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**STANDING COMMITTEE
ON ENERGY
(2004)**

THIRTEENTH LOK SABHA

DEPARTMENT OF ATOMIC ENERGY

**DEMANDS FOR GRANTS
(2003-2004)**

*[Action Taken by the Government on the recommendations contained in
the Thirty-Eighth Report of the Standing Committee on Energy
(Thirteenth Lok Sabha)]*

FORTY-THIRD REPORT



**LOK SABHA SECRETARIAT
NEW DELHI**

February, 2004 / Magha, 1925 (Saka)

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STANDING COMMITTEE ON ENERGY
(2004)

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(2003-2004)

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Presented to Lok Sabha on 4.2.2004

Laid in Rajya Sabha on 4.2.2004



LOK SABHA SECRETARIAT
NEW DELHI
February, 2004/Magha, 1925 (Saka)

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COMPOSITION OF THE STANDING COMMITTEE ON ENERGY
(2004)

Shri Sontosh Mohan Dev — *Chairman*

MEMBERS

Lok Sabha

2. Shri Basudeb Acharia
3. Shri Prasanna Acharya
4. Shri Prakash Yashwant Ambedkar
5. Shri Vijayendra Pal Singh Badnore
6. Shri Jagmeet Singh Brar
7. Shri Lal Muni Chaubey
8. Shri Bal Krishna Chauhan
9. Shri A.B.A. Ghani Khan Choudhury
10. Shri Bikash Chowdhury
11. Shri Laxman Giluwa
12. Dr. S. Jagathrakshakan
13. Shri Rattan Lal Kataria
14. Shri P.R. Khunte
15. Shri Arun Kumar
16. Shri K. Muraleedharan
17. Shri Ali Mohamad Naik
18. Shri Ravindra Kumar Pandey
19. Shri Dalpat Singh Parste
20. Shri E. Ponnuswamy
21. Shri Amar Roy Pradhan
22. Shri B. Satyanarayana
23. Md. Shahabuddin
24. Shri Raghuraj Singh Shakya
25. Shri Chandra Pratap Singh
26. Shri Tilakdhari Prasad Singh
27. Shri Shibu Soren
28. Shri B. Venkateshwarlu

29. Prof. Ummareddy Venkateswarlu
30. Prof. Rita Verma

Rajya Sabha

31. Shri Devdas Apte
32. Shri Santosh Bagrodia
33. Shri Jayanta Bhattacharya
34. Shri Dara Singh Chauhan
35. Shri Bimal Jalan
36. Dr. K. Kasturirangan
37. Shri Ramachandra Khuntia
38. Shri Ajay Maroo
39. Dr. Chandan Mitra
40. Shri B.J. Panda
41. Shri Matilal Sarkar
42. Shri Gaya Singh
43. Shri Veer Singh
44. Shri D.P. Yadav
45. Vacant

SECRETARIAT

- | | | |
|-----------------------|---|-----------------------------|
| 1. Shri John Joseph | — | <i>Additional Secretary</i> |
| 2. Shri P.K. Bhandari | — | <i>Director</i> |
| 3. Shri R.S. Kambo | — | <i>Deputy Secretary</i> |
| 4. Shri R.K. Bajaj | — | <i>Under Secretary</i> |
| 5. Shri P.C. Tripathy | — | <i>Assistant Director</i> |

INTRODUCTION

I, the Chairman, Standing Committee on Energy having been authorised by the Committee to present the Report on their behalf, present this Forty-third Report (Thirteenth Lok Sabha) on the Action taken by the Government on the recommendations contained in the 38th Report of the Standing Committee on Energy on Demands for Grants (2003-04) of the Department of Atomic Energy.

2. The Thirty-Eighth Report of the Standing Committee on Energy was presented to Lok Sabha on 8th April, 2003. Replies of the Government to all the recommendations contained in the Report were received on 8th October, 2003.

3. The Standing Committee on Energy considered and adopted this Report at their sitting held on 29th January, 2004.

4. An Analysis on the Action Taken by the Government on the recommendations contained in the Thirty-Eighth Report of the Committee is given at Annexure-II.

5. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in the body of the Report.

NEW DELHI;
February 3, 2004
Magha 14, 1925 (Saka)

SONTOSH MOHAN DEV,
Chairman,
Standing Committee on Energy.

CHAPTER I

REPORT

This Report of the Committee deals with Action Taken by the Government on the recommendations contained in the Thirty-Eighth Report (Thirteenth Lok Sabha) of the Standing Committee on Energy on the Demands for Grants (2003-04) of the Department of Atomic Energy which was presented to House on 8.4.2003.

2. Action Taken Notes have been received from the Government in respect of all the recommendations contained in the Report. These have been categorised as follows:—

- (i) Recommendations/Observations that have been accepted by the Government:
Sl. Nos. 1, 2, 5, 6, 9, 10, 12, 14, 15 & 16
- (ii) Recommendations/Observations which the Committee do not desire to pursue in view of the Government's replies:
Sl. Nos. 3, 4, 7, 8 & 13
- (iii) Recommendations/Observations in respect of which replies of the Government have not been accepted by the Committee:
Sl. No. 11
- (iv) Recommendations/Observations in respect of which final replies of the Government are still awaited:
Nil

3. The Committee also desire that utmost importance should be given to the implementation of recommendations accepted by the Government. In case it is not possible for the Government to implement the recommendations in letter and spirit for some reason or the other, the matter should be reported to the Committee in time with reasons for non-implementation.

4. The Committee will now deal with the Action Taken by the Government on some of their Recommendations/Observations made in the Thirty-Eighth Report.

A. Budgetary Allocation

Recommendation (Sl. No. 1, Para No. 2.23)

5. The Committee were concerned to note that the Department of Atomic Energy had been unable to fully utilise the budgetary allocations during any of the last three years. As against the budgetary allocations of Rs. 4942.99 crore, Rs. 5190.23 crore and Rs. 6180.28 crore for the years 2000-01, 2001-02 and 2002-03, the actual expenditure by the Department had been to the tune of Rs. 4551.50 crore, Rs. 4870.15 crore and Rs. 4874.15 crore (upto February, 2003) respectively. The Committee were further concerned to note that out of the total Plan budgetary support of Rs. 1892.00 crore during 2001-02, the expenditure by the Department had been to the extent of Rs. 1595.79 crore only during the year. Thus, there had been a huge shortfall of Rs. 296.21 crore. All the three Sectors of the Department *viz.* Power, Industries & Minerals (I&M) and Research & Development (R&D) had registered significant shortfalls in the utilisation of the Plan budgetary allocations during 2001-02. While R&D Sector had contributed Rs. 39.29 crore to the overall shortfall of Rs. 296.21 crore, the shortfalls registered by the Power and I&M Sectors had been as much as Rs. 154.43 crore and Rs. 102.49 crore respectively. The shortfalls, shown as 'savings' by the Department, had been ascribed to difficulty/delay in procurement of machinery & equipments, delay in getting clearances, slow progress of some items of work, change in the scope of some projects, delay in finalisation of contracts, etc. While the Committee understood the difficulties of the Department in procuring some of the imported equipments, they were not inclined to accept the other reasons cited by the Department which could have been avoided if the Department had acted with some advance planning and foresight. What pained the Committee more was that the Department had been surrendering Plan budgetary allocations year after year. Considering the fact that the resources were scarce and hard to come by, the Committee had recommended that the Department should fully utilise whatever allocations were made to them.

