HUNDRED AND SEVENTY-SIXTH REPORT

PUBLIC ACCOUNTS COMMITTEE (1983-84)

(SEVENTH LOK SABHA)

UNDER-UTILISATION OF PRODUCTION CAPACITY OF AN ORDNANCE FACTORY

DEPARTMENT OF DEFENCE PRODUCTION

[Action Taken on 106th Report (7th Lok Sabha)]

Presented to Lok Sabha on .. ..

Laid in Rajya Sabha on .. ..

LOK SABHA SECRETARIAT
NEW DELHI

December 1983/Agrahayana 1905(S)

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CORRIGENDA TO 176TH REPORT OF PAC (7TH LOK SABHA) PRESENTED TO LOK SABHA ON 2.3.1984

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INTRODUCTION

I. The Chairman of the Public Accounts Committee, as authorised by the Committee, do present on their behalf this Hundred and Seventy-Sixth Report on action taken by Government on the recommendations of the Public Accounts Committee contained in their 106th Report (Seventh Lok Sabha) on under-utilisation of production capacity of an ordnance factory relating to the Ministry of Defence.

2. In their 106th Report, the Committee had pointed out that calcium carbide, the basic raw material for manufacture of explosive 'A' in an ordnance factory, was being obtained from as for as Kerala and Tamil Nadu with the result that not only the cost of transportation was high but the chemical composition also deteriorated fast due to ingress of moisture during transit and storage. The result was that the finished material was of poor quality. The Committee considered it unfortunate that such a situation had been allowed to linger on over the years without any thought having been given to get over the problem. In their reply, Government have stated that deterioration in quality of calcium carbide during transit did not affect the quality of explosive but only resulted in higher cost of production. Dissatisfied with this reply, the Committee in this 176th Report have reiterated their earlier recommendation that the problem of transportation of calcium carbide for this ordnance factory from distant places should be examined and suitable alternative arrangement made to have the supply of this raw material from some nearby source so that the deterioration in its quality on account of long transport, with the resultant higher cost of production of the end product, could be avoided.

3, In their 106th Report, the Committee had emphasised the need for preparation of a perspective plan for replacement of the old plants and equipment in ordnance factories by modern plants and equipment based on latest technology. In reply, the Department of Defence Production have stated that a five year plan for the period 1980-85 has been prepared by the Ordnance Factory Board for renewal/replacement of old/outdated machines. While welcoming the step taken by Government, the Committee, in this Report, have desired to be apprised of the progress made in this regard.

4. On 12 May, 1983 the following Action Taken Sub-Committee was appointed to scrutinise the replies received from Government in pursuance of the recommendations made by the PAC in their earlier Reports :

Shri Sunil Maitra—*Chairman*

2. Shri K. Lakkappa
3. Shri G.L. Dogra
4. Shri Ram Singh Yadav
5. Shri Bhiku Ram Jain
6. Shri Nirmal Chatterjee

Members

5. The Action Taken Sub-Committee of the Public Accounts Committee considered and adopted the Report at their sitting held on 13 December, 1983, The Report was finally adopted by the Public Accounts Committee on 21 December, 1983.

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

7. The Committee place on record their apprecation of the assistance rendered to them in this matter by the office of the Comptroller and Auditor General of India.

SUNIL MAITRA
Chairman
Public Accounts Committee

NEW DELHI;

December 21, 1983
Agrahayana 30, 1905 (S)

CHAPTER I

REPORT

1.1 This Report of the Committee deals with the action taken by Government on the recommendations and observations contained in their 106th Report (Seventh Lok Sabha) on "Under-utilisation of production capacity of an ordnance factory" dealt with in paragraph 11 of the Report of the Comptroller and Auditor General of India for the year 1979-80, Union Government (Defence Services).

1.2 The Committee's 106th Report was presented to the Lok Sabha on 30 April, 1982 and contained 17 recommendations and observations. According to the time limit prescribed by the Committee, the notes indicating the action taken by Government in pursuance of the recommendations and observations contained in the 106th Report duly vetted by Audit were required to be furnished to the Committee latest by 1 November, 1982. However the Department of Defence Production submitted action taken notes in respect of all the recommendations by 25 October, 1983 only. In spite of taking 18 months in sending replies to the recommendations contained in the report against the stipulated period of six months, replies in respect of 2 recommendations are still of an interim nature only. The Committee are unhappy over the delay on the part of the Ministry in furnishing actiontaken replies and expect that the Ministry would in future ensure that action taken replies to the recommendations made by the Committee are furnished well within the prescribed time limit.

