

**SEVENTY-SIXTH REPORT**  
**PUBLIC ACCOUNTS COMMITTEE**  
**(1986-87)**

**(EIGHTH LOK SABHA)**

**DELAY IN DEVELOPMENT OF AN EQUIPMENT  
FOR AIR FORCE**

**MINISTRY OF DEFENCE**

**(DEPARTMENT OF DEFENCE RESEARCH  
AND DEVELOPMENT)**



*Presented in Lok Sabha on 22 April, 1987*  
*Laid in Rajya Sabha on 22 April, 1987*

**LOK SABHA SECRETARIAT**  
**NEW DELHI**

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### PART II\*

Minutes of sittings of the Committee held on

18-11-1986

24-3-1987

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\*Not printed (one cyclostyled copy laid on the Table of the House and five copies placed in Parliament Library).

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(1986-87)

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## INTRODUCTION

1. I, the Chairman of the Public Accounts Committee, do present on their behalf this Seventy-sixth Report on Paragraph 10 of the Report of the Comptroller and Auditor General of India for the year 1984-85, Union Government (Defence Services) relating to delay in development of an equipment for Air Force.

2. The Report of the Comptroller and Auditor General of India for the year 1984-85, Union Government (Defence Services) was laid on the Table of the House on 7th May, 1986.

3. The Committee's examination has revealed that in spite of the fact that operational requirement for equipment 'X' which was of urgent necessity for defence requirements was projected by the Air Force as early as in March 1967, it could not be provided even after a lapse of over 19 years. The implementation of the project has failed on all counts. The Committee have expressed concern that the project which was sanctioned at a cost of Rs. 142.50 lakhs in July 1976 has not made any headway even though orders for production to the extent of Rs. 409 crores have been placed on indigenous production agency. The Committee have expressed regret that even now there is no specific indication about the time by which this equipment of great strategic importance would actually be available for use with the Air Force. The Committee have observed that projects should be completed not only within the stipulated time and cost schedules but also should meet the technical performance specified and project goals.

4. Another disquieting feature distinctly noticed by the Committee is that non-availability of equipment has left a number of critical gaps in Air defence, as conceded by the Ministry of Defence. In fact, the need of the equipment was also felt in the 1971 war and during Air Force exercises in later years. A contract had to be signed with a foreign country for import of 8 number of similar equipment at a total cost of Rs. 45.6 crores. The delivery was expected over the period 1985 to 1988. There was also a steep escalation in the cost of this project. Against the original estimated cost of Rs. 142.50 lakhs, total project expenditure as on June 1986 is Rs. 492.32 lakhs representing an increase of over 346 per cent over

the original estimated cost. The Committee have viewed with concern that a lot of additional expenditure had to be incurred due to delay in the development of equipment 'X' and lack of adequate care in finalising agreement with suppliers.

5. The Committee opine the ultimate aim of all defence research and development effort is to attain production capability within the reasonable time span so that the country becomes self-reliant in vital defence equipment. The hard fact remains that the country today, after 19 years of research and development effort has not been provided with this equipment. The Committee have emphasised that the matter should be vigorously pursued with the production agencies to ensure that both the versions of the equipment become available with the Air Force within the shortest possible time.

6. The Committee have also found that the 2 tubes meant for sub-system 'XX' and which were procured from another foreign firm at a total cost of \$ 1,84,159 in July/August 1982 became defective due to prolonged storage. The Committee have been distressed over the lack of proper precautions on the part of the Ministry due to which huge expenditure of S 1,84,159 incurred on these tubes appears to have become infructuous. If the Ministry had closely monitored the project and identified areas of slippage and had taken timely corrective measures, the above tubes could have been put to use. The Committee have desired that responsibility leading to this omission may be fixed.

7. It is imperative that the development of our weapon systems should keep pace with the technological advancements in other countries and our research and development efforts have to be galvanised in this direction. Defence projects should be carefully planned and implemented efficiently so that there is no unnecessary cost escalation and on the completion of such projects they are not lagging behind the latest scientific technology. There should also be periodical and effective review of the execution of such projects at an appropriate level.

8. The Committee (1986-87) examined Audit Paragraph 10 at their sitting held on 18 November, 1986. The Committee considered and finalised the Report at their sitting held on 24 March, 1987, Minutes of the sitting from \*Part II of the Report. ♦

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

10. The Committee would like to express their thanks to the Officers of the Ministry of Defence (Deptt. of Defence Research and Development) for the cooperation extended to them in giving information to the Committee.

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

NEW DELHI;

March 25, 1987

Chaitra 4, 1909(S)

E. AYYAPU REDDY.

Chairman,

Public Accounts Committee.

## REPORT

### *Delay in Development of an Equipment*

1. The Report is based on paragraph 10 of the Report of Comptroller and Auditor General of India for the year 1984-85, Union Government (Defence Services), which is at Appendix-I.....

The Audit paragraph under examination seeks to highlight abnormal delay in getting operational requirement for an equipment to function as an early warning station for air defence. The facts of the case as intimated by the Ministry of Defence are recounted in the succeeding paragraphs.

2. The OR 3/67 for the equipment 'X' was issued by the Air Force in 1967 as part of the Air Defence Ground Environment System (ADGES). This was gone into by a committee of experts. Since R&D effort in the field of such equipments in the country was in its infancy, it was decided to invite proposals from companies all over the world to meet these requirements. A team of experts headed by the then Director of Signals, Air Force, was deputed in 1968 to visit these companies to see and evaluate the systems as well as hold discussions and seek clarifications. It was brought out by the team that no off-the-shelf equipment 'X' meeting the OR 3/67 was available. It was decided to follow up the developments. After a series of negotiations and meetings the Government signed a contract for production collaboration in 1970 with one of the firms from abroad for two ADGES equipment with the provision to exercise the option for the 'X' if the developments being carried out by the firm abroad resulted in a system that met the requirements of OR 3/67. In 1971, when the firm offered a system S-1, it was decided that the short term requirements of the Indian Air Force may be met by importing a few sets from the firm of a system S-1 even though it fell short of OR 3/67 requirements and the long-term requirements be met by joint development and collaboration of system S-2 with the firm for meeting the OR 3/67. Since the delivery terms and conditions offered by the firm were not acceptable, it was decided subsequently to try out another equipment S-3 available from a friendly country for meeting short-term requirements and refer the long-term requirements to the Defence R&D organisation. The Defence R&D submitted a proposal in 1972 for indigenous development of the equipment to meet OR 3/67. It was, however, found out that the proposal could not be accepted from the point of view



of target visibility in severe clutter conditions. When a technological breakthrough was reported in 1974 in the processing of system signals leading to higher performance level for visibility of targets in clutter, a fresh proposal for the development of the system was submitted in December 1974. The project for the development of the equipment 'X' to meet the OR 3/67 based on state-of-art techniques and technology was sanctioned in July 1976. According to the Department, considerable design, data and information had to be generated and it was also decided to examine the state-of-art abroad for some major sub-systems and ascertain the availability for use. Development of two sub-systems XX and XZ was contracted to specialist firms abroad. Scientists of the DRDO later developed a substitute for the sub-system XX with reduced power and integrated this with other sub-systems including XZ into version I equipment which was offered to the Services for user trials in 1984 and according to the Department it proved successful in their evaluation for operational use. In a meeting held in September 1985 in the office of the Defence Minister under the Chairmanship of the Prime Minister, the Chief of the Air Staff confirmed that the version I equipment which has been tried by the Indian Air Force was superior to any of the systems that they considered for acquiring from the Western European Countries as well as from the United States.

In the meantime, indigenous development of sub-system XX was vigorously pursued and according to the Department it has now reached a stage where it is being integrated into the equipment for version II with enhanced capabilities. By the end of 1985 the Services who had tried out version I placed orders for about Rs. 100 crores on an indigenous production agency. Based on the performance of version I and the confidence thereby gained orders for version I and version II have also been placed for production to the extent of Rs. 309 crores approximately.

