



REPORT
OF THE
COMPTROLLER AND AUDITOR GENERAL
OF INDIA

FOR THE YEAR 1973-74
(COMMERCIAL)

GOVERNMENT OF WEST BENGAL

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1973-74

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PREFATORY REMARKS

Government commercial concerns, the accounts of which are subject to audit by the Comptroller and Auditor General of India, fall under the following categories:—

- (i) Government Companies;
- (ii) Statutory Corporations; and
- (iii) Departmentally managed commercial undertakings.

This Report deals with the results of audit of the accounts of Government Companies and Statutory Corporations, including West Bengal State Electricity Board. The Report of the Comptroller and Auditor General of India (Civil) contains the results of audit relating to departmentally managed commercial undertakings.

2. In the cases of Government Companies, audit is conducted by professional auditors appointed on the advice of the Comptroller and Auditor General, but the latter is authorised under section 619(3)(b) of the Companies Act, 1956 to conduct a supplementary or test audit. He is also empowered to comment upon or supplement the report submitted by the professional auditors. The Companies Act further empowers the Comptroller and Auditor General to issue directives to the auditors in regard to the performance of their functions. In November 1962 such directives were issued by him to the auditors for looking into certain specific aspects of the working of Government Companies. These were revised in December 1965 and February 1969.

3. The Government have invested funds by way of loans and advances in one public limited company, viz. The Calcutta Tramways Company Limited whose accounts are not subject to audit by the Comptroller and Auditor General. The Company is under the management of the Government of West Bengal since 19th July 1967.

4. In respect of Calcutta State Transport Corporation, North Bengal State Transport Corporation, Durgapur State Transport Corporation and West Bengal State Electricity Board the Comptroller and Auditor General is the sole Auditor, while in respect of West Bengal State Warehousing Corporation and West Bengal Financial Corporation, he has the

right to conduct the audit of the concerns independently of the audit done by the professional auditors appointed under the respective Acts. Separate Audit Reports are forwarded to the State Government annually in respect of Calcutta State Transport Corporation, North Bengal State Transport Corporation and West Bengal State Electricity Board for being presented to the State Legislature in terms of the provisions contained in the relevant Acts under which they are constituted.

5. The points brought out in this Report are those which have come to notice during the course of test audit of the accounts of the above undertakings. They are not intended to convey or to be understood as conveying any general reflection on the financial administration of the undertakings concerned.

CHAPTER I

Section I

GOVERNMENT COMPANIES

Introduction

There were 17 Companies of the State Government as on 31st March 1974 as against 12 on 31st March 1973. During 1973-74, five new Companies, *viz.* West Bengal Handloom and Powerloom Development Corporation Limited, West Bengal State Minor Irrigation Corporation Limited, West Bengal Essential Commodities Supply Corporation Limited, West Bengal Pharmaceutical and Phyto-chemical Development Corporation Limited and West Bengal Sugar Industries Development Corporation Limited were incorporated. The aggregate paid-up capital increased by Rs.788.14 lakhs during 1973-74 to Rs.3524.11 lakhs with the incorporation of these new companies.

Out of 17 Companies, ten Companies (including one Company incorporated in 1973-74) submitted their accounts for 1973-74 for audit. The accounts for 1973-74 of the four other new Companies were not due. Three other Companies, *viz.* West Bengal Agro-Industries Corporation Limited, West Bengal Dairy and Poultry Development Corporation Limited and Westing-house Saxby Farmer Limited did not submit the accounts for 1973-74 till March 1975. A synoptic statement showing the summarised financial results of the working of 13 Companies on the basis of their latest available accounts is given in Annexure 'A'.

2. Profits and losses

According to the annual accounts for 1973-74 submitted by 10 Companies, there was a total net loss of Rs.465.43 lakhs during 1973-74 as against a total loss of Rs.363.38 lakhs during 1972-73 in respect of 7 Companies. Only one Company, *viz.* West Bengal Small Industries Corporation Limited earned a profit of Rs.37.80 lakhs which amounted to 76.97 per cent of its paid-up capital of Rs.49.11 lakhs. The nine other Companies with aggregate paid-up capital of Rs.2992.75 lakhs sustained losses totalling Rs.503.23 lakhs.

In each of the following companies the cumulative loss was more than the paid-up capital:—

| | 1973-74 | |
|--------------------------------------|-----------------|-----------------|
| | Paid-up capital | Cumulative loss |
| (In lakhs of Rupees) | | |
| Kalyani Spinning Mills Limited | 168.21 | 420.89 |
| Durgapur Projects Limited | 2022.16 | 2129.04 |
| Durgapur Chemicals Limited | 428.06 | 695.00 |

Of the three companies which did not submit their accounts for 1973-74, two, viz. West Bengal Dairy and Poultry Development Corporation Limited and West Bengal Agro-Industries Corporation Limited showed a total net profit of Rs.13.00 lakhs at the end of 1972-73 as against Rs.2.98 lakhs at the end of the previous year. The other, viz., Westinghouse Saxby Farmer Limited incurred a loss of Rs.63.42 lakhs during 1972-73 as against Rs.72.00 lakhs during 1971-72.

3. Loans

Excepting the West Bengal Mineral Development and Trading Corporation Limited and the State Fisheries Development Corporation Limited, the ten Companies which submitted their accounts for 1973-74, obtained long term loans to the extent of Rs.921.91 lakhs during the year. Loan liabilities to the extent of Rs.127.98 lakhs were liquidated in the same year by three Companies, viz. West Bengal Industrial Development Corporation Limited (Rs.60 lakhs), Durgapur Projects Limited (Rs.66.93 lakhs) and West Bengal Small Industries Corporation Limited (Rs.1.05 lakhs).

4. Guarantees

Government guaranteed loans to the extent of Rs.407.29 lakhs obtained by the following companies during 1973-74:—

| | (In lakhs of Rupees) |
|--|-----------------------|
| (a) Bonds issued by West Bengal Industrial Development Corporation Limited | 220.00 |
| (b) Long-term loan taken from a bank by Durgapur Chemicals Limited | 15.36 |
| (c) Cash credits obtained from banks by— | |
| Kalyani Spinning Mills Limited | 143.35 |
| Durgapur Chemicals Limited | 2.68 |
| West Bengal Small Industries Corporation Limited .. | 8.44 |
| West Bengal Sugar Industries Development Corporation Limited | 17.46 |

Section II**WEST BENGAL AGRO-INDUSTRIES CORPORATION LIMITED****1. Introduction**

1.1. The West Bengal Agro-Industries Corporation Limited was incorporated on 16th August 1968 under the Companies Act, 1956 as a joint enterprise with the Government of India to promote agro-industries and other ancillary activities in the State and to help farmers to adopt modern methods of farming. The share capital was to be contributed by the Government of West Bengal and the Government of India in the ratio of 51:49 respectively.

1.2. The main objects of the Company are to:

- (a) manufacture (i) agricultural implements and machinery, (ii) plants and equipment for fisheries, poultry, piggery, sheep, cattle and dairy development, seed processing and storage, (iii) chemicals for agricultural use and (iv) other agricultural inputs;
- (b) purchase, hire out or sell plant, machinery, implements, equipment, chemicals and agricultural inputs mentioned in (a) above;
- (c) purchase, store, treat and sell seeds and also manage seed multiplication farms; and
- (d) assist and promote agro-industries in West Bengal including industries pertaining to fisheries, poultry, piggery, seed, sheep-rearing and dairy and provide them with capital, credit, resources and technical and managerial assistance.

1.3. The Company has so far (March 1975) confined itself mainly to trading activities, *viz.*—

- (a) sale of agricultural inputs like agricultural tractors, power tillers, pump sets, fertilisers, pesticides, seeds, compost, etc., on cash and hire-purchase basis; and

- (b) acting from time to time as agent of the State Government in the distribution of pump sets and other inputs on commission basis.

It has also undertaken:

- (a) operation of custom service centres and cold storage and organisation of workshops and servicing facilities;
- (b) setting up of agro-service centres to promote self-employment of the educated unemployed and to provide technical services of machinery hiring/repair and input distribution;
- (c) manufacture of pump sets in collaboration with local manufacturers.

2. Capital structure

2.1. The Company was incorporated in August 1968 with an authorised capital of Rs.200 lakhs, which was increased to Rs.300 lakhs in January 1970 and to Rs.500 lakhs consisting of 5 lakh shares of Rs.100 each in June 1972. The paid-up capital as on 31st March 1974 was Rs.341 lakhs, the shares of the State Government and the Central Government being Rs.174 lakhs and Rs.167 lakhs respectively.

3. Performance analysis

3.1. Initially, the Company embarked upon a programme of providing facilities for irrigation, supply of agricultural inputs and mechanised farming with a view to bringing about a quick increase in agricultural production. The following schemes were taken up for implementation:

- (a) supply of pump sets on hire-purchase basis and sale of agricultural inputs to individual farmers and co-operative societies, and
- (b) hiring out of agricultural equipment through custom service centres.

A. Sale of pump sets on hire-purchase basis

3.2. The Company introduced in November 1968 a scheme for sale of pump sets on hire-purchase basis. The terms and conditions of the initial scheme for the sale were liberalised in May 1969. But the scheme was again revised in September 1970, which basically followed the stipulations of the original scheme. The salient features of the three schemes are shown in the next page Table:

| No | Processing charge | Down payment towards cost of pumps, sets | Security | Rate of interest (Per cent) | Balance payable in | Choice of machines | Recommended by |
|----------------|---|---|--|-----------------------------|----------------------------|--------------------|-----------------------------|
| November 1968 | 2 per cent | 20 per cent | 2 guarantors of acceptable financial standing; or mortgage of land and other immovable properties of value equivalent to that of the pump set. | 9½ | 10 half yearly instalments | Free | Block Development Officers. |
| May 1969 | .. 2 per cent | Nil for holders of 2 to 5 acres of land, 10 per cent for holders of 5 to 10 acres; and 20 per cent for holders of | Ditto | 8½ | 5 yearly instalments | 31 brands | Ditto. |
| September 1970 | A fixed application fee of Rs 1.50 and an administrative charge of Rs 80. | 20 per cent | Mortgage of land coupled with 2 guarantors | 9½ | 10 half-yearly instalments | 3 brands | Company's officers |

3.3. The scheme for sale of pump sets on hire-purchase basis was discontinued with effect from April 1971. The number and value of the pump sets supplied during the period from 1968-69 to 1970-71 were as indicated below :

| Year | | | | | Number of sets supplied | Sale value (in lakhs of Rupees) |
|---------|----|----|----|----|-------------------------|---------------------------------|
| 1968-69 | .. | .. | .. | .. | 792 | 25.33 |
| 1969-70 | .. | .. | .. | .. | 6,262 | 209.03 |
| 1970-71 | .. | .. | .. | .. | 69 | 2.32 |
| | | | | | Total | 7,123 |
| | | | | | | 236.68 |

The increased sale during 1969-70 was attributed by the Management to liberalisation in regard to the requirements of down payment and reduction in the rate of interest. The Company, however, functioned only as an intermediary between agriculturists and manufacturers/dealers by issuing delivery orders to the approved dealers for supply of sets to the selected applicants. The Company earned commission on these sales at the rate of 2 to 6 per cent. The total commission earned amounted to Rs 8.45 lakhs during 1968-69 to 1970-71. No organisation was, however, set up by the Company to render after-sale service to the farmers.

3.4. After a survey of the Company's hire-purchase operations the Indian Institute of Management, Calcutta reported in November 1971 that out of a total of 7,123 sets consisting of 62 makes supplied to farmers, only 5 makes (2,996 sets) rendered satisfactory service and 2 makes (246 sets) gave moderate results.

3.5. The outstanding dues under the scheme amounted to Rs.213.31 lakhs as on 31st March 1971. The Company took steps to realise the dues by—

- (a) strengthening its sales and recovery section,
- (b) appointing private extension agents on commission basis and Block staff on honorarium basis,
- (c) allowing a rebate of one per cent on interest for timely payment, and
- (d) filing about 400 cases in the City Civil Court and Small Causes Court, Calcutta (April 1973). The Public Demands Recovery Act was amended in May 1973 by the State Government to enable the dues of the Company to be recovered as public demand.

But these measures have not been of much effect in reducing the outstandings. With the accretion of further instalments of repayment due, the outstandings amounted to Rs.202.82 lakhs and Rs.221 lakhs on 31st March 1973 and 31st March 1974 respectively. The recoveries of dues were barred by limitation in 49 cases during 1972-73 and in 3,088 cases in 1973-74 amounting to Rs.0.23 lakh and Rs.19.06 lakhs respectively. Money suits were filed in 412 cases up to 31st March 1974 involving Rs.6.23 lakhs. The total amount of decrees issued in favour of the Company in 389 cases is not available (March 1975). Rupees 1.97 lakhs were realised (March 1974) mostly through compromise decrees.

B. Agronomy Division

3.6. On the request of the State Government to take over a few seed farms for efficient management, the Company appointed an Agronomist in February 1969, initially for a period of 3 months, to have a study made on the economics of the farms. The Board decided in April 1969, on the basis of a project report prepared by the Agronomist, to take over 20 seed farms of the State Government. But no seed farm has been taken over (May 1975) as the Company is not sure of the economic viability of the farms.

The Agronomist was retained on deputation with the Company to develop a wing for distribution of agricultural inputs like fertilisers, pesticides, seeds, etc.