6. In their reply, the Department of Atomic Energy have, *inter-alia*, stated that in order to achieve the targets as projected in the Budget Estimates, the Department have streamlined the preparation of Budget Estimates and monitoring of expenditure at various levels. A meeting of the heads of all DAE Units was taken by Secretary on 05.05.03 where the need for full utilization of approved Budget allocation to achieve the committed targets was emphasized. To achieve the said objective he directed all the Units to judiciously estimate and fix targets of Plan Expenditure for the first two quarters of the year. Accordingly, all the Units planned their projection for the 1st and 2nd quarters and submitted the targets to the Department. The heads of Units in turn are required to review the progress of expenditure at least once in a month with project coordinators and to take remedial action wherever necessary towards progress of the expenditure to the level of approved budget allocation. In respect of projects costing more than Rs. 10 crore, Secretary, DAE also holds periodic review meetings with the project coordinators. The Department have further stated that after the close of the first quarter, Secretary took another review meeting on 22.07.03 with the Heads of DAE Units. Alongwith in-depth analysis of the reasons for shortfall against the targets set for the first quarter, it called for review and revision of the targets for the 2nd quarter and also propose the target for the 3rd quarter. Setting of quarterly targets coupled with close monitoring in consultation with the project coordinators is likely to achieve the desired objectives of utmost utilization of Plan budget allocations. The Department have also stated that in addition to the above measures, in the current year of 2003-04, to strengthen the budgetary process, teams from the Budget wing of DAE headquarter visited the units and conducted threadbare scrutiny of the budget estimates. Such action is also likely to result in the estimates being framed in much more realistic manner.

7. **The Committee had expressed concern over the failure of the Department of Atomic Energy (DAE) to fully utilise the budgetary allocations year after year and recommended that the Department should fully utilise whatever allocations were made to them. In their reply, the Department have stated that they have streamlined the procedure of preparation of Budget Estimates and monitoring of expenditure at various levels. They have further informed the Committee that the Secretary, DAE took a meeting of the heads of all DAE units on 5.5.2003 where he directed all the units to judiciously estimate and fix targets for the first**

two quarters of the year. The Secretary, DAE also took a review meeting of the unit heads on 22.7.2003 wherein the reasons for shortfall in targets set for the first quarter were analysed. In addition, teams from the budgetary wing of the Department also visited the units during the year 2003-04 and conducted threadbare scrutiny of the budget estimates. The Committee appreciate the efforts made by the Department to streamline the budget exercise. They hope that with the measures taken by the Department, the position will improve in future. The Committee would like to be apprised of the extent of success achieved in the utilisation of the budgetary allocations.

B. Private Sector/Joint Venture Participation

Recommendation (Sl. No. 10, Para No. 2.65)

8. The Committee had been informed that a number of international companies in USA, Germany, Canada, France, Japan, etc. were involved in the supply of Nuclear Power Reactors/major equipments for Nuclear Power Stations. The Committee had further been informed that the Nuclear Power Corporation of India Limited (NPCIL) had been exploring the possibilities of forming Joint Ventures with State Electricity Boards/Public Sector Undertakings/Reputed Corporates for setting up Nuclear Power Stations and that no concrete proposal had emerged in this regard so far. This would necessitate some amendments to the Atomic Energy Act, 1962. The Committee, on an earlier occasion, had recommended that the Department should expedite the process of amendment to the Atomic Energy Act, 1962. They reiterated their earlier recommendation as they felt that Joint/Private Sector involvement would lead to flow of the much-needed resources to the Nuclear Power Sector. The Committee had suggested that the Department could also explore the possibility of setting up dedicated plants for big consumers and States, etc. who might be willing to share the costs of such plants. The Department could operate and maintain the plants on behalf of their clients.

9. In their reply, the Department of Atomic Energy have, *inter-alia*, stated that all aspects of Private Sector/Joint Venture participation, including the aspects of safety and regulation of nuclear power and the relevant amendments of the Atomic Energy Act are to be considered. This area being strategic in nature, it will take some time before things take a concrete shape.

No significant participation is envisaged in the near future from the big consumers or States to share the cost of setting up Nuclear Power Plants. The current efforts are, therefore, only exploratory in nature.

10. The Committee had recommended that the Department should expedite the process of amendment to the Atomic Energy Act, 1962 so as to enable the Joint Venture/Private participation in the Nuclear Power Sector. In their reply, the Department have stated that all aspects of safety and regulation of nuclear power and relevant amendments to the Atomic Energy Act are to be considered and that this area being strategic in nature, it will take some time before things take a concrete shape. The Committee are not inclined to accept the reply of the Department which is standard and repetitive in nature. They do not dispute the fact that this is a delicate issue which needs to be handled carefully. At the same time, the Committee feel that the Department have not given adequate attention to the issue and consequently, there has been enormous delay in effecting amendments to the Atomic Energy Act, 1962. Considering the fact that the involvement of the Joint Venture/Private Sector would infuse the much needed resources to the Nuclear Power Sector, the Committee reiterate their earlier recommendation that the Department should expedite the process of bringing in the requisite amendments to the Atomic Energy Act, 1962.

C. DAE Schemes

Recommendation (Sl. No. 11, Para No. 2.66)

11. The Committee were unhappy to note that two schemes *viz.* 'Technology Offer Centre' and 'Fire Training and Research Centre' which were taken up in the 9th Five Year Plan, had been dropped and their related activities were being pursued in a decentralised manner. The Committee were at a loss to understand the rationale behind this decision. They had desired to know the factors that led to such a decision as also the reasons for not taking into account such factors at the initial stage. Some expenditure must have been incurred on these schemes and some vital man-hours devoted thereto which seemed to have gone waste. The Committee had desired to be apprised of the details in this regard.

12. The Department of Atomic Energy have stated in their reply that the Scheme titled, 'Technology Offer Centre' was proposed to be taken up during the 9th Five Year Plan to provide a single window for processing of all proposals related to transfer of technology from the constituent units of the Department to interested entrepreneurs. Bhabha Atomic Research Centre has been transferring technologies since the beginning of the 80s and their experience was examined. It was found that for the technology transfer to be successful, it is necessary that there is close link between the scientists and engineers who have developed the technology and the entrepreneur who is desirous of deploying the technology. It was realized that a single agency in the Secretariat will not have the necessary wherewithal to establish such a close link, which is a vital step in the process of transfer of technology. Therefore, all technology transfer proposals are being processed by individual R&D Centres and the idea of creating a central agency in the form of Technology Offer Centre was dropped. The studies carried out in this regard have been found useful in framing the policy framework to be followed while transferring technologies to interested entrepreneurs. As regards the 'Fire Training and Research Centre' scheme, the Department have stated that fire hazard is an important subject for nuclear industry. At one stage it was felt that a dedicated fire training and research center is to be set up and accordingly, it was decided to take it up as a proposal under the 9th Five Year Plan. However, no project report was prepared. The studies related to fire safety are being carried out in the Bhabha Atomic Research Centre (BARC), Indira Gandhi Centre for Atomic Research (IGCAR) as well as Nuclear Power Corporation of India Limited (NPCIL). NPCIL is also funding outside agencies for conducting fire safety studies on their behalf. Thus, there is no expenditure or any vital man-hours attributed to these schemes.

