

**PUBLIC ACCOUNTS COMMITTEE
(1966-67)**

SEVENTIETH REPORT

(THIRD LOK SABHA)

**[Para 10 of Audit Report (Defence Services),
1966—Manufacture of Engines.]**



सत्यमेव जयते

**LOK SABHA SECRETARIAT
NEW DELHI**

January, 1967/Magh, 1888 (S)

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(Laid on the Table of Fourth Lok Sabha on 28.3.1967).

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

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(1966-67)

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SECRETARIAT

Shri H. N. Trivedi—*Deputy Secretary.*

Shri R. M. Bhargava—*Under Secretary.*

*Resigned his seat in Lok Sabha with effect from the afternoon of 29th November, 1966.

INTRODUCTION

1. the Chairman of the Public Accounts Committee, as authorised by the Committee, do present on their behalf the Seventieth Report on Para 10 of Audit Report (Defence Services), 1966 relating to the Ministry of Defence regarding Manufacture of engines

2. The Audit Report (Defence Services), 1966 was laid on the Table of the House on the 28th March, 1966. The Public Accounts Committee at their sitting held on the forenoon of 28th October, 1966 decided to appoint a Sub-Committee consisting of the following Members to consider in detail the case referred to in Para 10 of the Audit Report (Defence Services), 1966.

1. Shri R. R. Morarka—*Chairman*
2. Sardar Buta Singh
3. Shri M. R. Krishna
4. Shri Sheo Narain
5. Shri F. K. Kumaran
6. Shri Om Mehta
7. Shri Gaure Murahari
8. Shri M. C. Shah

3. The Sub-Committee examined this para in detail at their sittings held on the 21st and 22nd November, 1966.

4. The Committee considered and approved this Report at their sitting held on the 27th January, 1967.

5. Minutes of the sittings of the main Committee and the Sub-Committee form part of the Report (Part II*).

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

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

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

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

NEW DELHI;
28th January, 1967.

8th Magh, 1888 (S).

R. R. MORARKA,
Chairman,
Public Accounts Committee.

MINISTRY OF DEFENCE

Manufacture of engines—para 10, page 5 of Audit Report (Defence Services), 1966.

In para 23 of the Audit Report, Defence Services, 1965, mention was made about the delay in the manufacture of an air force equipment, the design and development of which was entrusted to Hindustan Aeronautics Limited, Bangalore Division. In connection with the equipment, six engines of a particular make were purchased from a foreign manufacture in 1961 at a cost of Rs. 13.57 lakhs. These engines, however, had to be modified by the manufacturers to permit their use in the equipment.

1.2. An agreement was entered into with the foreign manufacturers in July, 1962 for the grant of a licence for the manufacture of the modified engine, even though the manufacturers had stated that the engine had been tested only to a limited capacity (which was below the level of requirement of the user) and they did not undertake to guarantee any performance beyond that capacity. The agreement *inter-alia* provided for the payment of the following accounts:—

- (i) 1.2 million dollars for the grant of licence and the supply of technical documentation.
- (ii) 3.111 million dollars representing the actual expenses of the foreign manufacturers in connection with the manufacture of the engines and for carrying out tests on the modified engines.
- (iii) Payment for the engines and components etc. in accordance with a further contract to be concluded in June-July, 1963.

1.3. It was realised in September, 1963 that this particular engine suffered from certain drawbacks and that, unless it was developed extensively, it might not be suitable. Later, in December, 1963, the foreign manufacturers intimated the Government that even after modifications, the engine could develop a maximum power of only upto 85 per cent of that required by the user. It was, therefore, decided by Government to foreclose the agreement and in March, 1964 the foreign manufacturers were requested to suspend all further action under the agreement.

1.4. In this connection the following payments have been sanctioned to the foreign manufacturers in full and final settlement of their claims:--

	Amount (In lakhs of rupees)
Licence fee against the amount of 1.2 million dollars included in the agreement	23.80
Actual expense in connection with the modifications of the engine and for carrying out tests on the modified engines	149.35
Cost of forgings, punchings, castings and parts of the engines required to be purchased under the agreement	24.91
TOTAL	<u>198.04</u>

1.5. Besides, eight complete engines had been purchased under this agreement at a cost of Rs. 23.71 lakhs.

1.6. Taking into account also the amount of Rs. 13.57 lakhs paid for the 6 engines purchased earlier in 1961 and an expenditure of Rs. 4 lakhs approximately incurred by Government in August, 1962 in connection with certain modifications carried out in one of the engines, the total outlay on this unsuccessful venture was Rs. 239.32 lakhs.

1.7. As no alternative use could be found by the Air Force for these fourteen engines. 6 of them were sent to 3 Air Force training establishments, 4 to Hindustan Aeronautics Limited, Koraput Division and the remaining 4 have been retained at Hindustan Aeronautics Limited, Bangalore Division.

Estimates of the Project

1.8. The project for the manufacture of an air-force equipment was first conceived in 1956 and was commenced in August, 1956, with the assistance of an expert foreign team. The initial estimates of the project cost was Rs. 110 lakhs which was sanctioned for the designing and development of the equipment. Subsequently in 1961 the estimate was raised to Rs. 450 lakhs and finally to Rs. 556 lakhs in 1965.

1.9. Explaining the reasons for increase in the estimates of expenditure, the representative of the Ministry of Defence stated during evidence that earlier gross under-estimate of the volume of work involved in the project and the time it would take for its completion was made. No provision was made in the estimate for detailed structural tests which were necessary for the project. He added that the first estimate did not include cost of the development of the frame. It was decided later on that the cost of the proto-type should also be shown against development of the equipment and not against production order.

1.10. From the note furnished by the Ministry of Defence, the Committee find that when the project was commenced the expenditure on the construction of two proto-types was estimated at Rs. 109 lakhs. In 1959 the estimate was raised to Rs. 144 lakhs. The increase of Rs. 35 lakhs was attributed to the increased cost of imported machinery, machine tools, equipment etc. This was brought to the notice of the Defence Committee of the Cabinet in a paper dated 9th February 1959, seeking approval of D.C.C. for proceeding further with the project.

1.11. In 1961, however, the estimate for the design and development of the equipment was revised to Rs. 450 lakhs. It has been stated in the note that "the earlier estimate of Rs. 144 lakhs was prepared at a time when H.A.L. lacked experience in the design and development of the (equipment required). The (foreign experts) who helped H.A.L. in the preparation of estimates, were not also conversant with the Indian conditions."

1.12. It has been stated in the note that under some headings the expenditure in the estimates increased considerably e.g. the expenditure on design development increased from Rs. 25.30 lakhs in 1959 estimates to Rs. 104.64 lakhs in 1963* estimates and Rs. 136 lakhs in 1965 estimates. Similarly, the expenditure on test's specimen including Development increased from Rs. 12.03 lakhs in 1959 estimate to Rs. 75.05 lakhs in 1963 estimate and Rs. 95 lakhs in 1965 estimate. There are also considerable variations under other sub-heads. Expenditure on test trials including research and development for test laboratory was put at Rs. 34.05 lakhs in 1963 estimate and Rs. 110 lakhs in 1965 estimate. Details of variations are at Appendix I.

*Note not verified by Auditor.

1.13. The Ministry have in their note also stated that according to the foreign expert, with the H.A.L., estimate of Rs. 450 lakhs given in 1963 on the design and development of the equipment contemplated to be manufactured, "compared favourably with the expenditure in more advanced countries in similar projects and could be considered quite reasonable." The revised estimate of Rs. 450 lakhs was submitted to the Emergency Cabinet Committee in a paper dated 29th May, 1963 and was approved by the Committee at their meeting held on 17th June, 1963.

1.14. The Committee consider it most unfortunate that such an unrealistic estimate of the project was drawn up. The estimate of this project went up from Rs. 110 lakhs in 1956 to Rs. 556 lakhs in 1965. The Committee are not convinced of the reasons advanced by the Ministry for not assessing properly the estimates of the expenditure at the initial stage and for its frequent upward revisions. The Committee are surprised to note the plea of lack of experience given by the witness as one of the primary causes for these upward revisions. The Committee cannot understand why such a complicated project was taken up without the necessary help of competent technicians to assess the job requirements and financial implications thoroughly. The Committee feel that the initial estimates prepared in 1956 were based on inadequate data and insufficient understanding of the details of this complicated project.