The activities of this Division during the three years ended 1972-73 are tabulated below:—

| Items distributed | 1970-71 Quantity (M.T.) | Value (In lakhs of Rupees) | Sales | | | |
|-------------------|-------------------------------|----------------------------------|--------------------|----------------------------------|--------------------|----------------------------------|
| | | | 1971-72 | | 1972-73 | |
| | | | Quantity (M.T.) | Value (In lakhs of Rupees) | Quantity (M.T.) | Value (In lakhs of Rupees) |
| Fertiliser | 616.80 | 8.76 | 6,545.26 | 50.44 | 36,050.64 | 284.30 |
| Pesticides.. .. | *NA | 0.43 | *NA | 0.94 | *NA | 1.12 |
| Seeds | 243.52 | 3.98 | 740.10 | 13.29 | 737.93 | 10.91 |

*Sold in bottles and tins,

C. Sale of agricultural machinery

3.7. The table below shows the purchase and sale of tractors and power tillers during the six years ended 1973-74:

| Year | Purchases | | Sales | | Balance in Stock | |
|----------------------|-----------|----------------------------------|--------|----------------------------------|----------------------|----------------------------------|
| | Number | Value (In lakhs of Rupees) | Number | Value (In lakhs of Rupees) | Number | value (In lakhs of Rupees) |
| Tractors | | | | | | |
| 1968-69 | 8 | 1.33 | 5 | 0.91 | 3 | 0.50 |
| 1969-70 | 101 | 7.48 | 102 | 9.33 | 2 | 0.14 |
| 1970-71 | 80 | 10.65 | 51 | 8.60 | 31 | 4.13 |
| 1971-72 | 50 | 7.42 | 55 | 9.74 | 26 | 3.61 |
| 1972-73 | 69 | 14.46 | 66 | 14.77 | 29 | 5.33 |
| 1973-74* | 70 | 17.14 | | | Information awaited. | |
| Power tillers | | | | | | |
| 1968-69 | 43 | 4.73 | 6 | 0.71 | 37 | 4.10 |
| 1969-70 | 25 | 2.13 | 24 | 2.67 | 38 | 3.71 |
| 1970-71 | 1 | 0.07 | 25 | 2.45 | 14 | 1.40 |
| 1971-72 | 71 | 7.14 | 48 | 5.25 | 37 | 4.12 |
| 1972-73 | 184 | 21.12 | 131 | 16.34 | 90 | 10.96 |
| 1973-74* | 186 | 24.12 | | | Information awaited. | |

Note: Sale during 1969-70 included 98 USSR (DT 14) tractors at Rs.8,500 each compared to an average price of Rs.18,000 each in respect of Zetor tractors sold in 1968-69 and 1970-71 onwards.

D. Custom service centres

3.8. In order to help farmers of North Bengal to prepare their land for cultivation in the wake of the devastating flood of October 1968, the State Government requested (November 1968) the Company to undertake tilling operations with tractors. The Company undertook the work on cost plus 10 per cent basis and purchased 80 Zetor-2011 tractors for the purpose. Of the 80 tractors purchased, 12 were sold and 60 were deployed in custom centres during 1969-70—35 were operated in the Company's own centres and 25 were used in the operations sponsored by the State Government. The State Government also made available to the Company, 55 Kubota power tillers to be ultimately acquired by the Company.

The tilling operations started in January 1969 and continued up to the end of April 1969. During this period, the Company tilled 17,307 acres of land, the total receipt on this account being Rs.5.36 lakhs (approximately).

*Figures for the year are provisional.

3.9. The Company continued this operation and opened new centres from time to time. The results of the operation are indicated in the following table:—

| Year | Number of centres | Number of tractors employed | Number of power tillers employed | Area cultivated (in acres) | Total expenditure | Total receipts | Loss |
|----------------------|-------------------|-----------------------------|----------------------------------|----------------------------|-------------------|----------------|---------------|
| (In lakhs of Rupees) | | | | | | | |
| 1969-70 .. | 12 | 35 | 9 | 5,181 | 5.48 | 1.65 | 3.83 |
| 1970-71 .. | 16 | 50 | 11 | 7,172 | 5.88 | 2.52 | 3.36 |
| 1971-72 .. | 21 | 53 | 13 | 8,439 | Not available | 2.14 | Not available |
| 1972-73 .. | 22 | 57 | 14 | 13,743 | Not available | 2.70 | Not available |
| 1973-74* | 24 | 48 | 17 | 6,373 | 3.41 | 2.43 | 0.98 |

The Management stated (September 1973) that the main reasons for the unsatisfactory performance of the custom service centres were as under:

- (a) want of adequate work in the centres, and
- (b) work was limited to mainly one type of operation and, therefore, staff remained idle for about 6 months.

3.10. As on 31st March 1974, the Company had 48 tractors. Particulars of utilisation of tractors during the five years up to 1973-74 are tabulated as under:

| Year | Number of tractors | Working capacity at 900 hours† per annum per tractor | Utilisation (in lakhs of hours) | Percentage of utilisation |
|-------------|--------------------|--|---------------------------------|---------------------------|
| 1969-70 .. | 35 | 0.32 | 0.12 | 37.50 |
| 1970-71 .. | 50 | 0.45 | 0.17 | 37.78 |
| 1971-72 .. | 53 | 0.48 | 0.20 | 41.67 |
| 1972-73 .. | 57 | 0.51 | 0.32 | 62.75 |
| 1973-74* .. | 48 | 0.43 | 0.15 | 34.88 |

Had the tractors been utilised for transport and other operations especially during the period these were not operated in the custom service centres, their under-utilisation could have been minimised. No efforts appear to have been made in that direction (December 1974).

* Figures for the year are provisional.

† Fixed by the Company on the basis of 7,500 hours of operation in eight years' life.

3.11. **Agro-service centres:** The Government of India formulated a scheme in 1969 under which financial, technical and physical facilities were to be provided to unemployed engineers, agricultural graduates and others to enable them to establish agro-service centres in the rural areas. The Board of Directors decided to take up the scheme in August 1971, but it could not be commenced in 1971-72 because the sanction from the Government of India was not received in time. Under the scheme, selected persons, after four months of training conducted by the Company, are provided financial and technical assistance to enable them to establish agro-service centres.

They are given stipend for the period spent on training. The number of persons who have undergone training and the number of agro-service centres opened during the two years ended 1973-74 are given below:

| Year | Target (Number of trainees) | Number of persons trained | Number of trained persons who have set up agro-service centres |
|---------------|--------------------------------------|------------------------------------|---|
| 1972-73 | 200 | 107 | 25 |
| 1973-74 | 500 | 173 | 115 |

Five districts, viz. 24-Parganas, Burdwan, Nadia, Midnapore and Hooghly accounted for 92 trainees and 22 centres in 1972-73 and 140 trainees and 92 centres in 1973-74.

Against a grant of Rs.3.87 lakhs received from the Government of India in 1973-74, Rs.2.77 lakhs had been spent on the scheme in 1972-73. The figure for 1973-74 is not available.

3.12. To cater to the needs of after-sale service (repair/maintenance) of the diesel driven pump sets, which are being used by the cultivators in the State, the Company has proposed to open at least one centre in each district with necessary technical staff. The Company also proposes to open 7 workshops at important centres for attending to major overhauling of pump sets and other diesel engines. A workshop at Jalpaiguri started working from November 1969 and at Mulda (for minor repair works) from December 1972. Construction works for workshops at Calcutta, Pursurah (Hooghly district) and Kalyani have already been completed and those of

Nakashipara (Murshidabad district) were to be completed by April 1976. The construction work for the workshop at Burdwan has not yet been completed (May 1975).

3.13. **Cold storage:** The Kanainatsal cold storage (under the Department of Agriculture) remained closed for three years up to April 1972, when its management was taken over by the Company initially for a period of one year. Subsequently, the period was extended for three years more. The cold storage was put into commission in April 1972. As per the terms of an agreement with Government, the Company was to bear the cost of maintenance, repairs, renovation, etc., and the pay and allowances including pension contributions for the Government staff. The Company was, however, not liable to pay for the depreciation of plant and machinery and rent of the storage. The working results of the cold storage for the years 1972-73 and 1973-74 were as given in the following table:—

| Year | Total capacity | Capacity utilised | Total expenditure | Total receipts | Net loss |
|------------|----------------|-------------------|----------------------|----------------|----------|
| | (in M.T.) | | (In lakhs of Rupees) | | |
| 1972-73 .. | 560 | 280 | 0.92* | 0.41 | 0.51 |
| 1973-74 .. | 560 | 307 | 1.29† | 0.74 | 0.55 |

The Management stated (December 1974) that the cold storage could not be utilised fully during 1973-74 as the chambers were under repairs. The repairs were, however, completed in June 1973. The Company expected more business in the following years.

4. Financial position

4.1. The accounts of the Company have not been finalised within the time prescribed in section 210 of the Companies Act, 1956 for the last several years. The accounts for 1973-74 have not been finalised so far (March 1975). The Company paid additional fees for late submission of annual accounts for the years 1969-70 and 1970-71.

*Includes cost of repairs, renovation, etc.

†Excludes expenditure on storage of seeds.

4.2. The financial position of the Company for the three years ending 1972-73 was as follows:—

| | | | | 1970-71 | 1971-72 | 1972-73 |
|--|-----|-----|------------------|----------------------|---------------|---------------|
| | | | | (In lakhs of Rupees) | | |
| Liabilities | | | | | | |
| (a) Paid-up capital ... | ... | ... | ... | 232 80 | 298 03 | 301·00 |
| (b) Reserves and surplus ... | ... | ... | ... | 0 51 | 1 19 | 1·62 |
| (c) Trade dues and other current liabilities | | | ... | 16 96 | 84 56 | 147·81 |
| | | | Total ... | 250 27 | 383 78 | 449 93 |
| Assets | | | | | | |
| (d) Gross block ... | ... | ... | ... | 12 82 | 12·76 | 14·99 |
| (e) Less depreciation | ... | ... | ... | 7 12 | 7·88 | 9·71 |
| | | | | | | |
| (f) Net fixed assets | ... | ... | ... | 5·70 | 4 88 | 5·28 |
| (g) Current assets, loans and advances | ... | ... | ... | 243 76 | 378 90 | 444 65 |
| (h) Accumulated loss | ... | ... | ... | 0 81 | ... | ... |
| | | | Total ... | 250·27 | 383·78 | 449·93 |
| Capital employed ... | ... | ... | ... | 232 50 | 299·22 | 302 62 |
| Net worth ... | ... | ... | ... | 232·50 | 299·22 | 302·62 |

Note: 'Capital employed' represents net fixed assets plus working capital.

'Net worth' represents paid-up capital plus reserves less intangible assets.

4.3. The table below shows the working results of the Company for the three years ending 1972-73 :

| | | | | 1970-71 | 1971-72 | 1972-73 |
|--------------------------------------|-----|-----|-----|-------------|---------|---------|
| (In lakhs of Rupees) | | | | | | |
| (a) Profit before tax | ... | ... | ... | 0.81 (loss) | 1.41 | 9.35 |
| (b) Provision for tax | ... | ... | ... | ... | ... | 6.15 |
| (c) Profit after tax | ... | ... | ... | ... | 1.41 | 3.20 |
| Percentage of Profit before tax to : | | | | | | |
| (a) Gross fixed assets | ... | ... | ... | ... | 11.05 | 62.33 |
| (b) Capital employed | ... | ... | ... | ... | 0.47 | 3.09 |
| Percentage of profit after tax to : | | | | | | |
| (a) Net worth | ... | ... | ... | ... | 0.47 | 1.06 |
| (b) Equity capital | ... | ... | ... | ... | 0.47 | 1.06 |
| (c) Capital employed | ... | ... | ... | ... | 0.47 | 1.06 |

5. Inventory and turnover

5.1. The table below indicates the position of stock, sales and stock-in-trade for the three years ending 1972-73 :

| Year | Opening stock | Purchase | Total | Sales (excluding gross profit) | Closing stock | |
|----------------------|---------------|----------|--------|--------------------------------|---------------|-------|
| (In lakhs of Rupees) | | | | | | |
| 1970-71 ... | ... | 4.37 | 29.34 | 33.71 | 27.95 | 5.76 |
| 1971-72 ... | ... | 5.76 | 166.58 | 172.34 | 138.87 | 33.47 |
| 1972-73 ... | ... | 34.63* | 831.59 | 866.22 | 799.02 | 67.20 |

5.2. The table below shows the break-up of the closing stocks for the three years ended 1972-73 :

| Items | 1970-71 | 1971-72 | 1972-73 |
|-----------------------------------|---------|---------|---------|
| Value (In lakhs of Rupees) | | | |
| Tractors | 4.13 | 3.61 | 5.33 |
| Power tillers | 1.40 | 4.12 | 10.96 |
| Agricultural implements | 0.09 | 0.28 | 0.96 |
| Spare parts | ... | ... | 4.61 |
| Fertilisers, seeds and pesticides | 0.14 | 25.46 | 45.34 |
| | 5.76 | 33.47 | 67.20 |

*Includes Rs. 1.16 lakhs of spares transferred to stock-in-trade from stores.

6. Sundry debtors

6.1. The following table indicates the position of book debts *vis-a-vis* sales for the three years ended 1972-73:—

| Year | Total book debts at the end of the year. | Sales during the year | Percentage of debtors to sales |
|----------------------|--|-----------------------|--------------------------------|
| (In lakhs of Rupees) | | | |
| 1970-71 ... | 214.90 | 30.60 | 709.29 |
| 1971-72 ... | 209.21 | 146.32 | 142.98 |
| 1972-73 ... | 241.05 | 827.41 | 20.13 |

The break-up of book debts as at the end of each of the three years up to 1972-73 was as follows:—

| Particulars | 1970-71 | 1971-72 | 1972-73 |
|--|---------|---------|---------|
| (In lakhs of Rupees) | | | |
| (a) Debts due under hire-purchase agreements | 213.31 | 207.11 | 199.73 |
| (b) Due from the Government of West Bengal | 0.58 | 0.69 | 37.80 |
| (c) Others (unsecured) | 1.01 | 1.41 | 3.52 |
| | 214.90 | 209.21 | 241.05 |

Though most of the debts was considered to be good and a reserve of only Rs.3 lakhs has been provided for bad and doubtful debts in the accounts for 1972-73, realisation of debts under the hire-purchase scheme was low as would appear from the particulars given below:

| Year | Principal and interest due | Amount realised | Balance due | Percentage of realisation |
|----------------------|----------------------------|-----------------|-------------|---------------------------|
| (In lakhs of Rupees) | | | | |
| 1970-71 .. | 62.56 | 12.87 | 50.19 | 19.8 |
| 1971-72 .. | 115.00 | 10.63 | 104.37 | 9.2 |
| 1972-73 .. | 177.00 | 7.75 | 169.25 | 4.4 |

7. Manpower analysis

7.1. The following table indicates the particulars of staff employed by the Company at the close of each of the three years ending 1973-74:

| Particulars | | | 31st March 1972 | 31st March 1973 | 31st March 1974 | |
|------------------|----|----|-----------------------|-----------------------|-----------------------|-----|
| A. Non-technical | | | | | | |
| (i) Officers | .. | .. | 5 | 7 | 8 | |
| (ii) Staff | .. | .. | 98 | 176 | 237 | |
| B. Technical | | | | | | |
| (i) Officers | .. | .. | 21 | 22 | 40 | |
| (ii) Staff | .. | .. | 8 | 37 | 16 | |
| Total | | | .. | 192 | 242 | 301 |

7.2. The following table indicates the turnover per employee and the percentage of pay and allowances (including bonus) to turnover during the three years ending 1973-74:

| Year | Staff strength at the end of the year | Turn-over | Per capita turnover | Pay and allowances of staff | Percentage of pay and allowances to turnover |
|----------------------|---------------------------------------|-----------|---------------------|-----------------------------|--|
| (In lakhs of Rupees) | | | | | |
| 1971-72 | 132 | 146.32 | 1.11 | 8.12 | 5.5 |
| 1972-73 | 242 | 827.41 | 3.43 | 10.31 | 1.2 |
| 1973-74 | 301 | *1300.00 | 4.32 | *12.20 | 0.9 |

8. Internal audit

8.1. The Board of Directors of the Company approved (September 1970) the setting up of an Internal Audit Wing under the supervision of the Chief Accounts Officer. The first Internal Auditor was appointed in November 1972 and the second in November 1973. However, the services of the personnel were not utilised as per the programme envisaged at the time of setting up the Internal Audit Wing.

