

**HUNDRED AND THIRTY-FIFTH  
REPORT**

**PUBLIC ACCOUNTS COMMITTEE  
(1982-83)**

(SEVENTH LOK SABHA)

**BADARPUR THERMAL POWER PROJECT—  
STAGE—II**

**MINISTRY OF ENERGY  
(Department of Power)**

Action Taken by Government in the recom-  
mendations of the Public Accounts Committee  
contained in their 82nd Report (7th Lok Sabha)]



Presented in Lok Sabha on .....

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CORRIGENDA TO HUNDRED AND THIRTY-FIFTH  
REPORT OF PUBLIC ACCOUNTS COMMITTEE  
(SEVENTH LOK SABHA)

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**PUBLIC ACCOUNTS COMMITTEE**

(1982-83)

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**Shri Satish Agarwal**

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1. Shri T. R. Krishnamachari—*Joint Secretary*
2. Shri K. C. Rastogs—*Chief Financial Committee Officer*
3. Shri K. K. Sharma—*Senior Financial Committee Officer*

## INTRODUCTION

1. I, the Chairman of the Public Accounts Committee, as authorised by the Committee, do present on their behalf this Hundred and Thirty-Fifth Report on action taken by Government on the recommendations of the Public Accounts Committee contained in their Eighty Second Report (7th Lok Sabha) regarding Badarpur Thermal Power Project—Stage II relating to the Ministry of Energy (Department of Power).

2. In their 82nd Report, the Committee had suggested the setting up of a monitoring agency consisting among others, the representatives of the Department of Power, Central Electricity Authority, Department of Heavy Industry/BHEL, Instrumentation Limited, Kota, Planning Commission, Ministry of Finance and Railways to monitor progress of power projects in the country on a continuous basis and to initiate corrective measures at the earliest. In their reply, Government have stated that Construction Monitoring Directorates have been set up in the Central Electricity Authority to closely monitor the various activities of the projects. The Committee have recommended that these Directorates should be suitably strengthened, if not already done, by closely associating the representatives of the various disciplines/departments, as spelt out earlier so that this monitoring mechanism may become an effective instrument to identify the constraints/shortcomings.

3. The Committee have also reiterated their earlier recommendation that a high powered Committee should be appointed without delay to examine the working of DESU in all its aspects and suggest measures to put this undertaking on a sound financial footing.

4. The Committee considered and adopted this Report at their sitting held on 18 March, 1983. Minutes of the sitting form Part II of the Report.

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

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

NEW DELHI;

March 24, 1983

*Chaitra 3, 1905(S)*

SATISH AGARWAL

*Chairman*

*Public Accounts Committee.*

## CHAPTER I

### REPORT

This Report of the Committee deals with the action taken by Government on the Committee's recommendations and/or observations contained in their 82nd Report (Seventh Lok Sabha) on paragraph 12 of the Report of the C&AG of India for the year 1979-80, Union Government (Civil) relating to Badarpur Thermal Power Project Stage II.

1.2 The Committee's 82nd Report was presented to the Lok Sabha on 1 April, 1982 and contained 25 recommendations. Action Taken Notes have been received in respect of all the recommendations/observations. The Action Taken Notes received from the Government have been broadly categorised as follows:

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

1—8, 10—20, 22, 23 and 25

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

9 and 24

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

21

(iv) Recommendations/observations in respect of which Government have furnished interim replies;

NIL

1.3 The Committee will now deal with the action taken by Government on some of their recommendations/observations.

Setting up of monitoring agency for power projects (Social No. 8, Para 1.43)

1.4 Emphasising the need for setting up a monitoring agency to monitor the progress of power projects in the country on a continuous basis, the Committee had observed:

"The Committee need hardly point out that it is proposed to add 19,666 MW of generating capacity during the Sixth Five Year Plan period which is by all reckoning a challenging task and requires sustained efforts by all concerned and close monitoring. The Committee, therefore, recommend that Government



should appoint a Monitoring Agency consisting amongst others representatives of the Department of Power/Central Electricity Authority, Department of Heavy Industry/BHEL & I.L.K., Planning Commission, Ministry of Finance and Railways to monitor the progress of power projects in the country on a continuous basis and to initiate corrective measures at the earliest in implementation of power projects."

1.5 In their Action Taken Note dated 19 September, 1982 the Ministry of Energy (Department of Power) have stated:

"In order to speed up the completion of the various power projects, various steps have been taken up by the Government. With a view to remove bottlenecks, the monitoring of the projects has been considerably stepped up. Construction monitoring directorates have been set up in the Central Electricity Authority to closely monitor the various activities of the projects. Co-ordination and review meetings are regularly held in the C.E.A. with the Projects authorities, equipment suppliers and manufacturers, construction agencies etc. A close watch is kept on all constraints for corrective action. CEA's senior officers visit project sites and take up the matter with the appropriate authorities for removing the bottlenecks. Review meetings are also held in the Department of Power for appropriate action with the State Governments as well as at the level of the Union Government. Meetings with the Power Ministers of States are also taken by the Minister of Energy at which the commissioning of ongoing power projects are reviewed for taking remedial action. Quarterly review meetings are also held by Planning Commission.

2. For improving the management at the projects level, detailed guidelines have been issued to the State Electricity Boards in July, 1980. These guidelines *inter alia* included various networks and formats for keeping all the activities of the projects under close watch.
3. For effective coordination and timely receipt of equipments and materials and for availability of the required inputs from the project authorities, a system of harmonograms has been introduced from this year. The future commissioning programme will be coordinated by the project authorities according to these harmonograms.
4. A high level Committee has been set up under the Chairmanship of Secretary, Deptt. of Power to provide systematic feed back to BHEL on design improvement based on the working of 200/210 MW units already in operation.

5. Through monitoring of the projects the gestation period of the thermal projects has come down from 70 months in the year 1974-75 to 52 months in the year 1978-79. In the Central sector, N.T.P.C. a Public sector undertaking has been able to achieve the commissioning of first thermal unit in a record period of 48 months at a new site.
6. Latterly, lack of smooth flow of funds to State Electricity Boards is emerging as a major factor contributing to delay in implementation of projects. It has been repeatedly brought to the notice of State Govts. that they should ensure liquidity of the SEB's and see to it that the requirement of funds for projects is met.
7. From the above, it would be seen that Centre is fully seized of the problems involved in commissioning of the projects and necessary action is being taken to see that the commissioning of power projects is expedited."

1.6 In their 82nd Report, the Committee had suggested the setting up of a monitoring agency consisting, among others, the representatives of the Department of Power, Central Electricity Authority, Department of Heavy Industry|BHEL, Instrumentation Limited, Kota, Planning Commission, Ministry of Finance and Railways to monitor the progress of power projects in the country on a continuous basis and to initiate corrective measures at the earliest. In reply, Government have stated that a number of steps have been taken to remove the bottlenecks and to step up the monitoring of the projects. Construction Monitoring Directorates are stated to have been set up in the Central Electricity Authority to closely monitor the various activities of the projects. Apart from coordination and review meetings with the project authorities and the suppliers/manufacturers of equipment etc., the senior officers of the Central Electricity Authority visit the project sites and take up the matter with the appropriate authorities for removing the bottlenecks. At the departmental level, also review meetings are held with the State Governments and at the Union Government level with the Power Ministers of the States. The Ministry have further claimed that the gestation period of the Thermal Power projects has come down from 70 months in 1974-75 to 52 months in 1978-79.

1.7 Taking note of the above steps taken by the Government the Committee desire that the Construction Monitoring Directorates set up in the Central Electricity Authority should be suitably strengthened if not already done, by closely associating the representatives of the various disciplines|departments as spelt out by the Committee so that this monitoring mechanism may become an effective instrument to identify the constraints|shortcomings so as to take immediate steps to remove them. The Committee need hardly emphasise that the effectiveness of the monitoring agency

and the followup action initiated at its instance should be such as would allow of no shortfall in the creation of additional power generating capacity as envisaged in the Sixth Plan.

*Outstanding dues of Badarpur Thermal Power Station*

1.8 Expressing concern over the mounting outstanding dues of Badarpur Thermal Power Station, the Committee had, in paragraph 4.23 (Sl. No. 21) observed as under:

“The Committee are concerned to learn that heavy dues were outstanding against Delhi Electricity Supply Undertaking and other State Electricity Boards in respect of electricity supplied by Badarpur Thermal Power Station. The outstandings against DESU alone amount to Rs. 34.38 crores. What is still more disturbing is that their outstandings are on the increase as is brought out by the fact that against electricity worth Rs. 4½ crores being supplied every month only Rs. 2½ crores are realised. The Delhi Electricity Supply Undertaking have on their part stated that they are suffering a loss of 10 paise per unit as they are not being allowed to increase their rates and further they have large outstandings against New Delhi Municipal Committee and other public sector undertakings. The Committee are concerned at this grave irregularity which has been allowed to continue with considerable consequences for the financial health of Badarpur Power Station. The Committee, therefore, strongly recommend to the Central Government to appoint a high powered committee to look into the working of the DESU and particularly its finances and effective steps taken to see that the arrears are cleared within reasonable period of time, and in no case, the delay extends to more than 6 months. The Committee should be apprised of the steps taken in this regard.”

1.9 In their Action Taken Note dated 13 November, 1982 the Ministry of Energy (Department of Power) have stated:

“The arrears of DESU are mounting due to non-revision of tariff of the domestic consumers since 1979, even though rates of coal, oil and railway freight have increased considerably since then. Further, power requirement of Delhi cannot be met from DESU's own generation which necessitates purchase of power from other sources like Badarpur, BBMB etc. The cost of purchase of power from other sources is higher than these charged by DESU from its consumers. Revision of tariff rates is, therefore, under consideration of the Central Government.

1.10 A number of steps have been taken to improve the transmission and distribution system of Delhi to give better consumer service. Several new 66/33 KV sub-stations have been built and the transmission capacity has been augmented. The 33 KV cable net work has also been expanded to give more reliable supply to different parts of the city. Advice of expert teams has been obtained for strengthening the distribution system and to improve the quality of service to the consumers. The questions of re-structuring the set up of DESU is also under consideration. In view of these measures already undertaken, it is considered that there is no necessity to appoint a high-powered committee to look into the working of DESU."