*Delay in the submission of Project Requirement and sanction by the Government*

3. The Committee desired to know the reasons due to which the IAF took more than seven years to submit the project to the Ministry of Defence. In a note furnished to the Committee, the Ministry of Defence (Department of Defence, Research and Development) replied:

"The OR 3/67 for the equipment 'X' was issued by the Air Force in 1967 as part of the Air Defence Ground Environment System (ADGES). The ORs for all the various equipment including 3/67 was gone into by a committee of experts consisting of the Late Dr. Vikram

Sarabhai, the then Chairman of Atomic Energy Commission, Dr. S. Bhagvantam the then Scientific Adviser to Raksha Mantri alongwith the then Director of Signals Air Force, Late Air Vice Marshal K. A. Joseph. Since R&D efforts in the field of such equipments in the country was in its infancy, it was decided that proposals be invited from companies all over the world to meet these requirements. The replies received from the various firms were compared and evaluated and a short listing of the more promising firms was made. A team of experts headed by the then Director of Signals Air Force was deputed in 1968 to visit those companies to see and evaluate the systems as well as hold discussions and seek clarifications. The team on its return submitted its report by end 1968 bringing out that no off-the-shelf equipment 'X' meeting the OR 3/67 was available. However, systems based on pulse doppler principle using analogue techniques were under development in some countries. It was recommended by the expert team that these developments may be further followed up. Based on their recommendations, two firms were short listed for all such equipment requirements of ADGES and were approached with regard to the terms and conditions for collaborations for production of them in India. After a series of negotiations and meetings, the Government signed a contract for production collaboration in 1970 with one of the foreign firms for two ADGES equipment with the provisions to exercise the options for the equipment 'X' if the developments being carried out by the firm abroad resulted in a system that met the requirements of OR 3/67.

In 1971, the firm offered a system S-1 which was earlier in the development stage, for consideration by the Indian Air Force. In April 1971 meeting of the Steering Committee of the Radar and Communication Board, it was decided that the short term requirements of the Indian Air Force may be met by importing a few sets from the firm of a System S-1 even though it fell short of OR 3/67 requirements and the long term requirements be met by joint development and collaboration of system S-2 with the firm for meeting the OR 3/67. The delivery terms and conditions offered by the firm were, however, not acceptable to the Indian Air Force. Besides, the firm also escalated the price of the system S-1 & S-2

that were being offered. In February 1972 the firm indicated that they were no longer interested in the proposal for collaborating with India for development or production of a system to meet OR 3/67. In a separate decision it was decided to try out another equipment S-3 available from a friendly country for meeting the short term requirements and refer the long term requirements to the Defence R&D Orgn.

The Defence R&D submitted a proposal in 1972 for indigenous development of the equipment to meet OR 3/67. This was examined by Air Force from the point of view of target visibility in severe clutter conditions. It was found that the proposal could not meet this important parameter. The situation was however no better in the world over till 1974 with respect to the availability of techniques and technologies to meet the visibility of target in clutter conditions outlined in OR 3/67. In the meantime, a technological breakthrough was reported in 1974 in the processing of system signals leading to a higher performance level for visibility of targets in clutter. DRDO scientists were quick to grasp the importance of this technique for meeting the stringent requirements outlined in OR 3/67 and a fresh proposal for development of a system was submitted in December, 1974."

4. When enquired about the reasons for delay on the part of the Government in according approval, the Ministry of Defence in a note stated as under :

"By December, 1974, no report on any specific system, incorporating newer techniques for improvement of target visibility in clutter that had been built at that time anywhere in the world was available and hence a large amount of information and data had to be generated about the configuration architecture and response under different conditions. Besides this, a number of presentations had to be made to the users, the National Radar Council as well as to other scientist in this field so that the novel technique could be critically examined. The project for the development of the equipment 'X' to meet the OR 3/67 based on state-of-art techniques and technology was therefore sanctioned in July 1976."

5. When asked about the progress of the project monitored and the measures taken to remove bottlenecks, the Ministry of Defence, Directorate of Planning and Resource Management (Defence Research and Development Organisation) replied:

"The project is being monitored by a high level Steering Committee appointed by the Government and headed by DCAS. It also comprises of the users, designer (R&D), production/inspection agencies, Financial specialists of the Ministry and members drawn from the Dept. of Electronics. This Committee is further assisted by a Technical Sub-Committee to look into the technical aspects of the project. The project progress was being monitored regularly. Whenever bottlenecks were reported or noticed, the Steering Committee looked into the areas of difficulties, proposed solutions and made necessary recommendations to the Government to provide all the help and speedy sanction. It is considered that the monitoring was effective."

#### *Procurement of Sub-system*

6. The Committee enquired whether if all the sub-systems had been imported it would not have expedited the development of the complete equipment 'X'. The Committee also enquired whether these systems were available abroad at that time. The Department of Defence Research and Development stated as under:

"Of the 4 main sub-systems XW, XX, XY and XZ, the team of officers deputed abroad could effectively locate sources which can carry out the necessary development and also supply the final model well within the time frame for only 'XX' and 'XZ'. For the system 'XW' there was only one firm in one of the countries abroad, who had the capability and willingness to supply the system. However, the team found as a result of their discussions that this sub-system 'XW' being supplied also did not materially offer any advantage as compared with what could be developed indigenously; it was therefore decided not to import this sub-system. Similarly, the sub-system 'XY' though available through one firm was not likely to be available freely for export to outside that country's borders as per their Government policy."

*Import of sub-system XX*

7. The Committee desired to know the extent of progress on the contract till May 1981 and the reasons for not stipulating in the contract penalty clause for delay or failure of supplies for safeguarding Government interest. The Department of Defence Research and Development stated in their note:

"Most of the sub-system of the brass board model were either completed or were under test in May 81 and hardware or the prototype had been procured.

The contract entered into with the firm was on cost plus fixed fee basis which type was prevalent in the country of the firm for development jobs and the firm was not prepared to undertake the work on any other form of contract. This type of contract did not permit any stipulation of penalty clause for delays. However, the interest of the Government was duly safeguarded through the arbitration clause of the contract. Before the award of the contract to the firm, it was finalised in consultation with the Legal Adviser and the Integrated Financial Adviser of this Ministry."

8. Asked about the expenditure incurred by firm 'B' on the contract upto May, 1981 the Department of Defence Research and Development intimated that based on the invoices submitted, a sum of US Dollars 7,36,250 was the expenditure incurred by the firm till May, 1981.

9. The Committee enquired as to why amendment nos. 2 and 3 to the contract were issued in September 1982 and June 1983 when there was no progress of work after August 1982. The Department of Defence Research and Development intimated as under:

"Most of the development had been completed and the firm had indicated its inability to proceed further on account of cost over-run to it, without further negotiations.

Based on the negotiations held in consultation with the Financial Adviser and the Legal Adviser of the Ministry the amendments 2 and 3 were issued with a view to progress the balance of work and to bring the contract hopefully to a fruition."

10. The Committee wanted to know the details of bank guarantees/LOC showing the amount and period of validity obtained from

the firm 'B' and also enquired as to why were payments released to firm without having safe-guard for the full amount released from time to time and under what authority. The Committee also enquired as to why were the letters of credit not invoked or got extended before the expiry of their date. The Ministry of Defence in a post evidence note replied:

- "(i) The firm was paid 95 per cent of the contract value as per the terms and conditions of the contract.
- (ii) Since the firm had completed the bulk of the work by Aug. 82, our efforts were more to get the firm resume work. Based on the negotiations held in consultation with the Financial Adviser and Legal Adviser to the Ministry of Defence, amendments were issued with a view to progress the balance of work and to bring the contract hopefully to a fruition. Encashing of the letter of credit would have jeopardised the possibility of successful completion of the contract.
- (iii) The payments were made as per the contract which was duly gone into by the Financial Adviser as well as the Legal Adviser and was accepted by the Secretary to the Government of India, Deptt. of Defence Research."

11. Asked as to why at the time of signing the contract with firm 'B' on 20th June 1979 no Bank Guarantee was taken from the firm for safeguarding Government interest. The Department of Defence Research and Development intimated that as per Laws of the country of firm 'B' no Bank Guarantee was taken and hence a reverse letter of credit for the amount of down payment was provided in accordance with the contract.

12. The Committee further enquired about the steps other than Arbitration which were taken at the time of release of 95 per cent of contract value to the firm so as to ensure that it sticks to the original date of completion of the contract i.e., 15th October 1981. The Department of Defence Research and Development intimated as follows:

The contract entered with the firm was on 'cost-plus-fixed fee' basis. This type of contract was prevalent in the country of the firm for development jobs. The firm was therefore not prepared to undertake the work on any other terms. The interest of the Government was primarily safeguarded through the Arbitration clause. In addition, through

correspondence as well as by stationing of the scientist at their works, the firm was being constantly pushed to accelerate the pace of work."

13. The Committee desired to know the reasons for not taking any action against firm 'B' on expiry of original date of completion viz. 15-10-1981 till about 3 years i.e., upto August 1984. The Department of Defence Research and Development intimated as follows:

"The amendment 3 of the contract which was duly accepted by the firm 'B', stipulate the revised delivery schedule as Sept. '83 and so Government of India had to wait till atleast to this date as a contractual obligation before proceeding against the firm 'B'. Hence the matter regarding legal action against the firm 'B' could only be taken up after Sept. 83. After due process of consultation with Legal Adviser to the Ministry, Government of India issued a contract termination notice to the firm 'B' in Sept. '84."