The Management stated (November 1974) that want of sufficient staff coupled with the increased volume of business of the Company were in the way of proper utilisation of the Internal Auditors.

*Figures are provisional.

Consequent upon the Board's decision (June 1974) to appoint a Divisional Accountant in the Agronomy Section in lieu of an Internal Auditor, the services of one Internal Auditor were dispensed with in November 1974. The Divisional Accountant has not, however, been appointed so far (March 1975).

Reports of the Internal Auditors are not placed before the Board.

There is no Internal Audit Manual prescribing the procedure and quantum of internal checks.

9. Other topics of interest

9.1. Accounting procedure/records

- (a) There is no Accounts Manual prescribing the accounting procedure of the Company.
- (b) There is no system of cost compilation to work out the unitwise cost of acquisition of materials and agricultural machinery as also the selling prices thereof.
- (c) There is no system of allocation and apportionment of expenditure and overhead charges between the operational wings, viz. (i) Sales and recovery, (ii) Agronomy and (iii) Projects.

9.2. *Observations of the Company Auditors:* Some of the persisting irregularities pointed out by the Company Auditors in their Supplementary Reports are given below:

- (a) Reconciliation was not made of individual balances of deposits and advances with the control accounts in the General Ledger.
- (b) No schedule of debtors under the hire-purchase scheme was maintained.
- (c) Maintenance of accounts offered scope for improvement.
- (d) Finalisation of accounts was not made in time as prescribed in Section 210 of the Companies Act.

9.3. *Loss of cash:* A sum of Rs.27,007.35 was not accounted for between June 1969 and October 1970 at the Jalpaiguri division of the Company, which came to light in October 1970. Besides this, funds realised by issue of a few money receipts were also not accounted for nor were their office copies traceable. Police investigations were reported (June 1974) to have been completed and the case has been dismissed for want of sufficient evidence.

The Management stated (October 1974) that departmental action was being taken against the cashier who was under suspension.

Section III**OTHER TOPICS OF INTEREST****DURGAPUR PROJECTS LIMITED****1. Loss on supply of energy to D.V.C.**

The power station of the Company is connected with the West Bengal State Electricity Board system (through the Bandel Thermal Power Station) on one hand and the Damodar Valley Corporation system on the other. The Company has to supply power to both the systems according to a pre-determined schedule.

In order to provide minimum load to the Company's running units, particularly during the night lean hours and owing to failure of the Bandel Power Station to draw the scheduled off-take, the Company had to pump energy to the D.V.C. system in excess of the scheduled supply.

During the period from 1968-69 to 1971-72 the excess energy thus supplied to the D.V.C. worked out to 72.81 million units valued at Rs.21.57 lakhs on the basis of the fuel cost incurred by the Company. An adjustment in kind by returning the excess energy from the D.V.C. to the Company's system not being feasible, the D.V.C. paid to the Company in March 1974 a sum of Rs.17.50 lakhs only, being the value of the said energy on the basis of fuel cost incurred by the D.V.C. It was estimated that the excess supply of energy to the D.V.C. to the extent of 30 to 40 per cent was necessitated due to inability of the Bandel Power Station to draw the scheduled off-take. Accordingly, the Board was requested to share 50 per cent of the difference in fuel costs. Since the Board did not accept this, the Company had to suffer the entire loss of Rs.4.07 lakhs, being the unrealised fuel cost of the Company on the excess energy supplied to the D.V.C.

2. Sale of coke

In April 1972, the Company issued sale orders to a number of customers for the sale of a total quantity of 36,790 M.T. of coke, a portion of which could not be supplied to the parties during the month. These sale orders were valid till completion of the supply and contained no provision for a revision of price on the basis of the price ruling on the date of delivery. The price of coke was increased by the Company on 26th June 1972 from Rs.125 to 180 per M.T. retrospectively with effect from 1st May 1972. As supplies against the sale orders issued in April 1972 were not completed during the month, the unexecuted portion was despatched to the parties in May 1972 and billed at the increased price. On receipt of representations from a number of parties, the Company reduced the billed rate to Rs.125 per M.T. and refunded Rs.3.58 lakhs though one customer had resold the coke (1400 M.T.) to actual consumers at the prevailing higher rate.

3. Non-recovery of claims on account of missing wagons

When materials are lost in transit, a formal notice is required to be sent to the Railways within six months from the date of the railway receipt, and compensation claims for the value of the materials lost and freight thereon are required to be preferred on the Railways within three years from the date of the railway receipt along with necessary documents in support of the claim.

Claims in respect of missing wagons (mostly coal and oil) up to March 1974 amounted to Rs.417.87 lakhs in the accounts for 1973-74 as shown below:—

| Year. | (In lakhs of Rupees) | | | |
|---------------|----------------------|-----|----|--------|
| Up to 1970-71 | -- | -- | .. | 161.03 |
| 1971-72 | --- | .. | .. | 88.67 |
| 1972-73 | .. | --- | .. | 46.01 |
| 1973-74 | .. | .. | .. | 122.16 |
| | | | | 417.87 |

But claims to the extent of only Rs.248.96 lakhs had been preferred on the Railways up to August 1974, and the compensation received till then amounted to Rs.0.70 lakh.

The Company was not able to prefer claims of Rs.15 lakhs due to the absence of documentation in support of the claims.

KALYANI SPINNING MILLS LIMITED

4. Purchase of machines

An expansion scheme for installation of 9,240 spindles at the Habra Unit of the Company was finalised in 1971, against which orders for purchase of four High Speed Cone Winding Machines valued at Rs.1.56 lakhs each and one High Speed Multiple End Winder valued at Rs.2.33 lakhs, were placed in February 1971 with a firm in Calcutta whose rates, though higher, were accepted on grounds of superior quality. One-third of the purchase price was payable in advance along with the orders and the machines were due for delivery between November 1971 and March 1972. Accordingly, a sum of Rs.2.86 lakhs was paid as advance to the firm on 1st March 1971 by utilising cash credit facilities with a bank on payment of interest at 12 per cent per annum.

Two Cone Winding Machines valued at Rs.3.12 lakhs were delivered in April 1972. No arrangement was made for erection of the machines on receipt. The erection work was entrusted to the suppliers in May 1973 and the machines were commissioned in August 1973. The motors developed defects within a few days after commissioning and the supplier was informed of the defects. The machines, after repairs, have been functioning since October 1974 but the Management is not yet assured of their satisfactory performance (February 1975). There was no penalty clause incorporated in the supply orders for delayed delivery. When two more machines were ready for delivery in September 1974, the Management did not agree to take delivery because of the defects in two Cone Winding Machines already supplied. The Multiple End Winder was delivered by the supplier in January 1975. As a result, completion of the expansion programme has been held up.

WEST BENGAL DAIRY AND POULTRY DEVELOPMENT CORPORATION LIMITED

5. Irregular disbursement of loans

With a view to assisting poultry growers, the Company disbursed Rs.0.15 lakh as fixed capital loan and Rs.0.14 lakh as working capital loan during the period from May 1972 to August 1972, to fifteen poultry growers.

As per clause 4 of the agreements with the poultry growers, loans were to be disbursed on hypothecation of land and buildings or on obtaining bank guarantees. The loans were to be recovered with interest at the rate of 7½ per cent per annum in 36 and 18 monthly instalments respectively. The loans were disbursed without any security either in the form of hypothecation of land and buildings or obtaining bank guarantees. The Company could recover up to February 1975, Rs.100 out of the principal and the interest due from the loanees. The outstanding instalments of principal and interest which fell due for recovery as on 31st May 1974 were as under :—

| | | | |
|----------------------|-----|-----|--------------|
| Fixed capital loan | ... | ... | Rs.0.13 lakh |
| Working capital loan | ... | ... | Rs.0.05 lakh |
| | | | Rs.0.18 lakh |

The terms and conditions of the loans were not approved by the Board of Directors.

The Management stated in May 1974 that the loans were sanctioned by officers who were no longer in the Company's service.

CHAPTER II

Section IV

STATUTORY CORPORATIONS

Introduction

There were six Corporations as on 31st March 1974, viz. West Bengal State Electricity Board, Calcutta State Transport Corporation, North Bengal State Transport Corporation, Durgapur State Transport Corporation, West Bengal Financial Corporation and West Bengal State Warehousing Corporation. Durgapur State Transport Corporation was incorporated on 7th December 1973.

In terms of section 33(4) of Road Transport Corporations Act, 1950, the State Government is required to lay before the State Legislature the certified accounts of the Road Transport Corporations and the audit reports thereon. The accounts of North Bengal State Transport Corporation for 1969-70 onwards have not been received for audit so far (May 1975). The accounts of Calcutta State Transport Corporation for the year 1973-74 have also not been submitted so far (April 1975).

Under section 31(10) of the Warehousing Corporation Act, 1962, accounts of the State Warehousing Corporation together with the audit report thereon are required to be placed before an annual general meeting of the Corporation within six months of the close of financial year. But the accounts of West Bengal State Warehousing Corporation for 1971-72 onwards have not been received for audit so far (May 1975).

2. Paid-up Capital

(i) **West Bengal State Electricity Board:** The West Bengal State Electricity Board does not have any paid-up capital. Its capital requirements are met from loans obtained from the State Government and others and from bonds issued to the public, the latter having been guaranteed by the State Government both in regard to repayment of capital and payment of interest. The loans and bonds outstanding as at the end of 1972-73 and 1973-74 were:

| Year. | Loans from State Government | Others | Bonds | Total |
|----------------------|--------------------------------|----------|----------|-----------|
| (In lakhs of Rupees) | | | | |
| 1973-74 | .. 8,658.91 | 4,407.78 | 4,420.04 | 17,486.73 |
| 1972-73 | .. 7,588.29 | 3,053.86 | 2,852.54 | 13,494.69 |

(ii) **Other Corporations:** The contribution towards capital by the State Government to Calcutta State Transport Corporation was Rs.608.46 lakhs at the end of 1970-71, 1971-72 and 1972-73.

The North Bengal State Transport Corporation has no share capital. The State Government and Railways have been advancing funds for running the Corporation.

The total amount so advanced up to the end of 1968-69 was:

| | | (In lakhs of Rupees) | |
|-------------------------------|-----|----------------------|--------|
| (i) Government of West Bengal | ... | ... | 120.91 |
| (ii) Railways | ... | ... | 15.00 |
| | | | 135.91 |

The paid-up capital of West Bengal Financial Corporation stood at Rs.150.00 lakhs at the end of 1972-73 and 1973-74 and was contributed as follows:

| | | (In lakhs of Rupees) | |
|---|-----|----------------------|---------------|
| (i) State Government | ... | .. | 56.77 |
| (ii) Reserve Bank of India | ... | ... | 20.00 |
| (iii) Industrial Development Bank of India | ... | ... | 25.00 |
| (iv) Scheduled banks and industrial investors | ... | ... | 45.00 |
| (v) Others | ... | .. | 3.23 |
| | | | Total: 150.00 |

The paid-up capital in respect of West Bengal State Warehousing Corporation stood at Rs.58.00 lakhs in both the years 1969-70 and 1970-71, contributed equally by the State Government and Central Warehousing Corporation.

3. Loans

The long term loans obtained by Calcutta State Transport Corporation stood at Rs.2,264.89 lakhs at the end of 1972-73 representing an increase of 547.45 lakhs over the balance at the close of 1971-72.

The total long term loans including bonds and debentures in case of West Bengal Financial Corporation stood at Rs.646.24 lakhs at the close of 1973-74 representing an increase of Rs.85.98 lakhs over that at the close of 1972-73

4. Working results

Annexure 'B' gives a synoptic statement of the summarised financial results of two Corporations for 1973-74 in comparison to those for the preceding year.

Section V

WEST BENGAL STATE ELECTRICITY BOARD

1. Introduction

West Bengal State Electricity Board was constituted in May 1955 under Section 5 of the Electricity (Supply) Act, 1948, to promote the co-ordinated development of generation, supply and distribution of electricity within the State in the most efficient and economical manner. It was also the duty of the Board, under the Act,

- (a) to prepare and carry out schemes for (i) establishment of new generating stations, (ii) development of existing generating stations of the licensees, (iii) inter-connections of distributing stations through transmission and distribution systems belonging to the Board as well as to licensees; and
- (b) to supply electricity to owners of controlled stations and to licensees.

2. Organisation

The Board is headed by a whole-time Chairman. It includes, besides the Chairman, two whole-time members (an Accounts Member and an Engineering Member) and three part-time members. The day to day functioning of the Board is entrusted to various departmental heads, as shown in the latest organisation chart at Annexure 'C'.

3. Capital structure

3.1. The Board obtains funds from the State Government as loans, and from the public and financial institutions by issue of bonds, with or without the guarantee of Government in terms of Sections 64 and 65 of the Act. The capital borrowings of the Board as on 31st March 1974 were:

| | | (In lakhs of Rupees) | |
|--|-----------------------|----------------------|-----------|
| (a) Loan from Government | As on 31st March 1974 | | |
| (i) Initial loan under section 60(2) of the Act for assets taken over by the Board | ... | ... | 216.07 |
| (ii) Loans under section 64 of the Act | ... | ... | 8,442.84 |
| (b) Market loans guaranteed by the Government | ... | ... | 4,420.04 |
| (c) Loans from Life Insurance Corporation of India | ... | ... | 3,141.25 |
| (d) Loans from Rural Electrification Corporation | ... | ... | 1,135.63 |
| (e) Loans from banks | ... | ... | 130.90 |
| | | | 17,486.73 |

The interest provided for on the Government loans up to 31st March 1974 but not paid, amounted to Rs.2,831.13 lakhs. As the Board was finding it difficult to liquidate its accumulating interest liabilities, out-standings to the extent of Rs.275 lakhs and Rs.262 lakhs were converted by Government into fresh loans in March 1968 and May 1968 respectively.

