for that period."

As regards the policy followed by the Defence Ministry, enquired into by the Committee, the witness stated:

"They dispose them of through short-term contracts. They would like to go in for long-term contracts as far as scrap arisings are concerned. There are several kinds of arisings. We would like to arrive at an agreed price formula."

The Additional Secretary of the Defence Ministry stated in this context:

"I would like to mention that these cartridge cases are essentially disposed of to the National Small Industries Corporation so that they can, in turn, offer them to the small industries who depend upon these metals. So, to some extent, there may be a small element of subsidy involved. But, as a matter of deliberate policy, this is being done to help the small industries. There is a day-to-day market fluctuation. It is not possible to regulate the price from day-to-day."

2.19. According to the Audit paragraph, a Price Negotiating and Allotment Committee, constituted by Government in December 1972, for the disposal of surplus stores to public private sector undertakings had decided, in June 1973, to offer 666 tonnes of empty fired cartridge cases (mutilated by manual labour in ordnance depots) to the National Small Scale Industries Corporation at the rate of Rs. 10.50 per kg., as against the highest price of Rs. 11.37 per kg., obtained during sale by auction of 10 tonnes of brass scrap in an ordnance depot. In this context, the Committee learnt from Audit that the Ministry had subsequently (April 1974) clarified the position in this regard as follows:

"It may be stated that brass scrap was not auctioned at Ammunition Depot....or at any other depots. In pursuance of the decision taken in the meeting held on 21 January 1972, 10 tonnes of SAA (Small Arms Ammunition) fired cartridge cases were to be mutilated in each depot and the resultant brass disposed of at a reserve price of Rs. 10 per kg. Instructions were accordingly issued by the Army authorities to all Ammunition De-

pots to enter into contracts and the details thereof are as follows:

Depot	Mutilation	Disposal
(i) Ammunition Depot	10 tonnes of Small Arms Ammunition empty cartridge cases were mutilated by M/s. Metal Fabrication and Engineers, New Delhi, at a total cost of Rs. 9500.00.	10 tonnes of brass scrap sold to M/s. Prabhu Dayal Kailash Chand, Jagadhari at a total value of Rs. 1,13,700.00
(ii) Ammunition Depot	10 tonnes of Small Arms Ammunition, empty fired cartridge cases mutilated and resultant brass scrap also sold.	Sold to Onkar Mal Rattan Lal & Co., Poona for a total amount of Rs. 1,05,570.00.
(iii) Central Ordnance Depot	10 tonnes of Small Arms Ammunition empty fired cartridge cases mutilated and resultant brass scrap sold.	Sold to Sitaram Kunilal Dixit Pure Jabalpur at a total amount of Rs. 1,03,100.00"

2.20. The Committee enquired into the procedure followed for sale of scrap to individuals. The Director of Ordnance Services replied in evidence:

"Some quantities we give to the Corporation and small quantities are disposed of through salvage. They would be normally sold by way of auction. People bid for it. And according to the highest bidder, this would be allotted."

2.21. The Committee desired to know the value of the empty fired cartridge cases accumulated in the ordnance depots from time to time. The Additional Secretary, Ministry of Defence stated:

"I have got the figures relating to quantity. I do not have those relating to values readily with me; I will work them out and give them to you tomorrow."

At a subsequent sitting of the Committee, the witness informed the Committee as follows:

"I have with me the value of the fired cartridge cases as on 1st April 1964—66 and so on. On 1st April, 1964, the quantity was 165 tonnes and the value was Rs. 09 crores. On 11th April, 1965, the quantity was 361 tonnes and the value was Rs. 19 crore."

Asked whether these values had been calculated on the basis of the then prevailing market price, the Defence Secretary replied:

"In our books, we only mention the quantity; we do not mention the value. As per your direction yesterday, the values have been calculated."

The Committee, therefore, desired to know the basis on which the values had been calculated. The Additional Secretary, Ministry of Defence stated:

"First, we got the price of copper and zinc from the Commerce Issues which we got from the Ministry of Commerce as on 1st April, 1964. They consist 70 per cent copper and 30 per cent zinc. So, on that basis, we calculated it. Then we made an *ad hoc* cut of 13 per cent which represents roughly the price at which these were sold. This is only an approximation. These fired cases did not have a fixed value. By applying this cut, I think, we have arrived at this value."

2.22. Since it had been stated that value accounts of the empty cartridge cases were not maintained, the Committee asked how the reserve price for the scrap offered for sale was determined. The Defence Secretary replied:

"As I said, we do not mention price in our books; we only mention the quantity. As was stated yesterday, the difference in calculation in price was between offerers as also between receivers, that is, how the NSIC wanted to calculate the sale value on the basis of the purchase price. On the other hand, what was offered by the DG Organisation was on the basis of the current price. That is the difference which really took place between the sellers and the buyers."

2.23. In this context, the Committee drew attention to the information furnished by the Ministry to Audit, in April 1974 (referred to in paragraph 2.19 above) that in pursuance of the decision taken in the meeting held on 21st January, 1972, 10 tonnes of Small Arms Ammunition fired cartridge cases were to be mutilated in each depot and the resultant brass disposed of at a reserve price of Rs. 10 per kg. and desired to know whether this was not at variance with the statement made during evidence that no reserve price was fixed for the scrap. The Defence Secretary stated:

"The position is that when the sales are to a public sector undertaking, then the question is of a negotiated price."

When there are tenders then we certainly have an idea that whatever we accept finally as a tendered price must not go below a certain level and for that purpose there is an internal idea of what the price should be—i.e. reserve price. This is based on the purchase price of the virgin metals, the combination of the scrap 70:30 minus a reduction for impurities. That is a rough calculation which is put down as a metal reserve that we should not sell below that price."

He added:

"In the books we mention the quantities of scrap and we do not calculate the price of the scrap. When the question comes of tendering and selling by tenders then this calculation is there. Certainly for that definition it can be called a reserve price."

2.24. Explaining, at the Committee's instance, the circumstances in which the decision to dispose of small quantities of mutilated scrap cartridge cases to certain individuals, the Master General of Ordnance stated in evidence:

"At that particular time taking the totality of the circumstances we were trying hard to find out ways and means of disposing of the small arms brass cartridge cases to the best advantage of the State. We were not able to locate a suitable machine. Our hand methods were very expensive. It is in connection with that that we had gone to three different places in India—in three different regions—and we tried to find out people who could come up and do mutilation by mechanical means or otherwise in the depot itself. At that stage we gave 10 tonnes to each. That was the economic quantity. You will notice that it is 10 tonnes at....10 tonnes at....and 10 tonnes at....to persons who had come over after we had tried to locate such people. It was done by way of an experiment and the price that was then asked for from them... reserve price... had been laid down at Rs. 10; and nowhere the price less than Rs. 10 was accepted. The results of these three experimental sales were then sent and the matter was discussed."

