

HUNDRED AND FORTY-EIGHTH REPORT

PUBLIC ACCOUNTS COMMITTEE (1982-83)

(SEVENTH LOK SABHA)

INTRODUCTION OF A NEW SYSTEM OF WEAPON TRAINING

MINISTRY OF DEFENCE



Presented in Lok Sabha on 28-4-1983

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INTRODUCTION

1, the Chairman of the Public Accounts Committee as authorised by the Committee do present on their behalf this Hundred and Forty-Eighth Report on paragraph 39 of the Report of Comptroller and Auditor General of India for the year 1980-81, Union Government (Defence Services) on introduction of a new system of weapon training relating to the Ministry of Defence.

2. The Report of the Comptroller and Auditor General of India for the year 1980-81, Union Government (Defence Services) was laid on the Table of the House on 5 April, 1982.

3. The Committee have expressed deep concern that despite the numerous advantages of the ETM system of training leading to saving in manpower as well as expenditure and the superiority of the system, there has been inordinate delay both in the initial formulation of the scheme and in its subsequent execution. It is surprising that even though the then Chief of Army Staff had issued orders in 1958 to prepare prototype to introduce the modern system of training, a decision in this regard was taken only in 1965. It again took as many as 5 years to issue necessary sanction to start the work and a prototype was produced as late as in 1970 *i.e.* 12 years after the idea was mooted. What is still more shocking is that even after so much delay the work was executed in a most leisurely manner, as is evident from the fact that only a little more than 50 per cent of the targetted ranges have actually been modified so far. It has again taken another 8 years for the authorities to decide upon the further improvements in the system of training and in finalising the GSQR of radio controlled target equipment for indigenous development. A decision to start the work on the remaining ranges has been taken only recently presumably to forestall adverse criticism by the Committee. The fact nevertheless stands out that the Army Authorities have treated a vital matter, like training of the army personnel which has a direct bearing on their battle-worthiness, in a very lackadaisical manner.

4. According to the authorities, the major reason for this poor performance was paucity of funds resulting in rescheduling of priorities as per instructions issued after 1971 operations for exercising utmost economy in expenditure on Defence works. The Committee are not at all convinced with this argument since substantial savings to the tune of Rs. 1.00 crores

(vi)

annually were expected to accrue (the actual saving is expected to be much higher, being Rs. 2.28 crores) as a result of introduction of the new method of training.

5. The Committee (1982-83) examined paragraph 39 at their sitting held on 21 December, 1982. The Committee considered and finalised the Report at their sitting held on 20 April, 1983. Minutes of the sitting form Part II* of the Report.

6. 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 to the Report.

7. The Committee would like to express their thanks to the Officers of the Ministry of Defence for the cooperation extended by them in giving information to the Committee.

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

NEW DELHI ;
April 28, 1983
Vaisakha 3, 1905 (S).

SATISH AGARWAL,
Chairman,
Public Accounts Committee.

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INTRODUCTION OF A NEW SYSTEM OF WEAPON TRAINING REPORT

Audit Paragraph

1.1 In order to modernise the method of training in field firing and to make it more realistic, the Army Headquarters (Army H.Q.) proposed (June 1970) a new system of electrically-controlled target mechanism (ETM) which was expected to result in an annual saving of Rs. 109 lakhs on ammunition, besides saving in training time.

1.2 In July 1970, the Ministry of Defence accorded sanction to the modification of 253 classification ranges and production of ETM equipment for introduction of the new method of weapon training under a phased programme (during 1970-71—1974-75) at a total cost of Rs. 185.24 lakhs (revised to Rs. 202.50 lakhs in January 1972) catering for ETM equipment (9,345 numbers : Rs. 79.44 lakhs), control panels (446 numbers : Rs. 6.24 lakhs) and modification of ranges (253 numbers : Rs. 116.82 lakhs). This included 271 sets of ETM equipment (8,130) numbers at 30 numbers each) and control panels plus reserve of 1,215 ETM equipment and 175 control panels. Besides, a recurring expenditure of Rs. 16 lakhs per annum on account of power consumption and maintenance staff for the ranges was also sanctioned.

1.3 The manufacture of ETM equipment and control panels was entrusted to an Army Base Workshop in November 1970 by a Central Ordnance Depot (COD); the manufacture was to be completed by the end of March 1975. Civil works for modification of the ranges were to be executed through the Military Engineer Services (MES).

1.4 A review of the progress of the project carried out by the Army H.Q. in January 1975 disclosed the following :

2,030 numbers of ETM equipment and 200 control panels had only been manufactured due to non-availability of requisite components/materials from suppliers; and

civil works for 117 ranges had been completed those for 10 ranges were expected to be completed by 31st March 1975 and Rs. 109 lakhs had already been spent on these 127 ranges; and work had not commenced in the remaining 126 ranges.

1.5 The Army HQ observed (February 1975) that :

in view of the paucity of funds, work on the modification of the existing ranges had not progressed as scheduled : and

there had been considerable delay in the provisioning of aluminium targets and maintenance spares for ETM equipment due to procedural bottlenecks and high cost of manufacture/procurement of stores.

1.6 Consequently, the Army HQ issued (February 1975) instructions that the project be stopped at the 127 ranges where civil works had been completed or were in progress and the manufacture of ETM equipment and control panels be restricted to 50 per cent of the sanctioned quantities.

1.7 ETM equipment and control panels : On receipt of instructions (of February 1975) from the Army HQ, the COD reduced the work order for the manufacture of ETM equipment and control panel, 3,540 ETM equipment (actual cost of Rs. 79.65 lakhs against the estimate of Rs. 26.18 lakhs showing an increase of 204 per cent) and 258 control panels (actual cost of Rs. 3.61 lakhs against the estimate of Rs. 2.19 lakhs showing an increase of 65 per cent) were manufactured by the Base Workshop during the period 1971-72 to 1977-78 and these were received in the COD during December 1971—November 1977. Out of these, 1,817 ETM equipment (cost : Rs. 40.88 lakhs) and 95 control panels (cost : Rs. 1.33 lakhs) were still lying in stock (March 1981).

1.8 As a result of curtailment of the scope of the project, orders for certain components placed on 5 firms by the Department of Defence Supplies during January 1972—March 1974 were short-closed (July—September 1975). One of the firms claimed compensation (Rs. 11.77 lakhs) on account of short-closure of the order. The matter was referred to arbitration in August 1976 and the arbitrator awarded (September 1977) a sum of Rs. 0.55 lakh in favour of the firm, which was paid on 7th July, 1978.

1.9 The completion cost of modifications (civil works) actually carried out to 128 ranges (although the project was to be stopped at 127 ranges) amounted to Rs. 162.29 lakhs against the estimated cost of Rs. 59.10 lakhs (increase of 176 per cent). The increase in cost was attributed, besides price escalation, to modification in design ordered in June 1971 as the original design did not meet the required standard, cost of additional works not originally contemplated and non-availability of electric supply or low voltage. Thus, the total extra expenditure on 3,540 ETM equipment and 258 control panels and modification of 128 ranges over the estimated cost amounted to Rs. 158.08 lakhs.