1.15. The Committee also feel that the Defence Committee of the Cabinet should have been apprised of this increase in the cost of this project and their approval of the revised estimate should have been obtained in 1961 when the estimates rose from Rs. 110 lakhs to Rs. 450 lakhs and should not have waited till 1963. For this long delay the Committee have been given no explanation.

1.16. The Committee desire that in future projects where the revised estimate exceed the original estimate beyond a prescribed percentage/amount, the work should normally be proceeded with after obtaining the prior approval of the authority which sanctioned it initially. The Committee would also emphasise the necessity of preparing initial estimates more realistically and scientifically so that their upward revision at a later stage is avoided as far as possible. They would also like that suitable instructions should be issued in this regard to all the Ministries.

Agreement with a foreign private company

1.17. According to the programme of work laid down, it was expected to complete the first proto-type in 1960-61 and the second in 1962. The equipment was proposed to be built with an engine to

be developed by a foreign private company in its own factory and the frame to which it was to be fitted was to be built in India. Since the particular engine required was not expected to be developed before 1959 or 1960, it was considered necessary to divide the scheme in two phases. For the first phase another engine tested upto certain ranges was to be used which was to be further developed for going to higher ranges.

1.18. The Committee were informed that the time schedule and financial estimates in this case were drawn up in consultation with a foreign expert with the Government company in India. During evidence the Committee enquired about the power plant in view when the project was conceived in 1956. The witness replied that an engine of a higher speed being developed by a private foreign company was to be acquired for the purpose. The witness added that an agreement with that company had already been concluded for the manufacture of a series of engines of a particular make. The agreement started with the engine which was the power plant for another equipment and under the terms of agreement the Government of India was entitled to a right for the manufacture of the engine still under development with the company. The witness stated that the frame designed was meant to take that engine as its power plant. He added that the project of making the frame was started in anticipation and in the hope that when that engine was completed, they would get it on the same terms for manufacture in this country.

1.19. As the engine was required to achieve a certain specified power, the Committee enquired whether there was any guarantee from this company that the engine would be capable of achieving the desired power. The witness replying in the affirmative added that the parameters of the engine were such that it was designed to achieve that power. The witness in reply to a further question stated that under the agreement the Government of India had a right to manufacture the engine after it had been developed and completed, but there was no provision that the manufacturer "should develop and give us an engine for our requirements, where they are not doing it in the normal course of business."

1.20. The equipment (frame and the machine) was expected to give a trial in 1961 in its I phase and in 1962 in its II phase and the schedule for the same was fixed accordingly. The Committee enquired whether at the time of fixing the schedule it was ensured that the engine would be available for the frame which was being design-

ed by the Government owned company in India and whether there was any specific understanding with the foreign private company to the effect that the engine would be available in time.

The witness stated that 'the schedule of development available' with the Ministry, indicated that 'there was a reasonable prospect of getting that engine.' The witness added that since the engine was under development "we proceeded to develop the frame in the hope that the engine would become available to us" and "under the agreement if the development had been successfully completed we would have the right to have it given to us for manufacture and adoption."

1.21. The Committee then asked if it was correct that it was decided to develop the frame for being fitted with an engine and the engine was not developed or the development of which was given up afterwards for some reason over which the Indian Government had no control. The witness said, "that is correct," and added that in 1956 that was the only engine which if developed, suited the Indian requirements. There was no other engine which had been developed and was available to India. The Committee asked how far it was a prudent decision to go ahead with the preparation of the frame and based on an engine the development of which had not taken place anywhere in the world and on the development of which Government of India had no control. The Secretary, Defence (Production) expressing his opinion said, "It is the only way to catch up with the advances which have been made in more modern countries." The Joint Secretary, Ministry of Defence, however, stated that another reason for adopting that procedure could be, which must have weighed with those who took that decision, that it was beyond the country's financial resources to undertake both the major projects—development of the engine and the frame.

1.22. Asked whether under the agreement the Indian Government could ask for any compensation from the private company when they abandoned the scheme, the witness replied in the negative and added that when the company decided to abandon that engine, the question of its continuing development of that engine was taken up with them. The company stated that the engine was not required for their purpose and that they could, however, continue the development but from that stage from which it was abandoned, the Indian Government would have to bear the entire expenditure, which the witness added, was very high.

1.23. In reply to a question, the Committee were informed that the final proposal in regard to the agreement with a private foreign company was put up to the Cabinet in September, 1960. The Committee

then specifically asked if the Cabinet decision was taken only after the company had given up the development of the engine required for the Indian use. The witness replied in the affirmative and added that in 1959 it was clearly made known to them that the foreign company had abandoned the project. It was, therefore, necessary to consider as to what was to be done. One obvious thing was to ask the company to continue and make payment to them from that stage onwards. The witness added that the company had in the offer of March, 1959, estimated the expenditure to the tune of £ 4.55 million. The company had also given the period of development and supply as about 5 years from that point of time. Due to subsequent discussions held with the company it was indicated by the company in July, 1960, that certain amount of work should be done by the company in their own country and after development of the engine had been achieved to a particular stage, it should be taken up in India. Such an agreement was likely to reduce the sterling expenditure to about £1.7 million. The witness stated that the above proposal was submitted to the Cabinet in September, 1960.

1.24. In their written note, the Ministry of Defence have stated that at their meeting held on 14th September, 1960 the Defence Committee of the Cabinet approved the proposal to develop the engine as a power plant for the equipment in collaboration with the foreign company. The Defence Committee also proposed "that in the course of negotiations, suitable financial indemnity should be sought from the.....(company) in case the.....(engine) was not successfully developed, or that alternatively the.....(company) should be persuaded to agree to make the development agreement a joint venture." Negotiations were taken up with the company, but they were not prepared to accept either of the two alternatives. The company, therefore, formally withdrew their offer in their letter of 28th April, 1961.

1.25. The Committee are surprised to note that the development of a project involving more than a crore of rupees, even in the first estimate, was undertaken without ensuring that the power plant (engine) required for the frame would be available. The development of the frame was started in 1956 and schedule for completion of the project by 1961-62 was drawn up on an assumption that there was a reasonable prospect of getting the engine from a private foreign company. This private foreign company was under no contractual obligation to develop this particular engine for use by the Government owned company in India. The private foreign company was to supply this engine in case they developed it in the normal course

of their business. This private foreign company gave up the development of this particular engine in 1959 and formally withdrew their offer in April, 1961 and the Indian company was left without the much needed power plant for the frame. This resulted in a considerable delay in the execution of this project. The Committee consider it rather amazing that such a complex and costly project was taken up without binding in any way the private foreign company for the supply of the required engine. This, the Committee feel, introduced an element of uncertainty in this project from the very beginning.

Agreement with a foreign manufacturer of another country for the manufacture and purchase of engines.

Agreement of 18th August, 1961.

1.26. During the second quarter of 1961 the Government of India received information that two types of engines were available in another foreign country, which might be suitable as a power plant for the equipment to be manufactured. It was stated that the enquiries were first made when an Indian delegation went to that country in February, 1961. As the details furnished by the foreign authorities were not comprehensive, a technical team of experts was sent to that country. The team remained there from 18th July, 1961 to 19th August, 1961.

1.27. During evidence it was stated that this team of technical experts was composed of "the best specialists in relation to engines and assessment of performances." The team was sent with the purpose of finding out whether the foreign manufacturer had an engine which could be developed to achieve the required performance and to purchase six engines so that development work on the frame could be undertaken. The Secretary, Defence (Production) added that the delegation was able to find an engine, which could be developed to achieve the required speed.

1.28. The team was also asked to assess the *prima-facie* suitability of the engines and willingness of the foreign Government to enter into a manufacturing agreement.

1.29. The Secretary Defence (Production) disclosed that after having a look at the engines and having gone into various details, the team sent an expert back to India to discuss the matter with the Chief Designer of the frame—a foreign expert in the employ of the

Government of India. After the discussion it was assessed that the modifications that would be necessary in the engine, could be carried out in India.