1.11. In the earlier Report, the Committee had expressed their concern over the heavy dues amounting to Rs. 34.38 crores that were outstanding against the Delhi Electricity Supply Undertaking (DESU) on account of electricity supplied to it by Badarpur Thermal Power Station. What was still more disturbing was that these outstanding dues were on the increase. As against electricity worth Rs. 4½ crores being supplied every month, only Rs. 2½ crores were being realised. The Committee had strongly recommended that a High Powered Committee be appointed to look into the working of the DESU particularly its finances, and effective steps taken to see that the arrears were cleared within a reasonable period of time and that in no case the delay exceeded six months.

In their reply, the Ministry of Energy (Department of Power) have stated that these arrears are mounting due to non-revision of tariff of the domestic consumers since 1979. The Ministry have also stated that a number of steps have been taken to improve the transmission and distribution system of Delhi to give better consumer service. The question of restructuring the set up of DESU is also stated to be under consideration.

1.12 The Committee are not convinced with the argument that revision of tariff of the domestic consumers will solve the problems of DESU. The Committee have reason to believe that the losses being incurred by DESU are to a large extent due to its own inefficiency resulting in among other things, heavy transmission losses and frequent power breakdowns. The Committee therefore reiterate their earlier recommendation that a High Powered Committee should be appointed without delay to examine the working of DESU in all its aspects and suggest measures to put this undertaking on a sound financial footing. The Committee would like to be apprised of its findings together with the action taken in pursuance thereof, within six months.

*Purchase of defective motors for cooling tower pumps*

1.13 Expressing concern over the purchase of defective motors for cooling tower pumps, the Committee had, in paragraph 5.6 (Sl. No. 23) of their 82nd Report (Seventh Lok Sabha) noted as under:

“The Committee note that tenders for cooling tower pumps for the power Station were invited on 27th May, 1975 M/s Bharat Heavy Electricals Ltd. gave quotation for Rs. 18.11 lakhs with a validity period of three months. However, the quotation of the firm could not be accepted as the height of cooling towers was not determined by that time. The tenders for cooling towers were invited later and were opened on 27th September 1975. The result was that a revised offer of the firm for the same equipment for Rs. 19.44 lakhs was accepted resulting in an extra expenditure of Rs. 1.49 lakhs (including excise duty and sales tax). Although this extra expenditure was incurred the motors were not delivered within the agreed delivery period and when delivered were found to be defective. The performance of the motors has not yet stabilised. The Committee would like to express their concern at this situation. They would like to be informed of the reasons for the delay in the supply of motors and for defective working and also the action taken.”

In their Action Taken Note dated 29 September, 1982, the Ministry of Energy (Department of Power) have stated:

“The reasons for delay in supply of motors are attributable to late receipt of raw material like copper and sub-assemblies like bearings, S. C. Rings and bars and frames by M/s BHEL from their sub-suppliers, as well as labour unrest consisting of tool down strike during July, 1977 and another series of strikes, slow down etc. during December, 1977 and January, 1978 at the works of M/s BHEL, Bhopal. The delivery period as stipulated in the order was June, 1978 for first motor and July, 1978 for second motor. This was subsequently compressed to December, 1977 by M/s BHEL on request from the Project. The motors were actually supplied in July, 1978 and October, 78 respectively. An amount of Rs. 1.9 lakhs has been recovered from M/s BHEL as liquidated damages for delayed supply as per terms of the contract. As regards the defects in the motors, M/s BHEL have fixed magnetic wedges on the motors for reducing the noise problems to the permissible limits. However, there has not been

any significant improvement in this regard. M/s BHEL are still making efforts to reduce the noise nuisance. An amount of Rs. 1.81 lakhs has not been released to M/s BHEL pending rectification of defects.”

1.14 In para 5.6 of the 82nd Report, the Committee had drawn attention to the fact that supply of two motors for cooling tower pumps for the Badarpur Thermal Power Station by the Bharat Heavy Electricals Ltd. was not only delayed but these motors were found to be defective on receipt and their performance had not stabilised. An amount of Rs. 1.9 lakhs is stated to have been recovered from BHEL for delayed supply. The Committee however note that BHEL's efforts to remove the defects in the cooling tower pumps have not resulted in any significant improvement and an amount of Rs. 1.81 lakhs has been withheld pending rectification of defects. It is surprising that although BHEL is the premier power equipment manufacturing unit in the public sector and has got vast technical expertise at its command, it has not yet been possible for it to remove the defects in the motors and reduce the noise nuisance. The Committee trust that BHEL would intensify its efforts in this direction and take necessary action to update the technology and/or improve the manufacturing process so that future supplies are free from any defects.

## **CHAPTER II**

### **CONCLUSIONS OR RECOMMENDATIONS THAT HAVE BEEN ACCEPTED BY GOVERNMENT**

#### **Recommendation**

Badarpur Thermal Power Station has been set up as a regional power station in the central sector to supplement the availability of power for meeting the growing demand in Delhi as well as other States in the Northern Region. The construction of this power station started in 1967 and the project has been implemented in three stages. Stage I comprising of three units of 100 MW each and Stages II and III each comprising one unit of 210 MW.

[Point No. 1.36 (Sl.No. 1)]

#### **Action Taken**

No action is called for on our part as this is a statement of fact.

[Ministry of Energy (Department of Power) O.M. No. 49/13/07/AS dated 29 September, 1982]

#### **Recommendation**

The Committee are concerned to note that there have been delays in commissioning as well as heavy escalation in the cost of the various units of the Badarpur Thermal Power Station set up so far. Unit I was originally targeted for commissioning in March, 1971 but the same was commissioned only in July, 1973. Similarly, Unit II which was scheduled to be commissioned in September, 1971 was commissioned in August, 1974 and Unit III was commissioned in March, 1975 against the target date of March, 1972. The position in respect of Unit IV is still worse, as while the unit was commissioned in December, 1978 against the target date of December, 1977 the same could be put on commercial operation only in March, 1980 due to the various defects and deficiencies noted in the equipment supplied to the power project and the time taken in rectifying the same.

[Point No. 1.37 (Sl. No. 2)]

#### **Action Taken**

No action is called for as this is a statement of fact.

[Ministry of Energy (Department of Power) O.M. No. 49/13/07/AS dated 29 September, 1982.]

### **Recommendation**

The Committee note that the delays in commissioning Units I, II & III (Stage-I) were mainly due to the delay in issue of administrative and expenditure sanction, defective preparation of feasibility report in respect of sub-soil conditions, delay in the completion of civil works and shortage of scarce materials like steel, cement etc. The delay in completion of Unit IV (Stage-II) of the project was due to delays in completion of civil works, non-sequential supply of equipment by BHEL and delay in supply of control and instrumentation equipment by M/s Instrumentation Limited, Kota. Moreover, due to discrepancies and defects found in the Boiler and Turbo Generator equipment, a number of modifications and repairs had to be carried out thus consuming considerable time. The Committee feel that these delays could have been avoided if the project authorities had been more careful in planning the execution of works and taken steps to ensure that the works were executed expeditiously. They would like to express their serious concern on these delays in a vital sector like power.

[Point No. 1.38 (Sl. No. 3)].

### **Action Taken**

The observations of the Public Accounts Committee have been noted. Guidelines have been issued to SEBs for improving the project management.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82/07/AS dated 29 September, 1982].

### **Recommendation**

The Committee note that there has been heavy escalation in cost in both Stage I and Stage-II of the project. While the original sanctioned cost of Stage I of the Project was Rs. 41.08 crores, the same was subsequently revised to Rs. 59.87 crores and the final anticipated cost is Rs. 64 crores. The escalation of cost in respect of Stage II is still more as is evident from the fact that against the original estimated cost of Rs. 38.37 crores, the total estimated expenditure is Rs. 74.76 crores i.e. an escalation of about 100 per cent. What is more surprising is that several works which had to be taken up subsequently were either not included in the original estimate or the quantities of work had to be considerably increased. It has been admitted by the representative of the Ministry of Energy (Department of Power) in evidence before the Committee that the initial estimate was deceptive, the capital cost of the project itself was not accurately estimated and the same was based on incomplete data. The Committee are unhappy that the project reports were prepared on the basis of unrealistic estimates and incomplete data. They have a feeling that in



many cases project estimates are deliberately kept low with a view to obtaining early sanction fully realising that once the project is sanctioned and work on the same is started, there would be no alternative for the Government but to continue with the work in spite of escalation in the costs of the Project. The Committee would therefore like to emphasise the need to prepare project reports and estimates more realistically taking into account all relevant data and factors so that subsequent revisions and resultant escalations in costs could be obviated.

(Point No. 1.39) (Sl. No. 4)

#### **Action Taken**

Observations of the Public Accounts Committee have been noted for future guidance. It is, however, mentioned that according to procedures laid down by Ministry of Finance no escalation in cost during the period of construction of the project is to be taken in the estimated cost of the project at the time of sanction. Only contingency expenditure of three per cent is allowed for unforeseen items. Therefore, in case there is escalation in prices of equipments and construction materials and also towards wage increase in the cost of project, over the estimated cost of the time sanctioning will be unavoidable.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82/07/AS dated 29 September, 1982].

#### **Recommendation**

What is most disturbing is that the time and cost overruns has not been a peculiar feature in Badarpur Thermal Power Station but is a common feature of the power projects taken in hand since independence. This is borne out from the fact that when during evidence, the Committee desired to know if there was a single power project—hydel or thermal—completed since independence within the approved estimates and stipulated target date, the representative of the Department of Power failed to cite a single such case and admitted that 'it has been our unfortunate experience that time and cost over-runs are there on the projects' and that order of escalation had also been a high order.