1.3 The action taken notes received from Government have been broadly categorised as under :

(i) Recommendations and observations which have been accepted by Government :

Sl. Nos. 2, 5, 9, 10, 11, 12, 14, 15, 16 and 17

(ii) Recommendations and observations which the Committee do not desire to pursue in view of replies received from Government :

Sl. Nos. 1, 3, 6 and 13

(iii) **Recommendations and observations replies to which have not been accepted by the Committee and which require reiteration:**

Sl. No. 4

(iv) Recommendations and observations in respect of which Government have furnished interim replies :

Sl. Nos. 7 and 8

1.4 The Committee expect that final replies in respect of the recommendations and observations in respect of which only interim replies have so far been furnished will be made available to them expenditiously after getting them vetted by Audit.

1.5 The Committee will now deal with the action taken by Government on some of their recommendatiods and observations.

Higher Cost of production of explosive in an ordnance factory.

Sl. Nos. 4—Para 1.63).

1.6 Emphasising the need to get over the problem of obtaining regular supplies of calcium carbide, which was the basic raw material for manufacture of explosive 'A' from far off areas resulting not only in high cost of transportation but also in fact deterioration of chemical composition due to ingress of moisture during transit and storage, the Committee in para 3.63 of their Report had observed :

"The Committee find that since there was no captive plant for production of calcium carbide, which was the basic raw material for manufacture of explosive A, the same had to be obtained from as far as Kerala and Tamilnadu. Apart from the cost of transportation being high, the chemical composition deteriorated fast due to ingress of moisture during transit and during storage with the result that the finished material was of poor quality. The Committee consider it very unfortunate that such a situation has been allowed to linger on over the years without any thought having been given to get over the problem. The Committee are greatly concerned that the factory has been producing sub-standed explosives for the army. The situation needs to be remedied without delay. The Committee would like to be apprised of the steps proposed to be taken in the matter."

1.7 The Department of Defence Production, in their action taken note dated 25 october, 1983, have stated :

"It may be pointed out that the factory has not been producing substandard explosives for the army. It may be mentioned that Explo-

sive A which is produced by using calcium carbide is not the end-explosive used in ammunition manufacture. The deterioration in quality of the calcium carbide during transit does not affect the quality of the Explosive A. It only results in higher cost of production of Material 'X', as with the quality deterioration of calcium carbide on storage/transit, the nitrogen content goes down to 18% resulting in more use of the raw material calcium carbide. The quality of production does not get adversely affected. Moreover, this item is inspected by an independent inspection authority before the same is issued to a sister factory for manufacture of the end-explosive e.g. triple base propellant etc. The triple base propellant produced from Explosive A in the sister Factory is sent to the filling Factory, after inspection again. Thus there is no room for issue of sub-standard explosive to the Army."

1.8 In their 106th Report, the Committee had pointed out that calcium carbide the basic raw material for manufacture of explosive 'A' in an ordance factory was being obtained from as far as Kerala and Tamil-Nadu, with the result that not only the cost of transportation was high but the chemical composition also deteriorated fast due to ingress of moisture during transit and storage. The result was that the finished material was of poor quality. The Committee considered it unfortunate that such a situation had deen allowed to linger on over the years witnout any thought having been given to get over the problem. In their reply, the ministary of Defence (Department of Defence Production) have stated that deterioration in quality of calcium carbide during transit did not affect the quality of the explosive, but only resulted in higher cost of production as with the quality deterioration of calcium carbide, the nitrogen content went down. It has been claimed by the Ministry that the quality of production was not adversely affected. The Committee are not satisfied with the above reply. Even granting that the quality of the explosive is not adversely affected, the fact remains that as conceded by the Ministry themselves the transportation of the raw material from far off places results in its excessive use thereby inflating the Cost of production and that no solution to this problem has been found so far. The Committee would, therefore, like to reiterate their earlier recommendation that the problem of transportation of calcium carbide for this ordance factory from distant places should be examined and suitable alternative arrangement made to have the supply of calcium carbide from some nearby source so that the deterioration in its quality on account of long transport, with the resultant higher cost of production of the end-product, could be avoided.

Perspective plan for modernisation of ordnance factory (Sl. No. 17—Para 1.76)

1.9 Emphasising the need for a perspective plan for replacement of the old plant and equipment in the ordnance factories, with modern ones based on latest technology, the Committee in Para 1.76 of their 106th Report had recommended as follows :

> "In conclusion, the Committee would like to point out that the Ordnance Factory is a typical example of defence production unit continuing to function on the basis of outdated technology and with obsolete plant and equipment. In order to keep pace with the growing requirements of sophisticated arms, ammunition and other equipment, it is essential that a perspective plan is prepared for replacement of the old plant and equipment in the Ordnance Factories with modern ones based on latest technology. The Committee would like to be apprised of the steps taken or contemplated in this direction."