1.30. The Committee also find that the leader of the Indian team after discussions with the foreign authorities, reported on 5th August, 1961, as follows:—

“The engine is technically very sound and it has certain features which make it superior..... However, we feel that the frame will have to be modified as well as to lesser extent the engine itself to permit satisfactory installation. We do not visualise these problems to be insurmountable We are, therefore, confident that our aim would be fulfilled.”

1.31. The contract for the first six engines was concluded on 18th August, 1961 for carrying out a study of the modifications required and instal them in two proto-types after modification. A contract was also concluded on 18th August, 1961 for the deputation to India of three foreign specialists “for rendering technical assistance for modification in mastering of the engine.”

1.32. During evidence it was stated that on arrival in India, the foreign experts after several weeks' study and having examined the question in detail came to a conclusion that the modifications could not be carried out here and that the same would have to be done in the foreign country. According to the foreign experts the nature of modifications was such that a modified engine was required to be made for fitting into the Indian frame. The witness added that “in fact, the modifications were considerably more than what was assessed by our team in 1961.”

1.33. Asked why the foreign experts did not express that view before they came to India, the witness replied that “they were not aware of our capabilities.” He also added that the foreign experts, in 1961 had no direct contact with the Indian experts in the field of production of airforce equipment.

1.34. Asked whether the foreign experts indicated the extent of modifications to be carried out in the engine, the Ministry's representative stated that one of the modifications was to instal accessories at the bottom so as to permit installation of the engine without serious modifications to the frame. But once any portion of the

engine was touched, the foreign experts felt, a whole series of tests would have to be carried out because the safety of both the engine and person who handled that was involved.

1.35. The Committee were further informed that according to the estimate of modifications made in 1961, it was thought by the Indian experts that those could be carried out easily with the Indian resources in India and, therefore, the question of drawing up estimate of cost involved in the modifications did not arise.

1.36. During evidence, the Committee were informed that the cost of modifications, which were not successful, was Rs. 4 lakhs.* The modified engines, the Ministry's representative added, were of no use, except that the Indian engineers had gained a good experience. It did not yield any direct result to their programme.

1.37. Asked what happened to the other five engines, the Ministry's representative stated that two engines were modified in India. The amount of Rs. 4 lakhs spent on experimentation included those two engines only.

1.38. It was also stated that the remaining engines were not returned, because the foreign manufacturer had thought that to take engines back and modify them would require many more manhours than the manufacture of fresh engines in that country.

1.39. The Committee regret to note that the Indian team was not able to assess properly the modifications required in the engine nor were they able to estimate the Indian technicians' capabilities to carry out those modifications.

1.40. It is also strange to note that it was only the foreign experts who realised that if the engine was modified or touched in any way, a whole series of tests would have to be carried out because the safety of the engine as well as the person who handled it was involved. The Committee feel that this was a basic point which should have occurred to our experts even in the beginning. Further, it was again left to the foreign experts to point out that the nature of modifications in the engine was such that the same could not be carried out in India and the same would have to be done in the foreign country.

*In addition to this expenditure of Rs. 4 lakhs spent on the modification of the two engines out of the 6 imported as per agreement of August, 1961 another agreement involving a payment of 3.111 million dollars to the foreign authorities was made in July, 1962. This payment of 3.111 million dollars was to be made to the foreign authorities in connection with the alteration (modification) of the engines, test of the new engines (including cost production of the engines for the test). Against this, actual payment of Rs. 149.33 lakhs was made.

1.41. The under estimation of modifications in the engine and over estimation of capabilities of the Indian technicians led to an infructuous expenditure on the pay etc. of the foreign experts and the Indian engineers deployed on the job.

1.42. The Committee also feel that since the modifications of the engines were to be undertaken on an experimental basis it would have been a wise course to purchase initially one or two engines instead of six in one lot. This would have reduced the quantum of infructuous expenditure.

Agreement of 6-7-1962.

1.43. Since the study undertaken with the help of foreign specialists indicated that the modifications required were different from the earlier appreciation made by the Indian team in 1961, assistance of the foreign authorities was sought by the Government of India for carrying out the necessary modifications to the engine. At that time it was proposed to carry out the modifications in the H.A.L., with foreign collaboration.

1.44. The foreign authorities were informed of the Indian requirements. When this was taken up with them on 17th February, 1962 they stated that they "saw no possibility of refixing the engine in the way suggested by the Indian experts." Main objection of the foreign authorities was that if the accessories were shifted as suggested by the Indian side, a great part of the engine intimately connected with the accessories would also have to be modified. That view was not acceptable to the Indian technical experts. However, further progress was not possible until foreign authorities agreed (a) to the engine being modified to suit Indian requirements; (b) to grant all possible technical assistance for carrying out the modifications. Therefore, with a view to having further discussions a second technical team, consisting of the same members, except one, who had gone in 1961, was deputed to the country concerned in April, 1962. Following discussions with the team, the foreign authorities intimated in May, 1962 of their decision to render technical aid to the Indian party for the production of the engines by means of modifications to their engine. The foreign authorities, however, insisted that these modifications should be done in their own country by their Designers and Engineers. The foreign authorities also agreed that they would charge for the modifications only the expenditure incurred by them.

1.45. Following that decision, a team headed by an officer of the Ministry of Defence was sent to the foreign country in June, 1962. An agreement with the foreign authorities was concluded on 6th July, 1962 for carrying out modifications to the engine to make it adoptable to the Indian frame and for the grant of a licence for the manufacture of the modified engines in India.

1.46. The Committee have been informed in the same note that during the discussions, preceding the conclusion of the July, 1962 agreement, an important point arose regarding the guarantee of performance for the modified engine to be written in the agreement. The foreign authorities regretted that they could not write into the agreement any guarantee of performance for speeds beyond the speed for which the engine had been tested. But they expressed the view during the discussions that the engine was capable of better or higher performance.

1.47. During evidence the witness stated that according to the minutes of the discussions which the Indian team had with the foreign experts in 1962 while the foreign authorities were not prepared to write down in the agreement that the engine would reach required performance they had given broad indications that the engine was capable of being developed to the required speed. It was stated that a foreign expert suggested during the negotiations for the agreement that "the reference to the speed should be omitted, as they had no detailed information regarding the design characteristics of the frame." The witness added that as recorded in the minutes of another day viz., 21st June, 1962 another foreign expert said, "the firm advice of the designers was that the engine will attain a performance desired without further modifications." The foreign expert also stated that he would have to find out if the data available would permit a certification for higher speed. After consulting the authorities concerned, the foreign expert again confirmed "that this engine has a large reserve and that the Indian Engineers could develop it beyond the tested speed."

1.48. The Committee were informed that during the discussions a foreign expert also disclosed that the engine had already in one trial attained a speed which was only slightly less than the speed contemplated for the equipment.

1.49. The Committee then asked if on the basis of such a statement agreement involving a heavy expenditure could be entered into. The Secretary, Defence Production replied that "it was not a misplaced trust. It just happened that in the end it failed." He added

that it was, however, a good experience of running an engine where reheat was used. Such an experience, he added also accelerated the programme of improving another engine.

1.50. The Secretary, Defence Production also added that before entering into the contract, other countries were also contacted and it was assessed which engine would fit the frame. He added that there was a proposal from another private foreign firm too, but that came much later in 1964. The terms of that firm, being too higher were not acceptable to the Government of India.

1.51. Enquired whether it was a deliberate decision not to ask for a guarantee for the required speed from the foreign Government. The witness replied, "that is right," and added that the decision was taken on an assessment made by the Indian technical experts that a proven engine having acquired a certain performance once or twice could be developed to the performance desired. Moreover, according to the practice followed by the foreign authority they were not prepared to give the guarantees based on theoretical calculations.

1.52. In reply to a question, it was stated that the decision to enter into the agreement was taken by the Defence Minister himself in consultation with the Prime Minister and the proposal did not go before the Cabinet Committee. The Committee were also informed that as the Deputy Minister, Finance and the Finance Minister were away, the Ministry of Finance could not consult them. The Financial Adviser, however, consulted the Secretary (Expenditure) and desired that the approval of Prime Minister be taken.