14. Asked about the reasons for taking one year after the expiry of latest delivery schedule of September, 1983 to issue termination notice in September, 1984. The Department of Defence Research and Development stated as follows:

"Amendment 4 was issued in September 1983 to the firm. This was accepted by the firm and sent back to India duly signed by the President of the firm signifying the willingness of the firm to go ahead with the work. Since the bulk of the development had been completed by that time our effort and interest was to persuade the firm to complete the remaining portion rather than break-off. Correspondence with the firm was maintained till May, 1984 as there were indications that it had intentions to complete the jobs."

15. The Committee further enquired whether the Government had entered into any contract with firm 'B' in the past and how the firm's suitability was assessed. The Department of Defence Research and Development stated as follows:

"No, but the suitability of the firm 'B' was assessed based on the following:—

(aa) It was one of the top 500 approved contractors listed by Deptt. of Defence of that country.

- (ab) Its financial standing was assessed as adequate by perusing the annual report of the firm and in consultation with the Embassy of India officials in that country.
- (ac) The firm 'B' was also a specialist firm in custom building products of this nature for the Navy of that country."

16. As per the amendment to contract signed by firm 'B' on 7th October, 1983, the firm was required to provide within 15 days an irrevocable letter of credit (instead of Bank Guarantee) which it did not furnish. The notice about breach of contract was issued to firm 'B' on 24-9-1984. The Committee enquired whether under these circumstances the enforcement of recovery against the firm was covered by the contract. The Department of Defence Research and Development stated "yes, through the process of arbitration".

#### *Arbitration Proceedings*

17. The Committee desired to know as to when the arbitration proceedings were instituted against firm 'B' and what was the progress of arbitration. The Secretary, Department of Defence Research and Development replied in evidence:

"In January, 1985, we asked for an arbitration. Justice.... was appointed as an arbitrator. The company went into court and got a stay order that the arbitrator cannot be appointed like this. The Court gave a judgement in writing in February, 1986 saying that the criterion for the selection of arbitrator should be discussed between the two 'Attorneys i.e., of our country and that of the foreign company. Right now our Attorney is discussing with their Attorney who was unwilling at that time. We have already given another panel of names of Arbitrators. This is unfortunate. We went on genuinely thinking that this is the right company because they had done similar thing to another armed force. The price was the lowest quotation."

18. The Committee enquired as to when were the fresh arbitration proceedings against the firm initiated and what was the latest position of those proceedings. The Committee also asked as to what were the loopholes in the contract that enabled the firm to agitate the issues before the law courts and as to what steps have been

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taken to plug such loopholes. The Department of Defence Research and Development intimated in a post evidence note:

"As per the court order, the legal counsel of both parties were to arrive at a consensus with regard to the criteria for selection of the arbitrator. After having done this, the DGISM has forwarded a panel of arbitrators to the firm in March 1986. Based on the observations made by the court, the firm has sent a set of questionnaires to be arbitrators. The matter is being pursued to expedite the finalisation of the arbitrator acceptable to both the parties.

The contract was framed having regard to the fact that this item was desparately required and as such did not have any loopholes. Whatever may be the contract, if one of the parties want to agitate in the court, he will do so. In this case the firm's contention was on the neutrality of Indian arbitrator to judge this issue.

19. As desired by the Committee, the Department of Defence Research and Development furnished the following details of Government claims submitted by them to the Arbitrator.

- "(i) An amount of \$ 736250 US Dollars plus interest as provided by ..... Law paid by the buyer to the seller for performance of contract.
- (ii) An amount of Thirty Million Dollars \$ 30,000,000 towards damage caused by failure of the seller to deliver the pro to type.
- (iii) An amount of One Hundred Thousand Dollars \$ 1,00,000 towards cost of travel accommodation, miscellaneous expenditure etc. for various officials and employees deputed to the firm.
- (iv) Actual costs and expenses including Attorney's fees.
- (v) Any other additional & incidental relief to which entitled to"

*Equipment procured for Sub-system XX*

20. When asked as to why no action was taken to ship equipment costing Rs. 12.08 lakhs for sub-system XX which were laying abroad in the warehouse since January 1983 and as to what was the latest position about the utilisation of this equipment, the Department of Defence Research and Development stated:

- "(i) The reissue of Export Licence by the foreign government held up immediate despatch.

- (ii) These are being utilized in the indigenous development and testing of radars."

*Extradition of Scientist*

21. The Committee enquired as to why the Scientist was allowed to stay till January 1983 when there was no progress of the work on the contract after August 1982. The Department of Defence Research and Development intimated as follows:

"Though the work on the contract had stopped by Aug 82, the scientist from the laboratory was asked to stay on as the tube manufacturer had earlier indicated return of the tube to firm 'B' within six weeks. As negotiations were continuing with firm 'B' it was expected that the work would continue for the successful development of sub-system 'XX', after the tubes were repaired and returned to firm 'B' by the tube manufacturer. It was considered that the presence of our scientist at site would put some pressure on firm 'B' to again deploy their man-power on this project immediately after the tubes were received by them. It was therefore not considered necessary to recall the scientist at that stage."

22. The Committee desired to know the reasons for not lodging the Report about the Scientist with police authorities in August 1983 itself. The Department of Defence Research and Development intimated as follows in a post evidence note:

"After the expiry of his leave in Aug 83, the officer remained absent and applied for extension of leave for 3 months. This was refused and he was asked to report back for duty by 07 Sep. 83. As he did not rejoin duty, enquiries were made at his home address in Trivandrum and at his temporary address at Bangalore which revealed that the scientist had left the country. Airport authorities at Bombay, Calcutta, Madras and Delhi were approached to confirm his departure from the country and his exact date of departure. However, confirmation to the effect that the scientist did not leave the country through that Airport, could become available only from the authorities at Delhi. However, as the preliminary enquiry had revealed that the scientist has left the country, Ministry of External Affairs, were requested in November, 1983 that necessary action for the cancellation of his passport and for his repatriation may be initiated. Orders for the revocation of his passport were issued on 24 January, 1984 to all passport authorities in India and abroad. The Ministry of

External Affairs official also confirmed in February, 1984 when one of our officers called on them that assistance of Interpol cannot be sought in such cases. This Department took up the matter again with the Ministry of External Affairs in April, 1984 and apprised them of the urgency in the repatriation of the officer. The full details of the case were again furnished to Ministry of External Affairs. In reply, we were supplied with the relevant portions of the Extradition Treaty between India and the foreign country for taking necessary action for extradition of the scientist. The various provisions under which the scientist could be extradited were explored and the advice of the Legal Adviser (Defence) was obtained. Action on the basis of the advice was initiated. A delegation from this Department met the Counsellor, Embassy of India, . . . . . in January, 1985 who promised that all possible efforts would be made to deport the officer. In 1985 the Consulate General of India in . . . . . confirmed that deportation/repatriation cannot be considered unless some specific charges are established by a court of law and the scientist convicted. The matter was then taken up with the police authorities of Karnataka and Kerala. In addition to the above, the matter was also taken up with the Chief Secretary, Karnataka and Director General (Police), Karnataka for institution of criminal proceedings against the scientist.

Embassy of India, . . . . . has requested in October, 1986 the Associate Commissioner (Enforcement) to ascertain the whereabouts of the scientist and for his deportation to India.

It may be seen from the above that the matter has been brought to the notice of all concerned authorities in time and appropriate actions were taken on the advice of various agencies."

23. Asked whether the Scientist had gone with the official passport after he came back, the Secretary, Department of Defence Research and Development, replied in evidence :

"Yes. He was supposed to go to that foreign country again. Then he went on leave."

The witness further elaborated as follows:

"He had the official passport with him to collect his wife and her baggage. Then he went to Kerala on leave for ten days. Then on the pretext of his sister's marriage he wanted three months leave. His leave was not sanctioned and he was asked to come back. Even another person was sent to Kerala for this purpose. We have not sent him on our money. He ran away."

24. The Committee enquired the reasons for giving the official passport again to the Scientist when he was going to the airport. The Secretary of the Department stated in evidence :

"If you have travelled from a foreign country and your baggage comes back, you must have to present the passport to the customs for clearance of your baggage."

The witness further elaborated as follows :

"His wife was returning after three years and so was he. She came much later. And he said that he wanted the passport to collect his unaccompanied baggage and also her baggage which was coming as transfer of residence. He was to go in perhaps a month later on official passport for official work."

25. Asked whether the Scientist possessed any official secrets, the Secretary of the Department stated in evidence:

"I would like to correct a few of the facts. This man had no official secrets at all except working for a power supply and Transmitter on amplifier contract, with a company. So, he did not possess any classified information. The second important point is that he was the only young man who has gone on deputation abroad and run away from our organisation. So far we have sent 175 people abroad on deputation. I am happy to say that they are not only back here but also they are committed themselves to the pursuit of some of the activities."