1.10 Against work orders for manufacture of 1,52,695 aluminium targets placed by the COD on the Army Base Workshop during January 1974—April 1976, 1,49,265 targets were manufactured (up to November 1978) at a cost of Rs. 17.91 lakhs met out of the COD's normal grant. Out of these 69,771 targets (value : Rs. 8.37 lakhs) were still held in stock (March 1981).

1.11 The COD was responsible for the procurement/stocking of maintenance spares of ETM equipment for issue to the workshops/user units. Consequent on reduction in the original scope of the project by 50 per cent (in February 1975), spares to the extent of Rs. 4.98 lakhs were rendered surplus (31st March 1981).

1.12 The Ministry of Defence stated (December 1979, August 1981 and November 1981) that :

escalation in cost of ETM equipment, control panels and modifications of ranges was a natural phenomenon ;

the balance stock of ETM equipment and control panels held in the COD was due to reduced demands from the user units; and

ETM equipment and control panels were issued for all the 128 ranges (where a total of 131 sets of ETM equipment were installed) which were functional and the purpose of training was being fully served.

The following are the main points that emerge :

The excess expenditure (over the sanctioned estimates) due to escalation in cost on manufacture of ETM equipment, control panels and modification of ranges amounted to Rs. 158.08 lakhs, which had not been regularised (March 1981) by Government.

1,817 ETM equipment (value : Rs. 40.88 lakhs) and 95 control panels (value : Rs. 1.33 lakhs) manufactured were lying in stock (March 1981) with the COD.

69,771 aluminium targets manufactured (value : Rs. 8.37 lakhs) were still held in stock (March 1981).

Against the minimum requirement of 3,930 ETM equipment for 131 sets at (30 numbers each) installed at 128 ranges actually commission (at 30 numbers each), only 1,723 numbers (out of 3,540 numbers manufactured) were issued up to March 1981. Thus, the modified ranges have been equipped with ETM equipment to the extent of about 44 per cent of that envisaged in the scheme and are yet stated to be functional. This is indicative of the fact that requirement were over-estimated at the time of framing the scheme and were not reviewed even when the scope of the scheme was curtailed in February 1975, thereby resulting in an avoidable expenditure of Rs. 50.59 lakhs on the excessive manufacture of various items of equipment.

[Paragraph 39 of the Report of the Comptroller and Auditor General of India for the year 1980-81, Union Government (Defence Services)]

Introduction of the System of training with Electrically-controlled Target Mechanism

1.13 The Committee desired to know as to how the imparting of training by the new system of electrically controlled target mechanism was considered more realistic than the method of training in field firing, so far in vogue. The Ministry of Defence stated as follows in a note :

“The previous method of weapon training in our Army was found to be time-consuming and unrealistic. It prepared a soldier to fire his weapons under ideal and peace conditions, and at targets which were distant and static. Consequently, it was found by experience that in battle a soldier fired thousands of rounds without achieving commensurate results.

To overcome the defects of the previous system and improve the efficiency of soldiers in battle shooting, a new method of weapon training was evolved. This method envisaged the use of electrically operated targets, based on a similar American Train Fire Equipment. In the new method the targets can be raised or lowered electrically. The targets are realistic and go down when hit by a bullet so that the firer becomes aware of the effectiveness of his fire. This method trains a soldier to :

- (i) shoot effectively on realistic camouflaged targets at varying unknown ranges, at unknown intervals and for unknown duration, without sight-setting;
- (ii) shoot under battlefield conditions of stress, surprise and night firing."

1.14 Further illustrating and elucidating the working of the ETM system, the representative of the Army Headquarters stated as follows, during evidence :

"Previously what was happening, the firer fired from different distances, kept on moving and fired on to targets which were fixed and square in shape—6' × 6'. 4' × 4' and like that. For a period of time Army Headquarters had been experimenting with different methods of training. The original suggestion was that we should have a range for five lanes for firing, on to which five fires or ten fires could fire and the targets would be placed at different distances between the last firing point and the target end at 50 yds., 100 yds., 150 yds., 200 yds., 300 yds, etc. to make the training more realistic so that when the firer is at the firing point in a position as in war time, not in a position as in peace time, the target could be exposed at any range. He would have to fire on the target, the basic aim being improving the firing standard in battle conditions. We asked Armament Research Development people to check whether this could be done on our existing ranges and they confirmed to us that this could be done if all the targets were on the same central line. We had no sophisticated methods with the ARD then to carry on detailed trials. We asked Infantry School to conduct trials by placing targets at different distance. When this trial was carried out, we found that the ricochet of the bullets hitting targets would affect the areas near the target. Therefore, it meant that the ranges would need a much larger area to be safe. Taking account of the safety of the civilian personnel living around the range areas nearby, we had to per force come to the conclusion that we should work with targets being placed at the butt end."

1.15 The witness further stated :

"The electronic system saves manpower, training time and makes the training more realistic and this has been in operation

being used at 128 ranges. Simultaneously we in the Army Headquarters have been working on a parallel programme. We did not stop at 128. We already have a general staff branch Q in order to try and modernise it further. Instead of having cables attached to each target, we are trying to work it with radio and trials on this have been carried out and we have given a requirement for a sample equipment to be produced which could be further tried. So, as regards your question, Sir, whether we would stop modernising, the answer is no. We are modernising it even further. Electronic fire will be by wireless signals."

1.16 Asked as to how the idea for the introduction of ETM system had originated, the Ministry of Defence replied as follows :

"Improvements in the method of training continue to be effected from time to time to bring in greater realism. These systems had already been in vogue in other armies and after a period of time an attempt was made to incorporate the n.w methods in our Army too."

1.17 The representative of the Army Headquarters further elaborated during evidence :

"This scheme, which we are implementing was initially thought of in 1958, when the Chief of Army Staff had visited one of the modern armies and he had seen the firing system. Then he issued some directions whether we could carry on the same trials ourselves and a prototype was produced. In 1970 this prototype was shown to the officials of the Defence Ministry and the Chief of Army Staff himself saw it in Delhi. I must say that there was prompt sanction from the Government to go ahead with the scheme, once it is finalized. Throughout the sixties, right upto 1966, we kept on carrying out trials with different types of indigenously produced equipment."

1.18 In a subsequent not furnished to the Committee, the Ministry of Defence have stated as follows :

"There is mention in our files that in 1958, the then COAS saw this equipment on a visit abroad but there is no evidence of a follow up of things or any attempt to introduce it in the Indian Army. It may be recalled that prior to the Chinese aggression of 1962 the Indian Army was equipped only with

an antiquated Lee Enfield bolt action rifle and not much purpose would have been served by introducing a semi-automated target control system when no automation was available in the weapons fired by the soldier.