13. The Committee were unhappy to note that two schemes of the Department of Atomic Energy viz. 'Technology Offer Centre' and 'Fire Training and Research Centre' which were taken up in the 9th Five year Plan, had been dropped and their related activities were being pursued in a decentralised manner. In this connection, they had desired to know the factors that led to such a decision as also the reasons for not taking into account such factors at the initial stage. As regards the 'Technology Offer Centre' scheme, the Department have informed that this scheme was proposed to be taken up during the 9th Five Year Plan to provide a single

window for processing of all proposals relating to transfer of technology from the constituent units of the Department to the interested entrepreneurs. The Department have further informed that it was realised that a single agency in the Secretariat will not have the necessary wherewithal to establish a close link between the scientists and entrepreneurs, which is a vital step in the process of transfer of technology. The Committee are at a loss to understand as to why this fact could not be visualised prior to taking up the scheme. This is indicative of lack of planning and foresight on the part of the Department. As regards the 'Fire Training and Research Centre' scheme, the Department have stated that at one stage it was felt that a dedicated fire training and research centre is to be set up and accordingly, it was decided to take it up as a proposal under the 9th Five Year Plan. However, no project report was prepared in this regard. The Committee view this as nothing but administrative slackness on the part of the Department. They do not approve of this lackadaisical approach on the part of the Department. Taking a serious view of the matter, the Committee recommend that the Department should give adequate attention to project planning and implementation in future. Though the Department have stated that there is no expenditure or vital man-hours attributed to these schemes, the Committee are not inclined to accept this contention. The Committee desire that the Department should re-check the facts and convey the same to them within six months from the presentation of this Report.

CHAPTER II

RECOMMENDATIONS/OBSERVATIONS THAT HAVE BEEN ACCEPTED BY THE GOVERNMENT

Budgetary Allocation

Recommendation (Sl. No. 1, Para No. 2.23)

The Committee are concerned to note that the Department of Atomic Energy have been unable to fully utilize the budgetary allocations during any of the last three years. As against the budgetary allocations of Rs. 4942.99 crore, Rs. 5190.23 crore and Rs. 6180.28 crore for the years 2000-01, 2001-02 and 2002-03, the actual expenditure by the Department has been to the tune of Rs. 4551.50 crore, Rs. 4870.15 crore and Rs. 4874.15 crore (up to February, 2003) respectively. The Committee are further concerned to note that out of the total Plan budgetary support of Rs. 1892.00 crore during 2001-02, the expenditure by the Department has been to the extent of Rs. 1595.79 crore only during the year. Thus, there has been a huge shortfall of Rs. 296.21 crore. All the three Sectors of the Department viz. Power, Industries & Minerals (I&M) and Research & Development (R&D) have registered significant shortfalls in the utilization of the Plan budgetary allocations during 2001-02. While R&D Sector has contributed Rs. 39.29 crore to the overall shortfall of Rs. 296.21 crore, the shortfalls registered by the Power and I&M Sectors have been as much as Rs. 154.43 crore and Rs. 102.49 crore respectively. The shortfalls, shown as 'savings' by the Department, have been ascribed to difficulty/delay in procurement of machinery & equipments, delay in getting clearances, slow progress of some items of works, change in the scope of some projects, delay in finalisation of contracts, etc. While the Committee understand the difficulties of the Department in procuring some of the imported equipments, they are not inclined to accept the other reasons cited by the Department which could have been avoided if the Department had acted with some advance planning and foresight. What pains the Committee more is that the Department have been surrendering Plan budgetary allocations year after

year. Considering the fact that the resources are scarce and hard to come by, the Committee recommend that the Department should fully utilize whatever allocations are made to them.

Reply of the Government

The observation of the Committee on non-utilisation of budgetary allocation, with special emphasis on Plan support, is note. In order to achieve the targets as projected in the Budget Estimates, the Department has streamlined preparation of Budget Estimates and monitoring of expenditure at various levels. A meeting of the heads of all DAE Units was taken by Secretary on 05.05.03 where the need for full utilization of approved Budget allocation to achieve the committed targets was emphasized. To achieve the said objective he directed all the Units to judiciously estimate and fix targets of Plan Expenditure for the first two quarters of the year. Accordingly, all the Units planned their projections for the 1st and 2nd quarters and submitted the targets to the Department.

The heads of Units in turn are required to review the progress on expenditure at least once in a month with project coordinators and to take remedial action wherever necessary towards progress of the expenditure to the level of approved budget allocation. In respect of projects costing more than Rs. 10 crores. Secretary, DAE also holds periodic review meetings with the project coordinators.

After the close of the first quarter, Secretary took another review meeting on 22.07.03 with the Heads of DAE Units. Alongwith in-depth analysis of the reasons of shortfall against the targets set for the first quarter, it called for review and revision of the targets for the 2nd quarter, and also propose the target for the 3rd quarter. Setting of quarterly targets coupled with close monitoring in consultation with the project coordinators is likely to achieve the desired objectives of utmost utilization of Plan budget allocations.

In addition, in the current year of 2003-04, to strengthen the budgetary process, teams from the Budget wing of DAE headquarter visited the units and result in the estimates being framed in much more realistic manner.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 20003]

Comments of the Committee

(Please see para 7 of Chapter I of the Report)

Recommendation (Sl. No. 2, Para No. 2.24)

The Committee are unhappy to note the wide variations between the Budget Estimates (BE) and the Revised Estimates (RE) in respect of the Department. The Budget Estimates of Rs. 4942.99 crore, Rs. 5190.23 crore and Rs. 6180.28 crore for the years 2000-01, 2001-02 and 2002-03 have been scaled down to Rs. 4789.34 crore, Rs. 4994.81 crore and Rs. 5934.12 crore respectively. Similarly, the total Plan budgetary support of Rs. 2500.00 crore has been scaled down to Rs. 2415.00 crore at RE stage during the year 2002-03. While the Plan BE in respect of the Power Sector was enhanced by Rs. 125.00 crore at RE stage, the same for the I&M and R&D Sectors was reduced at RE stage by Rs. 109.33 crore and Rs. 100.67 crore respectively. This is indicative of the fact that the budgeting exercise in respect of any of the three Sectors has not been done meticulously. The reduction in the I&M and R&D Sectors have been attributed to non-approval of the Voluntary Retirement Scheme of the Electronics Corporations of India Limited delay in getting clearances for some projects of the Uranium Corporation of India Limited, lack of sanction for some projects of the Bhabha Atomic Research Centre and the Indira Gandhi Centre for Atomic Research, slow progress of projects of the Variable Energy Cyclotron Centre, Tata Institute of Fundamental Research and some other organizations, dropping off the purchase of ready built flats from Air India, etc. In the opinion of the Committee, the reasons cited by the Department for reductions at RE stage are not such which could have been foreseen and avoided. Instead, these factors indicate administrative slackness and lack of foresight on the part of the Department. The Committee desire that the Department should strengthen their budgeting mechanism so as to ensure that realistic budgetary estimates are made in future by making an in-depth analysis of each and every project.