1.10 In their Action Taken Notes, dated 25 October, 1983 the Ministry of Defence (Deptt. of Defence Production) have stated as follows :

> "There is a regular programme of renewals/ replacement of the old and outmoded plan and equipment in the Ordnance Factories. A five year plan for the period 1980-85 has been prepared by the Ordnance Factory Board for renewal/ replacement of the old/ outdated machines, An amount of Rs. 150 crores has been allotted for replacement of the above kind of machines during the 6th plan period 1980-85. Ordnance Factory Board/ GMS have been delegated full powers for replacement' of the old machines, with the concurrence of their local Finance. At the time of replacement, it is always ensured that latest technology available is inducted.
>
> Consistent with the needs of Defence Services to continuously modernise the equipment and to keep abreast of the fast changing technology, the following modernisation programmes have already been accomplished:
>
> (i) Pre-world War I facilities at Cordite Factory for production of propellants has been replaced by a modern plant:
>
> (ii) A new propellant factory has been set up for self-sufficiency in the field of propellants."

1.11 In their 106th Report the Committee had emphasised the need forpreparation of a perspective plan for replacement of the old plants and equipment in ordnance factories by modern plants and equipment based on latest technology. In their action taken reply, the Department of Defence Production have stated that a five-year plan for the period 1980-85 has been prepared by the Ordnance Factory Board for renewal/replacement of old/outdated machines and an amount of Rs. 150 crores has been allotted for the purpose during this Sixth Plan period. The Committee welcome the steps taken by Government in this regard. They would like to be apprised of the progress made in the replacement of obsolete plant and equipment in the ordnance factory manufacturing various types of explosives for the army and the steps taken for removing the shortcomings/deficiencies pointed out by the Committee in their 106th Report.

CHAPTER II

RECOMMENDATIONS OR OBSERVATION WHICH HAVE BEEN ACCEPTED BY GOVERNMENT

Recommandation

The Committee find that the actual production of the plant for production of Explosive A during the period 1974-75 to 19 0-81 has fluctuated between 158 to 600 tonnes as against the established capacity of 660 tonnes per year. The production is, however, stated to have gone up since 1978-79 and the average during the four years ending 1981-82 was of the order of about 554 Tonnes.

[S. No. 2 (para 1.61) Appendix II of 106th Report of PAC (7th Lok Sabha)].

Action Taken

The capacity for Explosive A as demonstration 1966-67 was 600 tonnes. With the efflux of time, the present realisable capacity of the second hand plant is of the order of 550 Tonnes per annum. It may be added that the Plant for manufacture of Explosive A has already outlived its normal life. The production of Explosive A from 1978-79 is given below:

78-79	:	506 MT
79-80	:	515 MT
80-81	:	594 MT
81-82	:	600 MT

It may be pointed out that after the plant for Explosive A went into production, the requirements were fully met indigenously till 1978 and no imports were resorted upto this period.

[Department of Defence Production O.M. No. 13 (2)/82/D (Projects) dated 15-3-1983].

Recommendation

The committee find that against the total requirements of 3897 MT of explosive A during the four years 1978-79 to 1981-82, the production in the Ordnance Factory during this period was only 2215 MT leaving a gap of 1682 MT (about 43%) which was met through imports (Cost Rs. 6.56 Crores till 1980). The Committee trust that with the coming up of a modern plant at another place based on latest technology, the increasing requirements of the Army as well as of civil users such as Coal India Ltd. will be fully met.

[S. No. 5 (Para 1.64) of Appendix II of 106th Report of PAC (7th Lok Sabha]

Action Taken

With the setting up of facilities for manufacture of Explosive A at another Factory, the entire requirements will be met indigenously and self-sufficiency shall be achieved. Explosive A is not required for civil blasting purposes by Coal India Ltd.

[Department of Defence Production O.M. No. 13(2)/82/D (Projects) dated 15.3.1983].

Recommendation

The production of explosive 'B' is equally unsatisfactory. As against the installed capacity of 810 tonnes, the production was only 400 tonnes in 1978-79 and 335 tonnes in 1979-80. Since the plant for production of this explosive had not been working to the rated capacity, it was proposed to produce a different variety of explosive which was still under development trials for manufacture of the specified variety of the explosive 'B' have been going on since 1971-72, it has not been possible to establish production thereof on a sustained basis. The expenditure of Rs. 4.37 lakhs so far incurred on the development effort has thus yielded no results. The Committee have been given to understand that as a result of a review of different specifications for the weapon undertaken recently by the AHSP in consultation with the users and producers, it has been possible to make them agree to certain changes and rationalisation in specifications.

In their 92nd Report (Fifth Lok Sabha) the Committee had drawn attention as early as in 1972-73 to the need for establishing the production of the required variety of explosive 'B' so as to ensure better utilisation of the available capacity. The Committee consider it unfortunate that no progress could be made in this regard even over a period of 10 years. The Committee expect that with the rationalisation now agreed upon by the users, all efforts would be made to utilise the available capacity to the optimum level.

[S. No. 9 (Para 1.68) and S. No. 10 (Para 1.69) of Appendix II of 106th Report of PAC (7th Lok Sabha].