[(Point No. 1.40) (Sl. No. 5)]

#### **Action Taken**

This Ministry is also concerned about the time over run and cost over run of projects. Construction of a Project is a coordinated effort by equipment suppliers, civil contractors and effective project management. Slip-page by any of the agency has serious effect in achieving commissioning

of the project on schedule. To achieve this coordinated effort, Construction Monitoring Cells have been created in the Central Electricity Authority who has evolved a time frame to place orders for various auxiliary equipment and commence various civil works. Based on these norms, the monitoring of the projects is done in Central Electricity Authority. The shortcomings are brought to the notice at various levels in order to arrest the delays and achieve the commissioning of the projects as per schedule. Regular review meetings are conducted by the Central Electricity Authority with State Electricity Boards, Bharat Heavy Electricals Limited, Instrumentation Limited, Kota and other suppliers so that inputs from project side and supply of equipment are ensured for achieving the targetted dates of commissioning. Guidelines have also been issued to SEBs to improve the project management system. This system of monitoring has brought down the average gestation period of thermal projects from 60 months in 1978-79 to 54 months in 1981-82. Singrauli Unit-I as commissioned in 48 months according to schedule and Badarpur Unit-5 was commissioned in 45 months. Efforts to reduce the average gestation period further are continuing.

In case of hydro projects, there are a number of factors like geological conditions and complex civil works, which have bearing on completion of projects. Efforts are being made to reduce the construction period. Another factor which has bearing on completion of the project according to schedule is availability of adequate funds to meet the targetted date of commissioning of the projects in the State Sector. Raising of adequate funds is purely a matter for the States to mobilise their resources, on which this Ministry has no control.

So far as cost over run is concerned, present procedures laid down by Ministry of Finance, do not allow element of escalation to be included in the estimated cost of the Project at the time of sanction. Only contingency expenditure of 3 per cent is allowed for unforeseen items. Therefore, in case there is escalation in the prices of equipment, construction materials and increase in wages, the cost of the project would naturally increase over the estimated cost.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82/07/AS dated 29 September, 1982].

### **Recommendation**

The Committee note that in none of the Five-Year Plans the target of achieving additional generating capacity has been fulfilled. While the shortfall in the First Five-Year Plan was 15.4 per cent and in the second

and third plans the same was 35.7 per cent and 33 per cent respectively, the shortfall was as high as 50.2 per cent in Fourth Plan. The shortfall was 18.4 per cent in the Fifth Plan period. Such shortfall is continuing in the Sixth Plan also as is evident from the fact that during 1980-81 against a target of 2,687 MW in generating capacity only 1643 MW capacity was commissioned and 180 MW rolled showing a slippage of 38.9 per cent. Even in 1981-82, against a target of 3,212 MW only 2,300 MW is expected to be added even according to the most optimistic estimates. This is a clear failure of planning process and present system of monitoring of projects.

[(Point No 1.41) (Sl. No. 6)].

#### **Action Taken**

It is true that there have been shortfalls in the achievement of targets of commissioning additional generating capacity during various years. Delay in the commissioning of Power Projects occurs because of one or more of the following reasons:

- (a) Delay in land acquisition, which has become slightly aggravated because of Forest Conservation Act (1980).
- (b) Inadequate site investigation.
- (c) Delay in finalisation of engineering specifications for the projects.
- (d) Delay in placement of orders for auxiliary equipment/award of contracts.
- (e) Delay in civil works.
- (f) Shortage of key construction material.
- (g) Delay in supply of equipment by various suppliers.
- (h) Lack of smooth flow of funds to the SEB's.
- (i) Unhappy industrial relations.

However, the Government is seized of the matter and various steps have been taken to minimise/avoid delays. These steps and the results that have been achieved are mentioned in the replies to the points 1.42 and 1.43.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82/07/AS dated 29 September, 1982].

#### **Recommendation**

The Committee have no doubt that this failure to commission power projects as per target date is one of the factors responsible for the present power crisis, in the country which is a serious bottleneck in economic development. According to calculations of the Deptt. of Power one year's delay in commissioning 1 MW of power results in a loss of Rs. 1.78 crores to the economy. Thus the colossal loss to the country as a

result of these slippages can well be imagined. There is a tendency on the part of the Ministries and the executing agencies concerned to blame each other for such slippage. The Committee strongly feel that this state of affairs should not be allowed to continue any longer and some firm and effective measures should be taken to overcome such deficiencies.

The Committee need hardly point out that it is proposed to add 19,666 MW of generating capacity during the Sixth Five-Year Plan period which is by all reckoning a challenging task and requires sustained efforts by all concerned and close monitoring. The Committee, therefore, recommend that Government should appoint a Monitoring Agency consisting amongst others representatives of the Department of Power/Central Electricity Authority, Deptt. of Heavy Industry/BHEL & ILK, Planning Commission, Ministry of Finance and Railways to monitor the progress of power projects in the country on a continuous basis and to initiate corrective measures at the earliest in implementation of power projects.

(Points Nos. 1.42 and 1.43) (Sl. No. 57.8)

#### Action Taken

In order to speed up the completion of the various power projects, various steps have been taken up by the Government. With a view to remove bottlenecks, the monitoring of the projects has been considerably stepped up. Construction monitoring directorates have been set up in the Central Electricity Authority to closely monitor the various activities of the projects. Coordination and review meetings are regularly held in the C.E.A. with the Projects authorities, equipment suppliers and manufacturers, construction agencies etc. A close watch is kept on all constraints for corrective action. CEA's senior officers visit project sites and take up the matter with the appropriate authorities for removing the bottlenecks. Review meetings are also held in the Department of Power for appropriate action with the State Governments as well as at the level of the Union Government. Meetings with the Power Ministers of States are also taken by the Minister of Energy at which the commissioning of ongoing power projects are reviewed for taking remedial action. Quarterly review meetings are also held by Planning Commission.

2. For improving the management at the projects level, detailed guidelines have been issued to the State Electricity Boards in July, 1980. These guidelines *inter alia* included various networks and formats for keeping all the activities of the projects under a close watch.

3. For effective coordination and timely receipt of equipments and materials and for availability of the required inputs from the project authorities, a system of harmonograms has been introduced from this year.

The future commissioning programme will be coordinated by the project authorities according to these harmonogram.

4. A high level Committee has been set up under the Chairmanship of Secretary, Deptt. of Power to provide systematic feed back to BHEL on design improvement based on the working of 200/210 MW units already in operation.

5. Through monitoring of the projects the gestation period of the thermal projects has come down from 70 months in the year 1974-75 to 52 months in the year 1978-79. In the Central sector, NTPC a Public sector undertaking has been able to achieve the commissioning of first thermal unit in a record period of 48 months at a new site.

6. Latterly, lack of smooth flow of funds to State Electricity Boards is emerging as a major factor contributing to delay in implementation of projects. It has been repeatedly brought to the notice of State Govts. that they should ensure liquidity of the SEB's and see to it that the requirement of funds for projects is met.

7. From the above, it would be seen that Centre is fully seized of the problems involved in commissioning of the projects and necessary action is being taken to see that the Commissioning of power projects i.e. expedited.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82/07/AS dated 29 September, 1982].

### Recommendation

The Committee are concerned to note that the performance of the Badarpur Thermal Power Station has not been satisfactory as is evident from the fact that the plant load factor (percentage of utilisation) was only 33 per cent in 1978-79, 34 per cent in 1979-80 and 46 per cent in 1980-81. Even in the case of Stage-I Unit which were commissioned by the year 1975, the plant load factor had been only 33.62 per cent, 43.80 per cent and 52.80 per cent, during the years 1977-78, 1978-79 and 1979-80 respectively. Thus, the plant load factor has been much less than the ideal level of performance fixed at 60 per cent and also the level of utilisation achieved in a number of power stations in private sector as well as in other States like Maharashtra and Gujarat. The Committee would like to point out that Badarpur Thermal Power Station, is the first regional Thermal Power Station, set up in the Central Sector and since a number of power stations are now being set up in the Central Sector, Badarpur Thermal Power Station should function as a model of efficiency. The Committee therefore expect that the performance, of the Badarpur Thermal Power Station will be kept under constant watch and corrective measures taken to achieve utilisation level of atleast 60 per cent load factor.

(Point No. 2.17) (Sl. No. 10)

### **Action Taken**

This Ministry fully shares the views of the Committee that Badarpur Thermal Power Station should be made model of efficiency and increase its Plant load factor to 60 per cent. The performance of Badarpur Thermal Power Station is regularly reviewed by the Minister of State for Energy. The factors which contributed to the poor performance of various units in the past have been identified. A number of modifications have already been carried out and some are under implementation. All possible efforts are being made to increase the Plant Load Factor.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82/07/AS dated 29 September, 1982].

### **Recommendation**

In this connection, the Committee would like to express their serious concern at the low capacity utilisation in all the thermal power stations in the country as a whole. The Plant load factor of thermal power stations in the country which was 56 per cent in 1976-77 has been showing a deteriorating trend and the same declined to 45.4 per cent in 1979-80, and 44.9 per cent between April and November, 1981. The Committee have no doubt that if this trend of deterioration in the capacity utilisation in the power plants is not reversed, the country will continue to suffer from chronic shortage of power even after adding the targetted capacity of 19,666 MW in the Sixth Plan. The Committee would like to emphasise that a detailed methodology to maximise power generation in the country should be worked out and follow up action taken expeditiously so that the utilisation of the power stations in the country reaches the optimum level of performance of 60 per cent as prescribed by the Central Electricity Authority. (Point No. 2.18) (Sl. No. 11).

### **Action Taken**

Various steps being taken to maximise the generation and improve plant load factor are indicated below:—

For stabilisation of 200/210 MW Units, action plans have already been drawn for all the units commissioned up to March, 1981 between CEA, BHEL, ILK and respective State Electricity Boards. Major modification/rectification jobs identified during the action plans have been attended. Action plans have also been drawn up for the newly commissioned units like Badarpur-5, Nasik-5 and Singrauli-1. Action plans for the remaining units will be drawn after their coal firing for substantial period and also the problems come on the surface. Monitoring of the action plans drawn earlier is being done regularly.

As a result, there has been improvement in the performance of the units. The P.L.F. of 200/210 MW Units during the years 1979-80, 1980-81, 1981-82 and 1982-83 (April—July 1982) are 24.7 per cent, 36.9 per cent, 42.2 per cent and 57.8 per cent respectively (for units commissioned up to March, 1981).