The decision to introduce this system was first taken in 1965 and this date therefore can be deemed to be the starting point of the project. Briefly, the following are the reasons for delay :

- (a) The scheme was first tried out at a regimental centre range at Delhi and was later extended to the entire country where different conditions prevailed in each station from the extreme North to the Southern tip of the country. local conditions obtaining at different places over which Army Hqrs. had no control caused difficulties, delays and unexpected increases in expenditure. Although, the local Commanders carry out necessary liaison and modifications on an as required basis and do try to surmount these difficulties it has to be accepted that these procedural delays cannot be altogether eliminated. If Army Hqrs. had to await complete and finalised reports from every corner of the country before undertaking such projects the project would have got badly delayed in execution.
- (b) The advent of the 1971 Indo-Pak War resulted, inter-alia in many projects of this nature being relegated to lower priority apart from causing delay in troop trials and receipt of feed back necessary for reviewing the successful implementation.
- (c) Some essential components like micro-switches and relays had been sub-contracted to civil firms. These firms did not meet their schedules. Moreover, when the equipment was actually installed at some of the ranges for carrying out detailed troop trials, it was found to malfunction. This delayed the trials and the submission of reports to Army Headquarters."

1.19 In another note, the Ministry of Defence gave the following chronological summary for the period 1965 to 1975 of the sequence of events, progress in civil works and state of manufacture of equipment :

<i>Year</i>	<i>Event</i>
1965	Decision at Army Commanders Conference to introduce the new Method of Weapon Training.
Nov. 1965	Trials on Qty. 1 of Electric Target Equipment manufactured by Station Workshop, Mhow.
Nov. 1965	509 Army Base Workshop asked to manufacture one set of Electric Target Equipment.
Mar. 1978	Comparative trials of Equipment manufactured by 509, Army Base Workshop and M/s Dawas Electricals. Equipment manufactured by 509, Army Base Workshop found relatively better.
1968-69	Orders placed for manufacture of additional number of Electric Target Equipment for further trials at Raj Rif Regimental Centre.
May 1970	Trials at Raj Rif Regimental Centre, New Delhi.
June	Case taken up for conversion of 253 ranges.
July	Ministry of Defence accords sanction for Civil Works Rs. 99.56 lakhs ETE & CP Rs. 99.67 lakhs. Conversion to be carried out in five places :
	(a) Jan 71 to Mar 71 15 Ranges.
	(b) Apr 71 to Mar 72 60 Ranges.
	(c) Apr 72 to Mar 73 60 Ranges.
	(d) Apr 73 to Mar 74 55 Ranges.
	(e) Apr 74 to Mar 75 63 Ranges.

253 Ranges

Quality of equipment ordered on 509 Army Base Workshop

ETMs—9345

CPs — 446

Jan 1971	Modification-targets to be confined to centre line.
Jun 1971	Modification-Target to be placed at the mantlet only.
Jan 1972	Civil Works-five ranges completed. Revised sanction for civil works at a total cost of Rs. 116.82 lakhs.
Jun 1972	Re-scheduling of work based on actual progress. Phase A 123 ranges till 31 Mar 73 Phase B 67 ranges till 31st Mar 74 Phase C 63 ranges till 31st Mar 75
Jul 1972	Troop trials ordered
Apr 1975	12 ranges completed ETE-nil because of non-supply CP- nil of master relay
May 1974	Production of aluminium targets ordered
Jun 1974	Ranges completed-108
Jan 1975	Decision to stop conversion at 128 ranges. Work on 117 ranges completed. Quantity of equipment produced till then
	ETE-2030 CP - 200
Feb 1975	Future conversion stopped. Demand for ETE and CPs reduced to 4451 and 226 respectively.
Jun/Jul 1975	Final demand of equipment revised as under :
	ETE-4195 CP - 258
Oct 1975	E-in-Cs Branch asked to regularise excess expenditure
Dec 1975	EME Study Team set up to investigate design defects reported by stations."

1.20 In a further note on the subject (March 83) the Ministry of Defence have stated :

"The number of ETM in the draft reply, *i.e.* 4,195 appears to be a typographical error. The correct figure is 4,193.

The requirements for CPs was 226. However, when these orders were issued some CPs were in the pipeline and as such final figure at which production of CPs was stopped was 258."

1.21-1.22 Asked about the reasons for continuing with the old and absolute system of training till as late as 1975 when the improved system had become available, the representative of Army Headquarters stated :

"Even earlier we had targets, which were being manipulated by pulleys. It was serving some purpose, though not full. We wanted something modern."

1.22-1.23 The Committee desired to know about the occasions when the manufacture of ETM equipment and control panels had been reviewed, details of modification of ranges conducted since November, 1970 and the outcome of such reviews. In reply, the Ministry of Defence intimated the Committee in a note as follows :

"Two major reviews have been carried out to the basic design of the electric target ranges. The first proposal envisaged six lanes with five targets in each lane, the targets alternating between the centre line and staggered off the centre line at intermediate ranges. The first change was necessitated when it was found that with the off-set of the target away from the arc centre line the danger area (i.e. the safety to the sides) increased considerably beyond the range area. The second change was introduced on account of the ricochet pattern the rounds went beyond the range if targets were placed forward of the mantlet. It needs to be mentioned here that before giving this design Army Hqrs had obtained expert opinion of the Armament Research Development Establishment to clear the design. Subsequently doubts were raised by the Infantry School, Mhow. Army Hqrs perforce took a decision to revise the pattern to make civilian safety an overriding consideration. This moving of the target to the mantlet from intermediate ranges did partly compromise on realism, but in the given circumstances. it had to be accepted. Regarding the expert advice rendered by the ARDE which is part of the Defence Research and Development Organisation, it transpired that the establishment did not have the sophisticated instruments

- to test the trajectory and ballistic parameters of shots. These sophisticated instruments, which are the basic tools for any such organisation, were introduced much later.

Regarding the manufacture of ETM equipment and control panels, Army Hqrs continued to monitor the progress and received reports periodically on the same. A major review of the actual requirement was carried out in 1975. It could not have been carried out earlier in the absence of the most vital input which is comprehensive troop trials at various stations by user units. The troop trials got delayed as a result of dislocations of units following the Indo-Pak Conflict, 1971."

1.24 The Committee enquired about the authorities who proposed the original design of ranges and also those who suggested modification in design in June 1971 and the basis for this modification. In reply, the Ministry of Defence have stated in a note :

"Modification of a classification range at Raj Rifles Regimental Centre, Delhi was carried out on an experimental basis to cater to ETM in early 1970. Based on trials conducted at Raj Rifles Regimental Centre, Delhi and the recommendations of Infantry School Mhow and Armament Research and Development Organisation of the DRDO, design for conversion of ranges was put forward by MT Directorate.

According to the original design an eight classification range was to be converted to a five lane ETR. The targets were to be situated at distances of 50 yards, 100 yards, 150 yards, 200 yards, 250 yards and 300 yards from the firing lane. A lateral shift of one target width from the firing line was permitted for Intermediate Markmanship Range.

On further evaluation of the Danger Area by Infantry School Mhow and DRDO, it was decided in Jan 71 to confine all the six targets to the centre line of each lane. This was done to ensure additional safety and to avoid the requirement for additional land, which would have been required to take care of the additional Danger Area.

Later, it was found that all bullets fired at targets placed forward of the butte ricocheted, and the angle of ricochet from the

line of fire was much greater than that catered for by the danger area of a standard classification range. Based on these considerations, it was decided by MT Directorate in June 71 that ETM would be used on the standard classification range by placing the targets on the mantlet only. Two targets per lane were to be fitted on the mantlet.