Asked how this price of Rs. 10 per kg. was arrived at, the Financial Adviser to the Ministry replied:

"The market price is arrived at by taking at the time of disposal the market price of constituent metals as published

in subscribed bulletins. Here the market price would be taken of the virgin metals in the scrap. The scrap is graded into various grades, grade 1, 2, 3, 4, 5 and 6 depending upon the contents of copper and zinc. All grades of scrap contain certain impurities and there are instructions about the extent of reduction for impurities which should be made from the price so arrived at for a mix of two virgin metals. On that basis the prices are arrived at."

2.25. The Committee called for details of the expenditure incurred on the mutilation|crushing of empty cartridge cases and the price at which the scrap was sold during the preceding three years. A note furnished in this regard by the Ministry of Defence is reproduced below:

"The mutilation of fired empty cartridge cases has been done by three methods. The methods employed for mutilation and the approximate expenditure incurred on each method are given below:

Method of mutilation	Approximate cost (per kg.)
Manually by Depots	20 paise
Experimental tender (10 tonnes) through trade.	95 paise (for larger quantities, a firm had offered to charge 39 paise).
Electric machine at Ammunition Depot (only on trial basis).	5 paise

Details of sale through trade/salvage are as under:

Year	Tonnes	Sale price
1972-73	71	
1973-74	5	
1974-75 till 1-11-1974	41	Between Rs. 10/- and Rs. 11/- per kg."

2.26. At the Committee's instance, the Ministry furnished the following information in regard to the quantity of mutilated empty

fired cartridge cases sold to the National Small Industries Corporation after December, 1973 and the prices obtained therefor:

Month	Quantity sold (In tonnes)	Rate per tonne Rs.
December 1973	280.500	13,750
July 1974	199.353	18,500
August 1974	200.000	18,500
December 1974	200.000	13,750

2.27. The Committee desired to know the sources of supply of copper and zinc to meet the requirements of Defence and the price paid for the purchases. The Secretary, Defence Production, stated in evidence:

"As far as DGOF is concerned, the stocks are obtained mainly from two Indian suppliers, Hindustan Copper and Hindustan Zinc, both public sector undertakings."

He added that the price quoted for Defence purchases of Electrolytic copper, in the form of ingots, was Rs. 3,480 per tonne up to 31st July, 1974. In this connection, the Committee found from the 9th September, 1974 issue of the 'Eastern Metal Review' that the prevailing price of copper was Rs. 3,750 per tonne.

2.28. As regards imports of copper and zinc enquired into by the Committee, the Secretary, Defence Production stated in evidence that as the imports of copper were canalised no quantity was imported directly. Asked whether imports had been resorted to only to the unavoidable extent after exhausting indigenous supplies, a representative of the Directorate General Ordnance Factories replied:

"Our agreement with Hindustan Copper and Hindustan Zinc is that first priority is to be given to Defence. When they cannot meet our requirements, we go to MMTC, and to the extent we are buying from MMTC, we would let you know."

About the utilisation of scrap, I would submit that in all ordnance factories, we are utilising all the quick firing cartridges of high calibre. We make use of turning and

boring from the various machines. We are melting them and utilising to the extent possible. Whatever we cannot utilise, that portion is given to the NSIC."

2.29. The following statements, furnished, at the Committee's instance, by the Defence Ministry indicate the quantities of copper and zinc purchased for Defence purposes indigenously during the period 1972-73 to 1974-75 and their value:

COPPER

Year	Quantity (In me- tric tonnes)	Value (Crores of Rupees)	Source
1972-73	2513.12	3.41	Hindustan Coper Ltd.
1973-74	4274.70	6.64	Do.
1974-75	4135.74	14.07	Do.
ZINC			
1972-73	1053.63	0.43	Hindustan Zinc Ltd.
	450.00	0.22	Cominco Binani Zinc Ltd.
TOTAL	1503.63	0.65	
1973-74			
	751.63	0.98	Hindustan Zinc Ltd.
	1085.04	1.61	Cominco Binani Zinc Ltd.
TOTAL	1836.67	2.59	
1974-75			
	1000.00	1.67	Hindustan Zinc Ltd.

The Committee were also informed by the Ministry that while the latest price paid for copper was Rs. 34,080 per metric ton, the latest price paid for zinc was Rs. 16,680 per metric ton and that during this period, no copper and zinc were purchased by the Director General, Ordnance Factories from foreign sources. The Secretary, Defence Production, however, stated in evidence that imported stocks of copper and zinc were also used whenever necessary.

2.30. In view of the fact that non-ferrous metals were considerably in short supply and expensive, the Committee desired to know why it had not been decided to retrieve copper and zinc from the empty cartridge case so that what was already available with the ordnance factories could be utilised in the best manner possible. The Master General of Ordnance stated in evidence:

"As far as the Army is concerned, we are not really trying to retrieve the metals. I would like to mention the difference between fired cartridge cases of small arms and of bigger arms. Bigger calibre cartridges are being sent to the DGOF and the DGOF has been accepting those. These are the small arms of the 303, 7.62,9 mm variety which has to be crushed and the reason for crushing or mutilating these is the security consideration....The security considerations are that these fired cartridge cases can be refilled by undesirable elements if they were to get into their hands. Secondly, in the Army itself, the fired cartridge cases can be exchanged with live ammunition by any person who may wish to do so."

He added:

"What I am really trying to say is that on a range, after the ammunition is fired, the cartridge cases are counted and then brought back—security arrangements are not there for any single cartridge. But, once we go in for such security arrangements, the difficulty will be that we will have to check on every single cartridge case that is given to a firer. We will be doing nothing else than that."

2.31. Since it has been stated earlier by the Additional Secretary of the Ministry (vide paragraph 2.9) that the Naval Headquarters had suggested, in March, 1971, the melting of the cartridge cases in a Rotary oil-fed furnace, the Committee desired to know why this suggestion was not pursued further. The Additional Secretary, Ministry of Defence, stated:

"This was not pursued as it was not found feasible."

Asked whether any trials were conducted in this regard, the witness replied:

"Rotary Oil-fed Furnace was not available and therefore the trial was not pursued further."

When the Committee drew attention, in this context, to the purchase of four furnaces from the USA, the witness stated:

"These were purchased by the DGOF, sometimes in 1970 from abroad but upto this date they have not been installed."

In reply to another question whether these furnaces, procured at considerable cost, could not have been utilised to retrieve the precious and scarce non-ferrous metals, the witness replied:

"I can only say that apart from these cartridges, the DGOF had other metallic machine waster—also to melt and for this purpose, the four furnaces were imported and he was trying his best to install these machines, but due to various circumstances, these could not be installed."

As has been pointed out in paragraph 1.39 of the preceding Section, the witness also conceded that it was a national waste that four furnaces had been purchased and had not been commissioned for some reason or the other. The Defence Secretary, however, clarified that these furnaces were meant only for melting and pigging.

2.32. The Committee desired to know whether the possibility of utilising the spare capacity for melting non-ferrous metals which might be available in some of the public sector plants had ever been considered for melting the ever-increasing stocks of used ammunition. The Master General of Ordnance replied:

"I do not claim to answer it on behalf of the Department. But I would say from our point of view that security arrangements exist in our DGOF factories where we do send them unmutilated. In the public sector plants, security arrangements are not going to be as tight as we have in the Army."