Action Taken

The capacities created in the Ordnance Factory for Explosive B were not meant specifically for the specified variety of Explosive B. However, the Factory supplies 525 tonnes of Explosive B of the required variety, which was valued at Rs. 2.05 Crores. With the rationalisation of the specifications agreed to by the users, the supplies of Explosive B from this Factory will improve. However, it may be mentioned that the production of the specified variety of Explosive B at the new Factory will provide a final solution to the problem. However, all efforts would be made to utilise the available capacity to the optimum level.

[Department of Defence Production O. M. No. 13(2)/82/D (projects) dated 15.3.1983.]

Recommendation

The Committee find that the production of process material 'H' which is the input for the plant for explosive 'C' fluctuated between 192 tonnes to 352 tonnes during 1974-75 to 1979-80 as against the realisable capacity of 1,284 tonnes. The shortfall is attributed to restricted production to keep pace with the requirement of explosive 'C' and also due to the fact that the demand for the item from the civil trade was low. The Committee have been informed that the number of items of the finished stores requiring explosive 'C' has come down from 21 in 1957-58 to only 7 at present. However, the Ordnance Factory is stated to be one of the eight producers in the world possessing the production capacity for explosive 'C' which is far superior in performance as high explosive when compared to TNT and hence it is a national asset for

defence preparedness. The Committee find that the Armed Forces have indicated demand for a new low temperature plastic explosive. This facility when set up will require explosive 'C'. The R & D is designing a new series of propellant which when developed and introduced would also call for substantial quantities of explosive 'C' and hence process material 'H'. The Committee expect that efforts in this direction will be pursued with vigour. They would like to be informed of the progress made and the results achieved.

[S. No. 11 (Para 1.70) of Appendix II to 106th Report of PAC (7th Lok Sabha].

Action Taken

Army Hqrs. has accepted the new low temperature plastic explosive based on Explosive 'C' to be produced at the factory. The detailed project report is under preparation. The development work is still in progress for the other Research and Development Project *viz.* Higher Energy Propellant for Chetak Project which will use substantial quantity of Explosive 'C' as one of the major constituent. It is proposed to set up a pilot plant capacity @ 50 Kg. per hour, which is expected to be operational by March 1983.

[Department of Defence Production u.o. No.13/2/82/D (Projects—I), dated 15.3.1983].

Recommendation

The Committee find that the statement given in Appendix I that the utilisation of sulphuric acid plant was as low as 42% and 47% of the capacity during the years 1979-80 and 1980-81 while that of nitric acid plant was 7% and 52% in the respective years. This is stated to be a sequel to the underutilisation of the main plants. Steps have been taken for increased utilisation by supplying to sister factories and trade and diversification of commercial explosive plant which would utilise the capacity of nitric acid and sulphuric acid plants to the extent of 1295 tonnes to 1340 tonnes *viz-a-viz* the installed capacity of the order of 6120 tonnes and 10,080 tonnes respectively. The Committee desire that concerted efforts should be made to tap the market in the civil sector so that the capacity utilisation of these plants can be stepped up.

[S.No. 12 (Para 1.71) of Appendix II to 106th Report of PAC (7th Lok Sabha)].

Action Taken

Concerted efforts are being made to improve the capacity utilisation of acid plants in the Factory. As stated by the Public Accounts Committee, the utilisation of acid plants will improve with the increase in the requirements of acids for Civil Blasting Explosives Project installed in the Factory. As directed by the PAC, all efforts will be made to tap the civil market and make supplies to the civil sector, after meeting the requirement of Services and the Commercial Blasting Explosive Project.

[Department of Defence Production O.M. No. 13(2)/82/D (Projects) dated 15.3.1983].

Recommendation

Apart from the delay, the performance of the plants has been much below the stipulated level. Out of the installed capacity of 720 tonnes for the propellants and 480 tonnes of ballistites, the actual quantities manufactured during the four years from 1976-77 to 1979-80, have ranged between 18 and 30 tonnes for the first item and 44 and 185 tonnes for the second one. The capacity utilisation has thus been as low as 2.5 to 4.1% and 9.2 to 38.5% respectively.

[S.No. 14 (Para 1.73) of Appendix-II to 106th Report of PAC (7th Lok Sabha].

Action Taken

The production at these plants had to be regulated conforming to production programme for Rocket Propellants and Ballistites depending upon Service demands. The requirements of the users have changed inasmuch as 2 items of Rockets which have since been withdrawn by the users, accounted for a capacity of 624 tonnes per year of the installed capacity for Rocket propellant. Similarly, one item of the equipment requiring Ballistites since withdrawn by the user accounted for an annual capacity of 276 tonnes out of 480 tonnes of capacity installed. In order to improve the utilisation of capacities, development of manufacture of various items of Rocket propellants had been undertaken and 2 new items of Rockets have become regular items of production. Thus, with the production of these new rockets, the utilisation of capacities for Rocket propellants would improve. Regarding ballistite plant, it may be stated that propellant for antitank ammunition has been established on this

plant and this would considerably improve the capacity utilisation of this plant. Further, with the increasing requirement of missiles in future, the Rocket propellant plant would progressively be utilised more and more.