Since one control panel could cater to only five lanes, it was decided that the Converted Gallery Range could have eight lanes only where there were more than one control panel.”

Delay in the executions of the Project

1.25 According to the Audit Para, the Army Headquarters had observed in February, 1975 that work on the modification of existing ranges had not progressed as scheduled due to paucity of funds. The Committee desired to know the efforts made to procure necessary funds for this work, which involved considerable savings in expenditure as also better method of training. In reply, the Ministry of Defence have stated as follows :

“Instructions had been issued after 1971 operation for exercising utmost economy in expenditure on Defence works. In the light of these instructions the priorities for works had to be reconsidered and funds reallocated to more urgent operational projects. However, besides the paucity of funds resulting from rescheduling of priorities, there were other factors also like lack of suitable infrastructure, land disputes, irregular supply of electricity and delay in procurement of equipment, which led to delay in the progress of works. Around this period examination of the possibility of introduction of the more sophisticated and better system was also being taken up.”

1.26 The Committee enquired about the procedural bottlenecks which according to the Army Headquarters resulted in considerable delay in the provisioning of aluminium targets and maintenance spares for ETM equipment. The Ministry of Defence intimated the Committee as follows :

“The term ‘procedural bottlenecks’ seems to have been loosely used by Army HQrs. in the context of delay in the provisioning of aluminium targets and maintenance spares for ETM equipment.

After detailed enquiry, it has been observed that originally cardboard targets were proposed to be used and, therefore, no sanction had been issued for the aluminium targets at the time of sanctioning the project in July 1970. The decision to go in for the aluminium targets was taken in 1973-74 and only the orders for their manufacture could be placed by Ordnance Services Dte. on 509 Army Base Workshop, Agra. Similarly for maintenance spares, the instructions were issued from OS Dte. in Jan. 1973. There was, therefore, no real 'procedural bottleneck'."

1.27 The Committee desired to know the reasons for not providing for aluminium targets in July, 1970 itself instead of in 1973-74. The Ministry of Defence have intimated as follows :

"The targets were being indigenously developed without any previous experience. With a view to keep the costs to the minimum, trials were made initially with cardboard targets as well as other material and finally the manufacture of aluminium targets was decided upon. In mass production, the design of the target and its ability to withstand the maximum number of hits without deterioration in adverse climatic conditions had to be kept in mind. As the Army authorities did not have any previous experience of working models of this equipment, the gradual improvement of the design to the most suitable medium was a normal process."

1.28 In reply to a question regarding the stock position of aluminium targets, the Ministry of Defence have stated that the stock position as on 10 July, 1982, in respect of Target Aluminium large and target Aluminium small was 32895 and 32188, respectively.

1.29 The Committee also desired to know the reasons for issue of delayed sanction for maintenance spares in January, 1978. The Ministry of Defence have stated as follows :

"With regard to the question of maintenance spares in view of the lack of previous experience with the Army on such spares and their possible useful life, the scales laid down again required a further review after some sets had been installed and used on ground. The quantum of maintenance spares is directly related to the life or the quality of each

component. It must be mentioned here that erratic electric supply over which Army authorities had no control, is one of the biggest handicaps that adversely affect all sophisticated equipment and made their useful life span unpredictable. This still continues to be a major problem in most of the stations."

1.30 The Committee desired to know why timely steps were not taken to resolve the bottlenecks like need for additional infra-structure, land disputes, provisions of electricity supply which were stated to be responsible for slow progress of modification of ranges. In reply, the Ministry of Defence have stated in a note :

"When such extensive plans which have to be executed over the length and breadth of the country are made at Army HQrs., these have to be disseminated to the Commands for execution. They in turn sub-allot these to the various formations/area/sub-areas/station headquarters. In actual fact, over 40 garrison engineers were executing the works involved in the ETR project. The regulations regarding local land use and development as also the the build up of infra-structure to include construction of roads/provisioning of electricity are peculiar to each state/region. The local Commanders obtain these approvals from civil authorities and carry out the necessary liaison. If local development projects or provisioning of electric power, do not come up in time or the local bodies fail to meet the laid down targets the local Commanders are helpless and can only maintain pressure for this to be speedily completed. The Command Headquarters also carry out liaison with the State Government at an appropriate level. Delays occurring in the civil side and their failure to achieve the specified targets has a direct effect on military projects of this nature. It is an on-going process over which Army HQrs. have no direct control."

1.31 Explaining the reasons for delay in the execution of the project, the Defence Secretary stated before the Committee :

"At the outset I would like to submit that the new method was to cover 253 ranges where this kind of new equipment would be installed for providing improved training facilities. This would be calculated to modernise the system and to facilitate

the movement of the targets and the practice ranges. There were two parts. One was manufacture of equipment and the other was execution of civil works on the ground. There were delays in the manufacture of the equipment mainly civil there were also delay in the ground work and civil works particularly because this was spread all over the country and not confined to one place. As many as 46 garrison engineers had to do this work in varying degrees at different locationsBut the ground conditions vary from one place to another. That was the main reason why the total expenditure was more than what was provided in the initial letter. Because, the intial letter was just a cost estimate, based on assumptions and not on the ground conditions as would be available is so many locations. What finally happened was that they were able to complete the work in 128 ranges only. There was also a reduction in the number of targets that were to be used and now they are thinking in terms of further means that will be introduced in the course of the work."

1.32 The representative of the Army Headquarters further stated :

"Some general reasons I will mention. Firstly, the scheme started in 1971. In 1971 we were busy with the war. By the time the troops came back it was almost end of 1972 or beginning of 1973. Then certain troop trials had to be carried out. You cannot come to any conclusion unless actual trials had proved you right."

1.33 As regards the equipment delays, another representative of the Army Headquarters explained :

"We had given orders to DGS&D for supply of transformers and micro switches. The firms name was Techno. Lab. Instruments Ltd. for transformers. They had produced initially some transformers with the imported material. Later on their transformers started failing and we asked the firm to give us good transformers. That was the main reason for delay in the production of equipment."

1.34 The Committee desired to know the specific reasons for short supply of requisite components/materials by the suppliers which had resulted

in the manufacture of less number of ETM equipment and control panels by the Army Base Workshop. The Ministry of Defence stated as follows :

“Manufacture of 9345 Electric Target Mechanism and 446 Control Panels by 509 Army Base Workshop was sanctioned by the Govt. in July 1970. The quantities were subsequently reduced to 4193 ETMs and 258 Control Panels. Documents pertaining to the work orders upto 1976 have already been destroyed by the Workshop after these had been audited. From the information available, it has been gathered that progress of manufacture of ETM equipment was dependent on timely supply of a number of bought out components. Some of these had to be procured through DGS&D or Department of Defence Production. Supply of these items were delayed due to various reasons like delays in report of basic raw material and cost escalation in market. There was no procedural lacuna in the matter.”

Reduction of order for ETM Equipment and control panels

1.35 The Audit Para stated that in February, 1975, the Army HQ issued instructions that the project be stopped at the 127 ranges where civil works had been completed or were in progress and the manufacture of ETM equipment and control panels be restricted to 50 per cent of the sanctioned quantities. Consequently, the COD reduced the work order for the manufacture of ETM equipment to 3,540 and control panels to 258.