1.53. The Committee enquired what was the particular reason for deviating from the procedure in not obtaining the approval of Cabinet Committee. The witness, explaining the background, stated that the team which was sent in June, 1962 to negotiate the agreement was given a brief that they must obtain a guarantee for the performance desired. But due to the circumstances stated above that guarantee was not available. The team awaited further directions in the foreign country. Since the decision to sign the agreement or not was to be taken and communicated to the team urgently, a deviation in the procedure was made. In reply to a query, the witness said that a telegram from the team was received on 30th June, 1962 and the instructions of the Government of India were conveyed to them by a telegram on 5th July, 1962.

1.54. The Committee asked whether a note was submitted to the Prime Minister when his consent was asked for. The Secretary, Defence Production stated that the Defence Secretary explained the position to the Defence Minister, who in turn explained to the Prime Minister and obtained his approval, but no note was given to the Prime Minister. The Committee then enquired when there was an option of two months in the agreement for bringing into force, why the matter was not placed before the Defence Committee of the Cabinet at least before the final concurrence was communicated. The witness replied, "it appears that the Defence Minister's orders were obtained and the matter was not referred to the Defence Committee of the Cabinet when the period under the contract expired which in fact expired on 1st November, 1962." He further added that "there is nowhere laid down that a case which requires expenditure of a certain amount of money and to which there is no opposition of Finance or no special comments from Finance should go to DCC."

1.55. In reply to another question whether before signing the agreement, the Defence Committee of the Cabinet discussed the entire project with all the details before them. The Secretary, Defence Production replied, "as far as we can see the answer is in the negative. Only at a later stage when we cancelled the agreement in 1964 then we approached the DCC." When asked if there was any fear that the foreign authorities would back out if the matter was delayed, the Secretary, Defence Production said. "I would not say that that was the case."

1.56. The Committee are not convinced of the reasons given by the Ministry for not providing for a guarantee in the July, 1962 agreement as the engine for the development of which the agreement was entered into, had been tested to a speed which was much below (about 30 per cent) the desired performance. In the absence of any written guarantee for the engine to achieve the required performance, the foreign authorities were not bound in any contractual obligation to achieve the desired result. The Committee also note that at an earlier stage the Defence Committee of the Cabinet had specifically desired in connection with an agreement for the development of an engine with a foreign private company (a) a suitable financial indemnity should be sought from the foreign private company in case the engine was not successfully developed; (b) or alternatively the foreign private company should be persuaded to agree to make the development a joint financial venture. In view of the above decision of the Defence Committee of the Cabinet

taken in September, 1960 in the earlier case, the Committee regret to note that the same was not kept in view and those terms were dropped without reference to the Cabinet Committee while entering into this agreement in July, 1962 with the foreign authorities of another country. The Committee feel that any deviation from the conditions laid down by the Cabinet Committee should have been done only with the prior approval of that Committee. In view of the fact that the tested performance of the engine was about 30% below the desired performance and that the foreign authorities were not prepared to give a written guarantee for the required performance it was all the more necessary to insist upon such a guarantee in the agreement at this stage. It is also surprising to note that before entering into this agreement with the foreign authorities the case was not put up to the Defence Committee of the Cabinet and it was only in February, 1964 when the agreement was cancelled that the case was brought to the notice of the Emergency Committee of the Cabinet. The Committee do not find any justification for by-passing the Cabinet Committee. They are unable to understand the circumstances under which the Cabinet Committee on Defence was by-passed in this case.

1.57. What surprises the Committee most is the fact that because of these two conditions laid down by the Cabinet Committee the earlier contract was terminated, a good deal of time was lost and then these two important conditions were dropped without any reference to the Cabinet Committee while dealing with the later contract with another foreign authority.

1.58. The Committee feel that the omission of the provision of the guarantee in the agreement of July, 1962 should have been specifically brought to the notice of the Cabinet Committee before concluding the agreement. If that was not possible an earliest opportunity thereafter should have been availed of to apprise the Cabinet Committee of the agreement and its provisions. The Committee regret to note that firstly the agreement was not brought before the Defence Cabinet Committee before it was concluded in July, 1962 and secondly, the earliest opportunity was not availed of to place the agreement before the Cabinet Committee.

1.59. It is also surprising to note that though it was envisaged that this engine could be developed to the required power; yet no provision was made in the agreement for its further development, nor was this task undertaken by the Indian authorities. The Committee also feel that conclusion of the agreement, when the foreign

authority declined to give a guarantee for the required performance was one of the main factors responsible for the infructuous expenditure in this case.

1.60. The Committee further feel that obtaining verbal approval of the Prime Minister for such an important project, as was done in this case, was also not a healthy procedure to follow. Before seeking Prime Minister's approval for such an important project, it is essential that full facts of the case should be placed before him in the shape of a detailed note. The Committee regret to note that this was not done in this case.

Payments for modifications as per agreement of July, 1952.

1.61. The Committee have been informed in a written note that a payment of 3.111 million dollars was agreed to be made to foreign manufacturer in connection with the modification of the engine to suit the requirements of the Government of India for the following work to be done in the foreign country:—

- (i) Modifications of the engine according to the requirements specified in the agreement;
- (ii) production of the necessary number of engines for the tests; and
- (iii) tests of the modified engines on the bench, and of the performance of the engines and the components in the high altitude test laboratories.

1.62. During evidence the Committee were informed that in the estimates for modifications drawn up in 1961, it was thought by the Indian experts that the modifications could be easily carried out within the Indian resources. Estimates of cost involved in the modifications were, therefore, not considered necessary and were hence not drawn up. The witness added that the estimates of cost were drawn up in February, 1962 after consultation with the team of foreign experts. At that time the estimate of modifications, within the country and its resources, was about Rs. 60 lakhs. These estimate did not include the cost of extensive tests which the foreign experts insisted were necessary before the engine could be cleared for installation. The witness added that the modifications which the foreign experts agreed to do later were much more extensive than those thought of earlier.

1.63. Referring to the written note furnished by the Ministry earlier, the Committee asked how it had been stated that the engine being a well-proved engine was preferred to an engine yet to be developed, when it had run to a speed which was 30% less than the speed according to the Indian requirements. The representative of the Ministry stated that the engine was a proved engine only upto the capacity it had performed and added that during the discussions the foreign authorities had stated that the engine had a performance potential higher than it had already done. Since it had performed to a certain capacity, the foreign authorities were not prepared to give a guarantee for a performance higher than that. He also disclosed that even earlier in September, 1960 when the engine of a private foreign company was to be acquired, the latter were not in a position to give a definite guarantee that their engine would be able to perform to the extent required. They only stated that its designed parameters were such that it was expected to achieve the performance required for Indian use.

1.64. The witness further added that the engine for which, an agreement was entered into in July, 1962 had done upto a certain performance and that the foreign authorities were quite hopeful of its achieving the desired performance. Expressing his own opinion, the Ministry's Secretary stated that it was not enough test to see that the power plant was enough for a certain performance and added, "it merely says that the engine reached that performance and then it was stripped to see whether any part of it was broken or not."

1.65. Explaining that the modifications suggested by the foreign experts, when they were in India, were different from those indicated by the Indian team, the witness stated that there was a change of situation in February-March, 1962 when the foreigners, and in August, 1961, when the Indians, assessed and communicated the modifications. In February, 1962 the engine had been received in India and the experts had both the engine and frame before them.

1.66. Asked whether it is correct to say that the Indian experts could not make a proper assessment, the witness replied that "the problem happened to be more complicated than it appeared to be." So far as the Indian experts were concerned, the witness added that the best available talent was utilised.

1.67. In response to a query, it was stated that the modifications suggested no doubt related to the accessories of the engine, but the

foreign authorities, being the holder of design, had stated that they were not in a position to guarantee the performance of the engine unless the modified engine had been put to a complete schedule of tests.

1.68. The Committee asked whether the modifications were such as could be carried out in India, but were decided not to be done here because of guarantee and test reasons. The representative of the Ministry stated that in March, 1962, the foreign authorities were asked for a permission to carry out the modifications and to give technical assistance for that purpose. But those authorities felt that the schedule of tests involved was so large and extensive and if it was to be done within a period of 18 months, it was best to do them in their country. The witness stated that the cost of modifications as put in the agreement was 3.111 million dollars.

1.69. The Committee were further informed that the technical team consisting of same members excepting one which had gone in July-August, 1961, was sent in April, 1962, because the team was meant to obtain the agreement to the modifications that had to be carried out and the technical assistance required to carry out the modifications. For that purpose, it was considered that no change in the team was called for.