26. The Committee desired to know the present progress in regard to extradition and recovery of Rs. 6.43 lakhs from the Scientist. The Department of Defence Research and Development stated as follows:

"Extradition proceedings against the Scientist were initiated during May 85 by Consul General of India in that country

based on the request made by the Department in January 1985. The Consul General of India has subsequently intimated that as per existing regulations, the deportation can be considered only if some specific criminal charges are established by Court of Law in India and the court convicts him. Accordingly, cases were filed against the scientist at Bangalore and Trivendrum under Section 12 (1) (b) of the Passport Act 1967. The deportation proceedings are pending awaiting the decision of the court. Director General of Police, Trivendrum (Kerala) has been requested to expedite the case.

Action with regard to the recovery of bond money (Rs. 6.43 lakhs) is pending for finalisation of issue regarding extradition/repatriation of the scientist."

27. The Committee further enquired whether the Department had been able to acquire the technology and know-how gained by the scientist and if so to what extent. The Department of Defence Research and Development stated as follows:

"The information communicated, through the periodical reports rendered by the Scientist, was evaluated for its usefulness in other related projects. Also after his return to India, during January 1982 to August 1983, the the practical inputs based on the know-how gained by this scientist during his stay with the firm 'B' were made use of in a similar sub-system."

*Delay in repair of tube*

28. The Committee desired to know why one of the two defective tubes have not been got repaired so far. The Committee also enquired as to who was responsible for the damage in the tubes and what was the position in regard to utilisation of these tubes. In a post evidence note the Department of Defence Research and Development stated:

"The tube has not been got repaired as the cost of repairs is more than half of the cost of the tube and as the tube is still with the firm 'B':

- (i) According to the manufacturer of the tubes, they have no shelf life. Also, the manufacturer of the tube is of the view that this is the responsibility of the firm 'B'.

- (ii) The tube cannot be utilized as they are still with the firm 'B'."

29. The Committee desired to know the reasons due to which the firm 'C' expressed their inability to execute the contract concluded with them in October 1979 for the development and supply of sub-system 'XZ' at a cost of \$ 5,08,007. The Department of Defence Research and Development stated as follows:

"The firm 'C' expressed their inability to obtain the bank guarantee as stipulated in the draft contract sent to them."

The Committee further enquired whether there was any provision of recovery of damage from firm 'C' for this failure as subsequently in October-November, 1980 another contract for the same item had to be entered into with firm 'D' at a much higher price of \$ 12,90,132. The Department of Defence Research and Development stated as follows:

"The contract did not become effective and hence the question of claiming compensation does not arise."

30. To a question whether firm 'D' had made the supply for sub-system 'XZ' as per terms of the contract, the Department of Defence Research and Development stated "yes, October 1985".

*Indigenous development of sub-systems 'XX' and 'XZ'*

31. The Committee enquired whether the indigenously developed sub-system 'XX' and indigenous interim solution of sub-system 'XZ' have been evaluated and integrated. The Department of Defence Research and Development stated as follows:

"Indigenous sub-system 'XX' is being integrated and test will be conducted shortly. Indigenous sub-system XZ (interim solution) has been integrated in stand alone mode and the results were found satisfactory. This interim solution had provided much needed technical inputs for integrating such a device in the equipment 'X'. This valuable information enabled us to integrate the imported sub-system XZ without serious delays or technological problems."

32. Firm 'D' had supplied the sub-system 'XZ' by July 1985. The Committee desired to know the following information:

- (a) Has the firm supplied all the details of sub-system 'XZ' and also transferred the technology?

- (b) When the fully developed imported sub-system 'X' is available why is the interim solution 'XZ' being integrated?

The Department of Defence Research and Development intimated as follows:

"Yes. Indigenous sub-system 'XZ' (interim solution) has been integrated in stand alone mode and the results were found satisfactory. This interim solution had provided much needed technical inputs for integrating such a device in the equipment 'X'. This valuable information enabled us to integrate the imported sub-system 'XZ' without serious delays or technological problems."

33. The Committee also enquired about the source which supplied the technical know-how to the undertaking for development of the sub-system 'XX' and 'XZ'. The Department of Defence Research and Development state:

"It was generated indigenously for sub-system XX based on the technological inputs gained by the public sector undertaking from the development cum production programmes from the foreign collaborators. Also an engineer from this PSU was sent to firm 'B' along with our scientist for about 3 months.

As far as the sub-system 'XZ' is concerned, the knowledge is being generated through the information already obtained by them in connection with another equipment programme and also through the information provided by DRDO from the know-how obtained from firm 'D'. Also one more engineer of the PSU was trained in the firm 'D's premises for about 3 months. All relevant documents obtained by DRDO from firm 'D' have been given to the public sector undertaking with a view to generate nation wide capability in this area."

34. The Committee enquired about the foreign collaborators and the time when the development-cum-production programmes were undertaken. The Department of Defence Research and Development stated as follows:

"Thomson-CSF, France. The production collaboration is for other systems, and not for Equipment X. The Collaboration agreement was signed in the seventies. The requirement for sub-system 'XX' for equipment 'X' was much

more stringent than the equipment for which the collaboration agreement was signed in the seventies. Hence the information obtained from the collaborators had to be substantially worked upon before it could be useful for sub-system 'XX'."

35. Asked about the money paid to the undertaking for indigenous development of sub-system 'XX', the Department of Defence Research and Development intimated that Rs. 58,00,000.00 as on date.

36. The Committee enquired about the progress of indigenous development of sub-system 'XZ' in July, 1983. The Department of Defence Research and Development stated as follows:

"Indigenous XZ sub-system (interim solution) was completed and tested in the factory by July 1983"

37. The Committee further enquired as to how the cost of imported sub-system 'XZ' compares with indigenous one. The Department of Defence Research and Development stated as follows:

"The development contract for the imported equipment was for \$1290132 in July 1983. The indigenous system has been contracted with PSU for Rs. 60 lakhs including FE of Rs. 20 lakhs."

#### *Development of Equipment XZ*

38. The Committee asked about the progress towards indigenous development of sub-system XZ/long term solution. The Department of Defence Research and Development stated:

"The development contracts for indigenous sub-system 'XZ' (long term solution) on local firms have been placed in March 1985 and the delivery is in March 1987. However, progress monitored indicates that there may be a time over-run of approximately 3 months".

#### *Position about Development of equipment 'X'*

39. The Committee desired to know the latest position about the development of equipment 'X'. The Department of Defence Research and Development stated as follows:

"Version 1 equipment was offered to the Services for user trials in 1984 and has proved successful in their evaluation for operational use. It is relevant to mention that version 1 equipment with its present capability can be made use



of by the Air Force as per the current philosophy of deployment, thus covering the gaps in low level Air Defence. In a meeting held September 1985 in the office of the Defence Minister under the Chairmanship of the Prime Minister, the Chief of the Air Staff confirmed that the Version 1 equipment which has been tried by the Indian Air Force is superior to any of the system that they considered for acquiring from the foreign countries. The Chief of Army Staff also confirmed in the same meeting that they are also happy with the Version 1 system and they would also like to have the same equipment for meeting their requirements.

In the meantime, indigenous development of sub-system XX has been vigorously pursued and it has now reached a stage where it is being integrated into the equipment for Version 2 with enhanced capabilities. By end 1985 the services who had tried out version 1 placed orders for about Rs. 100 crores on an indigenous production agency. Based on the performance of Version 1 and the confidence thereby gained, orders for versional/version 2 have also been placed for production to the extent of Rs. 309 crores approximately."

40. In November 1976 a Public Sector Undertaking was nominated to produce 41 numbers of the equipment 'X'. The Air Force was to accept a model of the equipment for user trials in September 1982 and supply of the equipment was to commence from September 1984. The Committee desired to know the basis on which the targets for the acceptance of the model and commencement of the supply of equipment were fixed.

In a note the Department of Defence Research and Development stated as follows:

"On the basis of the feasibility report submitted by LRDE for the development of equipment 'X' for the Air Force in Dec. 1974, the target dates for making the prototype available for the user evaluation was accepted after considerable discussions in a meeting on 27 Apr. 76 chaired by Defence Secretary. Considering the stringent nature of the requirement projected in the QR 3/67 and the contemporary equipment that are likely to be in existence at the time of completion of the project, the DRDO had to go in for a state-of-art equipment which was highly sophisticated and complex in its signal processing and other

systems. In view of the magnitude of the development efforts involved, a time frame of 5-6 years was estimated. In arriving at this PDC the urgent nature of the user requirement had to be reconciled with the need for a longer development time. This was also accepted by the user who is member of the Steering Committee.