1.36 The Committee desired to know the reasons for curtailment of the scheme for modification of ranges to the extent of about 50%, in view of the system being much more useful than the old system. The Ministry of Defence have stated as follows :

“Action to convert the remaining 125 ranges was not pursued because Army Headquarters had around this time started thinking in terms of introducing a more advanced radio controlled target system. The GSQR in respect of the new system has since been finalised.”

1.37 The Committee desired to know the quantum of work actually completed on the ETM Project, the extent of work which still remained to be completed and the time by which the same was expected to be completed. In reply, the Ministry of Defence stated as follows in a note :

“The ETM Project has been fully implemented in so far as they relate to 128 ranges. As per the initial projections made in 1970, work was to have been carried out on 253 ranges. Work has not been taken on hand in respect of the other ranges as a review was carried out in 1975 when it was decided to stop the work at 128 ranges. After detailed studies, a GSQR has recently been finalised for indigenous development of the latest radio controlled target mechanism.”

1.38 It was further intimated by the Ministry of Defence on 30 March, 1983, as follows :

“GSQR of Radio Control'ed Target Equipment has been prepared by MT Dte.. In consultation with the WE Dte. and the Infantry School, Mhow. It was forwarded to WE Dte. for further action on 23 Nov. 82.”

1.39 The Committee desired to know the extent of saving (a) in ammunition and (b) training time achieved as a result of partial implementation of the new system of weapon training based on ETM. The Ministry of Defence have stated in a note :

“(a) Saving in Ammunition

As a result of the adoption of the new system of weapon training based on ETM, a new Annual Range Course was introduced in 1971. The net amount of savings effected per battalion due to this new course were :

- | | | |
|-----------|---|---------------|
| (i) Rifle | — | 16,530 rds. |
| (ii) LMG | — | 1,18,630 rds. |

The Range Course was further amended during the period 1974 to 1976 and the new scales provided for a total saving of approximately Rs 2.28 crores annually. Thus the net saving effected was found to be more than the saving which was expected at the introduction of ETM. A revised Ammunition Range Course was introduced in 1976 in which the savings in Ammunition were expected to be Rs. 1.07 crores.

(b) Saving in Time

A study was undertaken in 1976 at the Infantry School Mhow to compare the time required for training on an ETR with that required on a conventional Hythe Pattern Classification

Range. A company of 90 stude each was made to fire the 'Provisional Range Course 971', (Day and Night practices for trainee soldiers for Rifle and LMG) on ETR and Hythe-pattern range. Each firing detail was of eight men. The timings were found to be as shown below :

	<i>ETR</i>	<i>Hythe-Pattern Classification Range</i>
(i) Rifle Practices Day	4 hrs. 10 mins. (Excl. approx. one hr. spent on running repairs of the equipment during this firing)	5 hrs. 10 mins.
(ii) Rifles Practices (Night)	1 hr. 20 mins. (excl. 20 mins. for running repairs)	3 hrs. 5 mins.
(iii) LMG Practices	3 hrs. 35 mins. (excl. 30 mins. for running repairs of equipment)	4 hrs. 25 mins.
(iv) LMG Practices (Night)	1 hrs. 15 mins. (excl. 20 mins. for running repairs)	3 hrs.

.. ...The normal time for running repairs is about 30 mins. on the average but in this trial during the rifle practices (day) the time taken was approximately 1 hr.

The above data makes it clear that there is a marked saving in training time on an Electric Target Range."

Surplus due to curtailment of the Scheme

1.40 According to the Ministry of Defence, the latest stock position as on 30 June, 1981, in respect of ETM equipment and control panels held by the COD concerned is as follows :

Item	Serviceable stock	Repairable stock
ETM Equipment	1830	1
Control panels	82	1

1.41 The Committee desired to know why it had not been found possible since November 1977 to put to use as many as 1830 ETM equipment and 82 control panels. The Committee also enquired as to why the provisions for such a large number of ETM equipment was made when there was no demand for it and what was the additional expenditure incurred on this equipment since November 1977 to keep it in perfect serviceable conditions. The Ministry of Defence intimated the Committee in a note as follows :

“In 1971 when the decision was taken to curtail the project to 128 ranges, it was also decided to reduce the demand for ETMs and Control Panels by approximately 50%. This was not and could not have been, a prorata decrease. Had this been so reduced Army HQs would have been faced today with a crisis of the first magnitude. The Review Committee was not in a position to decide firmly on the life of the project (i.e. 10, 15 or 20 Yrs.) as they could not predict when a more advanced system would be introduced. The reserve of ETM equipment and Control Panels have enabled Army HQs to continue this project so far and for another 3 to 5 years. These items of equipment in stock are being utilised. These are non-perishable items of long life and there has been no reckonable expenditure for their upkeep in the depots. There had been even exports enquiries for this equipment. The stocks in the depots represent the inescapable reserves for this project which may continue upto 1985 or even 1990.”

1.42 Audit has offered the following comments on the aforesaid note of the Ministry :

“It has been stated that had the requirements of ETM equipment and CPs been reduced prorata. AHQ would have been faced with a crisis. As against the revised requirements of 4,193 ETM equipment (inclusive of reserve) for 128 ranges, the quantity actually manufactured was only 3,540 Nos., and out of this 1,830 Nos. are still (30.6.82) in stock. Since even the qty. manufactured has not been fully utilised, the question of crisis does not seem to arise. This needs clarification or the draft reply would require revision to make the position clear and factually correct.”

1.43 The following clarification were given by the Ministry of Defence in their note furnished on 30 March 1983 :

“Today approximately 128 ranges are functioning with the ETMs systems. Many of these will require replacements in the following years. In fact, as the equipment gets older, there is an increase in demands.

The ENE Directorate had been stating all along that after production was stopped it would be very difficult for them to revive it. In addition to the tremendous escalation in costs, there would also be a considerable time lag. These aspects had to be kept in mind.

It would be difficult to state as to the number of years for which the current ETM system would continue to be operational till it is replaced by a more advanced system. This period (*i. e.* till the Radio Controlled Target System is finally introduced) could stretch from 5 to 10 years *i.e.* upto 1990. Therefore, if today we did not have the reserve stock in the depot to take care of our needs for the next 5 to 10 years we would indeed be faced with a critical situation.”

1.44 The Committee desired to know the specific reasons for reduced demands of ETM equipment and control panels from the user units. The Ministry of Defence intimated as follows in a note :—

“There has been no reduced demand for control panels. In all, 258 CPs were manufactured. The remaining stock of 82 CPs constitutes the reserve as was anticipated at the time of closure of the project.

There has been a reduced demand for ETM equipment on account of the change in the design of the Electric Target Ranges.”

1.45 The Committee desired to know the reasons for not reviewing the requirements of ETM equipment and control panels at the time of curtailing the scope of the scheme in February, 1975. The Ministry of Defence stated :

“The requirement of ETM and Control Panels was comprehensively reviewed in 1975. It was only after the review that approximately 50 per cent reduction was ordered. Scaling down of the ETM equipment still enabled the Army autho-

rities to have adequate reserve stock in the Depot which they have been able to use subsequently and even now reserves for the next 4—5 years are available.”