3.2. The aggregate of loans raised from sources other than the Government was in excess of the authorised borrowing limit (Rs.10.00 crores) prescribed under Section 65(3) of the Act until the limit was raised to Rs.100.00 crores in March 1974, as indicated below :—

| As on 31st March | | | (In crores of Rupees) | | |
|------------------|----|----|-----------------------|-----------------------|-------|
| | | | Borrowing limit | Amount of loan raised | |
| 1971 | .. | .. | .. | 10.00 | 23.92 |
| 1972 | .. | .. | .. | 10.00 | 34.04 |
| 1973 | .. | .. | .. | 10.00 | 59.06 |
| 1974 | .. | .. | .. | 100.00 | 88.28 |

4. Major projects

4.1. The following table shows the growth of the installed capacity for generation of power and the *per capita* consumption thereof in the State :

| Period | Total Plan Outlay (State) (In lakhs of Rupees) | Outlay on Power (In lakhs of Rupees) | Additions to installed capacity (MW) | | Installed capacity at the end of the Plan period (MW) | Per capita consumption of power (In Kwh) |
|---------------------------------------|--|--------------------------------------|--------------------------------------|--------|---|--|
| | | | Planned | Actual | | |
| Second Five Year Plan (1956 to 1961). | 14500 | 1269 | 154.8 | 214.9 | 753.66 | 71.28 |
| Third Five Year Plan (1961 to 1966) | 25000 | 3736 | 468.0 | 538.53 | 1292.19 | 102.8 |
| Annual Plans 1966 to 1969 .. | 17342 | 2846 | 158.9 | 274.57 | 1566.76 | 108.4 |
| Fourth Five Year Plan (1969 to 1974) | 32250 | 6820 | 251 | 116.68 | 1683.44 | 105.4 |

4.2. The major projects taken up during the Third and Fourth Five Year Plans for generation of power and the capital expenditure incurred against each were :

- (a) a thermal power station at Bandel of 350 MW capacity (Rs.3573 lakhs);
- (b) package thermal power plants of 9 MW capacity at Farakka and Dishergarh (Rs.182 lakhs);

- (c) a hydel power station of 27 MW capacity at Jaldhaka (Rs.1410 lakhs);
- (d) a hydel station of 2 MW capacity at Bijonbari on the Little Rangit river (Rs.65 lakhs);
- (e) a diesel power station of 3.66 MW capacity at Malda (Rs.71.89 lakhs);
- (f) a thermal power station of 480 MW with four units of 120 MW each at Santaldih (Rs.8690 lakhs) out of which first two units were due to be commissioned during Fourth Plan Period; and
- (g) the second phase of Jaldhaka hydel project for augmenting its capacity by 8 MW (Rs.424.54 lakhs).

As some of these projects could not be completed during the Fourth Five Year Plan period, they have been included in the Fifth Five Year Plan programme. The Fifth Plan thus includes:—

- (a) Units II, III and IV of 120 MW each at Santaldih;
- (b) the second phase of the Jaldhaka hydel project with 8 MW capacity;
- (c) unit V of 200 MW at Bandel (Rs.3310 lakhs);
- (d) thermal power station of 600 MW at Kolaghat (Rs.11559 lakhs);
- (e) the second stage of the Kurseong hydel project of 2 MW capacity at Rinchington (Rs.135.80 lakhs); and
- (f) Rammam hydel project of 50 MW capacity.

4.3. The extent to which these projects have progressed and contributed to meet the demand for power are briefly indicated below:

- (a) **Bandel Thermal Power Station**—This station, set up at a cost of Rs.3573 lakhs, was commissioned between December 1965 and October 1966. Power generation was to the extent of 50 per cent of its installed capacity (350 MW) during 1972-73 and 57 per cent in 1973-74. Unit V (200 MW) estimated to cost Rs.3310 lakhs is expected to be commissioned in 1976-77 (see Section VI of this Report for a fuller review on the working of this Power Station).
- (b) **Dishergarh package thermal plants**—Four plants of 1.5 MW each were commissioned at Dishergarh between April 1965 and October 1965. The entire power generated was meant to be supplied to a licensee to meet the contracted demand of 4200 KW. The power actually supplied amounted only to 27 and 9 per cent of the installed capacity during 1969-70 and 1970-71 respectively. The plants ceased functioning on 31st March 1971 when the contract with the licensee expired. These were recommissioned in May 1973 to supply power to bulk consumers in the Burdwan division, after thorough repair and overhauling at an estimated

cost of Rs.7.58 lakhs. The extent of utilisation, however, was only 6 per cent. of the installed capacity during 1973-74. As against a net profit of 7 per cent expected to be earned on the capital outlay (Rs.125 lakhs) from the second year of operation, the cumulative loss from April 1966 to March 1973 was Rs.53.98 lakhs.

- (c) **Farakka package plants**—Two package plants of 1.5 MW capacity each were installed and commissioned at Farakka in August-December 1964 to supply power to the Farakka Barrage Project. As against the anticipated net profit of Rs.3.99 lakhs at the rate of 7 per cent on the capital outlay (Rs.57 lakhs) from the second year of operation, the loss from April 1966 to March 1973 amounted to Rs.39.60 lakhs.
- (d) **Massanjore hydel project**—The Board took over on 17th April 1973 from the State Government the Massanjore hydel power station (capital cost Rs.24.79 lakhs) of the Mayurakshi Project with an installed capacity of 4,000 KW. The power generated during 1973-74 was 36 per cent of its installed capacity.
- (e) **Jaldhaka hydel project**—Two units of 9 MW each were commissioned between March and June 1967 at a cost of Rs.1336.38 lakhs. The power generated during the years 1971-72, 1972-73 and 1973-74 was only to the extent of 13, 25 and 26 per cent of the installed capacity. According to the revised estimate of February 1967, the project was expected to be self-financing from the fourth year of its operation, and earn a surplus of Rs.28.64 lakhs at the end of the fifth year of operation. There was, however, a loss of Rs.76.42 lakhs approximately during the year 1973-74. The second stage of the project (two units of 4 MW each) estimated to cost Rs.425.54 lakhs was taken up in 1973-74. It is expected to be commissioned in 1977 (see Section VII of this Report for a review on the working of the Project).
- (f) **Little Rangit hydel project**—The project (two units of 1 MW each) was commissioned during 1972-73 at a cost of Rs.96.49 lakhs booked up to March 1974.
- (g) **Central diesel power station at Malda**—Seven units of this power station (total capacity 3.66 MW) were commissioned at a cost of Rs.71.89 lakhs between March 1965 and October 1966. They met the needs of the Farakka Barrage Project and other consumers in the Malda and West Dinajpur districts up to December 1971 when the area started getting power from the Barauni thermal power station. The sets are now run occasionally as and when required. The generation of power, which was 31 and 28 per cent of the installed capacity in 1969-70 and 1970-71 respectively, has come down to 14 per cent in 1973-74.

- (h) **Santalidih thermal plant**—The first unit was inaugurated in October 1973 and the second unit is expected (April 1975) to be ready for operation by July 1975. The total cost incurred on the project up to March 1974 was Rs.5741 lakhs.

Though the first unit was inaugurated on 15th October 1973, actual generation started only from 1st January 1974. The power generated during the initial stages varied from 8.76 to 19.46 per cent of the installed capacity till May 1974, which was stated to be due to various teething troubles associated with the auxiliaries of the plant. Even thereafter, the plant had to be shut down in spells totalling 40 days between July and November 1974, excluding Plant maintenance for 7 days, for various reasons, viz. boiler tube leakage, tripping of the transformer, leakage in oil line of generator bearing, faults in bus duct, etc. Although the Management stated that the unit was capable of generating at 100 MW the generation from June 1974 to December 1974 varied from 10.36 per cent in October 1974 to 52.33 per cent in August 1974. The restricted generation was attributed by the Management (January 1975) mainly to increased generation of power by the DVC through which the power generated at Santaldih was being transmitted since the Board's own transmission system including sub-station facilities were not ready.

The cost of generation of power, including depreciation charges and interest on capital and other indirect charges, as envisaged in the project report, was 7.863 paise per Kwh. The Board preferred bills amounting to Rs.31.50 lakhs on the DVC for the energy fed into the DVC grid between January and June 1974 at 4.428 paise per Kwh representing the provisional fuel cost rate of DVC. Payment has not yet been received (March 1975). The cost of generation at Santaldih, excluding depreciation charges and interest on capital amounted to 13 paise per Kwh during 1973-74. With effect from 21st June 1974 the Board is recovering from DVC at the average rate of 10.805 paise per Kwh.

- (i) **Rinchington hydel project**—This project was designed for utilising the tail race discharge of the Kurseong Power station at an estimated cost of Rs.135.80 lakhs. The project was approved by the Planning Commission in October 1973. Preliminary civil works like land development were expected to be ready by 1974-75. Tenders for the power house building, cables and pen-stock were invited in November 1974. Construction of the power house, erection of pen-stock, etc., are expected to be taken up in 1975-76 and the power station is scheduled to be commissioned by December 1977. The expenditure incurred up to March 1974 was Rs.19.40 lakhs.

- (j) **Rammam hydel project**—The project envisages installation of four 12.5 MW sets at an approximate cost of Rs.1100 lakhs. Survey and investigation works are in progress for preparation of a project report.
- (k) **Kolaghat Thermal Power Station**—To meet the shortage of power in South Bengal, a scheme for installation of three 220 MW sets at Kolaghat was approved in June 1973, by the Planning Commission at an estimated cost of Rs.11559 lakhs. The three sets are expected to be commissioned in October 1978, April 1979 and October 1979. Orders for boilers and turbo sets had been placed and those for coal handling plant, ash handling plant, transformers, etc., were being placed and works relating to staff colony and office building were in progress (December 1974). The expenditure incurred on the project up to March 1974 was Rs.480 lakhs.

5. Rural electrification

There are 38,454 villages in the State, which account for about 75 per cent of the population. At the commencement of the Fourth Five Year Plan 2,433 villages had been electrified and 1,314 tube wells had been energised. During the Fourth Five Year Plan, 10,000 more villages were proposed to be electrified and 486 deep tube wells, 121 river lift irrigation schemes and 35,000 shallow tube wells energised under various schemes at a cost of Rs.3123 lakhs. Although an expenditure of Rs.2589 lakhs had been incurred during the Fourth Plan period (up to March 1974) only 6,275 villages had been electrified and 5,156 pumpsets and tube wells had been energised. The total number of villages electrified and pump sets energised were 8,708 and 6,470 respectively. As against the all-India average of 27.3 per cent village electrification in the State was 22.6 per cent as on 31st March 1974.

6. Generation and sale of power

6.1. The total installed capacity of the Board's stations as on 31st March 1974 consisted of 91 per cent thermal generation, 7 per cent hydel and 2 per cent diesel generation. The table below indicates the installed capacity, power generated, power available for sale and that actually sold during the five years of the Fourth Plan.

| | 1969-70 | 1970-71 | 1971-72 | 1972-73 | 1973-74 |
|---------------------------|----------|----------|----------|----------------|----------------|
| Installed capacity (MKwh) | 3,462.36 | 3,583.57 | 3,610.94 | 3,694.09 | 4,546.44 |
| Firm capacity (MKwh) .. | 2,288.52 | 2,303.48 | 2,137.44 | 2,137.44 | 2,069.64 |
| Derated capacity (MKwh) | 3,458.43 | 3,488.09 | 3,387.09 | 3,562.83 | Not available. |
| Maximum demand (MW) | 373 | 395 | 400 | 426 | 447 |
| Load factor | 53.0 | 51.3 | 53.3 | Not available. | |

| | 1969-70 | 1970-71 | 1971-72 | 1972-73 | 1973-74 |
|--|----------|----------|----------|----------|----------|
| Power generated excluding power used for generation station auxiliaries (MKwh) | 1,283.36 | 1,374.86 | 1,373.04 | 1,544.14 | 1,744.98 |
| Power purchased (MKwh) | 566.22 | 562.08 | 706.03 | 745.18 | 763.05 |
| Power available (MKwh) | 1,849.58 | 1,936.94 | 2,079.97 | 2,289.32 | 2,508.03 |
| Power sold (MKwh) | 1,897.74 | 1,775.67 | 1,917.12 | 2,090.47 | 2,275.20 |
| Loss in transmission and distribution (MKwh). | 151.41 | 160.43 | 161.17 | 197.17 | 212.66 |
| Percentage of transmission and distribution losses. | 8.2 | 8.3 | 7.7 | 8.6 | 8.4 |
| Percentage of power generated to installed capacity. | 37.1 | 38.4 | 38.1 | 41.8 | 41.5 |

6.2. As per the load estimates submitted by the Board in August 1972 to CWPC, there was a shortage of power to the extent of 34 MW during 1971-72 which was expected to rise to 510 MW during 1976-77 unless additional schemes for power generation in North Bengal and South Bengal were taken in hand immediately. The following table indicates the availability of power and the anticipated demand on the Board.

| | | (In M W) | | | | | |
|---------------------|----|----------|---------|---------|---------|---------|---------|
| | | 1971-72 | 1972-73 | 1973-74 | 1974-75 | 1975-76 | 1976-77 |
| South Bengal | | | | | | | |
| Installed capacity | .. | 352 | 344 | 584 | 584 | 584 | 1,024 |
| Firm capacity | .. | 233 | 225 | 335 | 335 | 335 | 444 |
| Import of power | .. | 167 | 178 | 175 | 234 | 238 | 298 |
| Total | .. | 400 | 403 | 510 | 569 | 573 | 682 |
| Demand | .. | 430 | 559 | 672 | 897 | 1,028 | 1,151 |
| Deficit | .. | 30 | 156 | 162 | 328 | 455 | 469 |
| North Bengal | | | | | | | |
| Installed capacity | .. | 34 | 42 | 38 | 38 | 39 | 39 |
| Firm capacity | .. | 11 | 19 | 24 | 26 | 28 | 28 |
| Import of power | .. | 4 | 4 | 7 | 9 | 10 | 11 |
| Total | .. | 15 | 23 | 31 | 35 | 38 | 39 |
| Demand | .. | 19 | 29 | 52 | 62 | 71 | 80 |
| Deficit | .. | 4 | 6 | 21 | 27 | 33 | 41 |

7. Transmission and distribution

The following tables indicate the progress achieved in regard to transmission and distribution network during the Fourth Five Year Plan as compared to the planned targets:—

Progress of expenditure

| Approved Plan outlay | (In lakhs of Rupees) | | |
|----------------------|----------------------|----------|-------|
| | Plan | Non-plan | Total |
| 2609 | 2680 | 75 | 2755 |

Physical Progress

| Type of line | As at the commencement of Fourth Five Year Plan | | Target for the Fourth Five year Plan Period (length in Km) | Actual at the end of the year 1973-74 | | Achievement during the Fourth Plan period Length (in circuit Km) | |
|--------------|---|---------------------------|--|---------------------------------------|---------------------------|--|-----------------|
| | Length (in Circuit Km) | Cost (in lakhs of Rupees) | | Length (in circuit km.) | Cost (in lakhs of Rupees) | | |
| 220 KV | .. | .. | .. | 175.0 | 1,470.88 | 175.0 | |
| 132 KV | .. | 786.2 | 1,219 | 568 | | 1,452.1 | 665.9 |
| 66 KV | .. | 540.9 | | 101 | | 619.0 | 78.1 |
| 33 KV | .. | 1,914.2 | | 783 | | 2,772.7 | 858.5 |
| 11 KV | .. | 6,339.1 | | 700 | 15,061.0 | 8,721.9 | |
| 6.6/6KV | .. | 504.8 | .. | 571.0 | 1,894.49 | 66.2 | |
| 3.3/3 KV | .. | 8.8 | .. | 39.0 | | 30.2 | |
| 2.2/2KV | .. | 10.0 | 2,209 | 13.7 | | 3.77 | |
| L. T. lines | .. | 3,236.5 | 700 | 7,560.7 | 4,324.2 | | |
| Total | .. | 13,340.5 | 2,428 | 2,902 | 28,264.2 | 3,365.37 | 14,923.7 |

In addition, extra high voltage (220 KV) and associated schemes envisaging construction of (i) double circuit-200 KV line from Santaldih to Howrah (250 KM) and (ii) 220 KV double circuit line from Santaldih to Durgapur (100 KM), were also included in the Plan outlay. Santaldih-Durgapur line was completed and was energised at 132 KV from August 1973. As indicated in paragraph 4.3(h), the other line is yet to be completed (March 1975).