In the light of the above position, it will be seen that the capacity utilisation of the above mentioned two plants is expected to improve considerably in the future.

[Department of Defence Production O. M. No. 13(2) /82/ D (Projects) dated 15.3.1983].

Recommendation

The Committee are surprised to note that as against 28 items of ammunition/rockets indicated as the likely requirements, actual orders cover only a few items. In fact, two items of rockets which have since been withdrawn, account for a capacity of 624 tonnes against the total installed capacity of 720 tonnes while another item of end store requiring ballistites since withdrawn accounts for an annual capacity of 276 tonnes out of a total of 480 tonnes of ballistite capacity, Rest of the items are stated to have become either obsolescent or are still under development with Defence R&D. The Ministry have clarified that the obsolescence refer to ammunition/rocket items in service use and not to technology of manufacture in the plant installed at OF which is a modern one employing latest technology and is capable of versatile production. The fact however remains that the facilities created at a cost Rs.20 crores have remained practically unutilised since January 1977. The Committee have been assured that with the increasing requirement of missiles the utilisation of rocket propellant plant would be progressively stepped up. In regard to the ballistite plant, it has been decided to produce propellant for anti-tank ammunition. The Committee, consider that the R/D efforts in this field need to be stepped up considerably. The Committee also urge that close coordination should be maintained between the producer, the users and the R&D so that the facilities set up at a huge cost can be made full use of in the interest of the country's defence preparedness.

[S.No.15 (Para 1.74) of Appendix-II to 106th Report of PAC (7th Lok Sabha)].

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Action Taken

A close liaison with the Research and Development establishment for development of various Rocket Propellant is already being maintained. With the development of new Rocket and introduction of that Rocket in the Services, the production load is likely to go up in future, resulting in better utilisation of the capacities created.

[Department of Defence Production O.M. (No. 13(2)/82/D (Project-I) dated 15.3.1983.]

Recommendation

The Committee find that one of the two units of ancillary plant including the building and certain material costing Rs. 28.60 lakhs were destroyed during commissioning trial in an explosion in May 1975. The plant at the time was being operated by the supplier's representative. The accident was investigated by the plant designer who concluded that it happened as a cumulative effect of 5 or 6 technical reasons for which no particular person or party could be held responsible. An amount of Rs. 26.33 lakhs is stated to have been reimbursed by the insurance company. The Committee have been informed that the safety measures recommended in the investigation report have been implemented. Considering the extreme climatic conditions in the area, the Committee hope that adequate precautions will henceforth be taken while operating the plant.

[S. No. 16 (Para 1.75) of Appendix-II to the 106th Report of PAC (7th Lok Sabha)].

Action Taken

The Recommendations of the Board of Enquiry and the recommendations of the plant supplier with regard to functioning of the Highly sensitive plant had been implemented. It may be mentioned that these plants for highly sensitive explosives are being run as per rigid standing instructions which take into consideration various factors including wide fluctuations of temperature conditions etc. and all precautions are taken to avoid any mishap.

[Department of Defence Production O. M. No. 13 (2)/82/D (Projects-I), dated 15-3-1983].

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Recommendation

In conclusion, the Committee would like to point out that the Ordnance Factory is a typical example of defence production unit continuing to function on the basis of outdated technology and with odsolete plant and equipment. In order to keep pace with the growing requirements of sophisticated arms, ammunition and other aquipment, it is essential that a perspective plan is prepared for replacement or the old plant and aquipment in the Ordnance Factories with modern ones based on latest technology. The Committee would like to be apprised of the steps taken or contemplated in this direction.

[S. N. 17 (Para 1.76) of Appendix II to 106th Report of PAC(7th Lok Sabha)].

Action Taken

There is a regular programme of renewals/replacement of the old and outmoded plant and equipment in the Ordnance Factories. A five year plan for the period 1984-85 has been prepared by the Ordnance Factory Board for renewal/replacement of the old/outdated machines. An amount Rs. 150 Crores has been allotted for replacement of the above kind of machines during the 6th Plan period 80-85. Ordnance Factory Board/GMs have been delegated full powers for replacement of the old machines, with the concurrence of their local Finance. At the time of replacement, it is always ensured that latest technology available is inducted.

Consistent with the needs of Defence Services to continuously modernise the equipment and to keep abreast of the fast changing technology, the following modernisation programmes have already been accomplished:

(i) Pre-World war I facilities at Cordite Factory, Aruvankadu for production of propellants has been replaced by a modern plant,

(ii) A new propellant factory has been set up for self-sufficiency in field of propellants.