2. In case of 110 MW units, the P.L.F. level is proposed to be increased by identifying the modifications necessary in the equipment to burn inferior quality of coal and give full output. A combined team of CEA, BHEL, ILK and the concerned Boards has visited all the stations and drawn time bound action plans for identifying and rectifying the problems of 110 MW Units. The position of the action plans is being reviewed regularly by them.

The team will also visit all the stations having 120 MW units to identify the modifications required for improving the generation. Gandhinagar Thermal Power Station has already been visited and action plan has been drawn.

3. Efforts are being made to ensure that the units are taken for overhaul when due and reducing the down time by identifying and eliminating the causes prolonging the overhaul.

4. The Roving Monitoring teams of CEA visited Thermal Power Stations to identify problems responsible for poor performance and on the basis of the reports of these teams, betterment/renovation programmes for restoration of the capacity of the units is being drawn up.

5. A task force comprising representatives of CEA, Deptt. of Coal, Railways and the collieries has been constituted to study the coal problems of the station. The team will visit various power stations and collieries to identify the measures required to solve the coal problems of the stations. The team has already visited Nasik, Bhusawal and Koradi Thermal Power Stations for the purpose.

6. Removal of equipment deficiencies for coming units which are responsible for about 80 per cent of the present unscheduled outages by the following:

(a) quality control during manufacture of the equipment. Most of the deficiencies are due to lack of quality control at manufacturing stage. The suppliers of main equipments have agreed to give highest priority to the quality control during manufacture. They have already strengthened the quality control teams in the shops.

(b) Quality control during erection/commissioning.

- (c) Boards have been asked to make suitable budget provisions for spares for 1982-83 and 1983-84 based on the anticipated requirement of spares so that delay in ordering of spares due to shortage of funds is avoided.
- (d) For imported equipments of 62.5 MW sets from GE, USA and 50 & 100 MW Units from USSR, a pool of insurance spares has been created for a value of Rs. 150 million. Member of the States have been able to draw insurance spares from the pool at short notice.
- (e) Similar to one of imported sparse, a proposal is being worked out to make a pool of insurance spares for indigenous equipment supplied by BHEL. The pool would stock insurance spares like H.P., I.P. and L.P. rotors, stator bars, alternator rotor and blades etc. The estimated requirement of this pool is about Rs. 400 million. When established, this will help in making available high cost, long delivery spare parts to the various constituent members at a short notice. Various steps have been taken to ensure the quality control during the erection/commissioning such as—
  - (i) Provision of erection manuals well in advance.
  - (ii) Creation of quality assurance group by power stations.
  - (iii) Trial of all auxiliaries such as CHP, ash handling etc. before commissioning of units.

#### *7. Improvement in supply of spares:*

The proper and timely supply of spares is very vital for improving the performance of the Thermal Power Stations by reducing the outages/down times. In order to ensure the supply of spares, various steps have been taken.

- (a) Boards have been advised to place orders for initial spares for three years, consumption at the time of ordering for main plant.
- (b) BHEL has made time bound programme for clearing the previous orders.

8. Ministry of Energy has requisitioned the services of two eminent engineers of the country having wide expertise in the operation and maintenance of thermal power stations. These engineers visit the stations having problems, discuss the operating problems and give on the spot suggestions for remedial steps.



### 9. Staff training

Various steps have been taken to train the personnel for operation and maintenance of stations. Power Engineer Training Society has started various training programmes for power station personnel at all levels. Some of the State Electricity Boards are planning to set up new centres/institutes or expand the existing one in the coming years. NTPC is also setting up a training institute in each of their Super Thermal Power Station.

[Ministry of Energy (Department of Power) O.M. No. 49/13/07/AS.  
dated 29 September, 1982.]

### Recommendation

The Committee are constrained to observe that not only the utilisation of capacity in the Badarpur Thermal Power Station is unsatisfactory but the generation of power is also highly uncertain as is evident from the fact that there were as many as 108, 199, 260 and 173 trippings in the power station during 1977-78, 1978-79, 1979-80 and 1980-81 respectively. As a result of these trippings, large areas of the capital and neighbouring States were plunged into darkness disrupting economic activity. The Committee cannot but express their deep concern at this large number of trippings. Since the reasons for these trippings have already been identified as given in the statements furnished to the Committee, concrete measures should be taken to do away with the trippings. The Committee should be informed of the action taken in this regard at an early date. Point No. 2.19) (S. No. 12)

### Action taken

(a) The maximum number of trippings were due to the boiler drum water level exceeding the permissible limit. Due to the excessive erosion in the valve seating of the feed water regulation valves, feed water flow to the boiler could not be regulated, especially at low loads, so that the drum water level used to rise beyond the trippings value. The main feed water regulating valve in Unit-I, II & III has been replaced with repaired valves so that there is good regulation at all loads.

(b) In Stage-I units due to failure of supply to the Instruments, the drum level instruments through which the protection is connected, fall back to zero thus trippings the unit on 'drum water level too low' protection. To obviate this difficulty an inverter has been installed which will supply power to some selected instruments including the drum level instruments in case of failure of the regular supply.

(c) Another frequent reason for unit tripping was due to tripping of both the running boiler feed pumps on low discharge pressure. The setting for the boiler feed pump to trip on low discharge pressure was 140 kg./Cm<sup>2</sup>. The setting has been lowered to 120 kg./Cm<sup>2</sup>. This provided more margin of pressure drop and therefore a little more time for the operator to reduce the feed water flow and keep the pressure above the tripping value.

(d) In stage-II a time delay of 10 seconds has been introduced for the boiler trip when the drum water level goes down below the permissible limits. This will avoid unit tripping when there is transient drop of drum water level which normally occurs when there is a sudden disturbance in furnace draft.

(e) Similarly a time delay of 15 seconds has been introduced for the tripping of the boiler feed pump on high discharged flow in Unit-IV.

(f) Two major causes of tripping of Unit-IV are 'furnace pressure abnormal' and 'loss of flame'. Due to mal operation of the flame monitoring system, boiler trips even though the flame in the furnace is alright. The flame scanners are periodically cleaned & checked for their healthiness.

(g) For avoiding trippings due to furnace pressure abnormal protection several improvements have been done.

(h) Another cause for tripping of the unit is 'condenser vacuum too low'. For improving the condenser vacuum following measures have been taken:—

- (i) Whenever the unit is under shutdown for sufficiently long duration the tightness of the vacuum system is checked thoroughly by filling water in the vacuum system upto the neck of the condenser and the leakages are detected and attended to.
- (ii) A high pressure jet pump has been procured for effective cleaning of the condenser tubes.
- (iii) An additional gauge has been provided to help the operator to monitor the gland steam pressure at the time of change over of gland from 11ata auxiliary bus to deaerator and vice versa.
- (iv) For easy and effective prevention of debris coming along the cooling water and plugging the condenser tubes, proposal to install travelling screens in the cooling water intake channel is under consideration.
- (v) All occurrences of unit tripping are analysed systematically and the exact cause of tripping discussed and remedial measures

are taken for better operating practice and improvement in the operation of systems.

[Ministry of Energy (Department of Power) O.M. No. 49/13/07/AS dated 29 September, 1982]

#### **Recommendation**

The Committee note that the overhauling and maintenance of the Plant and Equipment at the Badarpur Thermal Power Station has not been carried out as per prescribed time schedule. They have no doubt that this delay has contributed to the frequent trippings in the power station and reduced generation. The committee would like to point out that the postponement of overhauling of equipment to meet immediate demand is a shortsighted policy as it may cause serious damage to equipment resulting in colsure of power station for long periods and higher forced outages. They, therefore, recommend that in future the authorities of the power station should adhere to the scheduled dates of overhauling and maintenance. (Point 2.20) (Sl. No. 13)

#### **Action taken**

Normally the maintenance and overhauling of generating units is done as per scheduled dates. These dates are drawn up by Regional Electricity Boards in such a way that maximum generating capacity is available to meet the demand. Only in exceptional circumstances when there are many forced outages in a System, the scheduled dates are postponed. In some cases the advantages of forced outage is taken to carry out the maintenance and overhauling of the unit ahead of schedule.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82/07/AS dated 29 September, 1982]

#### **Recommendation**

The Committee note that a Team of West German Experts had visited some Thermal Power Station in the country including Badarpur Thermal Power Station thrice viz., in 1977, 1979 and 1980-81 and the Team had made a number of recommendations to improve the performance of Badarpur Thermal Power Station. However, out of 276 recommenda- five recommendations have been found unacceptable and 77 recommenda- five recommendations have been found unacceptable and 77 recommenda- tions are yet to be implemented. On 13 recommendations further comments of the Team are awaited. The Committee would like to be informed of the specific action taken on the recommendations of the Team which have been accepted. (Point No. 2.21) (Sl. No. 14).

## Action Taken

77 recommendations of the Team of West German Experts were yet to be implemented on BTPS. Latest Position regarding specific actions taken on the recommendations are as given below:—

S.No.	Brief description of recommendation	Present status as on 21-8-1982
1	Separate lubricating gang . . . .	Implemented.
2	Installation of flow meters on each units to measure the consumption of D.M. water	Implemented on Unit I This will be done on Unit II & III during overhauling.
3	Commissioning of circulating water booster pump with clarified water suction.	It is implemented in Unit I on experimental basis, if found successful will be implemented on the other units during overhaul.
4	Installation of new intercommunication system for Stage-I.	Proposal if finalised and under procurement action. Expected to be completed by end of December, 1982.
5	Regulated flow to bearing cooling lines, of ash pump, house, to maintain proper sealing pressure to avoid frequent damages of glands.	A separate pump for gland sealing of the ash pump has been installed and it is under observation.
6	Problem of loss of resins in cation C & D and mixed bed 'C' area to back was to be increased by 5 times.	Reply of Ion Exchange is awaited. The short quantity of resins are being topped up as and when require
7	D.M. Water consumption to be within 7%	Consumption of DM Water has come down from 16% to 10.5 % & the steam and water leakages are being attended at the earliest opportunity available.
8	Status for increasing the capacity of neutralisation tank from 200 MT <sup>3</sup> to 300 MT <sup>3</sup>	Separate new tank of 600 ton capacity is under erection. Expected to be completed by end December, 1982
9	(a) Installation of rotameter 85 M <sup>3</sup> /hr instead of 65 M <sup>3</sup> /hr.	Completed.
	(b) Specification for extra rotameters required for flow measurement in cations quinew D.M. plant.	Under implementation.
10	Shifting of chemical dosing pump.	The scheme is finalised & material is under procurement action. Expected to be completed by July, 1983.
11	On test procedures as suggested by V.G.B. Experts.	All implemented.
12	Provision of four recirculation lines in the mixed bed instead of one at present	Corporate Engg. deptt. has given the comments & new order is to be placed. Work expected to be completed by December 1982
	To use heating microscope for better coal analysis.	Procured & shifted to R & D Divn. corporate office.