- 1.46 The Committee enquired how the ranges were stated to be functional when the modified ranges were equipped with ETM equipment only to the extent of 44 per cent of that envisaged in the scheme. In reply, the Ministry of Defence have stated as follows :

“The range were originally proposed to be equipped with six targets in each lane. Later, however, the number had to be reduced due to safety considerations. Mere reduction in the number of targets in a lane does not make the range non-functional.”

- 1.47 The Committee desired to know whether the weapon training to the entire army is being imparted on these 128 ranges or the previous method which was found unrealistic is still in vogue. The Ministry of Defence stated as follows :

“Weapon training to the Army is continuing in all the 253 ranges. However, in view of the periodic rotation of troops to various locations, most of them get an exposure to the weapon training on the modified ranges. Simultaneously efforts have been made to impart more realism to the training in the unmodified ranges by resorting to local modification to the extent possible.”

- 1.48 The Committee enquired whether the curtailment in the scheme has affected the training programme and if so, to what extent. The Ministry of Defence has replied as follows :

“The curtailment of the scheme has affected training only to the extent that at remaining stations, while the new range course has been introduced, the process involves greater time and commitment of manpower as well as some impairment in realism. The answer given above regarding rotation of units to ensure periodic exposure of all troops to the new system should also be kept in mind. When the new system (radio controlled target system) is introduced this will be overcome. This should not caused undue alarm as in any field of training in the Army a gradual change to newer and better systems, in stages is inevitable. There is no way in which the entire Army can convert to a new equipment at the same time. This is applicable to training as well as the introduc-

tion of new equipment, whereby old equipment is gradually phased out.”

Surplus Spares

1.49 The Committee enquired about the steps taken or proposed to be taken to utilise the surplus spares amounting to Rs. 4.98 lakhs. The Ministry of Defence stated as follows :

“These are spares of equipment currently in use. As and when there are failures these spares will be utilised. They also represent the critical reserves and their release is centrally controlled. It is worth mentioning here that some of these spares would also be used for trials on the new systems being evaluated as also for its installation.”

Escalation in expenditure

1.50 According to the Audit Paragraph, actual expenditure for the manufacture of 3.54 ETM equipment incurred was Rs. 79.65 lakhs against the estimate of Rs. 26.18 lakhs showing an increase of 204 per cent. Similarly, actual cost of manufacture of 258 control panels was Rs. 361 lakhs against the estimate of Rs. 2.19 lakhs showing an increase of 65 per cent. The Committee desired to know the reasons for the very high cost of manufacture of ETM equipment and control panels by the Army base workshop as compared to the sanctioned estimated cost. The Ministry of Defence intimated the Committee as follows :

“The estimates of the initial cost of Electric Target Mechanism and Control Panel were made in 1968-69 as under :

- (a) Electric Target Mechanism — Rs. 850
- (b) Control Panel — Rs. 1,400

Since the initial estimates, considerable escalation in prices of material and labour took place, increasing the cost of the final product. The rise in costs, in these respects have been of the following order :

Year	Cost of Material		Control Panel	Trade Groupwise cost of labour/hr. in Rs.			
	Elect. mechanism	tgt.		A	B	C	D
1969	Rs. 350		Rs. 1145	1.70	1.25	1.06	0.99
1974	Rs. 1039		Rs. 1591	3.00	2.01	1.77	1.66

The above increase in labour and material costs were normal, as per the prevailing conditions 509 Army Base Workshop, with their constant efforts to increase productivity through work study and improved manufacturing process, brought down the cost of labour in manufacture of electric target mechanism from Rs. 467 in 1971 to Rs. 193 in 1977."

1.51 The Defence Secretary confirmed during evidence that orders regularising the expenditure have been issued.

1.52 In order to modernise the training in field firing sanction was accorded in July, 1970 to the modification of 253 classification ranges and production of ETM (electronically controlled target mechanism) equipment for introduction of a new method of weapon training at a total cost of Rs. 185.24 lakhs, which was subsequently revised to Rs. 202.50 lakhs in January, 1972. The old method prepared a soldier to fire his weapons under ideal and peace conditions. The method is designed to train a soldier to shoot under battlefield conditions of stress, surprise and night firing. The new method of weapon training was proposed to be introduced under a phased programme between 1970-71 and 1974-75. According to the original calculations, the introduction of the new system was expected to result in an annual saving to the extent of Rs. 109 lakhs on ammunition, besides saving in training time. The project envisaged the production of 9,345 numbers of ETM and 446 numbers of control panels at an estimated cost of Rs. 79.44 lakhs and Rs. 6.24 lakhs respectively and modification of 253 numbers of existing ranges at an estimated cost of Rs. 116.81 lakhs.

1.53 The manufacture of ETM equipment and control panels was entrusted to an Army Base Workshop in November, 1970 and the entire manufacturing work was to be completed by the end of March, 1975. Civil works for modification of the ranges were to be executed through the Military Engineer Services (MES).

1.54 As a result of the review of the progress of the project conducted by the Army Headquarters in January, 1975, it was revealed that only 2030 numbers of ETM equipment and 200 control panels had been manufactured till then (against 9345 and 446 numbers respectively). Similarly against the original programme to convert 253 ranges by March 75, Civil works for 117 ranges only had been completed work on 10 ranges was in progress. Work on as many as 126 ranges had not even commenced. Subsequently the Army Headquarters issued instructions in February, 1975 limiting the modification to only 127 ranges where civil works had either been completed or were in

progress. The demand for ETM and control panels was reduced to 4451 and 226 respectively as it was decided to effect further improvement in the system of training. The demand of the ETM was further lowered in June/July 1975 to 4193 ETM. According to the Audit Paragraph actual modification work on 128 ranges only was completed and actual manufacture of 3540 ETM and 258 control panels was achieved. The Ministry are stated to have since issued orders for conversion of the remaining 116 ranges.

1.55 The Committee note that the idea to introduce the ETM system of training was first conceived in 1958 when the then Chief of Army Staff had visited one of the modern armies and had seen the firing system there. He then issued some directions and a prototype was produced. It was, however only in 1965 that a decision to introduce the system was taken at an Army Commanders' Conference. The sanction for the works relating to the conversion of 253 ranges was issued in July 1970.

1.56 The Committee are deeply concerned to note that despite the numerous advantages of the ETM system of training leading to saving in manpower as well as expenditure and the superiority of the system, there has been inordinate delay both in the initial formulation of the scheme and its subsequent execution. It is surprising that even though the then Chief of Army Staff had issued orders in 1958 to prepare prototype to introduce the modern system of training a decision in this regard was taken only in 1965. It again took as many as 5 years to issue necessary sanction to start the work and a prototype was produced as late as in 1970 i.e. 12 years after the idea was mooted. The delay is unconscionable and requires fuller explanation. What is still more shocking is that even after so much delay the work was executed in a most leisurely manner, as is evident from the fact that only a little more than 50 per cent of the targetted ranges have actually been modified so far. It has again taken another 8 years for the authorities to decide upon the further improvements in the system of training and in finalising the GSQR of radio controlled target equipment for indigenous development. A decision to start the work on the remaining ranges has been taken only recently presumably to forestall adverse criticism by the Committee. The fact nevertheless stands out that the Army authorities have treated a vital matter like training of the army personnel which has a direct bearing on their battle-worthiness, in a very lackadaisical manner. The delay on the part of Army authorities becomes all the more glaring in view of the admitted fact that the Ministry of Defence were quite prompt in issuing necessary sanction for the works when approached by the Army authorities. The Committee cannot but express their severe displeasure at this unfortunate state of affairs.