Reply of the Government

The Department has initiated steps to strengthen the budgetary mechanism and ensure realistic budgetary estimates through detailed scrutiny of the projection *vis-a-vis* commitments entered into/likely to be entered into

in the respective years and likely payments arising out of the same during the budget years. Besides monthly review of progress of expenditure, the heads of DAE Units are advised to carry out a detailed scrutiny of Budget/Revised estimates of Plan and Non-Plan expenditure. In the current year, a team from Budget wing of DAE headquarters visited the Units and scrutinized the Budget proposals in consultation with project coordinators and other supporting staff. Heads of Units also participated in the discussions and considered carefully the background material to establish the accuracy of the estimates. Thereafter, a second level of scrutiny was conducted at DAE headquarters before the estimates are proposed for adoption.

Side by side, to narrow down the wide variation between the estimates and actual expenditure, Secretary, DAE instructed the Units to project quarterly targets of Plan expenditure. While monthly reviews are conducted at the Unit level, Secretary, DAE holds quarterly monitoring meetings to analyse the slippage, if any, against the targets and refix the projections for subsequent quarters. With such measures, the Department expects to achieve fuller utilization of budgetary allocations in future.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

Recommendation (Sl. No. 5, Para No. 2.45)

The Committee note that 14 Nuclear Power Reactors are currently operating in the country with a total installed capacity of 2720 MWe and that in terms of installed capacity, the nuclear share comes to about 2.6 per cent. They further note that in terms of electricity generated from the Nuclear Power Stations during 2001-02 and 2002-03, the share of nuclear power in the total electricity generation in the country was about 3.7 per cent. The Committee have been informed that in case the nuclear power capacity reaches 10,000 MWe by the end of the 11th Five Year Plan and 20,000 MWe by the year 2020, the share of nuclear power is likely to increase to about 7 per cent depending upon the capacity addition in the non-nuclear sector. The Committee view that the present share of nuclear power in the total electricity generation is too low and that serious and dedicated efforts need to be made by the Department to increase this share to significant extent. Considering the low share of nuclear power, the Committee recommend that the Department should consider the

feasibility of setting up 1500 Mwe capacity Nuclear Power Reactors in the country, some of which have already been set up in the world. This will go a long way in creating the share of nuclear power. The Committee appreciate the difficulties the Department had to encounter following the 'Technology Denial Regime'. They also understand that significant efforts and time are required to achieve total self-dependence in the Nuclear Power Sector. However, the Committee have full faith in the capability of the scientists working in the Department who, they hope, will leave no stone unturned to significantly increase the share of nuclear power within a reasonable period.

Reply of the Government

The unit size of nuclear power reactor varies from country to country depending upon the potential of the industry to undertake manufacture of large equipment, general infrastructure, existence of large load centers, required quantities of coolant water and power evacuation capability of the grid. Though same nuclear power stations of 1300 to 1500 MWe unit size have been set up in the world, the most common size of Pressurised Heavy Water Reactors (PHWRs) under construction internationally is 600-700 MWe. In India, the design of PHWRs is being scaled up and future (beyond TAPP-3&4, Kaiga-3&4 and RAPP-5&6) PHWRs in the country will be of 700 MWe. The development of design of Fast Breeder Reactors (FBRs) is based on unit size of 500 MWe. 1000 MWe reactors being set up at Kudankulam in collaboration with Russian Federation are Light Water Reactors (LWRs). Unit size beyond 1000 MWe are not envisaged in the time frame up to 2020. However, with the completion of units, which are under construction at the existing sites, station capacity in the range of 2000 MWe would be possible. This can further increase with possible addition of more units at existing sites (wherever feasible). The Committee recommendation to quickly increase the share of nuclear power is well noted and all efforts are being put in this direction.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

Gestation period of Nuclear Power Projects

Recommendation (Sl. No. 6, Para No. 2.49)

The Committee are happy to note that the Kaiga Atomic Power Project-3&4 and Rajasthan Atomic Power Project-5&6 have been sanctioned with a

reduced gestation period of five years for the first unit and six months thereafter for the second unit. They have also been informed that the Nuclear Power Corporation of India Limited (NPCIL) has a long-term target to further reduce this gestation period. The efforts of the Department/NPCIL to achieve a shorter gestation period for Nuclear Power Projects are indeed laudable which will go a long way in eliminating the cost overruns on the projects. As a matter of fact, the Committee had already recommended on earlier occasions that the gestation period of Nuclear Power Projects should be reduced to about five years. They are happy to see the resolve of the Department/NPCIL to achieve the said goal. The Committee hope that the two above-mentioned Projects would be completed within the sanctioned periods.

Reply of the Government

It has been NPCIL's constant endeavor to reduce the gestation period of nuclear power projects. The construction works on Kaiga 3&4 and RAPP 5&6 and other projects are progressing as per schedule. Based on the progress achieved and the current pace of work the completion dates of the projects are expected to be met.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

Recommendation (Sl. No. 9, Para No. 2.61)

The Committee note that the Department have a plan to augment the capacity of the existing Atomic Power Stations by installing more units at these sites wherever feasible. Such an arrangement, besides ensuring utilization of the full potential of the existing sites by availing the existing infrastructure, will also avoid problems like additional land acquisition and population displacement. However, setting up of additional units at the existing sites would require additional water availability. The Committee do not feel that the Department would find it difficult to arrange additional water at most of the existing sites. They hope that the Department have analysed the problem of availability of additional water at the existing sites. The Committee feel that the Department can also explore the question of replacing the existing small and old units of 220 MWe with those of higher capacity, say of 700 MWe or 1000 MWe taking into consideration the economics of the whole process.

This would enable the Department to better utilize the existing sites and infrastructure available there. The Committee would like to be apprised of the factual position in this regard.

Reply of the Government

The availability of cooling water for setting up additional units at existing sites has been considered by Site Selection Committee. Suitability of sites is contingent on this aspect including appropriate assurances from respective State Governments.

The older units are performing very well and are expected to continue operations for a long time with implementation of Renovation and Modernisation and life extension activities. New units to be considered for setting up will be of higher capacities such as 700 MWe Pressurised Heavy Water Reactors, 500 MWe Fast Breeder Reactors or 1000 MWe Light Water Reactors as observed by the Committee. The recommendations of the Committee to have a larger share of high capacity units would get implemented progressively as more high capacity units are set up in future and older plants are eventually taken out of service after their extended life.

[Department of Atomic Energy OM No.1/2/(2)/2003-Budget/
October 3, 2003]

Private Sector/Joint Venture Participation

Recommendation (Sl. No. 10, Para No. 2.65)

The Committee have been informed that a number of international companies in USA, Germany, Canada, France, Japan, etc. are involved in the supply of Nuclear Power Reactors/major equipments for Nuclear Power Stations. The Committee have further been informed that the Nuclear Power Corporation of India Limited (NPCIL) has been exploring the possibilities of forming Joint Ventures with State Electricity Boards/Public Sector Undertakings/Reputed Corporates for setting up Nuclear Power Stations and that no concrete proposal has emerged in this regard so far. This would necessitate some amendments to the Atomic Energy Act, 1962. The Committee, on an earlier occasion, had recommended that the Department should expedite the process of amendment to the Atomic Energy Act, 1962. They reiterate

their earlier recommendation as they feel that Joint/Private Sector involvement would lead to flow of the much needed resources to the Nuclear Power Sector. The Committee feel that the Department can also explore the possibility of setting up dedicated plants for big consumers and States, etc. who may be willing to share the costs of such plants. The Department can operate and maintain the plants on behalf of their clients.