S.No. Brief description of recommendation.	Present status as on 21-8-1982
14 Provision of on line analyser recorder with alarm system in both the WT plant to check the leakage of silica from the onion & mixed bed.	Order placed to M/s Kent Measurements Ltd. U.K. Materials yet to be received at site. Work expected to be completed by December, 1983.
15 Commissioning of Thermal load control loop.	Still under trail.
16 Layout plan for permanent lighting and lines to be submitted by electrical division.	Scheme is finalised. Welding network is being installed on trail basis. Material under procurement action. Expected to be completed by December, 1982..
17 Measurement of O <sub>2</sub> content & temperature in glue gas.	O <sub>2</sub> analyser has recently been received & now it is under erection by M/s BHEL. Flue gas thermocouples yet to be recd. from I.L.K. Expected to be completed by Dec., 1982.
18 Commissioning of thermocouples for measurement of superheater metal temperature.	Commissioned for Unit I. will be installed in Unit II & III during overhauling Work expected to be completed by December, 1983.
19 To put the operation of the sump pump on auto.	Vertical sumps pumps of Unit I/II/III put on auto.
20 Installation of conductivity & dissolved oxygen meters in turbine hall.	Under installation of Unit I shall be installed in Unit II & III during overhauling Work expected to be completed by Dec. 1983.
21 Commissioning of Hydrogen purity meter	Under installation in Unit II will be installed in Unit II & III in due course Work expected to be completed by Dec., 1983.
22 Commg. of coal sampler including primary & secondary cutter provided at the head pully of conveyor of 2A/2B.	Tried twice but not found successful. Some modifications are being worked out. Work expected to be completed by Dec. 1983
23 The problem of foundation & mismatching of gear boxes hole.	Done on Unit II & one mill of unit III Remaining will be done during overhaul of unit II & III.
24 To get motor operated trollyes with proper cradel fixtures for the transportation of hydrogen cylinder to the charging points.	Trolly has been procured and is working alright.
25 Procurement of new machines as recommended by VGB team.	Hydraulic press & binding machines have been procured & other machines as suggested by VGB have been ordered. Expected to be completed by Dec., 1983.
26 Jobs to be carried out in the workshop.	Implemented.
27 The location for establishing a fabrication shop where burners, superheaters tubes bends & other fabrication jobs will be taken up.	Implemented.
28 Status of procurement of silver lined valves for chlorination plant.	Implemented.

S.No.	Brief description of recommendation	Present status as on 21-8-1982.
29	Availability of materials for the emergent jobs to be manufactured in workshop.	Implemented.
30	Air mixing arrangements for naturalisation pit as per the recommendation of VGB.	Implemented.
31	To modify the housing in the vearing of the cam shaft to avoid ingress of dust in the wearings on Unit -I/II/III.	Done on Unit I will be done on Units II & III during overhauls.
32	Shifting of recirculation line for C.R.W. Pump further 50 mts. down stream.	Implemented.
33	The quality and time required for repair cannot be ensured for the II reasons given in page-90.	Further discussions are necessary to find the feasibility of curtailing cooling time of furnace.
34	Present ignition system should be replaced	As per the renovation programme this job was to be completed by M/s BHEL.
35	Pipes of fuel recirculation pumps going to burner should be entirely overhauled	Yet to be implemented. Recirculation line upto burner is not considered feasible in the present arrangement as it need a redesign of the existing systems.
36	Space bet, collecting electrode is relatively large. Please refer VGB report March, April, 1977	Yet to be implemented. This envisages change in design which is not feasible now. However uniformity of spacings is being ensured.
37	(i) Diameter of the babitted portion of the bearing should be kept smaller than the diameter of the collar.	Yet to be implemented This is not persistent problem & exists on Unit only and will be discussed with BHEL.
	(ii) Oil greeves should be enlarged by using 1 mm wide saw blade to saw them in order to secure sufficient flow of oil.	Only one failure has concured so far.
38	(i) PR& D capacity is not optimum The flow is 90 ton/hr. instead of 100 ton hr.	Yet to be implemented. Case had been taken up with CE.
	(ii) Pressure on injection water is 20 bar instead of 11 bar.	
	(iii) Non-return flap valve is not controllable.	
	(iv) Insulation needs urgent attention.	
	(v) By-pass station is recommended which is able to blow off the steam to condenser during start up & shut down.	
39	(i) The unprotected portion of the cables should be covered properly.	Partly done. Work is in progress.

8. Brief description of recommendations No.	Present status as on 21-8-82
(ii) Tie-in to the sensor transducer & servomotor are usually led through steel armoured conduit against mechanical stresses	Lead coated flexible metallic pipes are being used for servomotor drives & measuring cables to protect from mechanical damage the high temp.
(iii) Plastic bend for individual cables can be used.	Noted for compliance.
(iv) The fastening & the alignment of the cable trays on the rising runs should be checked during maintenance programme.	Noted & suitable instructions given for implementation during next overhaul.
(v) The fastening of the steel armoured condition is insufficient & faulty repairs of these protection conduct is important during m—tc.	
40. Analytical instruments may be repaired & renewed in the plant	Action to procure imported instruments is under process M/s ILK package deal of instruments accepted & they have been asked to supply the instruments. Work expected to be completed by Dec., 1983.
41. Dust measurement in flue gas was suggested.	Action initiated to procure instruments. Action is being taken to import suitable instruments to measure dust concentration in the gases since such instruments are not available in India.
42. High setting speeds by pneumatic and hydraulic control of the dampers and valves.	The control system for 100 MW units is based on electric servo drives. Pneumatic and hydraulic controls have not been contemplated in the design stage. It is not possible to change over to an entirely new system for the 100 MW units. However, this has been taken care of in the 210 MW units where important controls are pneumatically/hydraulically driven.
43. Flow meter from drum blow down was suggested.	Office are to be installed. Expected to be completed by December, 1983.
44. Provision of temperature sensors at thrust pad was suggested.	It has been agreed in principle but it is not possible as confirmed by M/s. BHEL due to limit of spare in the thrust pads.
45. The output signals of the transducers of the same type are not standardised.	Individual matching being done in the lab. The transducers used for 100 MW unit being to the earlier generation & voltage based.

S. No.	Brief description of recommendation.	Present status as on 21-8-82
46	<p>(a) Erection of flue gas path &amp; P. G. piping can be checked by application of 'inflow Technique' and proper layout</p> <p>(b) Consumption of fuel oil can be reduced at low load provided all protective instruments are in good working condition.</p>	As discussed with manufacturer & limitation of space it is not possible to change the layout.
47	For the measurement, which are important for unit operation, including all measurements for controls, now sensors and transducers should be installed because of their longer life time and easier adjustment, calibration & etc. These new instruments should have standardised output signals. It should also be kept in view to have a possibility to connect calibrating instruments on the measuring points.	Under study with Corporate Engineers. Diversion of NTFC
48	The technical power generation process has interconnected system in it. Therefore at BIPS also the important controls should have interconnections. The available control equipment at the moment is not suitable for this purpose. We suggest that at least the following control loops should be provided with modern electronic equipment.	Out of the 6 loop suggested by VGB 3 loops of feed water regulations, total air regulations, furnace vacuum regulations have been commissioned and for the rest we are trying and these are under study of the Corporate Engg. Division. Work expected to be completed by Dec., 1983.
49	The grid is directly and indirectly responsible for a large number of trippings in BIPS, according to our system analysis report. A decision must be taken at an earliest regarding the air criterias (e.g. under voltage, under frequencies etc. etc.) which shall separate the unit from the grid but can operate further for station supply. This measure will safeguard against loss of damages in the station & will save time & energy. The fulfilment of this point cannot be realised by installation of few relays only, but need implementation of other connected measures.	Comments from C.E.A. & NREB awaited.
50	D.M. Water storage tank . . . . .	To be implemented. Work expected to be completed by December, 1983.
51	Neuterlisation pit . . . . .	Comments along with drawings are awaited from CEA. Work to be completed by Dec., 83.
52	Tube failure . . . . .	To be implemented. Work expected to be completed by Dec., 1983.



Sl. No.	Brief description of recommendation	Present status as on 21-8-82
53	Vibrators should be installed to remove the chokings.	Partly done. Two electromagnete vibrators are already installed & 4 more are being installed.
54	Millgear boxes . . . . .	Implemented on Unit I to be done on Unit II & III during next O/H.
55	Flame monitoring & assistance R&D of BHEL.	To be completed with BHEL. Assistance from R&D Deptt. awaited. BHEL un-willing.
56	Source of ingress of air to furnace: (a) Refractory & skin causing (b) Slag hopper connection points of down comers.	On Unit II completed. I&II during overhaul.
57	Operation of sect blower on Unit II .	Se: blowers are not in operation since commissioning of the unit from M/s BHEL, BHEL is not willing to take up this job. This is also covered under renovation programme.
58	To commission the existings line for heating the main condensate in low pressure heater No. 4 by 11-ata auxiliary team during not start up.	BHEL consultant i.e. CE & BHEL have not agreed to this proposal.
59	To stop charging on LP/HP line by fire & screen pump. Fire line should be exclusively used for the fire fighting purpose.	HP flush pump procured. 6.6 KV moter is under procurement work expected to be completed by July, 1983.
60	Optimum utilisation of top & bottom coal burners.	Not completed. BHEL association required. Work expected to be completed by Dec., 82.
61	Feasibility of express lab. near Unit IV .	Express lab. has been made will be made available after six month after doing modification & allocation manpower.
62	Status of instruments for measuring conductivity and cation exchanger	Instruments are to be imported through M/s ILK. Work expected to be completed by July, 83.
63	Commissioning of total air control loop for Unit I, II & III	BHEL is not supplying the charactrisic curves for the due to, which it is not possible to commission the same.
64	Problem of the design of regulating valves to be referred to Engg. Divn. of Corporate office.	Engg. Division is processing this case Expected to be finalised by Dec., 83.
65	Installation of flow meters on each unit to measure the consumption of D.M. Water.	Material rec.d completed on Unit II and will be taken on Unit II & will be taken on Unit II & III in next O/H
66	To provide recorder for the measurement of metal temp. for top & bottom on boiler drum turbine to facilitate quick appraisal of the difference of temp. for necessary corrective measures.	Recorder awaited from ILK can be attended during O/H of Units.