Also, the large number of trials, final acceptance by the user preparation of the document item and production drawings etc. was expected to take a certain amount of additional time. This was the reason for arriving at the proposed time frame for the commencement of supply of the system by BEL (Gad) as Sep. 84."

41. The Committee desired to know the reasons due to which the envisaged targets for the development and production of the equipment could not be adhered to. In a note the Department of Defence Research and Development stated as follows:

"The aforesaid targets could not be adhered to as the development contract for sub-system 'XX' signed with firm 'B' did not ultimately materialise.

In view of the sophisticated nature of the sub-system involved, it took sometime to identify a suitable agency, which could undertake the design and development for our requirement. Two critical sub-systems were specifically identified for getting developed outside the country. However, parallel action was taken to initiate R&D effort with the help of other agencies within the country. Ultimately, this indigenous effort paid off, though resulting in some unavoidable delay."

42. The Committee enquired about the present progress regarding productionisation of equipment 'X'. The Department of Defence Research and Development stated as follows:

"Production planning and transfer of know-how from DRDO to the Public Sector Undertaking is in progress and a high level Programme Management Board headed by RRM(A) has been constituted. The first meeting was held in July 86 and the Board has expressed satisfaction in the progress of transfer of the know-how to the production agencies".

43. The Committee desired to know as to how far the Department was satisfied with the progress so far achieved on this project. The

Secretary, Deptt. of Defence Research and Development stated during evidence:

"I want to submit here that the programme has succeeded beyond our expectation. This programme will bring into our country the most powerful system including the AWACS detecting targets at low flying level. There were some difficulties. We have succeeded in this field beyond our expectation.

I would be grateful if this programme is considered as an appreciation of the amount of work that my colleagues have done—with whom I am privileged to work for our country."

44. The Committee desired to know as to how far the delay in development and productionisation of the equipment has affected the operational preparedness of the Air Force. The Department of Defence Research and Development stated as follows:

"Non-availability of equipment has rendered a number of critical gaps in our Air Defence."

45. The Committee further enquired about the alternative arrangements which were made to meet the deficiency. In a note the Deptt. of Defence Research and Development stated as follows:

"Essential Air Defence requirements are being met by importing near suitable equipment and redeploying the available systems to cover only the more important areas."

46. According to the Deptt. the need of this equipment was felt in the year 1971 war and during Air Force exercises in later years. The Committee desired to know the steps which were simultaneously taken to bridge the critical gaps created by the non-availability of this equipment. The Deptt. of Defence Research and Development stated as follows:

"In order to fill these gaps in the area coverage, a number of Mobile Observation Flights were raised to provide adequate early warning. Beside a few additional equipments Y1/Y2 of somewhat comparable class have been imported from a friendly country."

47. The Department intimated Audit in September, 1985, that no import of equipment" was made. However, a contract was signed with a foreign country for import of some numbers of a

certain equipment costing Rs. 45.6 crores. The Committee desired to know as to when the contract for the supply of the equipment was signed and scheduled date by which the same would be received. The Deptt. of Defence Research and Development stated as follows:

Contract for 8 number of the equipment was signed in May 85. The delivery schedule is as follows:

Dec 85	—	3
Dec 86	—	2
Dec 87	—	2
Dec 88	—	1

*Expenditure on the Project*

48. The original estimated cost of Rs. 142.50 lakhs (including Rs. 84 lakhs in FE) was increased to Rs. 578.76 lakhs (including Rs. 383.88 lakhs in FE) in July, 1983.

The Committee desired to know the total expenditure incurred on the project so far with break up of the expenditure on indigenous development and procurement of sub-system 'XX' and 'XZ' from foreign country. The Department of Defence Research and Development elucidated as follows:

"Total project expenditure as on June 86 is Rs. 4,92,31,528/-.

(a) Indigenous development : Rs. 2,70,22,928/-

(b) (I) Sub-system 'XX' at : Rs. 73,67,500/-

Firm 'B'—

Expenditure.

(II) Sub-system 'XZ' at : Rs. 1,48,41,100/-

Firm 'D'—

Expenditure"

49. The Committee drew specific attention of the Secretary, Deptt. of Defence Research and Development to the newsitem on the subject which appeared in the Sunday Statesman on 16.11.1986 and desired that the doubts expressed therein may be suitably explained. The Secretary, Deptt. of Defence Research and Development elucidated as follows:

"The first part is:

According to informed sources, the manufacturing-agency BEL, will have to almost completely redesign the system

which was prepared by the Electronic Research and Development Establishment.....”

It is not true; technology transfer has been completed. The only paragraphs that I have to bring to your notice is the last paragraph:

“It now appears that the Air Force has been sold a dummy and its plans are bound to be seriously affected. It could well regret its decision to abandon perhaps under pressure acquisition of proven low level from established manufacturers abroad.”

Do I have to say anything more? Technology transfer to BEL has been completed. It also says:

“The laboratory model which was supplied to BEL by the designers, uses equipment that is obsolete.”

Not at all.

I can only say what I have genuinely come to believe.

We are talking of 40 kms. at the low altitude. How can I increase it to 90 kms.? I am blind there.”

50. The Air Force projected an operational requirement for equipment 'x' to function as an early warning station for air defence in March 1967. The Research and Development Establishment took more than 7 years to submit the project in December 1974 for development of this equipment. The Ministry of Defence further took 1½ years to accord sanction to the project for development of the equipment at a cost of Rs. 142.50 lakhs (including foreign exchange Rs. 84 lakhs). In November 1976, a Public Sector Undertaking was nominated to produce 41 numbers of the equipment as required by the Air Force. According to the targets laid down, the Air Force was to accept a model of the equipment for user trials in September 1982 and supply of the equipment was to commence from September 1984. According to the Ministry, in arriving at the probably date of completion the urgent nature of the user requirement had to be reconciled with the need for a longer development time. The Committee are astonished to find that inspite of the fact that requirement was projected as operational by the Air Force as early as in March 1967, the equipment which was of urgent necessity for defence requirements could not be provided even after a lapse of over 19 years. The Committee's examination has revealed a number of loopholes which need to be plugged. The Committee would like

to observe that projects should be completed within the stipulated time and cost schedules. That is where the importance of efficient project management comes in. Project implementation can be successful only when in addition to the project getting completed on schedule at the estimated costs, the technical performance specified and project goals are fully met. Lamentably, in this particular case the implementation of the project has failed on all counts. The Committee feel concerned to note that the project which was sanctioned at a cost of Rs. 142.50 lakhs in July 1976 has not made any headway even though orders for production to the extent of Rs. 409 crores have been placed on indigenous production agency. The Committee note with regret that even now there is no specific indication about the time by which this equipment of great strategic importance would actually be available for use with the Air Force.

51. Another disquieting feature distinctly noticed by the Committee is that non-availability of equipment has left a number of critical gaps in Air defence, as conceded by the Ministry of Defence. In fact, the need of the equipment was also felt in the 1971 war and during Air Force exercises in later years. Essential air defence requirements are now being met by importing near suitable equipment and redeploying the available system to cover only the more important areas. A contract had to be signed with a foreign country for import of 8 number of similar equipment at a total cost of Rs. 45.6 crores. The delivery was expected over the period 1985 to 1988. There was also a steep escalation in the cost of this project. Thus, against the original estimated cost of Rs. 142.50 lakhs, total project expenditure as on June 1986 is Rs. 492.32 lakhs. This represents an increase of over 346 per cent over the original estimated cost. The Committee view with concern that a lot of additional expenditure had to be incurred due to delay in the development of equipment 'X' and lack of adequate care in finalising agreement with suppliers. The Committee feel that foremost reason for increase in project expenditure was nothing else but lack of care in scrutinising the agreement with suppliers ignoring the financial interests of the Government. The Committee recommend that Government may go into this aspect so as to ensure that situation of this type is not repeated in future.

52. The Committee feel that the ultimate aim of all defence research and development effort is to attain production capability within the reasonable time span so that country becomes self-reliant in vital defence equipment. The hard fact remains that the country today, after 19 years of research and development effort has

not been provided with this equipment. The Committee need hardly emphasise that the matter should be vigorously pursued with the production agencies to ensure that both the versions of the equipment become available with the Air Force within the shortest possible time.

53. The Committee note that a contract was concluded with a foreign firm 'B' on 20-6-1979 on cost plus fixed fee basis with a ceiling FOB cost of \$ 7,75,000 for development of sub-system 'XX'. The Committee note with regret that the contract agreement did not stipulate any penalty clause for delay or failure of supplies as according to the Ministry this type of contract did not permit any stipulation of penalty clause for delays. By May, 1981, a sum of \$ 7,36,250 (Rs. 58.90 lakhs) being 96 per cent of contract value was drawn by firm 'B'. Another disquieting feature noticed by the Committee is that this firm failed to complete the contract inspite of the fact that 4 amendments extending the date of delivery were issued in January 1982, September 1982, June 1983 and September 1983 respectively. In addition, payment of sum of \$ 1,70,000 was also agreed to as an addition to the contract value. The Committee are astonished to observe that inspite of all these liberal concessions there was no progress of work after August 1982.