Reply of the Government

The nuclear power programme of the country is based on judicious utilization of the resources to ultimately tap vast potential of electricity generation from abundant thorium reserves of the country. The three stages of the programme have to be gone through sequentially. The first stage is in fact a precursor to the second stage and the available resources need to be judiciously utilized to ensure smooth transition to the second stage on which a beginning is being made.

All aspects of private sector/joint venture participation, including the aspects of safety and regulation of nuclear power and the relevant amendments of the Atomic Energy Act are to be considered. This area being strategic in nature, it will take some time before things take a concrete shape.

No significant participation is envisaged in the near future from the big consumers or States to share the cost of setting up nuclear power plants. The current efforts are therefore only exploratory in nature.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

Comments of the Committee

(Please *see* para 10 of Chapter I of the Report)

Nuclear Fuel Complex

Recommendation (Sl. No. 12, Para No. 2.71)

The Committee are unhappy to note that the Nuclear Fuel Complex (NFC) has failed to fully utilise the Capital budgetary allocation during

2000-2001, and 2001-2002. As against the Capital Allocation of Rs. 20.00 crore during 2000-2001, the actual utilisation was a meagre Rs. 3.72 crore which is less than 20% of the allocation. Similarly, during 2001-2002, the actual expenditure was Rs. 7.97 crore which is substantially lower than the Capital allocation of Rs. 12 crore. The shortfall in Capital expenditure has been attributed to delay in procurement of some major equipments, cancellation of orders placed initially and retendering of certain items, non-supply of certain imported items due to embargo, indigenous development of substitutes, etc.. Barring the non-supply of some imported items, the Committee are not inclined to accept other reasons as convincing ones. The committee have noted that the Nuclear Fuel Complex has been surrendering Capital Funds year after year on one pretext or the other. They direct the organisation to be careful in future and utilise the Capital allocations to the fullest extent.

Reply of the Government

The Capital Expenditure Budget is now closely monitored by the Project Review Committee constituted for this purpose. The programme of Plan projects are also watched in the Executive Committee on a monthly basis. With these measures the Capital budget allocation for the year 2002-03 has been utilised in full by Nuclear Fuel Complex.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

Heavy Water Board

Recommendation (Sl. No. 14, Para No. 2.81)

The Committee are unhappy to note that the Heavy Water Board has not been able to utilise about 25 per cent of the Plan budgetary allocation during the year 2000-01. As against the Plan allocation of Rs. 12.28 crore, the actual utilisation by the organisation was only Rs. 9.27 crore during the year, thereby resulting in a shortfall of Rs. 3.01 crore. On the other hand, during the year 2001-02, the organisation has incurred Rs. 4.78 crore over and above the Plan budgetary allocation of Rs. 21.00 crore. The Committee also find that Plan BE of Rs. 34.00 crore has been scaled down to Rs. 29.67 crore at RE stage during the year 2002-03. Thus, in none of the last three years, the organisation

has been able to make realistic budget estimates. The excess expenditure during 2001-02 has been stated to be owing to inclusion and implementation of some additional schemes in order to improve the performance of the operating Heavy Water Plants. The shortfall in Plan expenditure during 2000-01 has been attributed to difficulties in procurement of certain imported equipments. The Committee understand the difficulties of the organisation in obtaining imported equipments. They recommend that the organisation should explore more and more domestic sources for getting equipments and machinery. The Committee also recommend that the organisation should make realistic and accurate budget estimates in future.

Reply of the Government

The Committee's recommendations to explore more and more domestic sources for getting the machinery and equipments for improvement & modernization of Heavy Water Plants are noted. It is incidentally mentioned that HWP's dependence on import has been brought down considerably with indigenisation of major critical components/machinery like gas boosters, pumps & isolation valves and availability of Stainless Steel material for tower internal & heat exchanger tubes.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

Recommendation (Sl. No. 15, Para No. 2.82)

The Committee are pleased to note that 10 million tonnes of heavy water was exported to South Korea during 2002-03 realising a net amount of Rs. 7.10 crore. The Committee are also happy to note that most of the Heavy Water Plants achieved over 100 per cent physical targets during the years 2000-01 and 2001-02. This speaks volumes of the functioning of the Heavy Water Board. However, the Committee find that two such plants viz. Hazira and Tuticorin have gone below 100 per cent in 2000-01 and 2001-02 respectively. The Committee would like to be apprised of the reasons for the same.

Reply of the Government

100 per cent physical target could not be achieved by HWP Hazira during the year 2000-01 due to (i) unplanned shutdown of the Plant for Annual Turn

Around for 85 days, (ii) non-availability of feed gas from KRIBHCO (iii) interruption in Natural Gas supply from M/s GAIL and (iv) unexpected shutdown of the Plant due to severe earthquake in the region. All these reasons were beyond the control of HWP Hazira/HWB.

Similarly, HWP Tuticorin could not achieve 100% physical target during the year 2001-02 due to (i) shut down of the Plant for Annual Turn Around for 96 days (annual shutdown got extended due to delayed re-start of SPIC NH3 Plant) (ii) delay in start up of the Plant after Annual Turn Around due to non-availability of feed gas due to operational constraints of M/s SPIC (iii) reduced load operation due to restriction in feed gas supply on account of raw material shortage in SPIC and (iv) power failures from TNEB. These were external reasons beyond the control of HWP Tuticorin/HWB.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

Applied uses of Nuclear Energy

Recommendation (Sl. No. 16, Para No. 2.88)

The Committee are pleased to note that as many as 38 improved crop varieties have been tested in various Agricultural Universities/Indian Council of Agricultural Research (ICAR) during the last three years. These varieties relate to mustard, groundnut, urad, mung, pigeonpea, Soybean and cowpea. The Committee are also happy to note that 2 high-yielding groundnut varieties viz. TPG-41 and TPG-42 have also been developed during the said period. While the former has been identified for release all over India by ICAR, the latter has been recommended for pre-release by an agricultural institution. The percentage increase of these seeds over the normal variety is 23.3 per cent and 31 per cent respectively. The Committee, while appreciating the efforts of the scientists of the Department engaged in such R&D activities, recommend that the Department should take special measures to disseminate the relevant information relating to such improved crop varieties to the farmers and encourage them to make use of the same. The Committee would also like to know the reasons as to why TPG-41 has been pre-released by Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharashtra when the Department had decided it to be released for all India by ICAR.

Reply of the Government

The following measures are taken to disseminate the relevant information relating to BARD crop varieties to the farms:

1. Participation in exhibitions organized by DAE in different States as well as other exhibitions where DAE is participating.
2. Participation in Kisan Melas organized by the Department or others and clarifying doubts to the farmers.
3. Transmitting information through the print media in different languages.
4. Writing popular articles in farmers' magazines in vernacular languages.
5. Printing pamphlets and distributing to farmers, agricultural officials, students, visitors etc.
6. Supplying seeds to the National and State Seeds Corporations, Deptt. of Agriculture of respective State(s), Oil Seeds Growers' Federations in various States, etc.
7. Supplying small seed packets to the needy farmers on gratis.
8. Undertaking demonstration trials in farmers' fields directly with certain farmers or by supply seed for such trials to the Agricultural Universities, State Agriculture Deptt., NGOs, Private companies, Social organizations, tribal farmers etc.
9. Providing information to the farmers about the agencies with whom seed would be available for large-scale cultivation.