While the estimated expenditure on transmission and distribution schemes during the Fourth Plan period was Rs.4581 lakhs, the actual expenditure incurred up to March 1974 was Rs.2755 lakhs (60 per cent) as the Board was stated to be hard pressed for funds and/or could not finalise the route, acquire land and steel material in time.

8. Manpower analysis

8.1. The table below indicates the number of employees engaged for carrying out various functions of the Board for the year 1972-73 and 1973-74:

| Functions | Number of employees | |
|-----------------|---------------------|---------------|
| | 1972-73 | 1973-74 |
| Capital works | 2,277 | 4,380 |
| Generation | 2,702 | 2,760 |
| Maintenance | 9,263 | 11,844 |
| Common services | 1,156 | 1,243 |
| | <u>15,398</u> | <u>20,227</u> |

The increase under 'Capital works' was due to formation of Rural Electrification Circles, Divisions and Sub-divisions and additional staff for construction of Rinchington hydel project, Santaldih thermal power project, etc. The increase under 'Maintenance' was due to formation of additional field units, viz. one maintenance circle and four maintenance divisions and 58 group electricity supply offices.

8.2. The table below indicates the particulars of persons employed in generation of electricity, the number of units generated and units generated per employee for the years 1972-73 and 1973-74.

| Year | Number of persons employed in generation | Units generated (MKwh) | Number of units per employee (in lakh Kwh) |
|---------|--|------------------------|--|
| 1972-73 | 2,702 | 1,673.22 | 6.18 |
| 1973-74 | 2,760 | 1,888.00 | 6.84 |

8.3. The table below illustrates the number of employees engaged in distribution/maintenance, energy distributed and the quantum of distribution per employee:

| Year | Number of employees engaged in maintenance | Energy sold (MKwh) | Sale per employee (in lakh Kwh) |
|---------|--|--------------------|---------------------------------|
| 1972-73 | 9,263 | 2,090.47 | 2.26 |
| 1973-74 | 11,844 | 2,275.20 | 1.92 |

8.4. The gross revenue from sale of electricity per employee for the two years 1972-73 and 1973-74 is given in the table below:

| Year | Number of employees | Gross revenue (in lakhs of Rupees) | Revenue per employee |
|---------|---------------------|------------------------------------|----------------------|
| 1972-73 | 15,398 | 2553.05 | 16,580 |
| 1973-74 | 22,227 | 2926.02 | 13,160 |

8.5. In view of commitment by the Government of West Bengal to provide employment to 10,000 persons in the Electricity Board by December 1973 in the hope that a large number of workers would be required for the rural electrification programme, the Board decided (January 1973) to entertain the extra staff. The additional staff were recruited commencing from May 1973 without a precise assessment of the actual requirement. The annual cost of the staff so employed (10,008 in January 1974) was stated to be about Rs.3 crores. This number was further augmented to 11,600 by May 1974 because of a decision taken in January 1974, to appoint people on *ad hoc* basis from amongst the dependents of the employees of the Board. The annual cost of such *ad hoc* employments, made without assessing the actual requirements, was stated to be Rs.4.81 crores.

9. Tariff structure

9.1. In 1965, the Board reviewed the existing tariff structure and proposed to bring uniformity of rates throughout the State. The revised tariff was approved by the Board in July 1965 for all categories of consumers except for some purchasers like the Calcutta Electric Supply Corporation Limited, the Birlapur Calcium Carbide Plant, Railways, Farakka Project, etc., which were already enjoying special tariff rates. While action was taken to revise the tariff, no specific course of action was chalked out to effect reduction of costs or to improve efficiency and economy.

9.2. Except a few minor revisions, no further change in the tariff was effected till 30th November 1974. Considering the all-round increase in prices since the tariff was revised in 1965, the ways and means position of the Board and the recommendation of the Venkataraman Committee, the Board decided (September/October 1974) to revise the existing tariff with effect from 1st December 1974. The Board had earlier decided (March 1974) to increase the tariff applicable to the Calcutta Electric Supply Corporation with effect from 1st April 1975. As additional revenue from the proposed revision of tariff was not considered to be sufficient the Board directed (October 1974) that the question of further increase of tariff applicable to the Calcutta Electric Supply Corporation from 1st April 1976 should be examined.

As detailed costing records were not kept, the Board directed (October 1974) that adequate steps should be taken by the Accounts Department immediately to have the detailed costing data of generation, transmission and distribution system available while considering any tariff revision in future. The proposal for increasing the tariff applicable to the supplies to the Calcutta Electric Supply Corporation Limited is under the consideration of the Board since March 1975.

10. Consumer growth

10.1. The Board is entrusted with the responsibility for rationalisation of generation and supply of electricity in the entire State of

West Bengal except in the Calcutta Metropolitan area covered by the Calcutta Electric Supply Corporation Limited (CESC) and a portion of the district of Burdwan served by the Damodar Valley Corporation (DVC) and the Durgapur Projects Limited (DPL).

Industrially developed areas having high load factors are vested with the DVC, the DPL and the CESC, whereas the areas with The Board are stated to have relatively lower potential. The table below shows the installed capacity, generation and sale of electricity in the State by the different participants during the year 1972-73:—

| Units | Installed capacity (in MW) | Generation (MKwh) | Percentage of total generation in the State | Gross sale (MKwh) | Sale to ultimate consumers (MKwh) | Percentage of total ultimate sale | Number of ultimate consumers |
|---|----------------------------|-------------------|---|-------------------|-----------------------------------|-----------------------------------|------------------------------|
| West Bengal State Electricity Board | 422.17 | 1673.22 | 30.5 | 2090.47 | 1211.41 | 23.2 | 2,38,937 |
| Calcutta Electric Supply Corporation Limited. | 484.50 | 1856.01 | 33.9 | 2785.04 | 2770.30 | 53.0 | 7,09,532 |
| Damodar Valley Corporation in (West Bengal) | 350.00 | 1118.89 | 20.4 | Not available | 713.97 | 13.7 | 10 |
| Durgapur Projects Limited | 285.00 | 747.90 | 13.6 | Not available | 172.69 | 3.3 | 7,074 |
| Others .. | 33.98 | 88.18 | 1.6 | 388.29 | 354.57 | 6.8 | 65,495 |
| | 1575.65 | 5484.20 | 100.0 | .. | 5222.94 | 100.0 | 10,21,048 |

10.2. In 1955, when the Board started functioning the number of consumers served was 11,742 with a connected load of 21,870 KW.

The growth of activities of the Board during the five years ending 1973-74 is given in the table below:—

| | 1969-70 | 1970-71 | 1971-72 | 1972-73 | 1973-74 |
|---|----------|----------|----------|----------|-----------|
| Number of units .. | 215 | 216 | 231 | 249 | 293 |
| Connected load (Kw) .. | 7,09,875 | 7,29,953 | 8,43,713 | 9,38,898 | 10,19,544 |
| Number of consumers .. | 1,58,069 | 1,78,110 | 1,90,643 | 2,38,937 | 2,79,486 |
| Power generated (MKwh) .. | 1398.22 | 1493.96 | 1490.61 | 1673.22 | 1888.00 |
| Power sold (MKwh) .. | 1697.74 | 1775.67 | 1917.12 | 2090.47 | 2275.20 |
| Power generated by the Board as a percentage of total power generated in the State. | 26.4 | 28 | 27.7 | 30.5 | 34.1 |

10.3. *Per Capita consumption of electricity*: The growth in the *per capita* consumption of electricity in West Bengal has not kept pace with the growth in some other States, as shown below :—

| | | | | (in Kwh) | | | |
|----------------|----|----|----|----------|----------|---------|---------|
| | | | | 1960-61 | 1966-67 | 1970-71 | 1972-73 |
| Gujarat .. | .. | .. | .. | 47.70 | 84.13 | 126.06 | 142.21 |
| Haryana .. | .. | .. | .. | .. | } 106.12 | } 90.40 | 122.48 |
| Punjab .. | .. | .. | .. | 28.59 | | | |
| Maharashtra .. | .. | .. | .. | 68.85 | 113.51 | 153.90 | 169.43 |
| Tamil Nadu .. | .. | .. | .. | 49.48 | 91.98 | 126.79 | 126.72 |
| West Bengal .. | .. | .. | .. | 71.28 | 105.45 | 108.17 | 113.95 |

Note: Information collected from All India Statistics on Public Electricity Supply compiled by CWPC.

11. Sundry debtors

11.1. The following table indicates the position of sundry debtors during the five years ending 1973-74:

| | | | | | | (In lakhs of Rupees) | | | | |
|--|----|----|----|----|----|----------------------|---------|---------|---------|---------|
| | | | | | | 1969-70 | 1970-71 | 1971-72 | 1972-73 | 1973-74 |
| Opening balance .. | .. | .. | .. | .. | .. | 395.99 | 517.68 | 498.13 | 594.30 | 570.38 |
| Demand raised during the year | | | | | | 1804.77 | 1785.44 | 2455.86 | 2587.50 | 2962.49 |
| Total realisable dues .. | .. | .. | .. | .. | .. | 2290.76 | 2303.11 | 2953.99 | 3181.80 | 3532.87 |
| Collection during the year .. | .. | .. | .. | .. | .. | 1773.09 | 1804.98 | 2359.69 | 2611.42 | 2897.78 |
| Closing balance .. | .. | .. | .. | .. | .. | 517.68 | 498.13 | 594.30 | 570.38 | 635.09 |
| Percentage of collection to total realisable dues. | | | | | | 77 | 78 | 80 | 82 | 82 |

11.2. The accounts of the Board were brought on to the commercial system from 1st April 1966. Prior to this, individual ledgers were maintained for consumers wherefrom it was possible to ascertain the outstanding against each consumer on a particular date. But this was substituted by the Demand List, which is a copy of the monthly bill with a column for noting the payments made and the outstanding together with progressive balances. But such outstanding balances were not carried forward in most cases. As a result it was not possible to quantify the total dues from individual consumers.

11.3. Payments received against bills are to be noted in the Demand Lists by the receiving units and the Demand Lists are to be sent to the respective accounting units. The total amount received as per the Demand Lists has to be reconciled with the Daily Cash Statement by the receiving units before sending them to the accounting units for scrutiny and accounting

at that end. This was not being done in most cases. Debits and credits to sundry debtors are given on the basis of the Demand Lists and the Daily Cash Statements. Thus, debts outstanding (differences between Demand Lists and Daily Cash Statements) were never reconciled and detailed break-up of sundry debtors (year-wise and party-wise) were not prepared.

11.4. No internal check was in existence in regard to meter readings. A test check by Audit revealed that readings varied considerably from month to month, and in some cases subsequent meter readings were less than those recorded in the previous months. Meter readings by the Meter Readers were not checked by any supervisory staff. Delays of two to six months in preferring bills were also noticed in many cases. Though disconnection notices were served, supplies had not been disconnected in the cases where the dues were still outstanding.

11.5. Owing to administrative reasons some revenue divisions were bifurcated, and four new divisions were created during 1972-73 but the closing balances of sundry debtors (outstanding) were not transferred to the newly created divisions. The new divisions could not, therefore, exercise full control over realisation of debts.

12. Profitability analysis

12.1. Financial position

Financial position of the Board for the three years ending 1973-74 was as follows:—

| | 1971-72 | 1972-73 | 1973-74 |
|--|----------------------|-----------------|-----------------|
| | (In lakhs of Rupees) | | |
| A. Liabilities | | | |
| Loans from the State Government | 7535.43 | 7588.29 | 8658.91 |
| Long-term borrowings | 3493.79 | 5906.40 | 8827.82 |
| Reserves and surpluses : | | | |
| General reserve | 291.18 | 334.44 | 379.30 |
| Other reserves | 2.08 | 2.34 | 2.59 |
| Current liabilities | 3828.43 | 5234.00 | 5703.32 |
| Total liabilities | 16868.34 | 20976.04 | 25188.67 |
| B. Assets | | | |
| Gross fixed assets | 8447.20 | 8652.73 | 8971.45 |
| Less consumers' contribution for service lines | 1046.39 | 1322.49 | 1453.82 |
| Less depreciation reserve | 1846.95 | 2137.44 | 2433.38 |
| Net fixed assets | 5553.86 | 5192.80 | 5084.25 |
| Works-in progress | 5309.51 | 8041.07 | 11868.66 |

| | 1971-72 | 1972-73 | 1973-74 |
|--|----------------------|----------------|----------------|
| | (In lakhs of Rupees) | | |
| Current assets | | | |
| (i) Stores | 1335.84 | 2191.32 | 2218.31 |
| (ii) Sundry debtors for energy supplied .. | 594.30 | 570.37 | 635.08 |
| (iii) Other receivables | 1605.84 | 2525.79 | 3369.75 |
| (iv) Investments | 653.70 | 655.23 | 243.18 |
| Cash and bank balances | 632.22 | 439.82 | 267.58 |
| Total current assets | 4821.90 | 6382.53 | 6733.90 |
| Net deficit (accumulated) | 108.50 | .. | .. |
| C. Capital employed | | | |
| Working capital | 993.47 | 1148.53 | 1030.58 |
| Capital employed | 6547.33 | 6341.30 | 6114.82 |
| Capital invested | 11322.48 | 13831.47 | 17868.62 |

“Capital employed” represents net fixed assets (excluding capital works-in-progress) plus or minus working capital.