1.57 As pointed out earlier, the review of the project (January 1975) revealed heavy shortfall in production of ETM equipment and control panels *vis-a-vis* the production programme. According to the authorities, the major reason for this poor performance was paucity of funds resulting in rescheduling of priorities as per instructions issued after 1971 operations for exercising utmost economy in expenditure on Defence works. It is unbelievable that the programme of providing training to the armed forces which is so crucial to their fighting capabilities, was accorded a low priority and its implementation was allowed to be slowed down because of shortage of funds. The Committee are not at all convinced with this argument since substantial savings to the tune of Rs. 1.09 crores annually were expected to accrue (the actual savings is expected to be much higher, being Rs. 2.28 crores) as a result of introduction of the new method of training. The Ministry owe a detailed explanation to the Committee in this regard stating *inter alia* at what level and for what precise reasons such a decision was taken.

1.58 The Committee consider that other factors leading to delays such as lack of suitable infra-structure, land disputes, irregular supply of electricity and delay in procurement of equipment, could also be resolved and delays minimised by proper liaison and continuous follow up with the concerned authorities. It bears no repetition that the authorities whether at the Centre or in the States are quite considerate and accommodating as and when any demands relating to our defence forces are made. The Committee cannot therefore help concluding that had the authorities implemented the project with the seriousness it deserved, these delays could have been avoided.

1.59 The Committee are pained to learn that as a result of the failure of the authorities to execute the project as per programme, the old, obsolete and unrealistic method of training in field firing is still being followed in as many as 125 ranges, which proves beyond doubt that the basic training of our armed forces in field firing continues to be impaired and might as well affect their morale in actual battle conditions. It has been admitted by the Ministry of Defence albeit guardedly that "... The curtailment of the scheme has affected training only to the extent that at remaining stations while the new range course has been introduced, the process involves greater time and commitment of manpower as well as some impairment in realism'. This to say the least, is most unfortunate.

1.60 The Committee find that 3540 ETM equipment and 258 control panels were actually manufactured for use in 128 modified ranges. The latest stock position as on 30 June, 1982 in respect of ETM equipment and

control panels, was 1831 numbers and 83 numbers, respectively. Further 65083 aluminium targets were still in stock as on 10 July 1982. According to Audit these requirements were over-estimated at the time of framing the scheme and were not reviewed even when the scope of the scheme was curtailed in February, 1975, thereby resulting in an avoidable expenditure of Rs. 50.59 lakhs on the excessive manufacture of various items of equipment. The Ministry of Defence have conceded that requirements for control panels was 226. However, when orders for curtailment were issued some control panels were in the pipeline and as such final figure at which production of control panels was stopped was 258. Further, according to the Ministry of Defence while there has been no reduced demand for control panels, there has been a reduced demand for ETM equipment on account of the change in the design of the Electric Target Range. Thus, the infructuous expenditure could have been avoided, had the authorities concerned taken adequate steps to finalise the new design expeditiously.

1.61 The Committee regret to note that consequent on reduction in the original scope of the project by about 50 per cent in February, 1975, spares to the extent of Rs. 4.98 lakhs were rendered surplus. Further, an infructuous expenditure of Rs. 0.55 lakh had to be incurred towards payment of compensation on 7th July, 1978, awarded by an arbitrator to one of the five private firms, as orders placed for certain components on these firms, were short-closed in July-September, 1975, as a result of curtailment of the scope of the project. The Committee emphasise that proper and timely use of these surplus spares should be made lest they become obsolete.

1.62 The Committee are further concerned to note that there was huge escalation in the cost of manufacture of the ETM equipment and control panels. The actual expenditure incurred for the manufacture of 3540 ETM equipment was Rs. 79.65 lakhs against the estimate of Rs. 26 lakhs showing an increase of 204 per cent. Similarly, actual cost of manufacture of 258 control panels was Rs. 3.61 lakhs against the estimate of Rs. 219 lakhs showing an increase of 65 per cent. The Committee feel that much of this escalation in costs could have been avoided if the project was monitored and implemented according to the programme.

1.63 The Committee note that in order to further modernise the method of training in field firing, there is a proposal for the introduction of a more advanced radio controlled target system, the GSQR in respect of which has since been finalised. The Committee need hardly stress the urgency of introducing this system in our armed forces.

1.64 In conclusion, the Committee would like to point out that this is yet another instance where a project which is not only cost effective but which also has a vital bearing on the preparedness and battle worthiness of our troops has been inordinately delayed because of delay in decision making as well as tardy implementation. As pointed out earlier, the project was conceived as early as in 1958 and has not come to complete fruition even thus far. The Committee desire that their findings in this case and the remedial measures taken/proposed to be taken should be specifically brought to the notice of the highest decision-making authorities in the Ministry.

NEW DELHI ;
23 April, 1983
3 Vaisaka. 1905(S)

SATISH AGARWAL
Chairman,
Public Accounts Committee.

APPENDIX

Conclusions and Recommendations

Sl. No.	Para No.	Ministry Concerned	Conclusion and Recommendation
1	2	3	4
1	1.52	Defence	In order to modernise the training in field firing sanction was accorded in July, 1970 to the modification of 253 classification ranges and production of ETM (electronically controlled target mechanism) equipment for introduction of a new method of weapon training at a total cost of Rs. 185.24 lakhs, which was subsequently revised to Rs. 202.50 lakhs in January 1972. The old method prepared a soldier to fire his weapons under ideal and peace conditions. The new method is designed to train a soldier to shoot under battlefield conditions of stress, surprise and night firing. The new method of weapon training was proposed to be introduced under a phased programme between 1970-71 and 1974-75. According to the original calculations, the introduction of the new system was expected to result in an annual saving to the extent of Rs. 109 lakhs on ammunition, besides saving in training time. The project envisaged the production of 9,345 numbers of ETM and 446 numbers of control panels at an estimated cost of Rs. 79.44 lakhs and Rs. 6.24 lakhs respectively and modification of 253 numbers of existing ranges at an estimated cost of Rs. 116.81 lakhs.
2	1.53	-Do-	The manufacture of ETM equipment and control panel was entrusted to an Army Base Workshop in November, 1970 and the entire manufacturing work was to be completed by the end of March,

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1975. Civil works for modification of the ranges were to be executed through the Military Engineer Services (MES).