Asked whether this implied a distrust of the public sector plants, the witness replied:

"I would not put it that way. I would only say that it is a question of security arrangements which the other public sector undertakings would have."

When the Committee pointed out that the melting of the cartridge cases could have been entrusted to the public sector plants after weighment of the cases just as it was done in the case of the contractors entrusted with the work, the witness stated:

"The contractor who does our work does it in an ammunition depot, where there are security arrangements, and under the control of the Commandant of that ammunition depot. We would be very happy to send it anywhere else where proper security arrangements are available."

Asked whether it could, therefore, be concluded that security considerations alone prevented the Army from availing of these facilities, the witness replied in the affirmative.

2.33. As has been pointed out in paragraph 1.6 of the preceding Section, the Director General, Ordnance Factories, while informing, on 2 May 1966, the General Manager of four factories of the decision to arrange for the installation of small/medium size melting units of the oil fired crucible type for the melting and pigging of non-ferrous scrap arising at the main machining factories, had also pointed out, *inter alia*, that if the pigging was done with sufficient care, a major portion was likely to be reutilised in the manufacture of Services stores with consequent saving of foreign exchange. In this context, the Committee enquired why a stock of nearly 9,000 tonnes had accumulated on 1 April 1974, while considerable expenditure was being incurred at the same time on the purchase of virgin metals. A representative of the Directorate General, Ordnance Factories replied:

"Firstly, for these SAA cartridge cases, we cannot use scrap because the specification does not allow it."

He added:

"The letter does not pertain to SAA cartridge cases."

When the Committee pointed out that the letter dated 2 May, 1966 specifically referred to re-utilisation of the scrap and desired to know why the copper and zinc could not be retrieved from the SAA cartridge cases, the witness replied:

"That is machine scrap; that scrap is not that impure."

Asked what prevented the factories from utilising the stock of any kind of non-ferrous scrap for suitable purposes by smelting, the witness replied:

"Firstly, we cannot retrieve copper and zinc separately. Secondly, scrap arising in the factory itself is being recycled; and as for the small arms scrap, even if we cannot use it ourselves, we give it to somebody else as brass pigs because of the impurities."

2.34. Asked why the stock of SAA cartridge cases had not been converted into copper and zinc concentrates which could later be

disposed of either by various Defence agencies or utilised by other Government departments, the witness replied:

"The first point is, why was it not converted into copper and zinc. As explained earlier, we do not have the process in the country at present by which this scrap can be converted into basic metals. The process does exist in Germany, and we also made an experiment in this matter; we had some correspondence with them at one time, but the prices were so high that we did not try to go into this side-line."

In reply to another question whether the economics of such a project had been worked out in its entirety before taking a decision not to pursue this further, the witness replied in the negative. The Committee, therefore, desired to know why the project was dropped. The witness stated:

"We did not follow it up in this manner because at the time when we used the small arms ammunition cartridge case scrap for smelting, it was not allowed to be used for replacing the virgin metal content by use of brass pigs obtained therefrom for recycling."

He added:

"A fundamental research is done on this at the National Metallurgical Laboratory."

The Defence Secretary, however, stated in this connection:

"I do not think there is any fundamental research being carried out on this. The process exists now. I am rectifying his answer. The economic factors for considerations will be whether this quantity will allow itself to be subjected to the treatment and still be cost effective. That matter should be examined."

2.35. Dealing with the question of disposal of scrap, the Public Accounts Committee (1973-74) had, in paragraph 1.29 of their 121st Report (Fifth Lok Sabha), recommended as follows:

"Incidentally the Committee would also like Government to consider setting up a sort of Metal Bank or Clearing House so that it can be ensured that the metal especially non-ferrous, rendered surplus or unfit for a particular use in one organisation can be profitably utilised elsewhere

without being disposed of at a loss. The Committee consider this step necessary because non-ferrous metal is becoming costlier and scarcer in the market and it is essential to make the best use of what is already available with the Government."

The Committee drew attention to this recommendation and desired to know why scrap accumulating with various agencies could not be converted as quickly as possible into usable metal. The Defence Secretary stated:

"As you'd know, our problem is somewhat limited because the other scrap which is in pure condition is utilised fully in the Defence itself. What is not pure is accumulated at the moment, that is the empty cartridge cases which we are discussing."

He added:

"I will get in touch with my colleague and decide on what should be done further in this matter."

2.36. With reference to their recommendation contained in paragraph 1.29 of their 121st Report (Fifth Lok Sabha), the Committee had been informed, in October 1974, by the Department of Defence Production as follows:

"The recommendation made by the PAC regarding setting up a sort of Metal Bank or Clearing House is being studied by the Study Group. Its final report is awaited."

Reviewing the action taken in this regard, the Public Accounts Committee (1974-75) had, in paragraph 1.11 of their 140th Report (Fifth Lok Sabha), observed:

"The Committee note that in pursuance of their suggestion for the establishment of a Metal Bank or a Clearing House for the profitable utilisation of metals, especially non-ferrous metals, rendered surplus or unfit for a particular use, the Government have appointed a Study Group. The Committee need hardly stress the importance of taking a very early decision on this matter. They would invite attention to the fact that even in the current Audit Report for the year 1972-73 on Defence Services, instances of accumulation/disposal of non-ferrous met-

als have been highlighted. The Committee would, therefore, insist on the Government to process this recommendation with the utmost promptitude in consultation with departments/ organisations in which scrap arise, and prescribe a time-bound schedule for its implementation. The Committee would await a further report in this regard."

2.37. The question of profitable utilisation of non-ferrous scrap arising in various Government organisations has been constantly engaging the Committee's attention. Thus, in paragraph 1.18 of their 142nd Report (Fifth Lok Sabha), the Committee had recommended:

"The Committee would also like to draw attention to their recommendation contained in paragraph 1.29 of their 121st Report (Fifth Lok Sabha). The Committee had desired therein that the Government should consider setting up a sort of Metal Bank or Clearing House so that it can be ensured that the metal, specially non-ferrous, rendered surplus or unfit for a particular use in one organisation can be profitably utilised elsewhere without being disposed of at a loss. The Committee desire that their suggestion may be processed expeditiously in consultation with all organisations/departments in which scrap arise and the departments where such scrap is likely to be utilised by re-conversion. The Committee feel that there is an urgent need for the establishment of a centralised co-ordination agency for re-utilisation and disposal of metal scrap. Since more than one Ministry would be involved in this, it is desirable that the Cabinet Secretariat should take up the responsibility for coordination in this regard."

Again, in paragraph 1.287 of their 145th Report (Fifth Lok Sabha), the Committee had recommended:

"The Committee have noted that consequent upon the introduction of co-axial cable and microwave systems and replacement of copper wire alignments by aluminium/copper weld wire a large quantity of dismantled copper wire accumulated in department stock. According to the information furnished to the Committee, the stock of dismantled copper wire had increased to 3400 tonnes worth more than Rs. 5 crores by June 1973. At the beginning of this financial year the stock was about 2700 tonnes.