### Recommendation

The Committee noted that studies in regard to washing of coal are being undertaken. While realising that washing of coal will lead to increase in costs the Committee feel that the ultimate increase in power generation would more than off-set any such increase in cost. The Committee recommend that the matter may be examined and a decision in regard to desirability of washing of coal before supply to power stations be taken expeditiously. (Point 4.16) (SC. No. 19).

### Action Taken

The problem of beneficiation of coal supplies to power Stations has been discussed in many forums. It was also discussed in a national forum held in 1978 when a general consensus emerged that in future power coal should be beneficiated to improve equality. The various implications of doing so were examined by Coal India Limited (Central Mine Planning & Design Institute Limited). The study revealed that the optimum level of ash content in the beneficiated coal could be accepted at around 35 per cent plus 2 per cent ash as a matter of policy. At present coal supplied to Power Stations is not washed. The boilers of Power Stations are now designed to use coal with about 35 per cent ash coal.

At present the Project Reports prepared for setting up of coal preparation plants at Bina and Jhingurdah are being processed for obtaining approval of Government. These projects are for beneficiation of coal from Singrauli Coalfields where coal contains high ash and mechanised mining of thick seams further deteriorates the quality. The proposed Bina and Jhingurdah coal preparation plants will produce coal at 35 per cent plus 2 per cent ash and will be supplied to Thermal Power Stations in Western Region and U.P. respectively. Another Coal project is being planned at Bharatpur (Orissa) for supplying quality coal to captive power plants of NALCO.

While considering the investment proposal in Bina and Jhingurdah Coal preparation plants Public Investment Board desired a thorough examination of the economics of washing of non-coking of coal by an Inter-ministerial Group with Additional Secretary (Coal) as Chairman. After detailed discussions the Group recommended that there would not be any general decision on washing of non-coking coal but the merits and demerits of each proposal will be considered separately and consumers should pay the increase price for washed coal so to meet the cost of washing and loss in rejects. In the case of Bina and Jhingurdah the concerned Electricity Boards have agreed to this in principle and the issue of sharing of the beneficiation is under negotiation.

[Ministry of Energy (Department of Power O.M. No. 49/13/82/D1/AS dated 13 November, 1982].

### Recommendation

POINT No. 4. 17: It has been brought to the notice of the Committee that although for supply of coal, Badarpur Thermal Power Station is linked to Jharia coal mines, a lot of coal from other coal mines is being diverted to Badarpur Thermal Power Station. This has adversely affected the performance of the Power Station as this coal is not suitable for the equipment installed at Badarpur. What is a matter of concern is that the percentage of such diverted coal is on the increase. While the percentage of such diverted coal was 28.83 per cent in 1979-80, the same increased to 30.58 per cent in 1980-81 and was as high as 41.19 per cent between April-August, 1981. This is a matter of deep concern. When the position regarding supply of coal to various power Stations is stated to be improving, the Committee fail to understand why it should be necessary to supply coal to Badarpur Thermal Power Station from the coal mines to which it is not linked. The Committee recommend that this matter should be looked into and corrective measures taken urgently. (Point 4.17) (Sl. No. 20)

### Action Taken

Diversions are being done occasionally. The reasons for such diversions are either inadequate offer of coal, or unsatisfactory release of coal wagons by a power station, or refusal by a power station to accept rakes consigned to it on grounds of poor quality or for difficulties in rail movement arising out of unforeseen circumstances like breaches, accidents etc.

On account of one or more of these reasons, a total number of 67 rakes during April '81 to March '82 meant for Badarpur Thermal Power Station were diverted to others. However, during the same period, 103 rakes meant for others were diverted to Badarpur Thermal Power Station. The total number of rakes made over to Badarpur Thermal Power Station during 1981-82 were 666 rakes. The percentage of rakes diverted to Badarpur Thermal Power Station from others comes to 15.5 per cent. It will be observed that the the diversion of rakes from others to Badarpur Thermal Power Station has been brought down. Further, instructions have been issued to the leading Railways that coal to Badarpur Thermal Power Station should be loaded only from the linked collieries. Northern Railway has also been advised not to divert Badarpur Thermal Power Station's coal rakes to others.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82/D7/AS dated 13 November, 1982].

### Recommendations

The Committee have been informed that no interest is being charged by BTPS against their outstanding. The Committee feel that as a Commercial Undertaking, BTPS should charge interest on the outstandings from the parties. It can be expected that the liability for payment of in-

terest in outstanding will prompt the concerned parties to clear their dues in time." (Point 4.24) (Sl. No. 22)

#### **Action Taken**

We have since issued necessary instructions for charging interest @ 2 per cent per month in case the payment of bill is delayed beyond one month of the issue of the bill. The interest charges to be assessed and billed monthly.

[Ministry of Energy (Department of Power O.M. No. 49/13/82/D7/AS dated 29 September, 1982).]

#### **Recommendation**

The Committee note that tenders for cooling tower pumps for the power Station were invited on 27th May, 1975 M/s Bharat Heavy Electricals Ltd. gave quotation for Rs. 18.11 lakhs with a validity period of three months. However, the quotation of the firm could not be accepted as the height of cooling towers was not determined by that time. The tenders for cooling towers were invited later and were opened on 27th Sept. 1975. The result was that a revised offer of the firm for the same equipment for Rs. 19.44 lakhs was accepted resulting in an extra expenditure of Rs. 1.49 lakhs (including excise duty and sales tax). Although this extra expenditure was incurred the motors were not delivered within the agreed delivery period and when delivered were found to be defective. The performance of the motors has not yet stabilised. The Committee would like to express their concern at this situation. They would like to be informed of the reasons for the delay in the supply of motors and for defective working and also the action taken. (Point No. 5.6) (Sl. No. 23).

#### **Action Taken**

The reasons for delay in supply of motors are attributable to late receipt of raw material like copper and sub-assemblies like bearings, SC. Rings and bars and frames by M/s. BHEL from their sub-suppliers, as well as labour unrest consisting of tool down strike during July, 1977 and another series of strikes, slow down etc. during December, 1977 and January, 1978 at the works of M/s BHEL, Bhopal. The delivery period as stipulated in the order was June, 1978 for first motor and July, 1978 for second motor. This was subsequently compressed to December, 1977 by M/s. BHEL on request from the Project. The motors were actually supplied in July, 1978 and October, 1978 respectively. An amount of Rs. 1.9 lakhs has been recovered from M/s BHEL as liquidated damages for delayed supply as per terms of the contract.

As regards the defects in the motors, M/s BHEL have fixed magnetic wedges on the motors for reducing the noise problems to the permissible limit. However, there has not been any significant improvement in this

regard. M/s BHEL are still making efforts to reduce the noise nuisance. An amount of Rs. 1.81 lakhs has not been released to M/s BHEL pending rectification of defects.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82/D7/AS dated 29 September, 1982].

#### Recommendation

The Committee note that as per the Project Report of the Badarpur Thermal Power Station, the cost of generation of electricity was estimated at 5.65 paise per unit. Even in the revised estimate the cost of generation was estimated to be 12.17 paise per unit. However, the cost of generation was as high as 28.54 paise per unit in 1979-80. This increase is stated to be mainly due to the increase in the prices of coal and furnace oil and higher rate of consumption of coal and furnace oil. The Committee have, in an earlier chapter already stressed the need for improving the quality of coal supplied to the power station. They hope that with the improvement in the quality of coal, the consumption of furnace oil will also come down thus reducing the cost of generation. The Committee would like that all efforts should be made to reduce the cost of generation in the plant and for this the factors contributing to the escalation in the cost of generation should be identified and corrective measures should be urgently taken in this regard.

{Point No. 5, 19 (Sl. No. 25)}.

#### Action Taken

The factors contributing to the escalation in the cost of generation have been identified and following actions have been taken in the identified areas:—

- (a) Monitoring Cells have been set up to ensure supply of required quality of Coal;
- (b) Round the clock maintenance of pulverisors has been arranged;
- (c) In the 100 MW units (I, II & III), to minimise outage of coal burners due to leakages at bends and flanges, bends with besalt lining have been used in the coal pipes and flanges of higher thickness have been used;
- (d) In the Unit IV (210 MW) also besalt lined bends in the pulverised coal pipes are being installed;
- (e) Day to day oil consumption is very closely monitored so that requisite action can be taken up at appropriate time for reducing the oil consumption wherever possible.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82/D7/AS dated 13 November, 1982].