TPG-41 was evaluated under ICAR's coordinated varietal trials, which included Mahatma Phule Krishi Vidyapeeth with Rahuri, Digranj and Jalgaon Agricultural Research Stations. Following a three year yield evaluation, Mahatma Phule Krishi Vidyapeeth had pre-released it first for conducting adaptive trials in the farmers' fields (a measure to multiply the seed, popularise the variety and get feed back from farmers). Subsequently ICAR has identified it for release for all over India.

By collaboration with the University, the initial establishment and quick dissemination is possible since Universities have Seed Wing to produce breeder seed and Extension Wing to popularise the varieties developed by the University. In the long run, the University will be sharing the responsibility of breeder seed multiplication and will also take up popularisation measures of the variety, thereby the variety would reach the farmers quickly, establish itself and start spreading from farmer to farmer.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

CHAPTER III

RECOMMENDATIONS/OBSERVATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF THE GOVERNMENT'S REPLIES

Nuclear Power Generation

Recommendation (Sl. No. 3, Para No. 2.43)

The Committee are happy to note that the Department have exceeded the generation targets in respect of the various Nuclear Power Stations in the country during 2001-02 and 2002-03. As against the targets of 16,372 million units and 16,498 million units during 2001-02 and 2002-03, the actual generation was 19,481 million units and 17,595 million units (upto 28.2.2003) respectively. The Committee are further pleased to note that during 2001-02, all the Nuclear Power Stations except the Rajasthan Atomic Power Station-1 (RAPS-1) have exceeded the generation targets. RAPS-1 could not achieve the set target as it had to be shut down from 26.9.2000 to 24.7.2001 for partial replacement of coolant channels and sealing of light water leaks. As regards the year 2002-03, the Committee find that all the Nuclear Power Stations barring the Rajasthan Atomic Power Station-3 (RAPS-3) and the Madras Atomic Power Station-1 (MAPS-1) have exceeded the set generation targets even before the completion of the financial year. Only RAPS-3 and MAPS-1 are short of the set targets by 41 million units and 42 million units respectively as on 28.2.2003. The Committee are a bit surprised to note that while the old generating stations have exceeded the set targets, a relatively new station like RAPS-3 has fallen behind. They would like to be apprised of the reasons for the same. The Committee also feel that there is a need to fix realistic targets in the field of power generation. For example, the actual generation in the year 2001-02 was 19,481 million units and the target fixed for the year 2002-03 was only 16,498 million units. Similarly, the actual production in the current year upto 28th February, 2003 has already reached 17,595 million units but the target for the year 2003-04 has been fixed at 17,200 million units only which is

much lower than the actual production in the year 2001-02. The Committee would like to know the reasons for the same.

Reply of the Government

During the year 2002-03, RAPS-3 generated 1612 Million Units (MUs) of electricity as against a target of 1483 MUs. Similarly, actual generation from MAPS-1 was 1072 MUs against a target of 998 MUs. Thus both RAPS-3 and MAPS-1 met the targets for the year 2002-03.

The targets set at 15518 MUs for the year 2001-02, 16498 MUs for the year 2002-03 and 17200 MUs for the year 2003-04, do show an increasing trend in line with the improvement in the gross capacity factor. It may also be mentioned here that in the year 2002-03, MAPS-2 was shutdown for Coolant Channel Replacement job. In spite of the planned shutdown of MAPS-2 (170 MWe), the target set for the year 2002-03 was more than the target for the year 2001-02.

The generation target of all the units of NPCIL for a particular year are based on average generation of the unit for the previous years. In addition, the annual maintenance shutdown, unit shutdown for regulatory requirements like Reactor Building leak test (once in ten years), measures to reduce heavy water leakages (wherever needed) and major overhauls (once in four to five years) of some of the important equipment are also considered. The turbine overhauls necessitating long shutdown of the station is envisaged for the year 2003-04 for some of the units of NPCIL. In addition, the shutdowns during the year 2003-04 are expected to be of longer duration considering the needs for in-service inspection/maintenance of equipment etc. Accordingly, the target of 17200 MUs for the year 2003-04 has been fixed. Thus the targets set are realistic and do reflect the progressive improvement in performance.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

Recommendation (Sl. No. 4, Para No. 2.44)

The Committee are pleased to note that during the period from 1.10.2001 to 30.9.2002, the Kakrapar Atomic Power Station – 1 (KAPS-1) achieved the

rare distinction of being the best performing unit in the world in the Pressurised Heavy Water Reactor (PHWR) category with a Gross Capacity Factor of 98.4 per cent. They are also happy to note that for the calendar year 2002, three Nuclear Power Plants of our country viz. KAPS-1, the Narora Atomic Power Station-1 (NAPS-1) and the Rajasthan Atomic Power Station-4 (RAPS-4) were amongst the best five PHWR plants in the world with Gross Capacity Factors of 98.4 per cent, 97 per cent and 96.6 per cent respectively. More pleasing is the fact that PHWR Plants of our country showed a major improvement in the Gross Capacity Factor in the year 2002, exceeding the Light Water Reactor performance of the United States by almost 1 per cent. The Committee feel that all this was possible only because of the hard work and dedication of the scientists of the Department. They hope that the Department would continue to work diligently and achieve many more milestones in future. The Committee also expect that the other Nuclear Power Projects in the country will follow suit and excel like KAPS-1, NAPS-1 and RAPS-4.

Reply of the Government

Improvement of gross capacity factors of operating power stations is an ongoing endeavour in NPCIL. As suggested by the Committee, NPCIL will put in all efforts to achieve excellent performance for all power stations.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

Selection of sites

Recommendation (Sl. No. 7, Para No. 2.59)

The Committee note that the Site Selection Committee of the Department has indentified some sites in the Southern, Western and Northern Electricity Regions for setting up of Nuclear Power Plants in the country in future. Most of these sites are the ones where Nuclear Power Plants are in operation/under construction. These sites are required to be cleared by the Atomic Energy Regulatory Board (AERB) from safety angle and the Ministry of Environment and Forests from environment angle before plants can be set up there. The Committee desire that the Department should obtain the requisite clearances

expeditiously so that new units can be taken up at the earliest. The Committee further note that the work relating to selection of sites in the Northern and Eastern Electricity Regions has not yet been completed. Expressing their displeasure over this fact, the Committee direct the Department to finish this job expeditiously and apprise them of the outcome within six months from the presentation of this Report.

Reply of the Government

As of now, eight nuclear power reactor units TAPP-3&4 (2x540 MWe) at Tarapur, Maharashtra, Kaiga-3&4 (2x220 MWe) at Kaiga, Karnataka, KKNPP-1&2 (2x1000 MWe) at Kudankulam, Tamil Nadu and RAPP-5&6 at Rawatbhata, Rajasthan totalling 3960 MWe are under construction. Proposal for setting up 500 MWe Prototype Fast Breeder Reactor (PFBR) at Kalpakkam, Tamil Nadu has also been approved by Government of India. These projects will add a capacity of 4460 MWe so that total nuclear power capacity in the country will reach about 7180 MWe progressively from the year 2006 to 2010. In the Tenth Plan total financial outlay for these projects is Rs. 22,585 crore. Commencement of construction of more units is planned only towards later half of the Tenth Plan. Consistent with approved outlays of the Tenth Plan for these new projects, matching activities are planned to be taken up in time to get the required approvals of new units. This will, however, be contingent on the availability of funds.