The Committee have also noted that the Department did not consider it expedient to dispose of the stock in the open market lest sold wire became indistinguishable from stolen wire and created difficulties in tackling cases of copper wire thefts. Sales of copper wire were therefore made to Hindustan Cables Limited, Rupnarainpur and to certain pesticide manufacturers. The annual offtake from Hindustan Cables is about 3000 tonnes and the supply to the pesticide companies is about 1400 tonnes. The Committee consider that to prevent undue accumulation of unwanted copper wires, concerted steps should be taken by the P. & T. to persuade once again only the public sector undertakings like Hindustan Copper Ltd., Minerals and Metals Trading Corporation for purchasing P. & T. scrap copper wire. The Hindustan Cable Ltd. and Ordnance Factory of DGOF should also be approached with a view to selling them increased quantities of copper wire. The Committee trust that with the start of production of cables at the Hyderabad unit of Hindustan Cables Ltd. and the expansion of capacity at both the Rupnarainpur and Hyderabad units, the Hindustan Cables Ltd. would be in a position to buy additional quantities of copper wire from the P. & T. Department. Negotiations should also be carried on with Traco Cables Company of Kerala State which is said to have started production of underground telephone cables. In this connection, the Committee would like to insist on the Government to go by the following recommendation made by the Committee in para 1.29 of their 121st Report (Fifth Lok Sabha):

'Incidentally the Committee would also like Government to consider setting up a sort of Metal Bank or Clearing House so that it can be ensured that the metal especially non-ferrous, rendered surplus or unfit for a particular use in one organisation can be profitably utilised elsewhere without being disposed of at a loss. The Committee consider this step necessary because non-ferrous metal is becoming costlier and scarcer in the market and it is essential to make the best use of what is already available with the Government'.

The Committee trust that with the setting up of this Metal Bank it would be possible for the P. & T. Department to put the surplus copper wire into the bank for its ultimate disposal. The Committee also suggest that the Depart-

ment may consider issuing a monthly or fortnightly bulletin indicating the availability of copper wire at various places and circulate the same to interested purchasers, in the public sector."

Reverting to this subject once again, the Committee, in paragraph 1.33 of their 189th Report (Fifth Lok Sabha), had observed:

"A considerable time has elapsed since the Committee suggested, in paragraph 1.29 of their 121st Report (Fifth Lok Sabha), the setting up of a Metal Bank or Clearing House so as to ensure that metal, particularly costly and scarce non-ferrous metal, rendered surplus or unfit for a particular use in one organisation is profitably utilised elsewhere without being disposed of at a loss. Unfortunately this practical suggestion, which is also not too difficult to implement, is yet to be acted upon by Government in a purposeful manner. While the P. & T. Board has 'noted' this suggestion, the Department of Defence Production have appointed a Study Group to examine it. With reference to the action taken by the Department of Defence Production in this regard, the Committee, in paragraph 1.11 of their 140th Report (Fifth Lok Sabha), had urged Government to process this recommendation 'with the utmost promptitude' in consultation with departments|organisations in which scrap arise and also to prescribe a time-bound schedule for its implementation. Reverting to this question again in paragraph 1.18 of their 142nd Report (Fifth Lok Sabha), the Committee had felt that there was 'an urgent need' for the establishment of a centralised coordination agency for reutilisation and disposal of metal scrap. As suggested therein, the Committee would urge the Cabinet Secretariat to take up the responsibility for coordinating action on this important recommendation of the Committee, in consultation with all organisations|departments in which scrap or surplus metal arise and those where these are likely to be utilised, so that optimum use is made of what is already available with Government."

Subsequently, on 28 May 1976, the Cabinet Secretariat (Department of Cabinet Affairs) informed the Committee in this regard as follows:

"The Public Accounts Committee in para 1.18 of 142nd Report (1974-75) had recommended that there was an urgent need

for the establishment of a Centralised Coordination Agency for reutilisation and disposal of metal scrap and that Cabinet Secretariat should take up the responsibility for coordination in this regard. This recommendation was reiterated again in para 1.33 of 189th Report (1975-76) of the PAC on the Ministry of Communications (P. & T. Board).

In pursuance of the PAC's recommendations the Cabinet Secretariat consulted the administrative Ministries/Departments concerned with the utilisation of scrap or surplus metal arisings and have advised setting up of a Central Coordination Committee in the Department of Industrial Development, Ministry of Industry and Civil Supplies. They will also coordinate action in this behalf, being the nodal Ministry. The Cabinet Secretariat has also given advice regarding the composition and functions of this Committee. Further action in the matter is being taken by the Ministries concerned.

Since the utilisation of metal scrap is the direct concern of the administrative Ministries/Departments in which scrap or surplus metal arise and those where these are likely to be utilised, the Ministries concerned with 142nd and 189th Reports of the PAC, are being advised to send detailed notes on action taken by Government in respect of para 1.18 and 1.33 respectively of these reports to the Lok Sabha Secretariat."

**2.38.** The Committee take a serious view of the heavy accumulation, since 1967, of fired empty cartridge cases of small arms ammunition in the ordnance depots. It is disconcerting that on account of the delays in locating a suitable machine for mutilating/ crushing the cases prior to turning them over as scrap, and in settling the differences with the National Small Scale Industries Corporation over the pricing of the scrap, 8,880 tonnes of empty cases (assessed value Rs. 10.10 crores) had accumulated as on 1 April, 1973, in 13 ordnance depots. (However, according to the Ministry of Defence, the total quantity of accumulations as on 1 April, 1973 was 10,920 tonnes). The extent of deterioration in the position would be evident from the fact that as against the average annual arisings of about 2,200 tonnes during the five-year period 1968-69 to 1972-73, and the accumulation of 1,937 tonnes as on 1 April, 1967, the disposals through the Director General, Ordnance Factories and the Corporation during the six-year period from 1967 to 1972 accounted for

only a small quantity of 888 tonnes. Notwithstanding the difficulties enumerated by the Ministry in disposing of the scrap, the Committee greatly regret that valuable non-ferrous scrap should accumulate uselessly over the years to such an alarming extent.

2.39. It appears that the Defence Ministry had taken nearly four years to locate a 'simple crushing machine' for mutilating the empty cartridge cases. Though it has been claimed that 'lot of efforts' were made in this regard, the time spent in implementing a decision taken as early as in March 1970, has been much too long, particularly when these machines were far from sophisticated. The measures taken in the interim period to dispose of the empty cases by manual salvage can also be considered to be at best ad-hoc, stop-gap arrangements which in any case, did not contribute in any significant manner to a resolution of the problem which had by that time almost become critical. Given the will and effort, the dispute over the pricing of the scrap could have been resolved much earlier. The Committee would very much like to know why this should have taken as long as two years.

2.40. It is understood that Government sanction had been accorded, on 31 August 1974, for the procurement of six crushing machines (estimated cost Rs. L 80 lakhs) to be installed at various ammunition depots and that necessary action to procure these machines was being 'pursued actively'. The Committee would like to be informed of the progress made in this regard as well as the latest position relating to the accumulation and disposal, if any, of empty cases. It appears to have been estimated that the crushing machines would be able to crush not less than 4,000 tonnes of empty cases every year and that after liquidating past accumulations (which amounted to 9,416 tonnes as on 1 November, 1974), two of these machines would be held in reserve as spare capacity. Having regard to the quantity of SAA scrap arising annually in the ordnance depots, the Committee fear that the provision of such a large capacity might be somewhat excessive and would like this aspect to be re-examined.