“Capital invested” represents long-term loans plus free reserves.

12.2. *Working results*: The table below indicates the working results of the Board during the three years ending 1973-74 :

| | 1971-72 | 1972-73 | 1973-74 |
|--|----------------------|---------|---------|
| | (In lakhs of Rupees) | | |
| Gross revenue (as reduced by cost of purchase of power) | 1841.92 | 2057.47 | 2426.77 |
| Operating expenses inclusive of depreciation and as reduced by cost of power purchased | 1502.92 | 1570.17 | 2032.86 |
| Surplus transferred to appropriation account .. | 339.00 | 487.30 | 393.91 |
| Gross revenue as percentage of capital invested | 16.26 | 14.87 | 13.57 |
| Operating expenses as percentage of gross revenue | 81.59 | 76.31 | 83.77 |
| Surplus as percentage of capital invested .. | 2.99 | 3.52 | 2.20 |
| Gross revenue as percentage of capital employed | 28.13 | 32.44 | 39.68 |
| Surplus as percentage of capital employed .. | 5.18 | 7.68 | 6.42 |

12.3. The ways and means position of the Board has been steadily deteriorating since 1971-72, as seen in the following table:—

| | 1971-72 | 1972-73 | 1973-74 |
|------------------------------------|----------------------|---------|---------|
| | (In lakhs of Rupees) | | |
| Investment in securities | 653.70 | 655.23 | 243.18 |
| Short-term deposits | 5.00 | Nil | Nil |
| Current account with banks | 500.71 | 342.35 | 121.21 |
| Cash in hand | 126.51 | 96.47 | 146.37 |

The Board had to avail itself of cash credits from banks which amounted to Rs.237.82 lakhs as on 31st March 1974 and incurred Rs.36.43 lakhs as interest charges thereon. The Board has not been depositing the amounts of electricity duty payable to the State Government regularly since 1960-61. The dues on this account amounted to Rs.245.65 lakhs as on 31st March 1974.

12.4. The following factors may be mentioned in regard to the increase in the operating expenses:—

- (i) Increase in the cost of fuel for power generation and increase in the operation of uneconomic diesel stations in North Bengal.
- (ii) Increase in the establishment charges due to increase in pay and allowances of staff as per Wage Board award, abnormal increase in payment of overtime allowance particularly in the generating stations.
- (iii) Increase in the repair and maintenance works. Floods and landslides in North Bengal also resulted in considerable loss of generation and increase in repair charges of plants and roads.
- (iv) Increase in the depreciation of plants and machinery on account of capitalisation of the cost of flood damage repairs, etc., capitalised.
- (v) Frequent theft of overhead transmission lines, stores, etc. Such losses in 1,671 cases out of 1,944 from April 1970 to March 1974 amounted to Rs.41.11 lakhs.

12.5. There has also been decline in revenue mainly because of short-fall in the actual generation in comparison to the rated capacity, absence of control over auxiliary consumption, absence of metering arrangement at different receiving points, inordinate delay in completion of projects (like Santaldih, Jaldhaka, Little Rangit, etc.), application of incorrect tariff in certain cases, lack of internal control over realisation of revenues from the consumers, indifferent handling of applications for new service connections and lack of proper supervision over their processing, long duration of interruptions in the distribution system, etc.

13. **Manual**

No Technical or Accounts Manual has been prepared by the Board (March 1975).

14. **Internal audit**

14.1. The activities of the internal audit cell of the Board are mostly limited to routine check of cash accounts and 'Annual Minimum Charge Registers' in respect of industrial consumers in some Group Electricity Supply offices. The cell is functioning under the Chief Accounts Officer. Its reports are not periodically submitted to the Board. The cell does not scrutinise the accounts and records of any construction/maintenance unit, generating station or project. During the three years from 1970-71 to 1972-73, transactions of only 19 units have been checked by the cell out of 807 units. During 1973-74 only 54 units have been audited out of 490 units.

14.2. *Physical verification of stores:* Up to 1969-70, physical verification of stores was conducted by a store verification cell functioning in the headquarters. In January 1970 the cadre of Store Verifiers was abolished when the verification work was entrusted to internal audit. The internal audit cell did not carry out any stores verification work during the years 1971-72 and 1972-73. During this period a system of physical verification by departmental officers was arranged. For example, the Assistant Engineer/Station Superintendent in charge of one unit was entrusted to verify the stores of another unit. During the year 1973-74, no verification was conducted by the departmental officers due to strike by engineers.

Internal audit conducted physical verification during 1973-74 in respect of only five units out of 100 units. A test check revealed that no adjustment was carried out in the accounts in respect of stores found short/in excess/obsolete/unserviceable as a result of physical verification conducted during the years 1971-72 and 1972-73.

15. **Audit inspections**

Inspection reports numbering 724 and containing 2,020 paragraphs issued up to 31st March 1974 remained outstanding up to June 1974. In several cases, the Board did not send replies to audit objections and to the

paragraphs in the inspection reports in time. The year-wise break-up of the outstanding paragraphs is given below:—

| Year of issue | | | | Number of inspection reports | Number of para- graphs |
|---------------------------|----|----|----|---------------------------------------|---------------------------------|
| 1967-68 and earlier years | .. | .. | .. | 192 | 641 |
| 1968-69 | .. | .. | .. | 79 | 233 |
| 1969-70 | .. | .. | .. | 89 | 237 |
| 1970-71 | .. | .. | .. | 107 | 263 |
| 1971-72 | .. | .. | .. | 82 | 266 |
| 1972-73 | .. | .. | .. | 80 | 168 |
| 1973-74 up to June 1974 | .. | .. | .. | 95 | 212 |
| Total | | | | .. | 724 |
| | | | | | 2,020 |

The types of irregularities commented upon in these paragraphs were broadly as follows:—

| (In lakhs of Rupees) | | | | | |
|--|----|----|----|----|---------|
| (a) Under-assessment and non-assessment of the Board's revenue and electricity duty. | | | | | 53.17 |
| (b) Losses of stores | .. | .. | .. | .. | 62.622 |
| (c) Losses of cash | .. | .. | .. | .. | 23.40 |
| (d) Idle/unserviceable stores | .. | .. | .. | .. | 138.40 |
| (e) Non-recovery of outstanding dues | | | .. | .. | 136.26 |
| (f) Infructuous/avoidable expenditure | | | .. | .. | 334.38 |
| (g) Outstanding advances | .. | .. | .. | .. | 208.50 |
| (h) Overpayments | .. | .. | .. | .. | 25.40 |
| (i) Expenditure in excess of revised estimates | .. | .. | .. | .. | 1316.80 |
| (j) Losses of revenue | .. | .. | .. | .. | 7.75 |

Section VI**BANDEL THERMAL POWER STATION****1. Introduction**

In 1958, the Central Water and Power Commission assessed that the demand for power in Calcutta and the surrounding industrial areas would grow progressively from 461 MW in 1960-61 to 1,016 MW in 1975-76. With the available capacity the supply in 1960-61 was expected to be of the order of 295 MW. In order to provide adequate power to the existing industries and other consumers of electricity and to facilitate the setting up of new industries in the area, the West Bengal State Electricity Board proposed (July 1958) the installation of a super thermal power station at Bandel (Tribeni). The proposal was approved by the Government of West Bengal in principle on 6th January 1959.

2. Project estimates and implementation

2.01. The project feasibility report prepared by a firm of consulting engineers was submitted to the Board on 15th July 1960. The consultants in their feasibility report recommended the installation of four units of 75 MW each at the first instance with two more units of 150 MW each to be added later. Allowing for the auxiliary consumption it was expected that the power station would supply 231 MW in 1965-66, 305 MW in 1967-68 and 462 MW in 1970-71. The cost of the first four units of 75 MW each was estimated to be \$54.47 million (Rs.25.93 crores) of which \$46.73 million was to be in foreign exchange. The feasibility report also envisaged that the work was to be completed by the end of 1963. A net surplus of Rs.134.41 lakhs after meeting operational cost, was expected from 1966-67; the anticipated return was 5.18 per cent of the capital cost.

2.02. The Board decided in December 1961 to increase the capacity of the first four units from 75 MW to 87.5 MW each as the foreign supplier offered sets having capacity of 87.5 MW each. To match this higher generating capacity, specifications of some of the equipment had to be modified. This increased the cost of the plant by about \$1.77 million in foreign exchange and Rs.3.71 lakhs. But the maximum capacity of each unit was kept limited to 82.5 MW as the modifications recommended by the manufacturers were not completely implemented. Further, in order to avoid excessive erosion caused by fly ash, if the units were worked beyond the capacity of 80 MW, loading of each unit was derated to 80 MW with effect from 1972-73.

After global tenders, order for supply, installation and commissioning of plant and equipment was awarded (December 1961) to an American firm on turnkey basis for a total sum of Rs.18.20 crores out of which Rs.16.31 crores (i.e., \$34.27 million) were to be paid in U.S. currency.

2.03. The table below indicates the original and the revised estimates of the project:

| Feasibility report (July 1960) | Project estimate | |
|-----------------------------------|--------------------------------------|-------------------------------------|
| | Original estimate (February 1961) | Revised estimate (December 1963) |
| (In lakhs of Rupees) | | |
| 2593 | 2919 | 3450 |

No further revised estimate was prepared showing the reasons for variations though the actual expenditure on the power station up to 31st March 1972 was Rs.3573 lakhs. Out of this Rs.1856.23 lakhs were financed by the U.S. Agency for International Development and the remaining expenditure was met from the other sources of the Board.

2.04. The reasons for the increase in the estimates were stated to be as follows:

- (i) The first estimate was prepared before finalisation of the supply and erection contract with the American suppliers.
- (ii) No specific provision was made for customs duty in the original estimate.
- (iii) Particulars regarding the soil conditions were not available at the time of preparation of the original estimate.
- (iv) There was rise in the cost of cement, steel and other construction materials and in labour cost.
- (v) The discharge tunnel in front of power house had to be relocated due to poor soil condition noticed subsequently and the tunnel had to be lined with concrete instead of stone-pitching.
- (vi) The capacity of the railway sidings had to be increased.
- (vii) The original estimate included an ad hoc provision on 'Colony' without any detailed estimate.
- (viii) There was increase in the cost of land, miscellaneous equipment, etc.

2.05. The following table shows the actual dates of commissioning of the various units against the due dates:

| | Due date for commissioning | Actual date of commissioning | Period of delay | |
|----------|----------------------------|------------------------------|-----------------|------|
| | | | Months | Days |
| Unit I | .. 14th October 1964 | .. 4th February 1966 | 15 | 21 |
| Unit II | .. 14th December 1964 | .. 23rd December 1965 | 12 | 10 |
| Unit III | .. 14th January 1965 | .. 17th September 1966 | 20 | 4 |
| Unit IV | .. 14th February 1965 | .. 1st October 1966 | 19 | 15 |

The Board attributed (May 1968) the delays mainly to—

- (a) delay in finalising the U.S. AID loan terms,
- (b) changes and modifications made in the design of the plant in steam generating units, boiler feed pumps, coal and ash handling system, oil storage tanks, mechanical and electrical equipment, etc., delay in obtaining the import licence,
- (c) time taken to explore the possibility of procurement from indigenous sources,
- (d) strike by long-shoremen in U.S.A. during September 1962 and December 1962 which hampered shipments of equipment,
- (e) delay in arrival of imported equipment,
- (f) strike from 17th February to 23rd March 1964 by the labour engaged by the sub-contractors for erection at the work-site, and
- (g) unforeseen difficulties in the construction of water in-take structures which necessitated lowering the sub-soil water at in-take tower/pump house structure and a fresh soil investigation.

2.06. The delay in commissioning of the units resulted in additional cost due to devaluation of the Rupee in June 1966, enhancement of the customs duty, prolonged retention of the personnel of the consulting engineers and other construction staff. The contract stipulated levy of liquidated damages at the rate of \$42,833 and Rs.23,560 per unit for every full month of non-excusable delay. After allowing for a delay of 34 days on account of the strike, the contractor was held liable for payment of liquidated damages amounting to Rs.4,71,200 and \$856,660 but this was not insisted upon in view of the legal advice that there was some point in the contractor's claim that progress schedule should be deemed to have commenced only on 22nd December 1964 when letter of credit for the full contract sum was established. As per the agreement with the supplier the guaranteed date of commissioning was to be fixed on the basis of the date of establishment of letter of credit for the U.S. Dollar price of equipment. The Board established first letter of credit on 14th November 1962 for \$26,707,816 against the total contract sum of \$32,406,406. Letter of credit for the remaining amount was opened on 22nd December 1964. The reasons for non-establishment earlier of letter of credit for the full contract sum has not been stated by the Management (February 1975).

3. Performance analysis

3.01. The following table shows the performance of the power station during the three years ended 31st March 1974:—

| | 1971-72 | 1972-73 | 1973-74 |
|---|---------|---------|---------|
| (a) Installed capacity (MW) | 350 | 350 | 350 |
| (b) Dorrated capacity (MW) | 330 | 320 | 320 |
| (c) Maximum generating capacity (MKwh) .. | 2,138.4 | 2,073.6 | 2,073.6 |
| (Based on maximum operation period of Nine months a year) | | | |
| (d) Total power actually generated (MKwh) .. | 1,367 | 1,528 | 1,735 |
| (e) Percentage of power generated to generating capacity | 63.9 | 73.6 | 83.6 |
| (f) Auxiliary consumption (MKwh) .. | 108 | 119 | 132 |
| (g) Percentage of auxiliary consumption to total generation. | 7.89 | 7.77 | 7.61 |
| (h) Units sent out (MKwh) | 1,254 | 1,404 | 1,597 |
| (i) Average load (in MW) (Based on rated capacity) .. | 156.0 | 174.4 | 198.0 |
| (j) Plant load factor (Percentage of average load to peak load) | 61.2 | 66.2 | 66.0 |
| (k) Cost of generation of power per unit (in paise) .. | 5.58 | 5.42 | 5.90 |
| (l) Cost of fuel per unit of power generated (in paise) .. | 2.61 | 2.67 | 3.31 |
| (m) Cost of fuel as percentage of cost of power .. | 46.8 | 49.3 | 56.2 |
| (n) Cost of power per unit sent out (in paise) .. | 6.08 | 5.90 | 6.40 |

3.02. The feasibility report had indicated that the power station would have a plant utilisation factor (average load to installed capacity) of 80 per cent as against 44 to 56 per cent achieved during the last three years. Similarly, the cost of generation of power was anticipated to be 3.25, 2.94, 2.73 and 2.58 paise per unit when the plant factor was 50, 60, 70 and 80 per cent respectively. Against this, the cost was 5.90 paise during 1973-74 when the plant factor reached the maximum of 66 per cent.