The Site Selection Committee (SSC) had so far submitted reports on existing sites for additional potential in Southern and Western Electricity Regions and interim overall assessment of the sites for Tenth plan projects. Subsequently, the report on the Northern Electricity Region has also been submitted. No suitable sites could be identified in the Eastern Electricity Region. Moreover, due to the availability of the significant coal resources in this region, the priority for setting up nuclear power plant in this Region is relatively lower. The Committee is now in the process of making the final report on overall assessment of sites in the country with respect of the nuclear power programme.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

Recommendation (Sl. No. 8, Para No. 2.60)

The Committee feel that there is an urgent need to explore new sites in different parts of the country where there are no plants operating at present. The areas which do not have any thermal or hydel power potentials should be given priority. No doubt that due care should be paid to seismic activity and international borders while selecting new sites for the plants but these need not be overemphasized. For example, we are already having plants in Maharashtra where a lot of seismic activity has been seen in the recent past like Koyna and Latur earthquakes. Similarly, if plants are set up near international borders, the neighbouring countries will be as much exposed to the dangers of nuclear mishap as our country. In Europe, some of the countries operating nuclear plants are much smaller in size than India and they have not bothered about their international borders. The Committee feel that there is a need to study the logic of those countries in depth.

Reply of the Government

The process of selection of sites for setting up of nuclear power plants is very comprehensive. Considerations in evaluation of the sites for nuclear power plants include various aspects such as availability of land, cooling water requirement, foundation condition, population distribution, natural events such as earthquake, flooding and man induced events such as proximity to airports/air corridors, industries handling toxic/explosive substances and environmental impact. In addition energy alternatives available to a region for meeting their electricity demands and transmission system for power evacuation are also considered.

The locations which do not have thermal or hydel power potential are given preference for setting up of nuclear power plants. Eastern region is endowed with significant coal reserves amounting to about 70% of the total reserves. Also about 70% of the total hydel potential of the country is located in the North-East and parts of Northern Region (Jammu & Kashmir, Himachal Pradesh and Uttaranchal). These areas, as of now, have not been considered for nuclear power development. The nuclear power plants presently in operation and under construction are located relatively away from coalfields and regions having large hydel potential. The observation of the Committee to give priority to areas, which do not have thermal and hydel potential is thus being followed.

As far as the seismic criterion is concerned, as per Atomic Energy Regulatory Board (AERB)'s code of practice on safety in nuclear power plant siting, sites falling beyond seismic zone IV according to Indian Standard (IS-1893) are not acceptable, *i.e.* seismic zone V has been stipulated as a rejection standard. Most of the North-Eastern parts of the country, some areas of the Himalayan belt and areas around Bhuj in the Western Region fall in zone V, having large earthquake potential, and are therefore not suitable for the present designs of nuclear power plants.

The criteria for siting of nuclear power plants are generally similar world over. The geographical area of some of the countries in Europe is so small that the plants will be close to international border with some country or the other. There is also large trade of electricity amongst the neighbouring countries. In India the situation is different. While the distance from the international border is not a mandatory criterion, as a matter of prudence, the strategic aspects will however require to be kept in view based on the sensitivity of specific sites. Also when sites with better characteristics are available relatively away from the international borders and electricity can be transmitted to these areas close to the border without any difficulty, there may not be pressing need of specifically going in for areas very close to the international border for setting up nuclear power plants.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

Recommendation (Sl. No. 13, Para No. 2.72)

The Committee note that out of the seven on-going schemes of the Nuclear Fuel Complex, there have been substantial cost overruns on two schemes *viz.* Pilot Plant for Development of Pyro-Chemical Process and Titanium Sponge Project. While the cost overrun on the former has been a little less than 100 percent, the same on the latter has been more than 100 percent. The Committee also find that five of these seven schemes are running behind schedule. The time overruns on such schemes range from 5 months to 7 years. The Committee are surprised to note that the scheme with a time overrun of 7 years (Modernisation and Replacement Schemes for the Existing Plants) has not seen any cost overrun. This scheme was initially scheduled to be completed in March, 1996 at a cost of Rs. 19.50 crore and the same has

been completed in the year 2003 at the same cost. The Committee are not inclined to accept this contention. They feel that either total expenditure has not been taken into account or some items of work on the scheme which were initially envisaged to be done, have been ignored or the initial estimates were faulty. The Committee would like to have a clarification on this point. Delay in obtaining equipments and clearances for certain schemes to have led time and cost overruns. The Committee feel that some of these delays could have been avoided if the organisation had made concerted and dedicated efforts. They would like the organisation to be careful in future to avoid such delays.

Reply of the Government

Pilot Plant For Development of Pyro-Chemical Process

The project was sanctioned in 1992 with a capital outlay of Rs. 180 lakhs. This was based on the project proposal with estimates submitted in October 1991.

Being a technology development project, critical equipment such as high temperature molten salt pump, control valves, special sensors for instrumentation had to be developed and identified with the help of manufacturers. Hence, considering engineering development of critical sub-systems and escalated costs, the capital cost was revised to Rs. 338 lakhs in February, 02. An expenditure of Rs. 185.72 lakhs was incurred till 31.03.03.

In view of the revised programme, demand for Reactor Grade Zirconium Sponge had not increased as much as it was anticipated and even up to 2007, only one module of 250 tpy of RG Sponge production is proposed at Palayakayal with the existing process technology at NFC for the separation of hafnium. Hence it was proposed to restrict the expenditure on this project and take up further development work at a later stage at Palayakayal. Entire work has been documented for future use.

Titanium Sponge Project

Original sanction obtained in 1992 was for the setting up of 1000 tpy Titanium Sponge Project with a capital outlay of Rs. 90.65 crores. To save on capital cost, it was also decided to co-locate the Titanium Sponge Project

along with New Zirconium Sponge Project (NZSP) at Palayakayal, Tuticorin, Tamil Nadu. Due to financial crunch a Joint Venture Project with 10% Government Equity was sanctioned during VIII Plan. However the JV Project did not materialize. Consequently the Department put the project proposal on hold. Meanwhile around 1240 acres of land was acquired at Palayakayal and enabling civil works such as boundary wall for Plant and township, approach roads, water supply, power supply, temporary stores and site office have been completed with an expenditure of Rs. 11.92 crores as on 31.03.02.

To meet the requirement of reactor grade zirconium sponge as per the present projections, a proposal, after the approval of AEC was forwarded to CCEA for the setting up of 500 tpy Zirconium Oxide Plant and 250 tpy Reactor Grade Zirconium Sponge Plant with a capital outlay of Rs. 185.12 crores at Palayakayal. The capital outlay was estimated based on the prices in first quarter of 2002. This includes an expenditure of Rs. 11.92 crores already incurred till 31.03.02 under previous approvals and the same is being debited to "Titanium Sponge Project". The project has since being sanctioned by the competent authority in May, 03.

Modernisation and Replacement Scheme for Existing Plants

Some of the equipment, originally included in the project for replacement with old ones, were not procured, as operating plants were able to carry out process improvement and also increase/extend the productive life of the machine by repairs, minor modification and automation/semi-automation.