2.41. Even if all the past accumulations are mutilated with the help of these machines, the disposal of the scrap would still, it seems, pose a problem, in view of the fact that the estimated requirements of the National Small Scale Industries corporation amount to only about 3,000 tonnes per annum, which would be more or less met by the fresh arisings of empty cartridge cases. The Committee, therefore, wish that this question should be examined early and all neces-

sary steps taken for the expeditious disposal of the scrap. They consider it essential that the Ministry should lay down a suitable time schedule for disposing of the accumulated scrap, of course without detriment in any way to Government's financial interests. The action proposed to be taken in this regard may be reported to the Committee.

2.42. In this context, the Committee would urge Government to examine, on a priority basis, the feasibility of retrieving the copper and zinc from the scrap and utilising them more profitably for the manufacture of Services or civilian stores either by Defence or other Government agencies where the specifications do not prohibit the use of scrap. The Committee attach importance to such an examination in view of the fact that while on one hand large quantities of scrap have been allowed to accumulate, considerable expenditure is being incurred, on the other hand, on the purchase of virgin, non-ferrous metals, which are getting scarcer and costlier. Viewing this question from an angle wider than that purely of defence, the Ministry should examine the economics of such a project and the value of its end results. Since the process for the retrieval of the base metals from scrap is said to exist now, the Committee feel that it would be worthwhile to undertake a cost-benefit analysis in this regard. The Defence Secretary was good enough to concede during evidence that this matter should be examined, and the Committee trust that this examination would be completed with the utmost promptitude, in case it has not already been done.

2.43. It is necessary to refer, in this connection, to an earlier recommendation of the Committee, contained in paragraph 1.29 of their 121st Report (Fifth Lok Sabha), that Government should consider the setting up of a Metal Bank so that it can be ensured that the metal, especially non-ferrous, rendered surplus or unfit for a particular use in one organisation is profitably utilised elsewhere without being disposed of at a loss. In spite of the lapse of more than two years, there has been no finality as yet in this regard. The Cabinet Secretariat, who had been asked, in paragraph 1.18 of the Committee's 142nd Report (Fifth Lok Sabha) and again in paragraph 1.33 of the 189th Report (Fifth Lok Sabha), to coordinate action on this important and eminently practicable recommendation of the Committee, have stated (May 1976) that the Department of Industrial Development have been assigned the nodal responsibility for the establishment of a Central Coordination Committee for the purpose and that necessary action would be initiated in this behalf. The Committee would like

to be apprised, in some detail, of the specific steps taken by the Department of Industrial Development and the other Ministries/Departments concerned with the utilisation and disposal of metal and metal scrap, in pursuance of the reported decision of the Cabinet Secretariat.

NEW DELHI;  
August 28, 1976.  
Bhadra 6, 1898 (S).

H. N. MUKERJEE,  
*Chairman,*  
*Public Accounts Committee.*

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## APPENDICES

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## APPENDIX I

(Vide Paragraph 1.16)

*Copies of Correspondence exchanged between the Ministry of Defence and the Embassy of India, Washington, in regard to the Supply of 4 Nos. 5000 lbs. Capacity furnaces.*

1. *Copy of D.O. No. 55(17)66 Sec D (PA) dated 22 July 1971 from the Under Secretary (PA), Department of Defence Production, to the Asstt. Military Attaché, Embassy of India, Washington.*

Please refer to Ministry of Defence Telegram No. 13535 dated 16-12-1966 under which certain items included in the revised UDY offer (received *vide* USMSMI letter No. J-7 18-66 dated the 27th September 1966) were accepted by this Ministry. A subsequent amendment Number three to Revision Number 2 was received *vide* DO No. DA INDIA UDY MA dated the 25th July, 1968. The decrease and increase in cost of line items 1, 2, 3, and 5 of UDY offer, indicated in the above mentioned amendment was accepted by us *vide* DO of even number dated the 13th Sept. 1968.

2. 4 Nos. Low Frequency Induction Furnace (3 Nos. for Ordnance Factory, Katni and 1 No. for Ordnance Factory Varan-gaon) against (Item No. 5 Master list Ref. A-48) of DA INDIA UDY Offer (Revision No. I) has since been received by the concerned factories. They have reported that the furnaces have found to be a higher capacity *i.e.* 5,000 lbs. The furnaces accepted against the aforesaid offer were of 500 kg. (*i.e.* 1200lbs.) capacity. It is not understood how these furnaces with high capacity have been supplied against our requirement of 500 kg.

3. I shall be grateful if you will kindly look into the matter and let us know as to how these high capacity furnaces have been supplied.

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2. *Copy of Embassy of India, Washington letter dated 21st October 1971 from the Asstt. Military and Naval Attaché to Ministry of Defence to the Under-Secretary, Department of Defence Production.*

Please refer to your D.Os. No. 55(17)66 Sec D (PA) dated the 22 July, 7 Sept. 71 and our D.O. No. DA INDIA UDY MA dated 13 Sept. 71.

2. The reasons furnished by the US Army Material Command for the supply of high capacity furnaces are given in their letter No. AMCIL-MS/4 dated 15 October 71.

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3. *Copy of US Army' Material Command letter No. AMCIL-MS/4 dated 15 October 1971 to the Military and Naval Attache, Embassy of India, Washington, referred to in Sl. No. 2 above.*

Reference is made to your letters No. DA INDIA UDY MA dated 30 Sept. 1971 and 29 July 1971, subject Low Frequency Induction Furnaces.

The model F22 furnaces proposed by the Ajax Magnethemic Corporation were accepted for the following reasons:

Twelve furnaces were originally required (1200 lb. 500 kg. per heat and 2500 kg. per 8 hour day). India Specification Number S130 specified a low frequency channel (core) type induction furnaces.

The available 1200 pound induction furnace would have been a high frequency water cooled coreless type with a higher operating cost and low refractory life from thermal shock resulting from the necessity of dumping the coreless type furnace daily.

The channel type furnace provided can, even though the capacity is rated larger (1600 lb. per hour) melt as little as 1200 pounds per heat or, 6000 pounds per day as specified in India Specification Number SL 30.

Mr. Sethi, the Indian Representative, suggested and accepted the procurement of the four larger capacity furnaces. The quantity had been reduced from twelve to four due to funding limitations.

The furnaces provided should meet the specifications set forth on the accepted offer.

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## APPENDIX II

(Vide paragraph 1.44)

*Copy of Ajax Magnethermic Corporation, letter No. Nil dated 11 September 1974 addressed to Factory 'C'.*

This letter will reply to your letters dated July 30th, August 3rd, and August 29th.

1. The working batch of the FT-23 furnace is approximately 5185 lbs. This number is derived by multiplying the cubic inch volume of the inductor and furnace receiver by 27 which is the weight in pounds for one cubic inch of copper.