3 1.54 Defence. As a result of the review of the progress of the project conducted by the Army Headquarters in January, 1975. it was revealed that only 2030 numbers of ETM equipment and 200 control panels had been manufactured till then (against 9345 and 446 numbers respectively). Similarly against the original programme to convert 253 ranges by March 75, Civil works for 117 ranges only had been completed and work on 10 ranges was in progress. Work on as many as 126 ranges had not even commenced. Subsequently the Army Headquarters issued instructions in February, 1975 limiting the modification to only 127 ranges where civil works had either been completed or were in progress. The demand for ETM and control panels was reduced to 4451 and 226 respectively as it was decided to effect further improvement in the system of training. The demand of the ETM was further lowered in June/July 1975 to 4193 ETM. According to the Audit Paragraph actual modification work on 128 ranges only was completed and actual manufacture of 3540 ETM and 258 control panels was achieved. The Ministry are stated to have since issued orders for conversion of the remaining 116 ranges.

4 1.55 Defence The Committee note that the idea to introduce the ETM system of training was first conceived in 1958 when the then Chief of Army Staff had visited one of the modern armies and had seen the firing system there. He then issued some directions and a prototype was produced. It was, however, only in 1965 that a decision to introduce the system was taken at an Army Commandars' Conference. The sanction for the works relating to the conversion of 253 ranges was issued in July 1970.

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5. 1.56 Defence The Committee are deeply concerned to note that despite the numerous advantages of the ETM system of training leading to saving in manpower as well as expenditure and the superiority of the system, there has been inordinate delay both in the initial formulation of the scheme and its subsequent execution. It is surprising that even though the then Chief of Army Staff had issued orders in 1958 to prepare prototype to introduce the modern system of training a decision in this regard was taken only in 1965. It again took as many as 5 years to issue necessary sanction to start the work and a prototype was produced as late as in 1970 i.e. 12 years after the idea was mooted. The delay is unconscionable and requires fuller explanation. What is still more shocking is that even after so much delay the work was executed in a most leisurely manner as is evident from the fact that only a little more than 50 per cent of the targetted ranges have actually been modified so far. It has again taken another 8 years for the authorities to decide upon the further improvements in the system of training and in finalising the GSQR of radio controlled target equipment for indigenous development. A decision to start the work on the remaining ranges has been taken only recently presumably to forestall adverse criticism by the Committee. The fact nevertheless stands out that the Army Authorities have treated a vital matter like training of the army personnel which has a direct bearing on their battle-worthiness, in a very lackadaisical manner. The delay on the part of Army authorities becomes all the more glaring in view of the admitted fact that the Ministry of Defence were quite prompt in issuing necessary sanction for the works when approached by the Army authorities. The Committee cannot but express their severe displeasure at this unfortunate state of affairs.
6. 1.57 Defence As pointed out earlier, the review of the project (January 1975) revealed heavy shortfall in production
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of ETM equipment and control panels *vis a vis* the production programme. According to the authorities, the major reason for this poor performance was paucity of funds resulting in rescheduling of priorities as per instructions issued after 1971 operations for exercising utmost economy in expenditure on Defence works. It is unbelievable that the programme of providing training to the armed forces which is so crucial to their fighting capabilities, was accorded a low priority and its implementation was allowed to be slowed down because of shortage of funds. The Committee are not at all convinced with this argument since substantial savings to the tune of Rs. 109 crores annually were expected to accrue (the actual savings is expected to be much higher, being Rs. 2.28 crores) as a result of introduction of the new method of training. The Ministry owe a detailed explanation to the Committee in this regard stating *inter alia* at what level and for what precise reasons such a decision was taken.

7. 1.58 Defence The Committee consider that other factors leading to delays such as lack of suitable infra-structure, land disputes, irregular supply of electricity and delay in procurement of equipment, could also be resolved and delays minimised by proper liaison and continuous follow up with the concerned authorities. It bears no repetition that the authorities whether at the centre or in the States are quite considerate and accommodating as and when any demands relating to our defence forces are made. The Committee cannot therefore help concluding that had the authorities implemented the project with the seriousness it deserved, these delays could have been avoided.
8. 1.59 -Do- The Committee are pained to learn that as a result of the failure of the authorities to execute the project as per programme, the old, obsolete and unrealistic method of training in field firing is still being followed in as many as 125 ranges, which proves beyond doubt

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that the basic training of our armed forces in field firing continues to be impaired and might as well affect their morale in actual battle conditions. It has been admitted by the Ministry of Defence albeit guardedly that "... ..The curtailment of the scheme has affected training only to the extent that at remaining stations while the new range course has been introduced, the process involves greater time and commitment of manpower as well as some impairment in realism". This to say the least, is most unfortunate.

- 9 1.60 Defence The Committee find that 3540 ETM equipment and 258 control panels were actually manufactured for use in 128 modified ranges. The latest stock position as on 30 June, 1982 in respect of ETM equipment and control panels, was 1831 numbers and 83 numbers, respectively. Further 65083 aluminium targets were still in stock as on 10 July, 1982. According to Audit these requirements were over-estimated at the time of framing the scheme and were not reviewed even when the scope of the scheme was curtailed in February, 1975, thereby resulting in an avoidable expenditure of Rs 50.59 lakhs on the excessive manufacture of various items of equipment. The Ministry of Defence have conceded that requirements for control panels was 226. However, when orders for curtailment were issued some control panels were in the pipeline and as such final figure at which production of control panels was stopped was 258. Further, according to the Ministry of Defence while there has been no reduced demand for control panels, there has been a reduced demand for ETM equipment on account of the change in the design of the Electric Target Range. Thus, the infructuous expenditure could have been avoided, had the authorities concerned taken adequate steps to finalise the new designs expeditiously.

10. 1.61 -Do- The Committee regret to note that consequent on reduction in the original scope of the project by about

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50 per cent in February, 1975, spares to the extent of Rs. 4.98 lakhs were rendered surplus. Further, an infructuous expenditure of Rs. 0.55 lakh had to be incurred towards payment of compensation on 7th July, 1978, awarded by an arbitrator to one of the five private firms, as orders placed for certain components on these firms, were short-closed in July-September, 1975, as a result of curtailment of the scope of the project. The Committee emphasise that proper and timely use of these surplus spares should be made lest they become obsolete.

11. 1.62 Defence The Committee are further concerned to note that there was huge escalation in the cost of manufacture of the ETM equipment and control panels. The actual expenditure incurred for the manufacture of 3540 ETM equipment was Rs. 79.65 lakhs against the estimate of Rs. 26 lakhs showing an increase of 204 per cent. Similarly, actual cost of manufacture of 258 control panels was Rs. 3.61 lakhs against the estimate of Rs. 2.19 lakhs showing an increase of 65 per cent. The Committee feel that much of this escalation in costs could have been avoided if the project was monitored and implemented according to the programme.
12. 1.63 -Do- The Committee note that in order to further modernise the method of training in field firing, there is a proposal for the introduction of a more advanced radio controlled target system, the GSQR in respect of which has since been finalised. The Committee need hardly stress the urgency of introducing this system in our armed forces.
13. 1.64 -Do- In conclusion, the Committee would like to point out that this is yet another instance where a project which is not only cost effective but which also has a vital bearing on the preparedness and battle worthiness of our troops has been inordinately delayed because of delay
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in decision-making as well as tardy implementation. As pointed out earlier, the project was conceived as early as in 1958 and has not come to complete fruition even thus far. The Committee desire that their findings in this case and the remedial measures taken/proposed to be taken should be specifically brought to the notice of the highest decision-making authorities in the Ministry.