54. The Committee note that according to Amendment No. 4 issued in September 1983 firm 'B' was required to provide within 15 days of signing the amendment an irrevocable letter of credit for an amount of \$ 2,25,000. The Committee note with regret that even though there was no progress of work after August 1982 the Ministry failed to terminate the contract immediately on expiry of latest delivery schedule of September 1983. The contract termination notice was eventually issued in September 1984. According to the Ministry of Defence, since the bulk of the development had been completed by that time their effort and interest was to persuade the firm to complete the remaining portion rather than terminate the contract. The Committee would like to be satisfied that when bulk of the development work had already been completed and the Government had also assured the additional payment of \$ 1,70,000 to the firm, why it was not possible for the Government to make the firm agree to continue with the implementation of the project. The Committee cannot help remarking that there were serious lacunae in drafting as well as enforcing of the agreement with the firm.

55. The Committee also note with regret that due to failure of contract with firm 'B' equipment worth Rs. 12.08 lakhs procured for

sub-system 'XX' has remained unused till June 1985. This equipment remained abroad in the warehouse since January, 1983 and was shipped to India on 24-6-1985 after obtaining export licence. According to the Ministry this equipment was being utilised in the indigenous development and testing of equipment 'X'. The aforesaid facts clearly indicate that there were some basic defects in the contract with firm 'B'. The making of 95 per cent advance payment without obtaining collateral security for full amount was not proper and was in total disregard of the financial interests of the Government. Besides locking/loss of substantial foreign exchange, there was also a considerable risk of failure of the firm and resultant delay in completion of the project. The Committee trust that the Government would in future exercise adequate precaution and care in drafting agreement with firms particularly in foreign countries so that the financial interests of the Government are not jeopardised and there is no loss to the Government.

56. The Committee note with dismay that though the contract was terminated in September 1984, there is still no progress on the arbitration proceedings instituted against the firm in January 1985. Even the question of selection of arbitrator remains to be settled. The matter should be pursued vigorously so that arbitration proceedings are finalised as early as possible and steps taken expeditiously to recover dues to the Government. The methodology of the appointment of the Arbitrator should be specified in the contract agreements.

57. The Committee also find that the 2 tubes meant for sub-system 'XX' and which were procured from another foreign firm at a total cost of \$ 1,84,159 in July/August, 1982 became defective due to prolonged storage in the premises of firm 'B'. While one of the tubes has been repaired the other one has not been repaired as the cost of repairs is more than half of the cost of the tube. Surprisingly, both these tubes are still with firm 'B'. The Committee would like to be informed as to why these tubes have not been received from the firm so far. It is distressing to find the lack of proper precautions on the part of the Ministry due to which huge expenditure of \$ 1,84,159 incurred on these tubes appears to have become infructuous. If the Ministry had closely monitored the project and identified areas of slippage and had taken timely corrective measures the above tubes could have been put to use. Responsibility leading to this omission may be fixed.

58. The Committee note with regret that the scientist on whom the Ministry incurred an expenditure of Rs. 6.43 lakhs and who was



deputed abroad in connection with the purchase of the equipment surreptitiously left the country and has not been repatriated even after the lapse of more than 3 years. The Government must take effective measures to get him repatriated and also take adequate step in future to ensure that such incidents do not recur. Steps must be taken immediately to execute the Bond made in favour of the Government.

59. The Committee also note that contract with a foreign firm 'C' in October 1979 for the development and supply of sub-system 'XZ' at a cost of \$ 5,08,000 was terminated in September 1980 as firm 'C' had expressed their inability to obtain the bank guarantee as stipulated in the draft contract sent to them. Another development contract was concluded in October-November 1981 with foreign firm 'D' at a much higher price of \$ 12,47,000 which was subsequently increased to \$ 12,90,132. The contract was completed by the firm by July 1985. Both the firms 'C' and 'D' belonged to the same country. According to the Department of Defence Research and Development as per laws of the country of firm 'C' no collateral security was taken from them. The Committee would like to know as to how the firm 'D' could furnish the collateral security under the same laws. The Committee are constrained to believe that either the information given to the Committee was incorrect or there was lack of effort and will on the part of those at the helm of affairs to ensure sufficient safeguards for the Government interest. The Committee desire that the matter should be investigated and responsibility for the lapses fixed. The termination of contract with firm 'C' has resulted in a huge escalation in the cost from \$ 5,08,000 to \$ 12,90,132 in view of the fresh contract with firm 'D'. The reasons for changing the contract from firm 'C' to firm 'D' resulting in increase in the costs requires an explanation.

60. The Committee would like to stress the imperative need for adequately expanding indigenous research activities particularly in the defence field so as to make our country self-reliant. The Committee would also like to be apprised of the reasons as to why in the initial stages the Government had not explored the possibility for indigenous development of these systems and had resorted to foreign contracts which proved totally abortive and led to delay in the execution of project. The Committee are however happy to place on record the excellent technical achievements made by DRDO in the development of equipment 'X'. The Committee note

with satisfaction that the Chief of Air Staff has confirmed that the Version 1 of the equipment already tried by the Air Force is superior to any of the systems that the Air Force had considered for acquiring from foreign countries. Further, the Chief of the Army Staff had also confirmed that they were also happy with the system and they would also like to have the same equipment for meeting their requirement. The Committee have also noted with satisfaction that production orders totalling to over Rs. 400 crores have already been placed on a Public Sector Undertaking for Version 1 and Version 2 of equipment 'X' based on the R&D effort of DRDO.

61. It is imperative that the development of our weapon systems should keep pace with the technological advancements in other countries and our research and development efforts have to be galvanised in this direction. Defence projects should be carefully planned and implemented efficiently so that there is no unnecessary cost escalation and on the completion of such projects they are not lagging behind the latest scientific technology. There should also be periodical and effective review of the execution of such projects at an appropriate level.

NEW DELHI;

E. AYYAPU REDDY;

March 25, 1987.

Chairman,

Chaitra 4, 1909 (S)

Public Accounts Committee.

## APPENDIX I

### *Audit Paragraph 10 of the Report of Comptroller and Auditor General of India for the year 1984-85, Union Government (Defence Services)*

#### *Delay in development of an equipment for Air Force*

In March 1967, the Air Force projected an operational requirement for equipment 'X' to function as an early warning station for air defence. In December 1974 a project was submitted to the Ministry of Defence (Ministry) by a Research and Development Establishment (R & D Estt.) for development of this equipment. The development project was sanctioned by the Ministry in July 1976 at a cost of Rs. 142.50 lakhs (including foreign exchange Rs. 84 lakhs). In November 1976, a Public Sector Undertaking (Undertaking) was nominated to produce 41 numbers of the equipment as required by the Air Force. The Air Force was to accept a model of the equipment for user trials in September 1982 and supply of the equipment was to commence from September, 1984.

For the purpose of development of equipment 'X' sub-systems 'XW', 'XX', 'XY' and 'XZ' were originally contemplated to be imported. A team of officers was deputed abroad during October-November 1978, with the main purpose of acquiring technology for these crucial sub-systems. The team recommended that only sub-systems 'XX' and 'XZ' be imported and sub-systems 'XW' and 'XY' be developed indigenously.

#### *Import of sub-system 'XX'*

Based on the report of the team the R & D Estt. recommended the offer of foreign firm 'B' in February 1979 for supply of sub-system 'XX'. The Ministry accorded the sanction in April 1979. A contract was concluded with firm 'B' on 20th June 1979 on cost plus fixed fee basis with a ceiling FOB cost of \$ 7,75,000. The original date of completion of the contract was 15th October, 1981. However, the contract agreement did not stipulate any penalty clause for delay or failure of supplies. By April 1981, a sum of \$ 7,36,250 (Rs. 58.90 lakhs) being 95 per cent of contract value was drawn by firm 'B'. In August 1981, the firm, stated that they had exceeded the expenses on this contract and that they would not be able to progress further without additional funds. According, 'Amendment No. 1' to the contract was issued (January 1982) by the Ministry wherein the delivery date

for the prototype was extended up to 17th August 1982 and payment of a sum of \$ 1,70,000 was agreed to as an addition to the contract value provided the FOB delivery of the prototype was advance to 17th April 1982 or earlier. The firm could not deliver the equipment even by 17th August 1982. By Amendment No. 2 issued in September 1982 the delivery date was further extended up to 1st November 1982. There was no progress of work after August 1982. As a result in June 1983, Amendment No. 3 was issued agreeing to pay the earlier increased amount of \$ 1,70,000 subject to completion of delivery within 120 days of the revival of contract.