2. Many of these furnaces are charged manually. Others are charged by means of a bucket suspended from an overhead crane or hoist. Ajax does not supply charging equipment but there probably are foundry supply companies in India.

3. Normally, the FT-23 melting cycle consists of pour and recharge. Average melting rate for brass is 1600 lbs. per hour at 200 Kw. Metal is poured from the furnace upto 5000 lbs. After pouring, the furnace is recharged with some amount of cold metal. When the entire bath of metal is melted and upto the required pouring temperature, the process is repeated.

4. Ajax does not supply D.C. casting machines. we suggest that you write to Loma Machine at 56 Harrison Street, New Rochelle, New York 10801 U.S.A. and to ascast Corporation at P.O. Box 98, Creek Road, Delano, New York U.S.A.

We are enclosing a print of Ajax Drawing T-14-0151 which shows a proposed arrangement of three melting furnaces, launder, and casting machine. This can easily be converted to a two-furnace layout.

5. All of the equipment needed for lining and drying the furnaces was furnished with the original furnaces. Eight sets of instruction manuals were included which give detailed descriptions of lining, drying, and operating procedures.

6. A 300 KW, 460 Volt, 50 Cycle diesel generator will furnish sufficient power for holding temperature in two FT-23 furnaces.

7. The 'F' inductors are furnished with electric motor driven blowers to air cool the inductors. In the event of power failure, the 300 KW diesel generator could be used with a suitable transformer to supply sufficient power to drive the blower.

8. The complete FT-23 furnace, without metal, weight about 24,990 lbs. A 20-ton EOT crane should be capable of handling the furnace.

9. Complete sets of installation drawings and instructions were furnished with the original furnaces. We suggest that you check the furnace cabinets for this information as it will be quite difficult to duplicate.

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## APPENDIX III

(Vide paragraph 1.49)

*Minutes of the Meeting held in the room of Secretary (DP) at 4 p.m. on 8th April, 1975 to discuss the proposal for utilisation of four American furnaces in the ordnance factories.*

Discussion took place on the Statement of Case submitted under cover of DGOF UO No. 693/73/A/PAC dated 12-2-1975 dealing with the scope, provision of auxiliary plant and equipment, civil works and services and time schedule required for installing the 4 Nos. of 2500 Kgs. Low Frequency Induction Melting Furnaces at....(Factory 'C').

DGOF explained, at the outset that the 4 Nos. of Ajax Wyatt Furnaces of 500 Kgs capacity were offered in September 66 under the Military Credit Sales Programme. The furnaces were received in May, 1970. After receipt of the paper particulars, when a check was carried out in May 1971, the furnaces were found to be of 5000 Lbs. capacity. He had no requirement of such huge furnaces and the efforts are to be made to find use of these furnaces. The proposal put forward by him was to be viewed under this background. He had got one of the furnaces lying at....(Factory 'B') checked and it was found to be in perfect condition.

2. He further explained that the optimum utilisation of the furnaces would call for semi-continuous casting machines and the holding furnaces. This would further necessitate a much larger quantity of scrap for fullest utilisation of their melting capacity. The proposal put forward by him, for the present, was worked out at minimum cost, keeping in view the extent of own scrap arisings, and also those of the DGS.

3. DGOF confirmed that he was short of melting capacity for approximately 350 tonnes to meet the current programme for manufacture of SAA and QF Cartg. Cases at....(Factory 'C') and with the incoming of 130 mm Project by 1976 the total short-fall would be of the order of approximately 460 M/Ts per month; but the optimum utilisation of these furnaces would not be possible by adopting conventional

method of casting of individual ingots. It would be necessary to install semi-continuous casting machines and other auxiliary facilities, details of which are furnished in the Statement of Case already submitted by him, necessitating a further total investment of Rs. 127.80 lakhs with a foreign exchange element of Rs. 27.50 lakhs.

The site for the installation of the furnaces was chosen at.... because a fair amount of cast ingots|continuous slabs could be utilised by the existing hot and cold rolling mills at....for the manufacture of SAA and QF Cartg. Brass.

4. DGOF stated that in case the proposal is not found acceptable a decision should be taken to dispose of the furnaces at the best available price. Indirect verbal enquiries made by DGOF Hqrs. reveal that the Furnaces should fetch attractive prices.

DGOF emphasised that the Chairman of the PAC while discussing para 7 of the Report of CA & G for the year 1972-73 had called for furnishing detailed proposal for setting up of the furnaces in the Ordnance Factories for augmenting the melting capacity for the manufacture of Cartg. Cases etc.

DGOF stated that so far as he could recall the main theme of PAC was creation of the Metal Bank or clearing house for profitable utilisation of metal rendered surplus or unfit *vis-a-vis* advisability of the Government having their own melting and refining plants for scrap metal.

5. Since the optimum utilisation of the furnaces is linked with the decision regarding creation of a Metal Bank, a decision in this respect has to be taken first, in which case the proposal could be de-linked from augmentation of Brass Scrap melting facilities in Ord. Fys. who could better achieve this objective by obtaining replacement of the existing furnaces and adopting conventional methods of casting individual ingots.

It may even be necessary to shift the site of the furnaces to some other place depending on the site for location of the Metal Bank. This could be in the close vicinity of....

6. JS(F) informed FADS that a decision of the Government regarding utilisation or disposal of the furnaces is to be communicated to the PAC by 21st April, 1975.

7. Secy. (DP) desired that a paper for the consideration of the Committee of Economic Secretaries regarding PAC recommendation

for the creation of a Metal Bank or clearing house for non-ferrous metal scrap should be prepared and submitted to him.

8. In brief the following decisions were taken:—

- (1) The economics of the proposal for installation of the furnaces as put forward by the DGOF to be examined in relation to the decision on the setting up of a Metal Bank.
- (2) A paper for consideration of the Committee of Economic Secretaries should be prepared on priority and the matter pursued vigorously till a decision is taken.
- (3) The above position may be communicated to the PAC.

## APPENDIX IV

### *Consolidated Statement of Main Conclusions|Recommendations*

Sl No.	Para No.	Ministry/Department concerned	Conclusion/Recommendations
1	2	3	4
1	1.50	Ministry of Defence/ Department of Defence Production.	<p>It would be evident from the preceding paragraphs that the procurement and installation of low-frequency induction furnaces to cater to the modernisation plan of ordnance factories had been handled in an unsatisfactory and unbusinesslike manner. The United States Government had offered, in September 1966, four furnaces of 1200 lbs. capacity each, at a cost of Rs. 8.62 lakhs (revised subsequently to Rs. 14.14 lakhs mainly on account of devaluation of the Rupee), as part of a Military Credit Sales Programme for the modernisation of ordnance factories in India. This offer was formally accepted, in February 1967, on behalf of the Government of India by the Military Attaché, Embassy of India, Washington, on advice from the Defence Ministry. The specifications of the furnaces appear to have been settled finally in May 1967, during the visit to India of a technical team of the United States Government, when the Director General, Ordnance Factories, is stated to have 'clearly stipulated' that furnaces of 500 kilograms (1200 lbs.) capacity alone would be acceptable. In</p>

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spite of this stipulation, the furnaces, on their actual receipt in May, 1970 were found to be of 5,000 lbs. capacity each.