Sl. No.	Brief description of recommendation	Present status as on 21-8-1982
67	Procurement of pending spares from M/s I.L.K.	Instruments mostly received.
68	Provision of changeable liners of air burner.	VGB comments awaited.
69	Replacement of the existing flanges on P C pipes lines by (20 mm) thick flanges.	Completed on Unit II. Unit I&II which will be taken on next overhauling.
70	Installation of air nozzle in L&P Hoppers of Unit I, II & III.	It was tried through one of boiler No. 2 EP but it was not found successful.
71	Characteristic curves of forced draft fan to prepare with the help of BHEL Engineers.	BHEL is not supplying the characteristic curves for the and they are not co-operating to prepare this curves at site.
72	Procurement of spares for the repair of PC feeders based on the discussions by Sr. Engg. Plant Auxiliaries, Sr. Engg. BMD & DM (Plg.).	Material received.
73	Regarding the diversion of discharge of clarified raw water pump to discharge side the D.S (THD) was to discuss the matter with D.M (Civil) B.T.F.P.	As point No. 3a has been implemented, that is not required.
74	Regarding offer of M/s KSB for Acid Transfer Pump.	Order placed. Delivery of the material is expected by end of 1982
75	Problem of burning of boiler feed pump motor.	The problem is still existing. The modification as suggested by VGB has tried in one of the motor. It was not found successful.
76	To provide expander between 16 ata & 11 11 ata line to have uniform pressure.	BHEL consultant i.e. CEA & BHEL, have not agreed to this proposal.
77	To step charging of HP/LP line by fire and screen pump & to finalise the scheme in case some change is required in the existing scheme.	A separate jack pump is being procured for this purpose. The scheme is with Corporate Engg. Division. This is expected to be completed by Dec., 1983.

(Ministry of Energy (Department of Power) O.M. No. 49/13/07/AS dated 29 September 1982)

### Recommendation

Boiler and Turbo-generator equipment for the Badarpur Thermal Power Station—Stage-II was supplied by M/s. Bharat Heavy Electricals Ltd. Although the equipment was to be supplied by August/September, 1976, the major supplies were completed by April, 1978 only. During erection stage a number of defects and deficiencies were found in the boilers and equipment and some of the equipments had to be sent back to BHEL workshop for modification and rectifications of the defects while some defects were repaired at site with the result that the unit could be put to

commercial operation from March, 1980 only. The Committee cannot, but express their deep anguish at this.

[Point No. 3.19. Sl. No. 15]

#### **Action Taken**

Comments of the Committee have been noted.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82-D7/AS dated 13 November, 1982].

#### **Recommendation**

The Committee have taken note of the statements made by the representative of the Ministry of Energy (Department of Power) before the Committee that 'one lesson which we have now learnt is that the design which were prepared or considered suitable for use in a certain country require extensive adoption and modification when used in a different country' and that 'there is a feeling among the various customers—I include in them the State Electricity Boards and NTPC—that the international quality control procedure of BHEL over the years was not adequate.

The Committee have further taken note of the statement made by the representative of Department Heavy Industry that they have now entered into a foreign collaboration and the performance of the new units based on this collaboration is better. The committee would not like to make any detailed comment on the subject as the Committee on Public Undertakings is making a detailed examination of BHEL. They, however, hope that the equipment supplied by the indigenous manufacturers to the power stations in future would be free from all defects and deficiencies so as to satisfy the technical needs and requirements of the power stations.(Point No. 3.20) (Sl. No. 16).

#### **Action Taken**

B.H.E.L. have since strengthened their Quality Control and quality Assurance groups. The defects in their equipments have shown a downward trend.

C.E.A. has also prepared a model contract to be entered into by the SEBs/Organisations with BHEL for supply and supervision of erection of boiler and TG equipment. This model contract has been circulated to all SEBs/Organisations. The contract provides for quality Assurance check to be carried out by Purchasers at various stages of manufacture and erection of equipment. Such checks by the Purchasers will further supplement the efforts made by BHEL to remove defects and deficiencies in the equipment.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82/D7/AS dated 29 September, 1982]

### Recommendation

The Committee note that renovation/modification programme in the Badarpur Thermal Power Station has suffered because of non-supply of spares by indigenous manufacturers viz. M/s. B.H.E.L. & I.L.K. It has also been brought to the notice of the Committee that some of the recommendations of the West German Team of Experts could not be implemented because the requisite spares were not available from the indigenous manufacturers. From the statement furnished by the Ministry of Energy (Department of Power), it is seen that out of 402 orders placed with M/s. B.H.E.L. between 1977 and 1981, only 231 orders were executed, 45 orders were partly executed and 126 orders were not executed. The position is still worse in respect of M/s. Instrumentation Ltd. Kota as out of 61 orders placed, only 15 orders were executed 15 were partly executed and 31 orders were not executed till the end of 1981. Some of the orders placed as early as 1975 or 1976 are still pending. The Committee fail to understand how the power stations can run efficiently if the requisite spares are not available in time. They would like to express their deep concern over such abnormal delays in supply of spares and expect that prompt necessary action would be taken in this regard. (Point No. 4.9) (Sl. No. 17)

### Action taken

B.H.E.L. has now started giving more emphasis to the execution of orders for spare parts. Supply to spares has increased during the last three years. The output of spare parts during 1979-80, 1980-81, and 1981-82 has been of the order of Rs. 50 crores, Rs. 65 crores and Rs. 101 crores respectively. It is expected that by March, 1983 supply of spares will be up-to-date. B.H.E.L. has also supplied drawings of low technology spare parts of SEBs to help them in getting such spare parts manufactured from other agencies.

B.H.E.L. in consultation with C.E.A. have prepared a proposal for "spare parts management and inventory control system" which has been circulated to all the Electricity Boards. Once this proposal is implemented by the SEBs, proper planning for procurement of spare parts will ensure availability at the time of maintenance and overhauling of the generating units. Further a scheme for stocking insurance spare parts is also under consideration.

As far spare parts from I.L.K., they have also geared up. Price catalogues have been sent to all the SEBs to place the orders to ensure the availability in time. Their officers are visiting various Thermal Power Stations for expediting placement of the orders.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82/D7/RS dated 29 September, 1982].



### Recommendation

The Committee noted that one of the reasons for the poor performance of the thermal power stations in the country is the supply of coal of poor quality. The coal supplied has not only a excessively high ash content but it also contains extraneous matter like stones and shales which damages the equipment and adversely affects the working of the power stations. The Committee regret to note that no solution to this problem has so far been found. They recommend that this problem should be tackled on a priority basis and for this purpose a package of measures should be undertaken without delay. One such measure could be to post special Inspection Teams at the collieries to check the coal being loaded for the power stations and special staff be deployed to segregate extraneous matter from the coal. Moreover, a time-bound programme for installing coal plants in the opencast mines should be undertaken so that oversized coal may not get mixed up.

(Point No. 4.15) (SI. No. 18)

### Action Taken

Complaints from thermal power stations about the coal supplies to them generally relate to high ash percentage, the supply of oversize coal and the presence of extraneous matter in the coal supply.

The ash percentage of the coal is an inherent characteristic of the coal mines. Therefore, there are limitations to what can be done to regulate the ash percentage. The coal companies are requesting the power station authorities to undertake joint sampling of the coal supplies and it has been found that where such joint sampling arrangements have been entered into, the ash percentage in the coal supplies are generally well within the design parameters of the boilers.

The complaints about oversized coal and presence of extraneous matter with the coal are being tackled by the installation of coal handling plants in the collieries. In these Coal Handling Plants the coal is mechanically crushed to size and extraneous material is manually picked from slow moving conveyor belts. The installation of CHPs is being monitored closely. Where CHPs do not exist, the coal is being manually sized and extraneous matter is also manually separated. Whenever complaints are made about any particular mine, such manual operation are intensified, thereby reducing the complaints substantially.

The coal companies have posted personnel at many power stations and joint inspection of coal supplies is being carried out at these power stations daily. The feedback of such joint inspection enables the coal companies to take immediate corrective measures.

[Ministry of Energy (Department of Power) O.M. No. 49|13|82|D7|AS.  
dated 13 November, 1982].

**CHAPTER V**  
**CONCLUSIONS OR RECOMMENDATIONS IN RESPECT OF**  
**WHICH GOVERNMENT HAVE FURNISHED INTERIM REPLIES**

— NIL —

**NEW DELHI;**  
*March 24, 1983.*  

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*Chaitra 3, 1905(S).*

**SATISH AGARWAL**  
*Chairman*  
*Public Accounts Committee*

## APPENDIX

### Conclusions & Recommendations

S. No.	Para No.	Ministry Concerned	Recommendation/observations
I	2	3	4
I	I.6	Ministry of Energy (Department of Power)	<p>In their 82nd Report, the Committee had suggested the setting up of a monitoring agency consisting, among others, the representatives of the Department of Power, Central Electricity Authority, Department of Heavy Industry/BHEL, Instrumentation Limited, Kota, Planning Commission, Ministry of Finance and Railways to monitor the progress of power projects in the country on a continuous basis and to initiate corrective measures at the earliest. In reply, Government have stated that a number of steps have been taken to remove the bottlenecks and to step up the monitoring of the projects. Construction Monitoring Directorates are stated to have been set up in the Central Electricity Authority to closely monitor the various activities of the projects. Apart from coordination and review meetings with the project authorities and the suppliers/manufacturers of equipment etc., the senior officers of the Central Electricity Authority visit the project sites and take up the matter with the appropriate authorities for removing the bottlenecks. At the department level, also review meetings are held with the State Government and at the Union Government level with the Power Ministers of the States. The Ministry have further claimed that the gestation period of the Thermal Power projects has come down from 70 months in 1974-75 to 52 months in 1978-79.</p>

Taking note of the above steps taken by the Government the Committee desire that the Construction Monitoring Directorates set up in the Central Electricity Authority should be suitably strengthened if not already done, by closely associating the representatives of the various disciplines/departments as spelt out by the Committee so that this monitoring mechanism may become an effective instrument to identify the constraints/shortcomings so as to take immediate steps to remove them. The Committee need hardly emphasise that the effectiveness of the monitoring agency and the follow up action initiated at its instance should be such as would allow of no shortfall in the Sixth Plan target of creation of additional power generating capacity in the country.

In the earlier Report, the Committee had expressed their concern over the heavy dues amounting to Rs. 34.38 crores that were outstanding against the Delhi Electricity Supply Undertaking (DESU) on account of electricity supplied to it by Badarpur Thermal Power Station. What was still more disturbing was that these outstanding dues were on the increase. As against electricity worth Rs. 4½ crores being supplied every month, only Rs. 2½ crores were being realised. The Committee had strongly recommended that a High Powered Committee be appointed to look into the working of the DESU particularly its finances, and effective steps taken to see that the arrears were cleared within a reasonable period of time and that in no case the delay exceeded six months.