1.70. Asked whether in the modifications to be carried out in the foreign country, any Indians were also associated, the witness replied that a request was made but the foreign authorities due to security reasons, did not agree to that.

1.71. In reply to a question, it was stated that at the time of signing agreement in July, 1962 the foreign authorities had only agreed that the engine would have the same performance, after the modifications, as before. The witness added that, "the agreement was not meant to improve the performance of the engine. It was meant only to change the dimensions so as to permit its installation." When asked specifically whether there was any stipulation in the agreement under which the foreign authorities were to try continuously to develop the engine to the desired higher speed, the witness replied, "there is no provision in the contract." The Committee enquired whether it was only out of good-will that the foreign authorities tried to develop the engine and that there was no contractual obligation on them, the witness said, "that is correct," and added "the modifications they had agreed to do were only to enable

installation of the engine. They had not agreed to undertake any other development. The engine as such will be given and they will give us further test results." The witness further added that when the agreement was signed, the foreign authorities were not definite that they could fulfil the assurance. "If they were," the witness stated, "they would have said so. In signing the agreement we consciously took a certain amount of risk."

1.72. Asked when the engine required was to achieve a specific performance, how Government was satisfied with an engine of lower performance without any stipulation for further improvement and development, the witness replied that the foreign authorities were not prepared to write in the agreement beyond the speed actually achieved for the engine. "They were also not prepared to develop the engine upto..... (Indian requirements.)" The Indian technical authorities were consulted who held the view that the engine would be able to perform to the desired higher speed. The technical authorities, the witness said, were the Managing Director of Government owned company who had in turn consulted the available talent, including a foreign engineer employed in the company.

1.73. It was stated in reply to a question that the foreign authorities were informed in September, 1963 that the engine had not come upto the expectation. The foreign authorities were asked to tell the maximum potentiality of the engine and whether they would be prepared to develop the engine to the required performance. It was added that that deliberate step was taken because after seeing the performance of the frame etc., the foreign experts had stated that in their view the engine could not reach the required higher speed.

1.74. On an enquiry made in September, 1963 the foreign authorities informed the Government of India in December, 1963 that it was not possible to develop this engine further to a higher performance as that would practically mean the development of a new engine.

1.75. The Committee referred to the Review Committee's observation that the guaranteed life of the engine was extremely short, and asked if the life of the engine in between overhauls was enquired into and economies of its purchase in the light thereof worked out, the witness stated that the foreign authorities could not give an indication as to what the life of engine would be in between overhauls at the higher altitudes. In the absence of that,

the witness stated, life of the engine could not be worked out. The Committee then specifically asked whether the absence of that information should not put the Government on guard and call for its verification, the witness replied that so far as that was concerned, "I do not think that a detailed calculation was made on this."

1.76. The Committee regret to note that a huge payment of 3.111 million dollars was agreed to be made and in fact a payment of Rs. 149.33 lakhs was actually made for the modifications and tests which were primarily meant for the installation of the engine in the frame rather than in any way increasing its performance. It is all the more surprising to note that this payment was agreed, to inspite of the fact that the foreign authorities had not given any written assurance that they would develop the engine to the Indian requirements. Even after modifications, the performance of the engine in question was to be the same as before i.e. about 30 per cent below the Indian requirements.

1.77. The Committee also regret to note that the life of this engine in between the over-hauls was not calculated so as to work out the economies of this engine vis-a-vis the engine of the private company, which was to be obtained earlier from the foreign private company. The Committee feel that this should have been done before concluding the agreement as shorter life in between overhauls would have meant larger number of engines to meet the same requirements and this would have increased ultimately the price of the engine.

1.78. The Committee cannot help observing that in the face of the fact that the foreign authorities were not prepared to give any guarantee to develop the engine to the required higher speed, the assessment of the Indian technical authorities that the engine would be able to perform to the desired higher speed was over-optimistic and lacked justifiable or scientific basis. In the opinion of the Committee, this was a hasty step involving unreasonable and heavy financial risk.

1.79. Another disquieting feature of this case is that between the date of signing the contract i.e. 6th July, 1962 and September, 1963, no effort was made by anybody to develop the capability of this engine to achieve the required performance. In September, 1963 the foreign authorities were requested specifically "to undertake the development of the (engine) upto (the required

performance)". The Committee feel that a clause regarding continuous development of the engine should have been included in the agreement, as in the absence of the same the agreement itself was not satisfactory and did not meet the Indian requirements. The Committee also feel that it would have been prudent if an agreement for the manufacture of engines had been entered into, only after a successful trial of the modified engines duly fitted in the frame.

Payments stipulated in agreement

1.80. Under the provisions of the agreement, the Government of India was to make the following payments to the foreign manufacturer:—

- | | |
|---|--------------------------|
| (i) Licence fee including cost of documentation | } 1.2 million dollars. |
| (ii) The actual expenses of the foreign manufacturer in connection with the modification of engine, tests of new engines (including cost of production of engines) to be used for the test. | } 3.111 million dollars. |

1.81. The above payments were to be made in Indian rupees and according to the following schedule:—

- | | |
|--|-------------------------------|
| (a) First instalment within 15 days from the date of coming into force of the agreement. | } 1.000 million dollars. |
| (b) Second instalment in July, 1963. | 1.000 million dollars. |
| (c) Third and last instalment in July, 1964. | 2.311 million dollars. |
| Total: | <u>4.311 million dollars.</u> |

Actual payment made

1.82. The total payments made, alongwith details, to the foreign manufacturer are given in Appendix II.

1.83. At the time of evidence, in regard to the payment terms included in the contract, the representative of the Ministry stated that they related to three categories; one to the value of the engine: the second to the licence fee; and the third to the cost of

modifications. The witness deposed that the charges in regard to engine and licence fee were reasonable in relation to other countries. Payment for cost of modifications was to be made on actual basis and here too the maximum limit of 3.111 million dollars was put. The witness further disclosed that after the cancellation of the agreement, the foreign authorities had informed that they had incurred expenditure over and above the amount (i.e., 3.111 million dollars) provided in the agreement but they had not claimed that.

1.84. The Committee were informed that the final payment was to be made only after the modifications were completed. It was also stated that according to the articles of the agreement the first payment of 1 million dollars was to be made within 15 days of the agreement coming into force, second payment of 1 million dollars on 1st July, 1963 and the last payment of 2.31 million dollars in July, 1964. The witness disclosed that though the agreement was cancelled in February, 1964, the final payment was made in December, 1965 after negotiations etc.

1.85. In reply to a question whether a longer credit could not be arranged, the witness stated that the foreign authorities in fact wanted payment in advance. Only after considerable negotiations the spreading of payment could be arranged.

1.86. The representative of the Ministry informed the Committee that the foreign manufacturer was to supply a fixed number of engines and sets of materials in various stages of manufacture. He added that by the time further engines were required, the manufacture of engines would have been established in India, as a licence for their manufacture had also been obtained.

1.87. The Committee cannot understand why such a huge amount was agreed to be paid for the mere modification of the engine which did not have the required power. The Committee are also unable to appreciate the provisions in the agreement in regard to the payment terms which were not related to the actual execution of the work. The Committee feel that in the absence of any assurance to develop the engine to the specified Indian requirements the agreement was concluded for the supply of an engine which did not meet the requirements of the country.

Review of the selection of the engine by the Committee

1.88. The selection of the engine as the power plant for the frame designed in India was a subject of review by a Committee appointed in March, 1963. That Committee undertook a detailed

assessment and pointed out that the engine did not meet the requirements of the equipment to be manufactured. This Review Committee, however, desired that the agreement with the foreign manufacturer should not be cancelled, but should be kept under suspension so that in the event, the development of another engine ran into trouble, it would leave the door open to revising the project in hand.

1.89. The report of the Committee was discussed at a meeting held in the room of the Defence Minister on 2-5-1963. The meeting decided that as there was no definite power plant in sight, the recommendation to suspend the agreement was premature and the agreement should, therefore, not be suspended.