As per the contract agreement, a letter of credit in lieu of Bank Guarantee was required to be furnished by firm 'B' against the payments made to it. The original letter of credit furnished by the firm was valid till 15th November 1982 but the firm did not agree to extend the same pending negotiations. As a result, the Ministry was left with no security against the payments already made to the firm. Amendment No. 3 also called for submission of Insurance Bond within 15 days for the full amount, i.e. 7,36,250 (Rs. 58.90 lakhs) already paid to the firm. However, in July 1983, firm 'B' agreed to provide a letter of credit for an amount of \$ 2,20,029 only covering the cost of materials reimbursed by the Government (\$ 1,51,170) and the total fee element of \$ 68,859 charged by the firm. In August 1983, based on legal opinion, the Ministry agreed to accept the letter of credit. Accordingly, Amendment No. 4 was issued on 27th September 1983 according to which firm 'B' was to provide within 15 days of signing the amendment an irrevocable letter of credit for an amount of \$ 2,25,000. The amendment was signed by firm 'B' on 7th October 1983. The letter of credit had not been received from firm 'B' till September 1985. The notice about the "Breach of terms of the contract" was issued to firm 'B' on 24th September 1984. It was followed by institution of arbitration proceedings on 1st May 1985.

Due to the uncertainty in the progress of this contract equipments costing Rs. 12.08 lakhs procured for sub-system 'XX' which were lying abroad in the warehouse since January 1983 have been shipped to India on 24th June 1985 after obtaining export licence.

Further, a scientist of the R&D Estt. who was deputed abroad in January 1980 to participate in the design, development and test of sub-system 'XX' under development by the foreign firm 'B' for acquiring the technology and transfer of know-how for future use in India was called back and reported to the R&D Estt. in January 1983. The scientist took leave for 11 days in August 1983 and has since then not reported for duty. The scientist, it is stated, has left unautho-

risedly for the foreign country where firm 'B' is located, although as per the bond executed by him, he had agreed to serve for 4 years after return from deputation. The Ministry incurred an expenditure of Rs. 6.43 lakhs on the Scientist's deputation. Ministry intimated (September 1985) that action has been instituted against the Scientist and extradition proceedings have been initiated.

### *Repair Charges*

In the meantime, in July/August 1982, two tubes (one intended for incorporation in sub-system 'XX' and the second to be kept as spare), supplied by a vendor (another foreign firm) at a total cost of \$ 1,84,159 became defective due to prolonged storage in the premises of firm 'B'. One of the tubes was repaired at a cost of \$1,000, which was not borne by Government of India, the other tube was not repaired until September 1985. The repair of the second tube was estimated to cost \$ 56,000. The Ministry stated that the supplier did not expressly indicate the shelf life limitation of the tube and due to slippage in delivery the tubes had to be stored for a long period.

### *Procurement of sub-system 'XZ'*

A contract was concluded in October 1979 with foreign firm 'C' by the R&D Estt. for the development and supply of sub-system 'XZ' at a cost of \$ 5,08,000. As the firm expressed its inability to comply with the contractual conditions after signing the contract, it was terminated in September 1980. Another development contract was concluded in October-November 1981 with foreign firm 'D' for \$ 12,47,000. In May 1983, firm 'D' submitted revised price of \$ 12,90,132 due to escalation in wages etc. and this was accepted through Amendment No. 1 issued in July 1983 increasing the contract cost, \$ 12,90,000. Advance payment of \$ 2,58,000 was made to the firm on 20th July 1983 and the contract was completed by July 1985.

In order to meet eventualities like failure of firm 'B' at a later date, or sub-system 'XX' not meeting specifications, in addition to slippages in the probable date of completion of sub-system 'XZ', it was decided in September 1980 to go in for indigenous development of both 'XX' and 'XZ' sub-systems by the Undertaking. In December 1981 development orders were placed on the Undertaking at a total cost of Rs. 114.27 lakhs (including FE Rs. 51.08 lakhs). These development orders, although expected to be completed by February 1983—February 1984 for XZ and XX respectively have not been completed till December 1984. The Ministry stated (September 1985) that the indigenous development of sub-system 'XX' was completed and delivered to the R&D Estt. in May 1985, and this was being

integrated in the main equipment. As regards indigenous development of sub-system 'XZ' the Ministry further added that an indigenous interim solution developed by the undertaking and accepted by the users was received in March 1985; the total equipment 'X' was in the final stage of integration and evaluation (September 1985) before offering to the Air Force for trials.

The original estimated cost of Rs. 142.50 lakhs (including Rs. 84 lakhs in FE) was increased by the Ministry to Rs. 578.76 lakhs (including Rs. 383.88 lakhs in FE) in July 1983.

The R&D Estt. stated in December, 1984 that indigenous development and fabrication of sub-systems 'XW' and 'XY' was completed in September, 1983.

Ministry stated (September, 1985) that:

For indigenous development of sub-system 'XZ' (long term solution) contracts have been placed on a private company and the Undertaking on 21st March 1985.

A model of equipment 'X' was expected to be offered for user trials by October, 1985; the supply of productionised equipment would be taken up after completion of trials.

There were no further development in respect of sub-system 'XX' by firm 'B'.

No import of equipment 'X' was made. However, a contract was signed with a foreign country for import of 8 numbers of a certain equipment (unit cost: Rs. 5.7 crores); its delivery was likely over the period 1985 to 1988.

The right to terminate the contract and enforce recovery from firm 'B' by the buyer was covered under the contract to safeguard Government interest. In the connection it may be mentioned that amendment to the contract signed by firm 'B' on 7th October 1983 called for it to provide within 15 days of signing the amendment an irrevocable letter of credit (instead of a Bank Guarantee) for \$ 2,25,000 which the firm did not furnish. Further the letter of credit furnished earlier by the firm was valid only till 15th November, 1982. The notice about breach of contract was issued to firm 'B' only on 24th

September, 1984. It is thus felt that enforcement of recovery by the buyer was not covered by the contract.

The following are the main points that emerge:

- (i) Equipment 'X' was to have been made available for user's trials by September, 1982 and the supply of productionised equipment 'X' by the Undertaking was to have commenced from September, 1984. But firm 'B' could not develop sub-system 'XX' till September while firm 'D' completed the contract for sub-system 'XZ' only in July, 1985.
- (ii) Though an amount of Rs. 58.90 lakhs (\$ 7,36, 250) in Foreign Exchange was paid to firm 'B', the delivery of the sub-system 'XX' is uncertain. There is no standing security to safeguard the Government interest and the payments already made to the firm.
- (iii) The cost of two tubes (required for sub-system 'XX') paid by the Government was \$ 1,84,159. Due to long storage in firm 'B's premises two tubes became defective, one tube was repaired at a cost of \$ 1,000 which was not borne by the Government of India. The repair of the second tube is estimated to cost \$ 56,000.
- (iv) The Ministry incurred an expenditure of Rs. 6.43 lakhs on the deputation of a Scientist abroad. Within a few months of his recall from deputation, the Scientist left India despite having executed a bond to serve for 4 years after the deputation.
- (v) As a result of the delays in executing the contract by foreign firm 'B', equipments worth Rs. 12 lakhs, procured by the R&D Estt. were lying unused till June 1985.
- (vi) Though the contract with foreign firm 'D' was signed on 25th November, 1981, the work on the contract was commenced August 1983 only for completion by April 1985. Government accepted an increase in cost of the contract amounting to \$ 43,000 on the ground of escalation in wages.
- (vii) Due to delay and slow progress of the contracts with the foreign firm the R&D Estt. resorted to indigenous development of sub-systems 'XX' and 'XZ' by an Undertaking at a cost of Rs. 114.27 lakhs (including FE Rs. 51.08 lakhs).

(viii) Against the original estimated cost of the project which was Rs. 142.50 lakhs (including FE Rs. 84 lakhs) in July 1978 the revised cost for which sanction was accorded by the Ministry in July 1983 was Rs. 578.76 lakhs (including FE Rs. 383.88 lakhs).

(ix) Though the requirement was projected as operational by the Air Force as early as in March, 1967, the equipment could not be provided to the service even after a lapse of 18 years. Although no import of equipment 'X' was made, a contract was signed with a foreign country for import of 8 numbers of similar equipment at a total cost of Rs. 45.6 crores; its delivery was expected over the period 1985 to 1988.

[Paragraph 10 of the Report of Comptroller & Auditor General of India for the year 1984-85, Union Government (Defence Services)].