3.03. The low plant utilisation factor was due to extensive shut down of the plant due to forced and scheduled outages as shown below:

| | | (In hours) | | | | |
|-------------------|-------|--------------|---------|---------|---------|---------|
| | | 1969-70 | 1970-71 | 1971-72 | 1972-73 | 1973-74 |
| Scheduled outages | | 7834 | 7184 | 9002 | 7387 | 4987 |
| Forced outages | | 1426 | 1437 | 1357 | 771 | 614 |
| | | 9,260 | 8,621 | 10,359 | 8,158 | 5,601 |

The reasons for the forced outages were as under :

1969-70 Leakage of superheater tubes, erosion in coal bunker, impellers, leakage in reheater tubes, etc.

1970-71 Tube-leakage, low demand, etc.

1971-72 Tube-leakage, fire hazard in front of burners, etc.

1972-73 Boiler tube leakage at primary superheater zone and economizer zone, fire hazard inside the windbox at 'C' burner, boiler furnace tube rupture, trouble in 100 MVA generator transformer fan cooling circuit, external fault, electrical fault and operation of loss of excitation relay.

1973-74 Boiler tube leakage in primary superheater, saturated superheater, and economiser zones, short circuit of turbine thrust for leakage of rupture diaphragm of I.P. turbine.

According to the Management, the other factors which contributed to the loss of generation were :

- (a) non-availability of imported spares,
- (b) delay in getting import licences in emergent cases for import of spares,
- (c) procedural delays in obtaining certificates of non-availability of materials from indigenous sources,
- (d) time and efforts required to effect drastic changes in line-up of other equipment for installation of indigenous substitutes,
- (e) delays in obtaining duplicate import licences when small and costly imported spares were lost in transit, and
- (f) delays involved in obtaining sanctions of higher authorities whose offices were situated in Calcutta for placing purchase orders exceeding Rs.25,000 in value.

3.04. The turbo-generators were due to be overhauled at the end of the first year's service and thereafter at the end of three years' working. The estimated cost of overhauling of each unit was about Rs.2.65 lakhs at a time. The first overhaulings of the turbo-generators were carried out as under :—

| | Due in | Done during |
|----------|----------------------|--|
| Unit I | .. February 1967 .. | .. 4th January 1972 to 17th May 1972 |
| Unit II | .. December 1966 .. | .. 18th August 1970 to 14th January 1971 |
| Unit III | .. September 1967 .. | .. 15th July 1967 to 4th May 1969. |
| Unit IV | .. October 1967 .. | .. 18th May 1971 to 4th January 1972. |

The Mechanical Engineer, U.S. Agency for International Development, observed (July 1971) as under:

“We are aware that the Bandel Plant has operated at a rather low plant factor since its commissioning. Since it is considered good practice as well as being the manufacturer’s recommendation to overhauling these machines at the end of the first year of service, we cannot understand why the overhaul has been delayed to the extent that it has, certainly you have gambled with major failure and correspondingly, damages and repairs now may be excessive.”

The power station authorities informed (August 1971) the Mechanical Engineer, U.S. Agency for International Development, as under:

“It is agreed that the first overhauling of a unit should be taken up after completion of one year’s satisfactory service. But it is also known to you that Boiler unit No. 1 was damaged due to explosion within a short period of its taken over by WBSEB. As soon as the unit was repaired, there was unfortunate damage to Turbo-generator unit No. 3 which took almost 1½ years to put it back to service. After Turbo-generator unit No. 3 was successfully put to load, the other unit, i.e., Turbo-generator unit No. 2 which completed maximum running hours was taken up for overhauling departmentally. The unit was successfully overhauled and put back to service. After Turbo-generator unit No. 2, the Turbo-generator No. 4 is taken up for overhauling. We had to continue operation for such abnormal long period, since two units cannot be taken out at a time because of load commitment to the Eastern Region grid.”

3.05. There was an explosion in the furnace of the boiler of Unit I on 15th March 1966 within one and half months of its being taken over. A committee which inquired into this accident, in its report placed before the Board on 15th October 1966, observed that the explosion was probably caused by a lean mixture of fuel and air into the boiler under low load conditions. The committee, however, stated that it was not possible to fix responsibility on any individual or organisation. The unit was recommissioned on 5th June 1967 at an estimated cost of Rs.6.5 lakhs.

In July 1967, the turbo-generator of Unit III was severely damaged and could be put back into service only on 4th May 1969, i.e., after about 22 months although as per the assessment of the Management the overhauling of a turbo-generator should ordinarily be completed in about three months’ time. A committee which inquired into the reasons for the breakdown reported in August 1968 that there was serious operational lapses on the part of the Control Engineer and the Shift Charge Engineer. The committee was of the view that the damage could have been avoided or at least minimised had quick action been taken to restore A.C. supply.

The overhauling of turbo-generator Unit IV was taken up on 18th May 1971 and completed on 4th January 1972. The overhead crane broke down

on the very day this unit was taken up for overhaul, and this hampered work for 46 days. Two more days were lost due to strike and agitation by staff. The power station engaged during June 1971 to December 1971 one supervisor and six mill wright fitters of a private firm for the overhaul work and paid Rs.63,006 as against Rs.33,750 agreed to earlier. A feature of the increased claim by the firm was the 4,507 hours of overtime working as against 7,539 hours of normal duty by the mill wright fitters.

Overhauling of Unit I was awarded to the same contractor on 24th December 1971 without inviting fresh tenders since the firm had expressed its willingness in September 1971 to take up this work on the same terms and conditions as in the case of Unit IV. But within a month of starting the work the firm demanded higher rates due to rise in the market prices and labour costs. Although there was no stipulation in the contract for a price variation or increase in the rates, the Board agreed to increase the charges by Rs.12,000. After the necessary work was done the unit was put back on load on 17th May 1972.

3.06. The power station was designed to use low quality Grade III coal or middlings from coal washeries with ash content up to 35 per cent. But in actual practice, increasingly larger quantities of higher grade coal was purchased for use, as indicated below :—

| Quantity | (In M.T.) | | | | |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| | 1969-70 | 1970-71 | 1971-72 | 1972-73 | 1973-74 |
| Grade III, i.e., middlings .. | 3,46,870 | 3,18,780 | 3,11,955 | 1,98,875 | 45,506 |
| Other higher grades II .. | 2,70,855 | 2,17,548 | 2,77,780 | 62,130 | 1,81,200 |
| “ “ “ I .. | Nil | 17,465 | 56,035 | 3,98,044 | 7,04,913 |
| | <u>6,17,725</u> | <u>5,53,793</u> | <u>6,45,770</u> | <u>6,59,049</u> | <u>9,31,619</u> |
| Percentage of higher grade coal to the total | 44 | 42 | 52 | 70 | 95 |

3.07. The following table indicates the consumption of coal and oil during the five years ending 1973-74.

| | 1969-70 | | 1970-71 | | 1971-72 | |
|-----------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| | Total consumption (in M.T.) | Consumption per Kwh (in Kg) | Total consumption (in M.T.) | Consumption per Kwh (in Kg) | Total consumption (in M.T.) | Consumption per Kwh (in Kg) |
| Coal and middlings .. | 5,95,570 | 0.480 | 6,22,540 | 0.460 | 6,58,620 | 0.482 |
| Oil | 13,981 | 0.011 | 14,347 | 0.011 | 17,058 | 0.025 |
| | 1972-73 | | 1973-74 | | | |
| | Total consumption (in M.T.) | Consumption per Kwh (in Kg) | Total consumption (in M.T.) | Consumption per Kwh (in Kg) | | |
| Coal and middlings .. | 6,85,420 | 0.449 | 8,05,960 | 0.465 | | |
| Oil | 28,244 | 0.037 | 18,814 | 0.022 | | |

No standard for consumption of fuel has been fixed.

The thermal efficiency, i.e., the percentage of heat energy converted into electrical energy during 1969-70, 1970-71, 1971-72, 1972-73 and 1973-74 was 32.0, 31.6, 29.7, 30.7 and 31.0 respectively. The Management's reply stating the reasons which led to the declining trend in the thermal efficiency is awaited (May 1975).

The Management gave (April 1973) the following reasons for use of more fuel oil and proportionately larger quantities of higher grade coal:

- (i) Previously, when power generation by burning coal was affected due to outage of any pulveriser, the system requirement was met by importing extra power from the Durgapur Projects Limited, without any restriction on the consumers or shedding of load. Since the last two to three years, due to poor performance of the Durgapur Projects Limited, import of any power became restricted. The power station had to keep up the generation by burning fuel-oil.
- (ii) (a) The experience of using middlings and coal of high ash content was disappointing. The boilers were suffering from frequent outages on account of tube leakage from fly ash erosion. To minimise this problem better grade coal with lower ash content was used.
- (b) Use of low ash content coal reduced the cost of ash disposal.

Thus the benefit of special designing of the plant and equipment to enable it to use low grade coal has not been realised fully. The General Superintendent for the power station was asked by the Board in March 1973 to prepare a comprehensive report on the total fuel consumption. This has not been submitted so far (April 1975).

3.08. The consumption of coal and oil was not being accurately recorded. Each steam generating unit was provided with three coal weigh scales to record and compute the weight of coal fed into each pulverizer. The integrators in all these weigh scales went out of order during 1967-68. These had not been repaired or recommissioned (May 1975). During the period from 1969-70 to 1970-71 computation of coal consumed was made on the basis of feeder speed. In subsequent periods consumption of coal has been calculated on the basis of feeder speed and checked with the actual generation of power and the assumed heat rate of the plant.

In the case of oil, the consumption was calculated from 1971-72 to 1973-74 on a derived basis taking into account the time for which oil burners were used and the levels of storage tanks because the meters attached to the boilers were out of order.

3.09. *Problems due to use of inferior coal:* Although the plant was designed for using coal having ash content up to 35 per cent, it accepted for use the following quantities of coal where the ash content exceeded 35 per cent:—

| Year | Quantity (MT.) |
|-----------------|-------------------|
| 1965-66 | 7,724.70 |
| 1966-67 | 44,388.00 |
| 1967-68 | 95,197.30 |
| 1968-69 | 1,85,520.10 |
| 1969-70 | 29,444.17 |
| 1970-71 | 7,740.05 |
| 1971-72 | 21,076.50 |
| 1972-73 | 11,874.35 |
| 1973-74 | 9,953.30 |

Signs of fly ash erosion started showing up in January 1968, the erosion being severe in the saturation superheater, roof tubes, screen tubes, primary superheater, economiser and the air pre-heater. During the period from January 1968 to April 1969 there were nine unscheduled shut-downs aggregating 5,142 hours because of fly ash erosion, and only two out of the four units were on line most of the time

3.10. The Management felt the following other difficulties caused by the use of middlings and coal with higher ash content:

- (i) increased expenditure due to larger quantity of oil needed to sustain ignition with high ash coal;
- (ii) increased load on the capacity of the pulverizer which could not cope up even the full load with high ash coal because of worn out grinding mills;
- (iii) increased quantity of ash to be handled and disposed of;
- (iv) increased time taken for overhaul due to extra work arising out of fly ash erosion.

The Management stated (September 1972) that the following remedial measures had been taken:

- (a) using higher grade coal with ash content not exceeding 26 per cent on an average,
- (b) reducing the generating capacity from 87.5 MW to 80 MW in order to reduce the volume of flue gas and consequent incidence of erosion,
- (c) bringing down to a minimum limit the percentage of excess air, and
- (d) protecting the leading surface of the superheater and economiser tubes.

But signs of erosion were stated (September 1972) to have been occurring in new areas causing leakage to tubes leading to frequent forced outages. During the years 1972-73 and 1973-74 these outages aggregated 669 and 594 hours respectively.

3.11. *Shortcomings in the equipment*: The following deficiencies were noticed during the actual working of the plant:—

- (a) The capacity of the oil-free compressors initially installed was much less than what was required. Hence two more pneumatic rotary compressors valued Rs.2.14 lakhs were installed in 1966.
- (b) Bearing cooling water pumps designed with suction from the circulating water pipes of various units were often starved thereby causing overheating and caving of pumps. Rectification of the defects is under consideration (February 1975).
- (c) The pulverizers installed did not have any stand-by capacity and with use their efficiency had declined thereby imposing a limit on the boiler output.
- (d) Wagon tippers were designed to take Box rakes, but coal continued to be received often in covered wagons or in open four wheelers which could not be unloaded mechanically. This caused detention of wagons, payment of detention charges and additional expenditure on manual unloading.

3.12. *Concessional tariff for off-peak supplies*: The power station had to meet a heavy evening peak load of about 300 MW; during the off-peak hours (22.00 hours to 06.00 hours), it fell down to 130/135 MW (Summer) and 95/85 MW (Winter). Larger quantity of oil had to be used to sustain ignition during the off-peak hours thereby increasing the cost. Hence the Board introduced a special tariff for off-peak consumption of energy by the Calcutta Electric Supply Corporation Limited from 1st January 1971. While sanctioning the concessional rate on 9th January 1971 for a period of six months initially, the Board desired that a review should be carried out to assess the economics of this measure. The review was made during 1972-73 and a report was submitted to the Board on 19th March 1973. The review showed the following position during the years 1971 and 1972:—

| Year | For stable operation in night shift | Total for night shift | Total for day and night | Total cost | Total generation in B.T.P.S. | Total units purchased by C.E.S.C. | Off-peak period purchase by C.E.S.C. |
|---------|-------------------------------------|-----------------------|-------------------------|----------------------|------------------------------|-----------------------------------|--------------------------------------|
| | (in M.T.) | (in M.T.) | (in M.T.) | (in lakhs of Rupees) | (in MKwh) | (in MKwh) | (in MKwh) |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1970 .. | 4,502 | 5,206 | 14,233 | 30.53 | 1,318.12 | 770.2 | 174.0 |
| 1971 .. | 4,156 | 5,163 | 17,154 | 47.10 | 1,330.84 | 839.1 | 253.6 |
| 1972 .. | 4,028 | 6,199 | 25,285 | 80.60 | 1,509.74 | 957.3 | 307.0 |

Taking into account the auxiliary consumption and the transmission loss, the total fuel cost amounted to 3.01 paise per Kwh during 1971-72 as against the off-peak concessional rate of 3.56, 3.94 and 4.73 paise per Kwh (including fuel surcharge) for 1971-72, 1972-73 and 1973-74 recovered. The concessional rate was extended up to 31st July 1974 and discontinued with effect from 1st August 1974 with the improvement of night load.