1.90. It was also decided that it would not be appropriate to undertake discussions with another manufacturer without informing the foreign manufacturer with whom the contract was running. The Public Accounts Committee were informed in a written note that at a further meeting held on 3-9-1963 in the Defence Minister's office, it was decided that the further development of the engine to the required higher speed be taken up with the foreign authorities. This was accordingly taken up with foreign authorities on 14-9-1963. The foreign authorities on 19-12-1963 intimated to the Government of India that it was not possible to develop the engine to the required performance because it would practically mean the development of a new engine. Final discussions were held in January and February, 1964 and it was decided by the Ministry to recommend to the Cabinet that the project should not be proceeded with further. The Cabinet approved of the above recommendation on 26-2-1964. The foreign authorities were informed in February, 1964 of the Government of India's decision to foreclose the agreement. The foreign manufacturers had already completed by then manufacture of some engines. Those engines had to be accepted and were received in India in September/October, 1964.

1.91. During evidence the Public Accounts Committee enquired when the Committee appointed in 1963 to review the selection of the engine, had recommended that the agreement be suspended, why that was not done. The witness stated that the Committee had also recommended to undertake negotiations with another foreign manufacturing company. Since there was a subsisting agreement with a foreign manufacturer, it was not felt proper to have discussion with another manufacturer.

1.92. In reply to a question that when the engine had not come up to the expectation and was not likely to serve the purpose, why

was it considered obligatory to give prior information to them before negotiating with another supplier, the witness replied that the agreement was concluded for a performance to which the engine had done and not for the performance required. Therefore, if the contract was to be cancelled the other party had to be informed of the reasons for doing so. The witness added that the agreement was finally cancelled not on account of any default on the part of the foreign authorities with reference to any of the provisions of contract, it was cancelled when it had finally been known that the engine would not give performance to meet Indian requirements fully. It was, however, disclosed that the above recommendation of the Committee regarding negotiations with another supplier was accepted after exhausting the possibilities of getting the targetted performance out of this engine. Discussions in that connection were held with a representative of a foreign private company in December, 1964. The witness added that it was thought better first to make sure of the engine in hand and than to go in for another. In regard to the project, the witness stated that that Committee had specifically considered the question of continuing the project and had come to a conclusion that the project should not be given up.

1.93. The Public Accounts Committee were informed that the Committee appointed by Government had made a detailed assessment of the suitability of the engine for the Indian requirements on the basis of evidence tendered before it. In reply to a query, it was stated that the same people who were connected with the work gave evidence before that Committee.

1.94. It was stated that the project undertaken was the first big Indian project for the manufacture of an air-force equipment and the Government did not want to give it up except for the strongest possible reasons.

1.95. The Committee feel that it was rather an unfortunate decision of the Government to continue the agreement and ask the foreign authorities to undertake further development of the engine, after a specific recommendation of the "Review Committee" to suspend the agreement and its clear statement that the engine did not meet Indian requirements. When the Review Committee had based its recommendations on the evidence tendered before it by those who were connected with the development of the project, there was all the more reason not to disregard the Committee's recommendation. The Committee also feel that it should have been

taken up with the foreign authorities earlier than September, 1963, especially when the Review Committee had given its report in April, 1963.

1.96. As the Government thought that it was not proper to negotiate with another manufacturer when one agreement was in existence, the Committee feel that the best course would have been to foreclose the agreement, immediately on receipt of Report of the Reviewing Committee as earlier efforts to develop the engine had been frustrated and the Review Committee had stated clearly that the engine did not meet the Indian requirement. Such a step, perhaps would have saved the exchequer some of the money invested in this unsuccessful project.

Conclusion

1.97. The Committee have dealt with in detail in the preceding paragraphs the various unsatisfactory features of the project of manufacture of an equipment for Air-Force. Briefly these are as under:—

1. In 1956, when the project for the manufacture of this equipment was conceived, an estimate of Rs. 110 lakhs only was prepared. It was revived to Rs. 450 lakhs in 1961 and Rs. 556 lakhs in 1965. The initial estimate of 1956 was unrealistic and based on insufficient data.
2. The development of the frame was taken up without ensuring that a power-plant (engine) for the frame would be available.
3. The schedule for the trial test by 1961-62 was drawn up on the assumption that the Indian authorities would be able to get an engine from a private foreign company with whom they had an agreement to manufacture a series of engines of a particular type, in case that particular company developed the same in the normal course of their business. As that private foreign company dropped the project of development of this engine in early 1959, the Indian authorities were left without any engine and this upset the time schedule of the completion of the project.
4. Six engines were purchased from another country in August, 1961, whose tested capacity was much below the Indian requirements; for carrying out modifications and fitting the same in the Indian frame. The Indian team

over-assessed their capabilities and under-estimated the modifications needed in the engine airframe to meet their requirements.

5. In spite of the fact that the tested capacity of the engine was about 30% below the Indian requirements and also the foreign experts had already initiated in February, 1962 that they saw no possibility of re-fixing the engine in the way suggested by the Indian experts, an agreement was entered into in July, 1962 with the foreign authorities for the modifications of engines and later their manufacture in India.
 6. In September, 1960, the Cabinet Committee before whom the case for development of an engine for its equipment in collaboration with the foreign private company was put up prescribed the following conditions:
 - (a) a suitable financial indemnity should be sought from the foreign private company in case the engine was not satisfactorily developed;
 - (b) or alternatively the foreign private company should be persuaded to agree to make the development a joint financial venture.
- The above two conditions were not kept in view when an agreement was entered into in July, 1962 with the authorities of another foreign country.
7. The agreement of July, 1962 did not provide a guarantee or any clause for the development of the engine to the Indian requirements.
 8. In July, 1962 when the agreement was entered into with the foreign authorities in this case, only verbal approval of the Prime Minister was taken by the Minister of Defence and the case was put up to the Emergency Committee of the Cabinet only in February, 1964, when it was decided to foreclose the agreements. It was not put up immediately after July, 1962 either for information or for the approval of the Defence Committee of the Cabinet.
 9. A Review Committee appointed by the Government examined this engine as a power-plant for the frame and suggested in April, 1963 that the agreement with the foreign manufacturers should be suspended. This was not done immediately. The foreign authorities were asked in

September, 1963 to further develop this engine to meet the Indian requirements. A reply was received in December, 1963 that it was not possible to develop the engine to the Indian requirements. It was only in February, 1964 that a decision was taken to foreclose the agreement.

1.98. The Committee feel that the fact that the agreement of July, 1962 did not envisage further development of engine to meet the Indian requirements, was mainly responsible for the major portion of the expenditure of Rs. 237.76 lakhs on this unsuccessful venture. The Committee cannot but express a sense of disappointment at the infructuous expenditure of Rs. 237.76 lakhs incurred on this unsuccessful venture as also the time lost in making the right selection of the engine for the equipment. The Committee also feel that if due care had been taken at different stages, at least a major portion of this expenditure on the costly venture could have been avoided.

1.99. The Committee are constrained to note that apart from the loss of money involved in this unsuccessful venture, this resulted in abnormal delay in providing a vital equipment essential for the defence of the country. The Committee are not convinced that this situation was irremediable.

NEW DELHI;
January 28, 1967.
Magha 8, 1888 (s).

R. R. MORARKA,
Chairman,
Public Accounts Committee.

APPENDIX I

(Vide para 1.12)

Details of variations in the estimates given in 1959, 1963 and 1965.