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## APPENDIX II

### Conclusions and Recommendations

Sl. No.	Para No.	Ministry/Department Concerned	Conclusions/Recommendations
1	2	3	4
1	50	Defence Research and Development	<p>The Air Force projected a operational requirement for equipment 'X' to function as an early warning station for air defence in March 1967. The Research and Development Establishment took more than 7 years to submit the project in December 1974 for development of this equipment. The Ministry of Defence further took 1½ years to accord sanction to the project for development of the equipment at a cost of Rs. 132.50 lakhs (including foreign exchange Rs. 84 lakhs). In November 1976, a Public Sector Undertaking was nominated to produce 41 numbers of the equipment as required by the Air Force. According to the targets laid down, the Air Force was to accept a model of the equipment for user trials in September 1982 and supply of the equipment was to commence from September 1984. According to the Ministry, in arriving at the probable date of completion the urgent nature of the user requirement had to be reconciled with the need for a longer development time. The Committee are astonished to find that in spite of the fact that requirement was</p>

projected as operational by the Air Force as early as in March 1967, the equipment which was of urgent necessity for defence requirements could not be provided even after a lapse of over 19 years. The Committee's examination has revealed a number of loopholes which need to be plugged. The Committee would like to observe that projects should be completed within the stipulated time and cost schedules. That is where the importance of efficient project management comes in. Project implementation can be successful only when in addition to the project getting completed on schedule at the estimated costs, the technical performance specified and project goals are fully met. Lamentably, in this particular case the implementation of the project has failed on all counts. The Committee feel concerned to note that the project which was sanctioned at a cost of Rs. 142.50 lakhs in July 1976 has not made any headway even though orders for production to the extent of Rs. 409 crores have been placed on indigenous production agency. The Committee note with regret that even now there is no specific indication about the time by which this equipment of great strategic importance would actually be available for use with the Air Force.

Another disquieting feature distinctly noticed by the Committee is that non-availability of equipment has left a number of critical gaps in Air defence, as conceded by the Ministry of Defence. In fact, the need of the equipment was also felt in the 1971 war and during Air Force exercises in later years. Essential Air defence

requirements are now being met by importing near suitable equipment and redeploying the available systems to cover only the more important areas. A contract had to be signed with a foreign country for import of 8 number of similar equipment at a total cost of Rs. 45.6 crores. The delivery was expected over the period 1985 to 1988. There was also a steep escalation in the cost of this project. Thus, against the original estimated cost of Rs. 142.50 lakhs, total project expenditure as on June 1986 is Rs. 492.32 lakhs. This represents an increase of over 346 per cent over the original estimated cost. The Committee view with concern that a lot of additional expenditure had to be incurred due to delay in the development of equipment 'X' and lack of adequate care in finalising agreement with suppliers. The Committee feel that for most reason for increase in project expenditure was nothing else but lack of care in scrutinising the agreement with suppliers ignoring the financial interests of the Government. The Committee recommended that Government may go into this aspect so as to ensure that situation of this type is not repeated in future.

The Committee feel that the ultimate aim of all defence research and development effort is to attain production capability within the reasonable time span so that the country becomes self-reliant in vital defence equipment. The hard fact remains that the country today, after 19 years of research and development effort has

not been provided with this equipment. The Committee need hardly emphasise that the matter should be vigorously pursued with the production agencies to ensure that both the versions of the equipment become available with the Air Force within the shortest possible time.

The Committee note that a contract was concluded with a foreign firm 'B' on 20.6.1979 on cost plus fixed fee basis with a ceiling FOB cost of \$7,75,000 for development of sub-system 'XX'. The Committee note with regret that the contract agreement did not stipulate any penalty clause for delay or failure of supplies as according to the Ministry this type of contract did not permit any stipulation of penalty clause for delay. By May, 1981, a sum of \$7,36,250 (Ra. 58.90 lakhs) being 95 per cent of contract value was drawn by firm 'B'. Another disquieting feature noticed by the Committee is that this firm failed to complete the contract inspite of the fact that 4 amendments extending the date of delivery were issued in January 1982, September 1982, June 1983 and September 1983 respectively. In addition, payment of sum of \$1,70,000 was also agreed to as an addition to the contract value. The Committee are astonished to observe that inspite of all these liberal concessions, there was no progress of work after August 1982.

The Committee note that according to Amendment No. 4 issued in September 1983 firm 'B' was required to provide within 15 days of signing the amendment an irrevocable letter of credit for an

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amount of \$2,25,000. The Committee note with regret that even though there was no progress of work after August 1982 the Ministry failed to terminate the contract immediately on expiry of latest delivery schedule of September 1983. The contract termination notice was eventually issued in September 1984. According to the Ministry of Defence, since the bulk of the development had been completed by that time their effort and interest was to persuade the firm to complete the remaining portion rather than terminate the contract. The Committee would like to be satisfied that when bulk of the development work had already been completed and the Government had also assured the additional payment of \$1,70,000 to the firm, why it was not possible for the Government to make the firm agree to continue with the implementation of the project. The Committee cannot help remarking that there were serious lacunae in drafting as well as enforcing of the agreement with the firm.

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Defence  
(Deptt. of Defence Research and Development)

The Committee also note with regret that due to failure of contract with firm 'B' equipment worth Rs. 12.08 lakhs procured for sub-system 'XX' has remained unused till June 1985. This equipment remained abroad in the warehouse since January 1983 and was shipped to India on 24.6.1985 after obtaining export licence. According to the Ministry this equipment was being utilised in the indigenous development and testing of equipment 'X'. The afore-

said facts clearly indicate that there were some basic defects in the contract with firm 'B'. The making of 95 per cent advance payment without obtaining collateral security for full amount was not proper and was in total disregard of the financial interests of the Government. Besides locking/loss of substantial foreign exchange, there was also a considerable risk of failure of the firm and resultant delay in completion of the project. The Committee trust that the Government would in future exercise adequate precaution and care in drafting agreement with firms particularly in foreign countries so that the financial interests of the Government are not jeopardised and there is no loss to the Government.

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The Committee note with dismay that though the contract was terminated in September 1984, there is still no progress on the arbitration proceedings instituted against the firm in January 1985. Even the question of selection of arbitrator remains to be settled. The matter should be pursued vigorously so that arbitration proceedings are finalised as early as possible and steps taken expeditiously to recover dues to the Government. The methodology of the appointment of the Arbitrator should be specified in the contract agreements.

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The Committee also find that the 2 tubes meant for sub-system 'XX' and which were procured from another foreign firm at a total cost of \$1,84,159 in July/August 1982 became defective due to prolonged storage in the premises of firm 'B'. While one of the

tubes has been repaired the other one has not been repaired as the cost of repairs is more than half of the cost of the tube. Surprisingly, both these tubes are still with firm 'B'. The Committee would like to be informed as to why these tubes have not been received from the firm so far. It is distressing to find the lack of proper precautions on the part of the Ministry due to which huge expenditure of \$1,84,159 incurred on these tubes appears to have become infructuous. If the Ministry had closely monitored the project and identified areas of slippage and had taken timely corrective measures the above tubes could have been put to use. Responsibility leading to this omission may be fixed.

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Defence  
(Deptt. of Defence Research  
and Development)

The Committee note with regret that the scientist on whom the Ministry incurred an expenditure of Rs. 6.43 lakhs and who was deputed abroad in connection with the purchase of the equipment surreptitiously left the country and has not been repatriated even after the lapse of more than 3 years. The Government must take effective measures to get him repatriated and also take adequate step in future to ensure that such incidents do not recur. Steps must be taken immediately to execute the Bond made in favour of the Government.

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The Committee also note that contract with a foreign firm 'C' in October 1979 for the development and supply of sub-system

'XZ' at a cost of \$5,08,000 was terminated in September 1980 as firm 'C' had expressed their inability to obtain the bank guarantee as stipulated in the draft contract sent to them. Another development contract was concluded in October-November 1981 with foreign firm 'D' at a much higher price of \$ 12,47,000 which was subsequently increased to \$ 12,90,132. The contract was completed by the firm by July 1985. Both the firm 'C' and 'D' belonged to the same country. According to the Department of Defence Research and Development as per laws of the country of firm 'C' no collateral security was taken from them. The Committee would like to know as to how the firm 'D' could furnish the collateral security under the same laws. The Committee are constrained to believe that either the information given to the Committee was incorrect or there was lack of effort and will on the part of those at the helm of affairs to ensure sufficient safeguards for the Government interest. The Committee desire that the matter should be investigated and responsibility for the lapses fixed. The termination of contract with firm 'C' has resulted in a huge escalation in the cost from \$ 55,08,000 to \$ 12,90,132 in view of the fresh contract with firm 'D'. The reasons for changing the contract from firm 'C' to firm 'D' resulting in increase in the costs requires an explanation.

The Committee would like to stress the imperative need for adequately expanding indigenous research activities particularly in the defence field so as to make our country self-reliant. The Com-