[Department of Defence Production O. M. No. 13 (2)/82/D (Projects) dated 15-3-1983].

CHAPTER III

RECOMMENDATIONS OR OBSERVATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUEIN VIEW OF THE REPLIES RECEIVED FROM GOVERNMENT

Recommendation

The audit para refers to the continued underutilsation of the production capacity in various plants of an ordanance Factory, which manufactures certain types of explosives for the army. The Public Accounts Committee (1972-73) in their 92nd Report on the subject had recommended that efforts should be made to bring down the cost of production of process material 'X' required for the manufacture of explosive A, there should be no delay in establishing the required variety of explosive B for a particular amunition after 1974 and that the process material plant for explosive C should be fully utilised. The Committee regrets to note from a review in Audit in Feb. 1980 of the performance of the Factory that none of the recommendations of the Committee have been adequately implemented. The Committee have been informed that although it has not been possible for various reasons to optimise the production on lines recommended by the Public Accounts Committee, the requirements of explosives had been fully met till 1977-78 when there was a sudden spurt in the demand and imports had to be resorted to.

[S. No. 1 (Para 1.60) of Appendix II) to 106th Report of PAC (7th Lok Sabha)]

Action Taken

The recommendations made by the Public Accounts Committee in their 92nd Report were duly considered and implemented to the extent possible. As regards the recommendation regarding reduction in the cost of process material 'X', it may be mentioned that it could not be brought down because (a) the cost of inpurt raw material was very high, (ii) deterioration took place in the quality of the inpurt material due to qualitative changes from time of the production of the material in the manufacturing factory (civil trade) and its utilisation at the Ordnance Factory for manufacture of Material 'X', and the technology in use was old which gave a lower efficiency of conversion in the Ordnance Factory leading to

high cost of production of 'X' as against more modern and efficient technology adopted abroad. In regard to the setting up of facilities for manufacture of explosive B, it may be mentioned that the plant at the Ordnance Factory was not designed to produce the specified type of explosive B and hence development trials were undertaken. Even though the Factory did not cater for production of explosive B on a sustained basis, 522 tonnes of the explosive, which met the specification, out of trial lots, were supplied saving foreign exchange of Rs. 2.05 crores. A review of different specifications for weapons has recently been undertaken by the AHSP in consultation with the user and producers and as a result of rationalisation now accepted, it is expected that substantial quantities of production for Explosive B can be made available to the user Factory. With regard to the recommendation regarding utilisation of the process material plant for explosive C, it may be mentioned that since process material H is in the input for the plant for explosive C, the capacity utilisation for process material H was fixed with reference to the production requirements of explosive C. The capacity for plants explosive C was fixed based on peace time and war time requirements as also the closest standard capacity plant, in operation abroad. Number of items of the finished stores requiring explosive C has gone down from 21 in 1957-58 to only 7 Nos, which are today current with the Services.

2. The import mentioned in the above recommendation refers to the import of Explosive A, the requirement of which went up from 1977-78 onwards on account of use of this explosive for certain additional major items on the recommendations of R & D. In order to meet the increase in the requirements, the import had to be resorted to.

[Department of Defence Production O.M. No. 13 (2)/82/D (Projects) dated 15.3.1983].

Recommendation

The Committee was informed that the Plant which was of 1937 vintage had been in use in the supplier country (UK) for 5 to 6 years and that its residual life was 6 to 7 years when it was installed in 1965. During the years 1977-78, 1978-79 and 1979-80, the cost of repairs amounted to Rs. 17.76 lakhs and the down-time was as high as 22%,26% and 23% in the respective years. Additional replacements would involve an expenditure of Rs. 8 lakhs during the next two years and a sustained production of 550-600 tonnes of explosives per year. The Committee consider that the economics of working of the plant which has now

outlived its useful life, should be carefully examined in the context of the decision to set up a new plant at another place before incurring any further expenditure on its re-conditioning.

[S. No. 3 (Para 1.62) of Appendix II of the106th Report of PAC(7th Lok Sabha)]

Action Taken

The recommendation of the Public Accounts Committee has been noted.

2. The production of Explosive 'A' at a new Propellant Factory requires input material. 'Guanidine Nitrate' of 99% purity. It has already been decided by Government in April, 1982, to revamp the existing second GN line at Ordnance Factory at a cost of Rs.8 lakhs, which would give a production of 90% purity. A purification plant has also been sanctioned to purify the GN of 90% purity to 99% purity. Since the requirement of GN for the new Propellant Factory would be 2400 MT, it has also been decided to put up a third stream for production of GN of 1200 MT of 90% purity at a cost of Rs.42 lakhs.

[Department of Defence Production O.M. No. 13 (2)/82/D (projects) dated 15.3.1983].