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It appears from a communication some seventeen months later (dated 15th October, 1971), from the US Army Headquarters, Material Command, explaining the circumstances in which the higher capacity furnaces had been supplied, that one Shri Sethi, the Indian representative, had 'suggested and accepted the procurement of the larger capacity furnaces'. It is inconceivable to the Committee how Shri Sethi, deputed to the India Supply Mission, Washington, from the Directorate of Planning and Coordination, DGOF Cell, Ministry of Defence, as a liaison officer in this regard could have accepted on his own initiative, modifications in the originally accepted offer without the concurrence of the authorities at home. Stranger still is the fact that neither the US Government nor the relevant files opened by Shri Sethi during his tenure in Washington and forwarded to the Director General, Ordnance Factories, had ever indicated the acceptance of the higher capacity furnaces. The mystery deepens when it is found that after having allegedly accepted the higher capacity furnaces, the said Shri Sethi managed to resign from Government service and disappear without leaving a trace behind.

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From the sequence of events leading to the supply of the 5,000 lbs. capacity furnaces instead of the 1200 lbs. capacity ones, it would appear that these furnaces could have been accepted, if at all by Shri Sethi only between February and March 1967. If this were so, it remains to be explained why the US technical team which visited

India in May 1967, when the specifications were finally settled and the supply of 500 kilograms (1200 lbs.) capacity furnaces was being insisted upon by the Director General, Ordnance Factories, never informed the Indian Government that Shri Sethi had on his own accepted the higher capacity furnaces and that the lower-capacity furnaces of the requisite specifications were not available. It is significant that it was only more than four years later (October 1971) the US Army authorities claimed, on an enquiry from the Government of India after the actual receipt of the furnaces, that these furnaces had certain technical advantages over the lower-capacity ones earlier offered and that Shri Sethi had accepted them. Many of the missing links in this obviously dubious transaction can, perhaps, be explained only by the aforesaid Sethi, whose present whereabouts are reported to be unascertainable. Though the Committee were informed by the Director-General, Ordnance Factories, during evidence, that Sethi was working with Piccadilly Arsenal in the United States, they have been subsequently told that the efforts made to ascertain his whereabouts through the Consular and Economic Wings of the Indian Embassy as well as the US authorities have not brought forth any useful information.

The manner in which this deplorable case has been handled from the start by the Government of India has also been very unsatisfactory. Though the higher-capacity furnaces were received in May 1970, it was only in July 1971, that is, fourteen months later, that

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the Military Attaché, Embassy of India, was asked by the Defence Ministry to look into the reasons for the supply of 5000 lbs. capacity furnaces against the requirement of 1200 lbs. capacity furnaces. In reply, a communication dated 15 October, 1971 from the US Army Headquarters, Material Command, was vouchsafed to the Department of Defence Production on 21 October, 1971. This long delay in seeking vital clarifications in regard to an important item of supply calls for an adequate explanation. The Committee are also surprised that apart from this rather lukewarm protest, the matter was not pursued further with the US authorities but was just shelved. Though the likelihood of loss in the transaction might have been minimised on account of inflation and other attendant factors, as a result of which the price of the furnaces has subsequently gone up, the Committee feel that, since some doubt in regard to the acceptance of the higher capacity furnaces by Shri Sethi apparently existed and the files handled by Shri Sethi and received by the Director-General, Ordnance Factories, in 1967 also contained no indication of the acceptance of the higher-capacity furnaces, the Defence Ministry ought to have probed this issue further and ascertained, with reference to whatever documentary evidence the US authorities had to support their contention, the correct factual position in this regard. That this was not done is highly deplorable.

The manner in which the entire deal has been handled gives rise to serious misgivings in the mind of the Committee. Serious suspicion in regard to the said Shri Sethi's bona fides is, in the circumstances, inescapable. The Committee would require Government to have a stern probe into the entire episode. It is difficult to believe

that Shri Sethi's whereabouts cannot be located and his version of whatever had happened cannot be secured and examined. The Committee would like particularly also to be reassured about the linkage, if any, of the US firms, Ajax Magnethermic Corporation, which had supplied the furnaces, and of Piccadilly Arsenal, in which Shri Sethi is stated to have been employed after his resignation. This information is essential to the inquiry that the Committee have in mind.

6 1.55 Ministry of Defence/  
Department of Defence  
Production.

The Committee are further perturbed to find that the question of procurement and installation of furnaces had been handled, *ab initio*, in a slipshod fashion, apparently without adequate consultations with the actual users as to the possible utilisation of the furnaces indented for. To make things worse, there has been considerable delay in the implementation of the decision in regard to the augmentation of the melting capacity in and modernisation of the ordnance factories, though the programme in this respect had been conceived as far back as in 1962, just after the Chinese aggression. According to the decision communicated, in December 1966, by the Director General, Ordnance Factories, the four furnaces of 1200 lbs. capacity each ordered initially were to be installed in factories 'A', 'B', 'G' and 'H'. It is, however, not clear to the Committee why factory 'G' had been selected for the installation of one of the furnaces, when the General Manager of the factory had clearly stated, in May 1966 itself, that the quantity of scrap arising from the machine shops in the factory was 'almost negligible', and that the

installation of even a much smaller furnace of 200|400 lbs. capacity was not warranted. Factory 'H' had also subsequently pleaded its inability to instal the 1200 lbs. capacity furnace, when it was decided, in November 1969, to instal three of the furnaces in factory 'A' and one in Factory 'B'. It is evident that there had been no proper and adequate assessment of the actual requirements of the different ordnance factories for these furnaces. Since this is certainly not the way purchase proposals involving considerable investment in foreign exchange ought to be processed, the Committee trust that, learning from the experience of this case, Government will seriously examine what is wrong with the system of planning, formulation and implementation of such schemes and take suitable and early steps to see that the shortcomings are overcome.

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The net outcome of this episode so far has been that after a fruitless quest to find a possible user for the unwanted higher capacity furnaces among the different ordnance factories, these furnaces are even yet to be installed and commissioned. Factory 'B', in which one of the furnaces was to be installed, appears to have pleaded that a 5000 lbs. capacity furnace would not match its requirement and would remain idle for a considerable period in a month. It was, therefore, decided, in June 1971, to instal the furnace in factory 'C', which also pointed out, in August 1971, that it was not possible for it to accept the furnace on account of various 'technical and production reasons'. The three other furnaces received in factory 'A', could not also be installed and used in that factory because on re-examination of the proposed augmentation scheme of that factory, it was

decided, in February, 1973, to set up an integrated plant for brass melting, rolling and cupping at factory 'C', where it was proposed to utilise the furnaces. As this proposal had also to be given up subsequently on account of lesser requirement of ammunition as well as financial constraints, another proposal to utilise the furnaces for the melting and pigging of the fired cartridge cases of small arms ammunition (a case which has been discussed subsequently in this Report) in factories 'C' and 'D' had been mooted as a stop-gap arrangement, though the furnaces would have been much too large for this purpose. The Committee are distressed that Government having taken the view that since the larger capacity furnaces had, in any case, been received, it would be wise to try and utilise them, it has still not been possible to utilise the furnaces so far.