(Rupees in Lakhs)

Serial No.	Item of cost	Estimates given in 1959	Estimates given in 1963	Estimates given in 1965
1	2	3	4	5
1.	Design Development	25.30	104.64	136.00
2.	Mock-up, Models & Glider	7.28	27.50	26.65
3.	Test specimen including Development (Material and Labour)	12.03	75.05	95.00
4.	Fatigue tests, including cost of complete new test specimen	..	..	30.00
5.	Proto-type Jigging	6.00	6.00	6.00
6.	Construction of Prototypes:			
	(a) Material	6.60	15.38	} 170.48
	(b) Equipment	29.07	48.45	
	(c) Engine	26.91	39.05	
	(d) Labour and Labour overhead	13.50	67.60	
		76.08		130.99

7. Test.....(Trials);	.	.	.	.	.	0.86	25.25	
8. Prototypes Hanger	.	.	.	.	.	4.00	..	110.00
9. Plant Machinery	.	.	.	.	.	12.00	..	
10. Research & Development for Test Laboratory	.	.	.	.	.	..	9.00	
11. Modifications during and after development	.	.	.	.	.	..	12.08	12.08
12. Contingencies	.	.	.	.	.	..	00.00	10.00
						<u>143.55</u>	<u>450.00</u>	<u>555.73</u>

APPENDIX II

(Vide para 1·82)

Statement showing total expenditure on the Development of Engines

Sl. No.	Details	Amount	Date on which payment authorised
		Rs.	
1.	Cost of 4 engines	8,70,576·16	}
	Cost of 2 engines received by Air	4,43,859·29	
	Spare for engines	38,844·88	
	Transport charges	7,824·21	
	Clearing forwarding charges	4,170·00	
	Cost of Mock up engine	1,42,846·21	
	Customs Duty	94,690·20	
	Fabrication of slings, equipment etc.	1,51,334·29	
	Construction of storage shed of Training Command	26,100·00	
	Telephone charges	1,154·08	
	Payment to Watch & Ward staff Foreign Technicians' Salaries and Air passage, Lodging and other expenses of the Technicians	39,631·00	
	Air passage, etc. of HAL officers	56,464·89	
		77,943·00	
		19·55 Lakhs	
2.	6 ready made engines	19·10 Lakhs		25-6-64
3.	1 fully calibrated engine	3·18 Lakhs	25-6-64
4.	1st instalment of licence fee	47·60 Lakhs	28-9-62
5.	2nd instalment of licence fee	47·60 Lakhs	22-8-63
6.	Cost of modification and tooling	53·33 Lakhs	5-4-65

Sl. No.	Details	Amount	Date on which payment authorised
7.	Cost of forging, punching and casting, etc.	Rs. 24.91 Lakhs	5-4-65
8.	Licence fee and technical documentation	23.80 Lakhs	9-8-66
		<u>239.07 Lakhs</u>	
	Less credit given by the foreign manufacturer for forging punchings after sale as scrap metal (\$ 27506)	1.31 Lakhs	20-4-66
		<u>237.76 Lakhs</u>	

APPENDIX III

Summary of the main conclusions/recommendations of the Seventieth Report of the Public Accounts Committee on para 10 of Audit Report (Defence Services), 1966.

S. No.	Para No. of Report	Ministry concerned	Conclusions/Recommendations
1	1.14	Defence	<p>The Committee consider it most unfortunate that such an unrealistic estimate of the project was drawn up. The estimate of this project went up from Rs. 110 lakhs in 1956 to Rs. 556 lakhs in 1966. The Committee are not convinced of the reasons advanced by the Ministry for not assessing properly the estimates of the expenditure at the initial stage and for its frequent upward revisions. The Committee are surprised to note the plea of lack of experience given by the witness as one of the primary causes for these upward revisions. The Committee cannot understand why such a complicated project was taken up without the necessary help of competent technicians to assess the job requirements and financial implications thoroughly. The Committee feel that the initial estimates prepared in 1956 were based on inadequate data and insufficient understanding of the details of this complicated project.</p>
2	1.15		<p>The Committee also feel that the Defence Committee of the Cabinet should have been apprised of this increase in the cost of this pro-</p>

ject and their approval of the revised estimate should have been obtained in 1961 when the estimates rose from Rs. 110 lakhs to Rs. 450 lakhs and should not have waited till 1963. For this long delay the Committee have been given no explanation.

3 1.16 Defence Finance

The Committee desire that in future projects where the revised estimate exceed the original estimate beyond a prescribed percentage/amount, the work should normally be proceeded with after obtaining the prior approval of the authority which sanctioned it initially. The Committee would also emphasise the necessity of preparing initial estimates more realistically and scientifically so that their upward revision at a later stage is avoided as far as possible. They would also like that suitable instructions should be issued in this regard to all the Ministries.

4 1.25 Defence

The Committee are surprised to note that the development of a project involving more than a crore of rupees, even in the first estimate, was undertaken without ensuring that the power plant (engine) required for the frame would be available. The development of the frame was started in 1956 and schedule for completion of the project by 1961-62 was drawn up on an assumption that there was a reasonable prospect of getting the engine from a private foreign company. This private foreign company was under no contractual obligation to develop this particular engine for use by the Government owned company in India. The private foreign company was to supply this engine in case they developed it in the normal course

of their business. This private foreign company gave up the development of this particular engine in 1959 and formally withdrew their offer in April, 1961 and the Indian company was left without the much needed power plant for the frame. This resulted in a considerable delay in the execution of this project. The Committee consider it rather amazing that such a complex and costly project was taken up without binding in any way the private foreign company for the supply of the required engine. This, the Committee feel, introduced an element of uncertainty in this project from the very beginning.

5 1.39

Defence

The Committee regret to note that the Indian team was not able to assess properly the modifications required in the engine nor were they able to estimate the Indian technicians' capabilities to carry out those modifications.

6 1.40

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It is also strange to note that it was only the foreign experts who realised that if the engine was modified or touched in any way, a whole series of tests would have to be carried out because the safety of the engine as well as the person who handled it was involved. The Committee feel that this was a basic point which should have occurred to our experts even in the beginning. Further, it was again left to the foreign experts to point out that the nature of modifications in the engine was such that the same could not be carried out in India and the same would have to be done in the foreign country.

7 1.41 —do—
The under estimation of modifications in the engine and over estimation of capabilities of the Indian technicians led to an infructuous expenditure on the pay etc. of the foreign experts and the Indian engineers deployed on the job.

8 1.42 —do—
The Committee also feel that since the modifications of the engines were to be undertaken on an experimental basis it would have been a wise course to purchase initially one or two engines instead of six in one lot. This would have reduced the quantum of infructuous expenditure.

9 1.56 —do—
The Committee are not convinced of the reasons given by the Ministry for not providing for a guarantee in the July, 1962 agreement as the engine for the development of which the agreement was entered into, had been tested to a speed which was much below (about 30 per cent) the desired performance. In the absence of any written guarantee for the engine to achieve the required performance, the foreign authorities were not bound in any contractual obligation to achieve the desired result. The Committee also note that at an earlier stage the Defence Committee of the Cabinet had specifically desired in connection with an agreement for the development of an engine with a foreign private company (a) a suitable financial indemnity should be sought from the foreign private company in case the engine was not successfully developed; (b) or alternatively the foreign private company should be persuaded to agree to make the development a joint financial venture. In view of the above decision of the Defence Committee of the Cabinet taken in September,

1960 in the earlier case, the Committee regret to note that the same was not kept in view and were dropped without reference to the Cabinet Committee while entering into this agreement in July, 1962 with the foreign authorities of another country. The Committee feel that any deviation from the conditions laid down by the Cabinet Committee should have been done only with the prior approval of that Committee. In view of the fact that the tested performance of the engine was about 30 per cent below the desired performance and that the foreign authorities were not prepared to give a written guarantee for the required performance it was all the more necessary to insist upon such a guarantee in the agreement at this stage. It is also surprising to note that before entering into this agreement with the foreign authorities the case was not put up to the Defence Committee of the Cabinet and it was only in February, 1964 when the agreement was cancelled that the case was brought to the notice of the Emergency Committee of the Cabinet. The Committee do not find any justification for by-passing the Cabinet Committee. They are unable to understand the circumstances under which the Cabinet Committee on Defence was by-passed in this case.

What surprises the Committee most is the fact that because of these two conditions laid down by the Cabinet Committee the earlier contract was terminated, a good deal of time was lost and then these two important conditions were dropped without any reference to

the Cabinet Committee while dealing with the later contract with another foreign authority.

11 1.58 —do

The Committee feel that the omission of the provision of the guarantee in the agreement of July, 1962 should have been specifically brought to the notice of the Cabinet Committee before concluding the agreement. If that was not possible an earliest opportunity thereafter should have been availed of to apprise the Cabinet Committee of the agreement and its provisions. The Committee regret to note that firstly the agreement was not brought before the Defence Cabinet Committee before it was concluded in July, 1962 and secondly, the earliest opportunity was not availed of to place the agreement before the Cabinet Committee.

12 1.59 —do—

It is also surprising to note that though it was envisaged that this engine could be developed to the required power, yet no provision was made in the agreement for its further development, nor was this task undertaken by the Indian authorities. The Committee also feel that conclusion of the agreement when the foreign authority declined to give a guarantee for the required performance was one of the main factors responsible for the infructuous expenditure in this case.