Recommendation

For the manufacture of process material 'X' as against the capacity of 32.6 tonnes per month demonstrated by the foreign technicians by using imported material, the achievevable capacity indicated on the basis of experimental trials conducted in August-September, 1975 was 9.74 tonnes per month (117 tonnes per annum sufficient to produce 160 tonnes of explosive 'A' per annum. The Committee, however, find that the total production of this process material during 4 years (1974-75 to 1977-78) was only 86 tonnes and none in 1978-79 and 1979-80 resilting in imports of the value of Rs. 2.09 Crores. The very restricted production in earlier year and subsequent stoppage is attributted to scarcity of basic raw material for process material 'Y' from indigenous sources, the supply being 600 tonnes as against the requirement of 2000 tonnes per year. The Committee find that the cost of production in the factory was as high as Rs. 79,657 to Rs. 85,232/-per tonne, as against the cost of imported material varying from Rs.4069 to Rs.11,777 par tonne. Fresh

efforts towards improving the yield by carrying out modification of the plat have not met with success. Adoption of imported carbonation process technology suggested by National Chemical leaboratory Pune, at an estimated cost of Rs. 1.70 crores though expected to improve conversion efficiency would also not result in increased production of material 'X' due to increased time cycle. Moreover, the cost of production of the end product would be around Rs. 47,000 as against Rs. 11,777 per tone of the imported variety. The trials using the carbonation process having failed, there is now no scope of manufacturing material 'X' economically thus rendering the investment on this plant infructuous.

[S. No. 6 (Para 1.65) of Appendix II to 106th Report of PAC (7th Lok Sabha)].

Action Taken

Though production of raw material 'X' in the second hand plant is not considered economical in view of much lower cost of imported material, the investment of Rs. 11.42 lakhs in this second hand plant may not appear totally infructuous when viewed in the context of production of 527 t. of raw material 'X' in this plant upto 78-79 valued at Rs. 51 lakhs (at the imported cost rate).

[Department of Defence Production O. M. No. 13(2)/82/D (Projects) dated 15.3.1983].

Recommendation

The Committee understand that a project for creation of additional capacity for production of 1200 tonnes per annum of rocket propellants and ballistites was sanctioned in May 1969 at an estimated cost of Rs. 17.14 crores. There was considerable delay in the erection/commissioning of plants, the same have been taken over by the factory between January 1975 and December 1976 against the target date of May 1974 due to delay in completing the guarantee/versatility run of one plant. The estimated cost of the project had in the meantime (April 1972) increased to Rs. 20.034 crores.

[S.No. 13 (Para 1.72) of Appendix II to106th Report of PAC (7th Lok Sabha].

Action Taken

The project was sanctioned in May, 1969 and it was anticipated that it would be completed in 4·5 years. The main plant for rocket and ballistite was negotiated with the foreign collaborator in Feb. 70 and in regard to ancillary plants through DGS & D. Orders were finalised in June, 1971. The civil works for plant and machinery were completed between October, 1972 and March, 1976. The plants were erected/ commissioned and were ready for production by September, 1974 though the formal taking over was made in March, 1976 and December, 1976. The various process plants were taken over for production purposes in January, 1975. The formal taking over had to be done only after completion of the guarantee run of the specified products as well as versatile run to ascertain the range of the product which the plant could yield. The delay, when viewed in the context of availability of plant for production purposes, was only 5 months from May, 1974 to September, 1974.

[Department of Defence Production O.M. No. 13(2)/82/D (Projects) dated 15.3.1983].

CHAPTER IV

RECOMMENDATIONS OR OBSERVATIONS REPLIES TO WHICH HAVE NOT BEEN ACCEPTED BY THE COMMITTEE AND WHICH REQUIRE REITERATION

Recommendation

The Committee find that since there was no captive plant for production of calcium carbide, which was the basic raw material for manufacture of explosive A, the same had to be obtained from as far as Kerala and Tamilnadu. Apart from the cost of transportation being high, the chemical composition deteriorated fast due to ingress of moisture during transit and during storage with the result that the finished material was of poor quality. The Committee consider it very unfortunate that such a situation has been allowed to linger on over the years without any thought having been given to get over the problem. The Committee are greatly concerned that the factory has been producing sub-standard explosives for the Army. The situation needs to be remedied without delay. The Committee would like to be apprised of the steps proposed to be taken in the matter.

[S. No. 4 (Para 1.63) of Appendix II, to 106th Report of PAC (7th Lok Sabha)].

Action Taken

It may be pointed out that the Factory has not been producing sub-standard explosives for the Army. It may be mentioned that Explosive A which is produced by using calcium carbide is not the end-explosive used in ammunition manufacture. The deterioration in quality of the calcium carbide during transit does not affect the quality of the Explosive A. It only results in higher cost of production of Material 'X', as

with the quality deterioratiou of calcium carbide on storage/transit, the nitrogen content goes down to 18% resulting in more use of the raw material calcium carbide. The quality of production does not get adversely affected. Moreover, this item is inspected by an independent inspection authority before the same is issued to a sister Factory for manufacture of the end explosive e.g. triple base propellant etc. The triple base propellant produced from Explosive A in the sister Factory is sent to the filling Factory, after inspection again. Thus there is no room for issue of sub-standard explosive to the Army.