In their reply, the Ministry of Energy (Department of Power) have stated that these arrears are mounting due to non-revision of tariff of the domestic consumers since 1979. The Ministry have also stated that a number of steps have been taken to improve the transmission and distribu-

tion system of Delhi to give better consumer service. The question of restructuring the set up of DESU is also stated to be under consideration.

4 1.12  
Ministry of Energy  
(Department of Power)

The Committee are not convinced with the argument that revision of tariff of the domestic consumers will solve the problems of DESU. The Committee have reason to believe that the losses being incurred by DESU are to a large extent due to its own inefficiency resulting in among other things, heavy transmission losses and frequent power breakdowns. The Committee therefore reiterate their earlier recommendation that a High Powered Committee should be appointed without delay to examine the working of DESU in all its aspects and suggest measures to put this undertaking on a sound financial footing. The Committee would like to be apprised of its findings together with the action taken in pursuance thereof, within six months.

5 1.14

-Do-

In para 5.6 of the 82nd Report, the Committee had drawn attention to the fact that supply of two motors for cooling tower pumps for the Badarpur Thermal Power Station by the Bharat Heavy Electricals Ltd. was not only delayed but these motors were found to be defective on receipt and their performance had not stabilised. An amount of Rs. 1.9 lakhs is stated to have been recovered from BHEL for delayed supply. The Committee however note that BHEL's efforts to remove the defects in the cooling tower pumps have not resulted in any significant improvement and an amount of Rs. 1.81 lakhs has been withheld pending rectification of defects. It is surprising that although BHEL is the premier power

## CHAPTER III

### CONCLUSIONS OR RECOMMENDATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF THE REPLIES RECEIVED FROM GOVERNMENT

#### Recommendation

The Committee further recommended that the performance of State Electricity Boards in the field of execution of Power projects according to targets should be taken into account while sanctioning the new power projects.

[Point No. 1.44 (Sl. No. 9)].

#### Action Taken

The recommendations of the Public Accounts Committee have been noted.

It is however, mentioned that power development is a continuous process and new projects are sanctioned keeping in view the supply and demand. Moreover, availability of plan resources in the different states is governed by altogether different factors. But the power plan, which forms part of the State Plans has to operate within this framework. It may, therefore, be not always possible to sanction projects in only those states who achieve targets of commissioning.

[Ministry of Energy (Department of Power) O.M. No. 49|13|82|D7|AS dated 13 November, 1982].

#### Recommendation

The Committee note that transformers were purchased from M/s. Parry & Co. Ltd. New Delhi as part of 6.6 KV switchgear for unit IV of 210 MW at Badarpur. The sample inspection of the equipment was waived with the result that the same were subsequently found to be not in conformity with the specifications in regard to their short time rating. In view of the contention of the firm that the transformers were as per specification, the Committee cannot but reach at the conclusion that the original specification given in the contract was not properly prepared and adequate care to check the equipment was not exercised by the project authorities, while accepting these Transformers. The Committee would like this matter to be examined thoroughly so as to fix responsibility for the lapse. [Point No. 5-12 (Sl. No. 24)].

**Action Taken**

It is not a fact that current transformers supplied were not in conformity with the original specifications in regard to their short time rating, which is suitable for Badarpur system. Original specifications were not faulty. The revision of specifications was intended only to make them even more stringent. In view of this question of fixing the responsibility for lapse does not arise.

[Ministry of Energy (Department of Power) O.M. No. 49/13/82/D7/AS  
dated 29 September, 1982.]

## CHAPTER IV

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

#### Recommendation

The Committee are concerned to learn that heavy dues were outstanding against Delhi Electricity Supply Undertaking and other State Electricity Boards in respect of electricity supplied by Badarpur Thermal Power Station. The outstandings against DESU alone amount to Rs. 34.38 crores. What is still more disturbing is that their outstandings are on the increase as is brought out by the fact that against electricity worth Rs. 4½ crores being supplied every month, only Rs. 2½ crores are realised. The Delhi Electricity Supply Undertaking have on their part stated that they are suffering a loss of 10 paise per unit as they are not being allowed to increase their rates and further they have large outstandings against New Delhi Municipal Committee and other Public sector undertakings. The Committee are concerned at this grave irregularity which has been allowed to continue with considerable consequences for the financial health of Badarpur Power Station. The Committee, therefore, strongly recommend to the Central Government to appoint a high powered committee to look into the working of the DESU and particularly its finances and effective step taken to see that the arrears are cleared within reasonable period of time, and in no case, the delay extends to more than 6 months. The Committee should be apprised of the steps taken in this regard.

[Point No. 4.23 (Sl. No. 21)].

#### Action Taken

The arrears of DESU are mounting due to non-revision of tariff of the domestic consumers since 1979, even though rates of coal, oil and railway freight have increased considerably since then. Further, power requirements of Delhi cannot be met from DESU's own generation which necessitates purchase of power from other sources is higher than those charged by DESU from its consumers. Revision of tariff rates, is, therefore, under consideration of the Central Government.

A number of steps have been taken to improve the transmission and distribution system of Delhi to give better consumer service. Several new 66/33 KV sub-stations have been built and the transmission capacity has been augmented. The 33 KV cable net work has also been expanded to give more reliable supply to different parts of the city. Advice of expert terms has been obtained for strengthening the distribution system and to



improve the quality of service to the consumers. The question of re-structuring the set up of DESU is also under consideration. In view of these measures already undertaken, it is considered that there is no necessity to appoint a high-powered committee to look into the working of DESU.

[Ministry of Energy (Department of Power) O.M. No. 49|13|82|U7|AS  
dated 13 November, 1982].

equipment manufacturing unit in the public sector and has got vast technical expertise at its command, it has not yet been possible for it to remove the defects in the motors and reduce the noise nuisance. The Committee trust that BHEL would intensify its efforts in this direction and take necessary action to update the technology and/or improve the manufacturing process so that future supplies are free from any defects.

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## PART II

### MINUTES OF THE 63RD SITTING OF THE PUBLIC ACCOUNTS COMMITTEE (1982-83) HELD ON 10 MARCH, 1983.

The Committee sat from 1530 to 1630 hrs. in Committee Room No. 50,  
Parliament House, New Delhi.

#### PRESENT

Shri Satish Agarwal—*Chairman.*

#### MEMBERS

2. Shri Chitta Basu
3. Smt. Vidyavati Chaturvedi
4. Shri G. L. Dogra
5. Shri Bhiku Ram Jain
6. Shri K. Lakkappa
7. Shri Mahavir Prasad
8. Shri Sunil Maitra
9. Shri Jamilur Rahman
10. Shri Uttam Rathod
11. Dr. Sankata Prasad
12. Smt. Pratibha Singh
13. Shri Syed Rehmat Ali
14. Shri Kalyan Roy

#### REPRESENTATIVES OF THE OFFICE OF C&AG

1. Shri R. K. Chandrasakharan, ADAI (R)
2. Shri S. R. Mukherjee, D.A.C.W.&M.
3. Shri T. G. Srinivasan, Joint Director (P&T)

#### SECRETARIAT

1. Shri T. R. Krishnamachari—*Joint Secretary.*
2. Shri K. C. Rastogi—*Chief Financial Committee Officer.*
3. Shri K. K. Sharma—*Senior Financial Committee Officer.*
4. Shri M. G. Agrawal—*Senior Financial Committee Officer.*

2. The Committee considered and adopted the Draft Report on action  
taken on 82nd Report (7th Lok Sabha) regarding Badarpur Thermal  
Power Project, Stage II with certain modifications as shown in Annexure I.

\* \* \* \* \*

The Committee then adjourned.

## ANNEXURE I

Amendments/Modifications made by Committee in the Draft Report on Action Taken by Government on 82nd Report (7th Lok Sabha) at their sitting held on 10 March, 1983.

Page	Para	Line	Amendment/Modification
5	1.7	17-18	<p>For "Sixth Plan target of creation of additional power generating capacity in the country."</p> <p>Read "creation of additional power generating capacity as envisaged in the Sixth Plan".</p>
8-9	1.11	—	<p>For "in the earlier Report.....in this regard".</p> <p>Read "In the earlier Report, the Committee had expressed their concern over the heavy dues amounting to Rs. 34.38 crores that were outstanding against the Delhi Electric Supply Undertakings (DESU) on account of electricity supplied to it by Badarpur Power Station. What was still more disturbing was that these outstanding dues were on the increase. As against electricity worth Rs. 4½ crores being supplied every month, only Rs. 2½ crores were being realised. The Committee had strongly recommended that a High Powered Committee be appointed to look into the working of the DESU particularly its finances, and effective steps taken to see that the arrears were cleared within a reasonable period of time and that in no case the delay exceeded six months.</p> <p>In their reply, the Ministry of Energy (Department of Power) have stated that these arrears are mounting due to non-revision of tariff of the domestic consumers since 1979. The Ministry have also stated that a number of steps have been taken to improve the transmission and distribution system of Delhi to give better consumer service. The question of restructuring the set up of DESU is also stated to be under consideration.</p>

Page	Para	line	<i>Amendment/Modification</i>
<p>1.12. The Committee are not convinced with the argument that revision of tariff of the domestic consumers will solve the problems of DESU. The Committee have reason to believe that the losses being incurred by DESU are to a large extent due to its own inefficiency resulting in, among other things, heavy transmission losses and frequent power breakdowns. The Committee therefore reiterate their earlier recommendation that a High Powered Committee should be appointed without delay to examine the working of DESU in all its aspects and suggest measures to put this undertaking on a sound financial footing. The committee would like to be apprised of its findings together with the action taken in pursuance thereof, within six months."</p>			
12.	1—14	9 and 20	Delete "M/s" before "BHEL"

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Published under Rule 382 of the Rules of Procedure and Conduct of Business in Lok Sabha (Sixth Edition) and printed by the General Manager, Government of India Press, Minto Road, New Delhi