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8 1.57

Ministry of Defence/  
Department of Defence  
Production.

While taking a decision to retain these furnaces and to try and utilise them, no one appears to have applied his mind to the economics of their installation. It has been assessed only subsequently that if the furnaces are to be utilised fully certain auxiliary equipment and facilities, costing well over a crore of rupees, would be necessary. In the circumstances, the Committee regret that the decision to retain the furnaces must be pronounced unsound. The implications of retaining them had obviously not been analysed properly before acquiescing in their supply. The Committee fear they must express displeasure at the apparent haste with which this decision had been taken with results that have meant loss to the

country. This state of facts calls for an investigation which will, among other things, fix responsibility for the failure and suggest steps for the future.

9 1.58

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The Committee have learnt that a fresh proposal for the installation and utilisation of the furnaces in factory 'C' for augmenting the melting capacity for manufacturing cartridge cases, costing about Rs. 1.14 to Rs. 1.28 crores, was submitted by the Director-General, Ordnance Factories, and after consideration by the Department of Defence Production in consultation with the Ministry of Finance (Defence) at a meeting held on 8 April, 1975, it was decided that the economics of the proposal should be examined in relation particularly to the proposed setting-up of a Metal Bank which was already under consideration of Government. This exercise should have been completed by now. The Committee would like to know if a final decision in regard to the installation and utilisation of the furnaces has been arrived at.

10 2.38

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The Committee take a serious view of the heavy accumulation, since 1967, of fired empty cartridge cases of small arms ammunition in the ordnance depots. It is disconcerting that on account of the delays in locating a suitable machine for mutilating|crushing the cases prior to turning them over as scrap, and in settling the differences with the National Small Scale Industries Corporation over the pricing of the scrap, 8,880 tonnes of empty cases (assessed value Rs. 10.10 crores) had accumulated, as on 1 April, 1973, in 13 ordnance depots. (However, according to the Ministry of Defence, the total quantity of accumulations as on 1 April, 1973 was 10,920 tonnes).

The extent of deterioration in the position would be evident from the fact that as against the average annual arisings of about 2,200 tonnes during the five-year period 1968-69 to 1972-73, and the accumulation of 1,937 tonnes as on 1 April, 1967, the disposals through the Director General, Ordnance Factories and the Corporation during the six-year period from 1967 to 1972 accounted for only a small quantity of 888 tonnes. Notwithstanding the difficulties enumerated by the Ministry in disposing of the scrap, the Committee greatly regret that valuable non-ferrous scrap should accumulate uselessly over the years to such an alarming extent.

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2.39

Ministry of Defence/  
Department of Defence  
Production.

It appears that the Defence Ministry had taken nearly four years to locate a 'simple crushing machine' for mutilating the empty cartridge cases. Though it has been claimed that 'lot of efforts' were made in this regard, the time spent in implementing a decision taken as early as in March 1970, has been much too long, particularly when these machines were far from sophisticated. The measures taken in the interim period to dispose of the empty cases by manual salvage can also be considered to be at best *ad-hoc*, stop-gap arrangements which, in any case, did not contribute in any significant manner to a resolution of the problem which had by that time almost become critical. Given the will and effort, the dispute over the pricing of the scrap could have been resolved much earlier. The Committee would very much like to know why this should have taken as long as two years.

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It is understood that Government sanction had been accorded, on 31 August, 1974, for the procurement of six crushing machines (estimated cost Rs. 1.80 lakhs) to be installed at various ammunition depots and that necessary action to procure these machines was being 'pursued actively'. The Committee would like to be informed of the progress made in this regard as well as the latest position relating to the accumulation and disposal, if any, of empty cases. It appears to have been estimated that the crushing machines would be able to crush not less than 4,000 tonnes of empty cases every year and that after liquidating past accumulations (which amounted to 9,416 tonnes as on 1 November, 1974), two of these machines would be held in reserve as spare capacity. Having regard to the quantity of SAA scrap arising annually in the ordnance depots, the Committee fear that the provision of such a large capacity might be somewhat excessive and would like this aspect to be re-examined.

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2.41

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Even if all the past accumulations are mutilated with the help of these machines, the disposal of the scrap would still, it seems, pose a problem, in view of the fact that the estimated requirements of the National Small Scale Industries Corporation amount to only about 3,000 tonnes per annum, which would be more or less met by the fresh arisings of empty cartridge cases. The Committee, therefore, wish that this question should be examined early and all necessary steps taken for the expeditious disposal of the scrap. They consider it essential that the Ministry should lay down a suitable time schedule for disposing of the accumulated scrap, of course without detriment in any way to Government's financial interests.

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The action proposed to be taken in this regard may be reported to the Committee.

14 2.42 Ministry of Defence/  
(Department of Defence Production.)

In this context, the Committee would urge Government to examine, on a priority basis, the feasibility of retrieving the copper and zinc from the scrap and utilising them more profitably for the manufacture of Services or civilian stores either by Defence or other Government agencies where the specifications do not prohibit the use of scrap. The Committee attach importance to such an examination in view of the fact that while on one hand large quantities of scrap have been allowed to accumulate, considerable expenditure is being incurred, on the other hand, on the purchase of virgin, non-ferrous metals, which are getting scarcer and costlier. Viewing this question from an angle wider than that purely of defence, the Ministry should examine the economics of such a project and the value of its end results. Since the process for the retrieval of the base metals from scrap is said to exist now, the Committee feel that it would be worthwhile to undertake a cost-benefit analysis in this regard. The Defence Secretary was good enough to concede during evidence that this matter should be examined, and the Committee trust that this examination would be completed with the utmost promptitude, in case it has not already been done.

Ministry of Defence/  
Department of Defence  
Production/Cabinet Sec-  
retariat / Department of  
Industrial Develop-  
ment.

It is necessary to refer, in this connection, to an earlier recommendation of the Committee, contained in paragraph 1.29 of their 121st Report (Fifth Lok Sabha), that Government should consider the setting up of a Metal Bank so that it can be ensured that the metal, especially non-ferrous, rendered surplus or unfit for a particular use in one organisation is profitably utilised elsewhere without being disposed of at a loss. In spite of the lapse of more than two years, there has been no finality as yet in this regard. The Cabinet Secretariat, who had been asked, in paragraph 1.18 of the Committee's 142nd Report (Fifth Lok Sabha) and again in paragraph 1.33 of the 189th Report (Fifth Lok Sabha), to coordinate action on this important and eminently practicable recommendation of the Committee, have stated (May 1976) that the Department of Industrial Development have been assigned the nodal responsibility for the establishment of a Central Coordination Committee for the purpose and that necessary action would be initiated in this behalf. The Committee would like to be apprised, in some detail, of the specific steps taken by the Department of Industrial Development and the other Ministries/ Departments concerned with the utilisation and disposal of metal and metal scrap, in pursuance of the reported decision of the Cabinet Secretariat.

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