[Department of Defence Production O.M. No. 13(2)/82/D (Projects) dated 15.3.1983].

CHAPTER V

RECOMMENDATIONS OR OBSERVATIONS IN RESPECT OF WHICH GOVERNMENT HAVE FURNISHED INTERIM REPLIES

Recommendation

The Committee understand that some private parties have offered to make the product subject to the condition that the plant is sold to them or leased out. The Committee would like to be apprised of the outcome of these efforts.

[S. No. 7 (Para 1.66) of Appendix II to 106th Report of PAC (7th Lok Sabha)]

Recommennation

Production of process material 'Y' which is the starting material for manufacture' of process material declined sharply from 561 tonnes in 74-75 to 43 tonnes in 78-79 and 65 tonnes in 79-80 as against the assessed capacity of 3780 tonnes per annum, the principal reasons being limited availability of basic raw material and abnormally high cost of production of process material 'X' from 'Y'. Although the basic raw material is now available indigenously it is not proposed to procure the same as the production of process material 'X' from 'Y' is quite uneconomical. The plant is being operated to a small extent of 200 tonnes per year to meet the non-defence requirements. As such limited production is bound to be very uneconomical and the factory itself has no use for this plant, the Committee consider that the same should be disposed of or leased out to some public or private undertaking which could utilise it better.

[S. No. 8 (Para 1.67) of Appendix II of 106th Report of PAC (7th Lok Sabha)].

Action Taken

The question of disposing of the Plant in question to an outside party, either by selling it or by giving it on lease, subject to the condition that the party concerned guarantees supply of Material 'X' to the Ordnance Factories at a reasonable price, is being actively considered. The Committee will be informed of the final decision at the earliest.

[Department of Defence Production O.M. No. 13(2)/82/D (Projects) dated 15.3.1983].

NEW DELHI;
December 21, 1983
Agrahayana 30, 1905 (S)

SUNIL MAITRA
Chairman,
PUBLIC ACCOUNTS COMMITTEE

APPENDIX

Statement of Observations and Recommendations

Sl. No.	Para No.	Ministry/Deptt. concerned	Observations and Recommendations
1	2	3	4
1.	1.4	Department of Defence Production	The Committee expect that final replies in respect of the recommendations and observations in respect of which only interim replies have so far been furnished wlll be made available to them expeditiously after getting them vetted by Audit.
2.	1.8	—do—	In their 106th Report, the Committee had pointed out that calcium carbide the basic raw material for manufacture of explosive 'A' in an ordnance factory was being obtained from as far as Kerala and Tamil Nadu, with the result that not only the cost of transportation was high but the chemical composition also deteriorated fast due to ingress of moisture during transit and storage. The result was that the finished material was of poor quality. The Committee considered it unfortunate that such a situation had been allowed to linger on over the years without any thought having been given to get over the problem. In their reply,

1	2	3	4
			the Ministry of Defence (Department of Defence Production) have stated that deterioration in quality of calcium carbide during transit did not affect the quality of the explosive, but only resulted in higher cost of production as with the quality deterioration of calcium carbide, the nitrogen content went down. It has been claimed by the Ministry that the quality of production was not adversely affected. The Committee are not satisfied with the above reply. Even granting that the quality of the explosive is not adversely affected, the fact remains that as conceded by the Ministry themselves, the transportation of the raw material from far off places results in its excessive use thereby inflating the cost of production and that no solution to this problem has been found so far. The Committee would, therefore, like to reiterate their earlier recommendation that the problem of transportation of calcium carbide for this ordnance factory from distant places should be examined and suitable alternative arrangement made to have the supply of calcium carbide from some nearby source so that the deterioration in its quality on account of long transport, with the resultant higher cost of production of the end-product, could be avoided.
3	1.11	Deptt. of Defence Production	In their 106th Report, the Committee had emphasised the need for preparation of a perspective plan for replacement of the old plants and equipment in ordance factories by modern plants and equipment based on latest technology. In their action taken reply, the Department of

Defence Production have stated that a five-year plan for the period 1980-85 has been prepared by the Ordance Factory Board for renewal/replacement of old/outdated machines and an amount of Rs. 150 crores has been allotted for the purpose during this Sixth Plan period. The Committee welcome the steps taken by Government in this regard. They would like to be apprised of the progress made in the replacement of absolete plant and equipment in the ordance factory manufacturing various types of explosives for the army and the steps taken for removing the shortcomings/deficiencies pointed out by the Committee in their 106th Report.

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