The import of certain equipment, such as X-Ray Diffractometer, Optical Emission Direct Reading Spectrometer, Acoustic Emission Systems, Micro-Arc Plasma TIG Welding Machine took time due to embargo. For certain items delivery could not take place and orders were cancelled. Such items were finally procured through indigenous manufacturers. Though the procurement process was delayed, there was not much price fluctuation due to indigenisation of certain equipment.

It is asserted that initial estimates were not faulty, and total expenditure incurred under this scheme has been taken into account. In some cases procurement of alternate equipment was done, shelving the original one envisaged, due to improvement in the process.

In conclusion, although there was a substantial delay in completion of the project 'Modernisation & Replacement Scheme', maximum care was taken to beneficially utilise the funds with sole aim of enhancing production, productivity and recovery, in the true spirit of modernisation.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

CHAPTER IV

RECOMMENDATIONS/OBSERVATIONS IN RESPECT OF WHICH REPLIES OF THE GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE COMMITTEE

DAE Schemes

Recommendation (Sl. No. 11, Para No. 2.66)

The Committee are unhappy to note that two schemes viz. 'Technology Offer Centre' and 'Fire Training and Research Centre' which were taken up in the 9th Five Year Plan, have since been dropped and their related activities are being pursued in a decentralised manner. The Committee are at a loss to understand the rationale behind this decision. They would like to know the factors that led to such a decision as also the reasons for not taking into account such factors at the initial stage. Some expenditure must have been incurred on these schemes and some vital man-hours devoted thereto which seem to have gone wasted. The Committee would like to be apprised of the details in this regard.

Reply of the Government

The Scheme titled, 'Technology Offer Centre' was proposed to be taken up during the IX Five Year Plan to provide a single window for processing of all proposals related to transfer of technology from the constituent units of the Department to interested entrepreneurs. Bhabha Atomic Research Centre has been transferring technologies since the beginning of the 80s and their experience was examined. It was found that for the technology transfer to be successful it is necessary that there is close link between the scientists and engineers who have developed the technology and the entrepreneur who is desirous of deploying the technology. It was realized that a single agency in the Secretariat will not have the necessary wherewithal to establish such a close link, which is a vital step in the process of transfer of technology. Therefore all technology transfer proposals are being processed by individual

R&D Centres and the idea of creating a central agency in the form of Technology Offer Centre was dropped. The studies carried out in this regard have been found useful in framing the policy framework to be followed while transferring technologies to interested entrepreneurs.

Fire hazard is an important subject for nuclear industry. At one stage it was felt that a dedicated fire training and research center is to be set up and accordingly it was decided to take it up as a proposal under the IX Five Year Plan. However, no project report was prepared. The studies related to fire safety are being carried out in Bhabha Atomic Research Centre (BARC), Indira Gandhi Centre for Atomic Research (IGCAR) as well as Nuclear Power Corporation of India Ltd. (NPCIL). NPCIL is also funding outside agencies for conducting fire safety studies on their behalf. Thus there is no expenditure or any vital manhours attributed to these schemes.

[Department of Atomic Energy OM No. 1/2/(2)/2003-Budget/
October 3, 2003]

Comments of the Committee

(Please *see* Para 13 of Chapter I of the Report)

CHAPTER V

RECOMMENDATIONS/OBSERVATIONS IN RESPECT OF WHICH FINAL REPLIES OF THE GOVERNMENT ARE STILL AWAITED

– NIL –

NEW DELHI;
February 3, 2004
Magha 14, 1925 (Saka)

SONTOSH MOHAN DEV,
Chairman,
Standing Committee on Energy.

ANNEXURE I

MINUTES OF THE SECOND SITTING OF THE STANDING COMMITTEE ON
ENERGY (2004) HELD ON 29TH JANUARY, 2004 IN COMMITTEE
ROOM 'D', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee met from 15.00 hrs. to 15.45 hrs.

PRESENT

Shri Basudeb Acharia — *In the Chair*

MEMBERS

2. Shri Bikash Chowdhury
3. Shri Ali Mohmad Naik
4. Shri Dalpat Singh Parste
5. Shri Amar Roy Pradhan
6. Shri Chandra Pratap Singh
7. Shri Tilakdhari Prasad Singh
8. Prof. Rita Verma
9. Shri Bimal Jalan
10. Dr. K. Kasturirangan
11. Shri Ajay Maroo
12. Shri B.J. Panda
13. Shri Matilal Sarkar
14. Shri Gaya Singh
15. Shri Veer Singh

SECRETARIAT

- | | | |
|-----------------------|---|-------------------------|
| 1. Shri P.K. Bhandari | — | <i>Director</i> |
| 2. Shri R.S. Kambo | — | <i>Deputy Secretary</i> |
| 3. Shri R.K. Bajaj | — | <i>Under Secretary</i> |

2. In the absence of Chairman, the Committee chose, Shri Basudeb Acharia, M.P. to act as Chairman under Rule 258(3) of the Rules of Procedure and Conduct of Business in Lok Sabha.

3. Thereafter, the Acting Chairman, Standing Committee on Energy welcomed the Members to the sitting of the Committee.

4. The Committee then took up for consideration the following draft Reports:-

- (i) Action Taken Report on the recommendations contained in the 38th Report (13th Lok Sabha) on Demands for Grants (2003-04) of the Department of Atomic Energy.
- (ii) Action Taken Report on the recommendations contained in the 39th Report (13th Lok Sabha) on Demands for Grants (2003-04) of the Ministry of Non-Conventional Energy Sources.
- (iii) Action Taken Report on the recommendations contained in the 40th Report (13th Lok Sabha) on Demands for Grants (2003-04) of the Ministry of Power.
- (iv) Action Taken Report on the recommendations contained in the 41st Report (13th Lok Sabha) on Demands for Grants (2003-04) of the Ministry of Coal.
- (v) Original Report on the subject "Safety in Coal Mines".

5. The Committee adopted the aforesaid draft Reports with minor additions/deletions/amendments.

6. The Committee also authorised the Chairman to finalise the above-mentioned Reports after making consequential changes arising out of factual verification by the concerned Ministries/Department and to present the same to both the Houses of Parliament/Hon'ble Speaker, Lok Sabha.

The Committee then adjourned.

ANNEXURE II

(*Vide* Para 4 of Introduction)

ANALYSIS OF ACTION TAKEN BY THE GOVERNMENT ON THE
RECOMMENDATIONS CONTAINED IN THE THIRTY-EIGHTH REPORT OF
THE STANDING COMMITTEE ON ENERGY

I. Total No. of Recommendations made	16
II. Recommendations that have been accepted by the Government (<i>Vide</i> recommendations at Sl. Nos. 1, 2, 5, 6, 9, 10, 12, 14, 15 & 16)	10
Percentage of total	62.50%
III. Recommendations which the Committee do not desire to pursue in view of the Government's replies (<i>Vide</i> recommendations at Sl. Nos. 3, 4, 7, 8 & 13)	5
Percentage of total	31.25%
IV. Recommendations in respect of which replies of the Government have not been accepted by the Committee (<i>Vide</i> recommendation at Sl. No. 11)	1
Percentage total	6.25%
V. Recommendations in respect of which final replies of the Government are still awaited.	Nil