13 1.60 Defence/Cabinet Sectt.

The Committee further feel that obtaining verbal approval of the Prime Minister for such an important project, as was done in this case, was also not a healthy procedure to follow. Before seek-

ing Prime Minister's approval for such an important project, it is essential that full facts of the case should be placed before him in the shape of a detailed note. The Committee regret to note that this was not done in this case.

14 1.76 Defence

The Committee regret to note that a huge payment of 3.111 million dollars was agreed to be made and in fact a payment of Rs. 149.33 lakhs was actually made for the modifications and tests which were primarily meant for the installation of the engine in the frame rather than in any way increasing its performance. It is all the more surprising to note that this payment was agreed to in spite of the fact that the foreign authorities had not given any written assurance that they would develop the engine to the Indian requirements. Even after modifications, the performance of the engine in question was to be the same as before i.e. about 30 per cent below the Indian requirements.

15 1.77 —do—

The Committee also regret to note that the life of this engine in between the over-hauls was not calculated so as to work out the economies of this engine *vis-a-vis* the engine of the private company, which was to be obtained earlier from the foreign private company. The Committee feel that this should have been done before concluding the agreement as shorter life in between overhauls would have meant larger number of engines to meet the same requirements and this would have increased ultimately the price of the engine.

16

1.78

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The Committee cannot help observing that in the face of the fact that the foreign authorities were not prepared to give any guarantee to develop the engine to the required higher speed, the assessment of the Indian technical authorities that the engine would be able to perform to the desired higher speed was over-optimistic and lacked justifiable or scientific basis. In the opinion of the Committee, this was a hasty step involving unreasonable and heavy financial risk.

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1.79

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Another disquieting feature of this case is that between the date of signing the contract i.e. 6th July, 1962 and September, 1963, no effort was made by anybody to develop the capability of this engine to achieve the required performance. In September, 1963 the foreign authorities were requested specifically "to undertake the development of the.....(engine) upto..... (the required performance). The Committee feel that a clause regarding continuous development of the engine should have been included in the agreement, as in the absence of the same the agreement itself was not satisfactory and did not meet the Indian requirements. The Committee also feel that it would have been prudent if an agreement for the manufacture of engines had been entered into, only after a successful trial of the modified engines duly filled in the frame.

18

1.87

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The Committee cannot understand why such a huge amount was agreed to be paid for the mere modification of the engine which did not have the required power. The Committee are also unable to

appreciate the provisions in the agreements in regard to the payment terms, which were not related to the actual execution of the work. The Committee feel that in the absence of any assurance to develop the engine to the specified Indian requirements the agreement was concluded for the supply of an engine which did not meet the requirements of the country.

19

I.95

Defence

The Committee feel that it was rather an unfortunate decision of the Government to continue the agreement and ask the foreign authorities to undertake further development of the engine, after a specific recommendation of the "Review Committee" to suspend the agreement and its clear statement that the engine did not meet Indian requirements. When the Review Committee had based its recommendations on the evidence tendered before it by those who were connected with the development of the project, there was all the more reason not to disregard the Committee's recommendation. The Committee also feel that it should have been taken up with the foreign authorities earlier than September, 1963, especially when the Review Committee had given its report in April, 1963.

20

I.96

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As the Government thought that it was not proper to negotiate with another manufacturer when one agreement was in existence, the Committee feel that the best course would have been to foreclose the agreement, immediately on receipt of Report. Report of the Re-

viewing Committee as the earlier efforts to develop the engine had been frustrated and the Review Committee had stated clearly that the engine did not meet the Indian requirements. Such a step, perhaps would have saved the exchequer some of the money invested in this unsuccessful project.

21 1.97

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The Committee have dealt with in detail in the preceding paragraphs the various unsatisfactory features of the project of manufacture of an equipment for Air-force. Briefly these are as under:—

1. In 1956, when the project for the manufacture of this equipment was conceived, an estimate of Rs. 110 lakhs only was prepared. It was revised to Rs. 450 lakhs in 1961 and Rs. 556 lakhs in 1965. The initial estimate of 1956 was unrealistic and based on insufficient data.
2. The development of the frame was taken up without ensuring that a power-plant (engine) for the frame would be available.
3. The schedule for the trial test by 1961-62 was drawn up on the assumption that the Indian authorities would be able to get an engine from a private foreign company with whom they had an agreement to manufacture a series of

engines of a particular type, in case that particular company developed the same in the normal course of their business. As that private foreign company dropped the project of development of this engine in early 1959, the Indian authorities were left without any engine and this upset the time schedule of the completion of the project.

4. Six engines were purchased from another country in August, 1961, whose tested capacity was much below the Indian requirements, for carrying out modifications and fitting the same in the Indian frame. The Indian team over-assessed their capabilities and under-estimated the modifications needed in the engine|air frame to meet their requirements.

5. In spite of the fact that the tested capacity of the engine was about 30 per cent below the Indian requirements and also the foreign experts had already intimated in February, 1962 that they saw no possibility of re-fixing the engine in the way suggested by the Indian experts, an agreement was entered into in July, 1962 with the foreign authorities for the modifications of engines and later their manufacture in India.

6. In September, 1960, the Cabinet Committee before whom the case for development of an engine for its equipment in collaboration with the foreign private company was put up prescribed the following conditions:

- (a) a suitable financial indemnity should be sought from the foreign private company in case the engine was not satisfactorily developed;
- (b) or alternatively the foreign private company should be persuaded to agree to make the development a joint financial venture.

The above two conditions were not kept in view where an agreement was entered into in July, 1962 with the authorities of another foreign country.

7. The agreement of July, 1962 did not provide a guarantee or any clause for the development of the engine to the Indian requirements.

8. In July, 1962 when the agreement was entered into with the foreign authorities in this case, only verbal approval of the Prime Minister was taken by the Minister of Defence and the case was put up to the Emergency Committee of the Cabinet only in February, 1964, when it was

decided to force-close the agreement. It was not put up immediately after July 1962 either for information or for the approval of the Defence Committee of the Cabinet.

9. A Review Committee appointed by the Government examined this engine as a power-plant for the frame and suggested in April, 1963 that the agreement with the foreign manufacturers should be suspended. This was not done immediately. The foreign authorities were asked in September, 1963 to further develop this engine to meet the Indian requirements. A reply was received in December, 1963 that it was not possible to develop the engine to the Indian requirements. It was only in February, 1964 that a decision was taken to force-close the agreement.

The Committee feel that the fact that the agreement of July, 1962 did not envisage further development of engine to meet the Indian requirements, was mainly responsible for the major portion of the expenditure of Rs. 237.76 lakhs on this unsuccessful venture. The Committee cannot but express a sense of disappointment at the in-fructuous expenditure of Rs. 237.76 lakhs incurred on this unsuccessful venture as also the time lost in making the right selection of

the engine for the equipment. The Committee also feel that if due care had been taken at different stages, at least a major portion of this expenditure on the costly venture could have been avoided.

23 I.99

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The Committee are constrained to note that apart from the loss of money involved in this unsuccessful venture, this resulted in abnormal delay in providing a vital equipment essential for the defence of the country. The Committee are not convinced that this situation was irremediable.

Sl. No.	Name of Agent	Agency No.	Sl. No.	Name of Agent	Agency No.
27.	Bahree Brothers, 188, Lajpatrai Market, Delhi—6	27	33.	Bookwell, 4 Sant Narakari Colony, Kingsway Camp, Delhi-9.	96
28.	Jayana Book Depot, Chaparwala Kuan Karol Bagh, New Delhi.	66		I MANIPUR	
29.	Oxford Book & Stationery Company, Scindia House, Connaught Place, New Delhi—1.	68	34.	Shri N. Chaoba Singh, News Agent, Ramlal Paul High School Annexe, Imphal.	77
30.	People's Publishing House, Rani Jhansi Road, New Delhi.	76		AGENTS IN FOREIGN COUNTRIES	
31.	The United Book Agency, 48, Amrit Kaur Market, Pahar Ganj, New Delhi.	88	35.	The Secretary, Establishment Department, The High Commission of India, India House, Aldwych, LONDON, W.C.—2.	
32.	Hind Book House, 82, Janpath, New Delhi.	95			

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