4. Manpower

4.01. The Board sanctioned (August 1964) a staff strength of 1,010 for operation and maintenance of the four units in the power station. This was increased from time to time on the basis of the requirements projected by the plant authorities and the actual number employed as on 30th June 1973 was 1,345.

No comprehensive study has been conducted to assess the staff requirements or to lay down the standard of productivity.

4.02. In spite of the fact that the actual number of staff employed was larger than that originally sanctioned by the Board, substantial expenditure was incurred on overtime working as shown below :

| Year | Sanctioned strength as on 1st of April | Total salaries to staff (excluding overtime) other than officers | Total overtime wages paid | Percentage of overtime to total wages |
|----------------------|--|--|---------------------------|---------------------------------------|
| (In lakhs of Rupees) | | | | |
| 1966-67 | .. 1,022 | 6.65 | 0.62 | 9.3 |
| 1967-68 | .. 1,080 | 10.85 | 1.75 | 16.1 |
| 1968-69 | .. 1,094 | 11.22 | 2.86 | 25.5 |
| 1969-70 | .. 1,137 | 12.48 | 5.12 | 41.0 |
| 1970-71 | .. 1,147 | 13.87 | 7.22 | 52.1 |
| 1971-72 | .. 1,159 | 18.44 | 8.41 | 45.5 |
| 1972-73 | .. 1,286 | 19.27 | 12.79 | 66.4 |
| 1973-74 | .. 1,341 | 24.27 | 15.45 | 63.6 |

4.03. After the completion of construction of the plant, 20 persons on the work-charged establishment were rendered surplus but the Board approved on 20th September 1967 payment of wages as a temporary measure to these work-charged personnel. As such this surplus staff continued to be borne on the roll of the power station's establishment. On completion of construction of the Jaldhaka Project and temporary closure of the Disergarh Package Plant, in all 72 persons were transferred to the Bandal Thermal Power Station, some in April 1968 and others in April 1971.

The expenditure incurred on the pay and allowance of these surplus staff amounted to Rs.13.45 lakhs during the years 1969-70 to 1973-74 as indicated below :—

| | | | | | (In lakhs of Rupees) |
|---------|----|----|----|----|----------------------|
| 1969-70 | .. | .. | .. | .. | 3.20 |
| 1970-71 | .. | .. | .. | .. | 3.12 |
| 1971-72 | .. | .. | .. | .. | 2.37 |
| 1972-73 | .. | .. | .. | .. | 3.17 |
| 1973-74 | .. | .. | .. | .. | 1.59 |
| | | | | | *13.45 |

Further, the Board sanctioned the employment of additional 36 Class III and 110 Class IV staff in the plant during the period from April 1973 to January 1974 on *ad hoc* basis although the power station Management had not asked for these posts. The expenditure incurred in respect of these staff from May 1973 to March 1974 was Rs.2.60 lakhs.

5. Purchases and inventory

5.01. Two weigh-bridges (value Rs.4.95 lakhs) were installed in July 1966 and calibrated in June/July 1967. Up to August 1968, the payments for coal received was being made on the basis of weights recorded at the power station weigh-bridges with two per cent tolerance or the weight recorded in the railway receipt, whichever was lower. As the calibrations of the power station weigh-bridges had not been approved by the Directorate of Weights and Measures, the power station could not prefer its claims on the carrier/supplier for shortages of coal received and hence payments had to be made on the basis of railway receipts after August 1968. The following table shows the difference between the weights shown in the railway receipts and the weights recorded in the weigh-bridges and the value of coal/middlings short received as per the weigh-bridge recordings:—

| Year | Quantity received as per | | | Difference, M.T. | Value (in lakhs of Rupees) |
|---------|-----------------------------|--------------|----------|---------------------|-------------------------------|
| | Railway receipts M.T. | Weigh-bridge | | | |
| | | M.T. | M.T. | | |
| 1967-68 | .. | 3,84,915 | 3,73,820 | 11,095 | 4.44 |
| 1968-69 | .. | 5,48,565 | 5,39,536 | 9,029 | 3.61 |
| 1969-70 | .. | 6,30,770 | 6,17,725 | 13,045 | 5.00 |
| 1970-71 | .. | 5,64,664 | 5,53,794 | 10,870 | 5.00 |
| 1971-72 | .. | 6,56,813 | 6,45,770 | 11,043 | 4.79 |
| 1972-73 | .. | 6,63,747 | 6,59,049 | 4,698 | 2.13 |
| 1973-74 | .. | 9,31,620 | 9,19,920 | 11,700 | 6.23 |
| | | | | | 31.20 |

*Excludes Rs.0.55 lakh in respect of pay and allowances of staff transferred from the Dishergarh Plant.

The records indicated that out of 6,63,747 M.T. and 9,31,620 M.T. of coal received by the power station during 1972-73 and 1973-74 respectively, 4,88,302 M.T. (74 per cent) and 3,66,937 M.T. (39 per cent) were taken to stock without weighing since the weigh-bridges remained out of order during most of the period.

5.02. An order was placed on a supplier in June 1965 to supply 60,000 M.T. of middlings per annum with an ash content of not more than 35 per cent. The order was extended up to August 1968. The power station retained option to accept supplies with ash content from 35 per cent to 40 per cent with an appropriate deduction in prices, but supplies with more than 40 per cent ash content were to be rejected. The actual supplies were received as follows:—

| Period | Quantities (in M.T.) received with ash content | | | Total |
|---------|--|---|-------------------|------------|
| | Up to 35 per cent | above 35 per cent but below 40 per cent | above 40 per cent | |
| 1965-66 | 3,104.6 | 3,059.2 | 4,665.5 | 10,829.3 |
| 1966-67 | 50,595.8 | 15,061.3 | 20,441.6 | 86,698.7 |
| 1967-68 | 38,807.9 | 51,311.5 | 4,630.4 | 94,755.8 |
| 1968-69 | 12,233.3 | 18,754.1 | 11,130.6 | 42,118.0 |
| | 1,04,741.6 | 88,786.1 | 40,874.1 | 2,34,401.8 |

The power station accepted 40,874 M.T. of middlings with ash content in excess of 40 per cent after enforcing the maximum reduction in rate permissible, though according to the contract these supplies were to be rejected. The supplier was paid in November 1972 Rs.9.78 lakhs for these non-vendible middlings after deducting penalty of Rs.4.08 lakhs relaxing the provisions of the order long after the supply was completed (June 1965 to August 1968). As already indicated in paragraph 3.10, the use of fuel with high ash content led to severe operational difficulties and forced outages. The Management stated in June 1972 that these middlings were accepted mainly for the following reasons:—

- (i) the mechanical coal receiving arrangement at the power station was not ready,
- (ii) there was no other source of supply to run the power station,
- (iii) the middlings had already been consumed and the only course was to effect the maximum permissible deduction under the contract, and
- (iv) there was always a time lag between the receipt of middlings and the analysis thereof.

5.03. Another order was placed on the same supplier in August 1968 (extended up to 28th February 1970) for supply of 5,000 M.T. of middlings per month with a penalty of Rs.2 per M.T. for each one per cent increase in ash content over 35 per cent up to 40 per cent, the analysis being carried out on rake-wise basis. This clause was modified in September 1970 reducing the penalty to 10 paise per MT for each per cent on *pro rata* basis on the average supplies during a month. Due to this modification long after the completion of the supplies in February 1970, the very purpose of penalty, viz., discouraging the supplies of inferior middlings, was defeated and only Rs.2,476 were deducted as penalty as against Rs.2.20 lakhs due under the original contract. The reason given (August 1970) for the belated amendment was that the supplier's quotation was not reflected in full in the purchase order initially placed.

5.04. In the same order placed on 30th August 1968 provision was made for imposition of penalty on supply of coal with free moisture exceeding four per cent, at the rate of 50 paise per M.T. for each one per cent or part thereof. Penalty amounting to Rs.72,418 recoverable from the supplier for supply of 52,544 M.T. of coal with free moisture exceeding four per cent during the period from 15th September 1968 to 24th December 1969 could not be recovered due to amendment of the relevant provisions of the contract on 19th September 1970 after the expiry of the currency of the contract (February 1970).

5.05. No physical verification of the stock of coal is being conducted every year; physical verifications were conducted in February 1968, April 1971 and March 1973. During the stock verification in February 1968, a shortage of 27,266 M.T., as compared to the book balance of 64,816 M.T., was found. Out of this, 22,425 M.T. valued at Rs.8 lakhs were written off. The quantity was stated to be not recoverable since it had subsided to a depth of about one foot below the ground in the coal yard.

According to the Management the only way to avoid this loss was to concrete the yard which would have been costlier. It would be of interest to mention that in Chandrapura Thermal Power Station of Damodar Valley Corporation, no such loss due to subsidence has been reported, though the coal yard was not concreted, instead, the ground had been levelled and coal rejects obtained from Dugda Washery were spread to an average thickness of one foot. Shortages detected as a result of physical verification of coal in April 1971 were not adjusted in stock and the losses were not written off. Balance of coal stock at the end of each year as per the coal register (quantitative) did not agree with that in Priced Stores Ledger. No reconciliation was done in respect of the differences.

5.06. Physical verification of fuel oil showed the following shortages:—

| As on 31st March | Quantity in Kilotres | Value (in lakhs of Rupees) |
|------------------|----------------------|----------------------------|
| 1972 | .. 563.0 | 1.48 |
| 1973 | .. 259.0 | 0.89 |
| 1974 | .. 889.8 | 4.48 |

The shortages have not been investigated (April 1975).

5.07. **General stores including spares:** (a) Before commissioning of the plant in 1966 the Board decided to procure spare parts for five years from foreign suppliers as recommended by them. Spares valued Rs.92.02 lakhs were procured during 1965-66 to 1969-70. Since then, no assessment was made in respect of minimum/maximum level of spares. In a number of cases, further purchases of foreign spares have been made although there were sufficient quantities in stock. Although 3,757 feet of tubings of different sizes were available in stock in April 1970 and only four feet of tubings in two sizes had been issued up to September 1973, a further 12,221 feet of tubings were purchased (cost \$45,170) between April 1970 and July 1973.

(b) In pursuance of the Board's decision of January 1970, the power station took over the surplus materials imported in 1965 by the main contractors for supply and delivery and erection of the plant at a negotiated price of Rs.9.56 lakhs. Materials comprising more than 1,000 items (cost Rs.12.75 lakhs approximately) were received in store between February 1970 and April 1970. Since then the issue and utilisation of these materials were negligible. Over 90 per cent of the surplus materials were not at all issued since these were taken into stock. Further utilisation of the materials seems doubtful.

(c) Reconciliation of the balance of store materials other than coal at the end of the year 1972-73 as per the Quantitative Store Ledger with that of the Priced Store Ledger was not done. During 1972-73 Priced Store Ledgers were not maintained. The closing balance (quantity) of the Priced Store Ledger of 1971-72 was not taken as opening balance for 1972-73. Instead, the quantity as on 1st April 1972 was compiled in a register from the Quantitative Stock Ledger of stores section and there were differences between the closing balances of the Priced Store Ledger for 1971-72 and the opening balances as on 1st April 1972 for most of the items. Statement of closing balance of stores (quantity and value) at the end of a year was not prepared and reconciled with the amount booked in the accounts. Physical verification of stores was not conducted for five years ending 1973-74.

6. Other topics of interest

6.01. *Disposal of ash:* About 500 to 700 M.T. of ash is accumulated per day during the course of generation of power. Disposal of ash posed a great problem to the power station. Through mechanical arrangements ash is being dumped into two ash ponds 2 KM away from the plant. After a tank is filled up, the ash is removed through a contractor. During the period from April 1969 to March 1974 ash was disposed of through contractor entailing an expenditure of Rs.53.20 lakhs. Although the Government of India had approved in principle a scheme for installing, with Polish collaboration, a plant in West Bengal in Third Five-Year Plan for

manufacturing cellular concrete bricks using fly ash (cost Rs.2.20 crores approximately), no tangible progress has been made in the direction. Utilisation of fly ash now going waste in the manufacture of cellular concrete bricks would have helped the building industry in lower Bengal where building material is scarce.

6.02. *Insurance of plant and equipment:* The plants, equipment and buildings erected at Bandel have been insured with the Life Insurance Corporation of India for Rs.25 crores against losses and damage due to theft, fire, strikes, riots and malicious activities. The insurance premia paid from 1st January 1966 to 31st December 1972 amounted to Rs.20.46 lakhs. When the boiler of Unit I was damaged due to explosion on 15th March 1966 and a formal claim was preferred on the Corporation for Rs.1.8 lakhs (the damage was repaired at a cost of about Rs.6.5 lakhs) the claim was not admitted on the grounds that the risk of boiler explosion was not covered. The insured value was reduced from Rs.25 crores to Rs.20 crores as from 1st January 1967 but has not been proportionately reduced thereafter taking into account the depreciated value. The Life Insurance Corporation has, however, been admitting claims only on the basis of depreciated value reckoned at the rate of four per cent on straight line method. Had the power station insured the equipment for the depreciated value by deducting four per cent each year, a saving of Rs.1.72 lakhs could have been effected in the premia paid from January 1968 to December 1972.

7. Expansion programme

In order to meet the shortfall in the availability of power, the Board decided in November 1971 expansion of the power station by installing one 200 MW unit. The project feasibility report prepared by a firm of engineers, estimated that this would cost Rs.3374 lakhs, taking into account certain common facilities in the existing station like railway yard, wagon tipplers with weigh-bridges, coal handling plant, fuel-oil system which had already been designed with provisions for future expansion. The Planning Commission approved the project in August 1972 at a reduced cost of Rs.3310.40 lakhs. The generating unit is expected to be commissioned in 1976-77.

A firm of consulting engineers was appointed in September 1973 as consultants for the expansion work at a fee of 2.45 per cent of the project cost. A letter of intent had been placed in September 1972 on the Hardware unit of Bharat Heavy Electricals Limited for the supply of turbo-generator set along with auxiliary and ancillary equipment. Rupees 90 lakhs, being 10 per cent of the approximate cost, were advanced during 1972-73. Another letter of intent was placed on a firm in Durgapur in November 1972 for the supply of boiler. Foreign exchange to the extent of Rs.372.82 lakhs (£19.65 lakhs) was released by the Government of India in November 1973. Rupees 91.97 lakhs were advanced to the Durgapur firm during 1972-73 and 1973-74. The total expenditure incurred up to 31st March 1974 (including advance) on the erection of the fifth unit was Rs.184.39 lakhs.

Section VII

JALDHAKA HYDEL PROJECT

1. Introduction

1.1. To cater to the demand for power in North Bengal, a hydroelectric project, utilising the run of water from the Jaldhaka river (which formed the boundary between Bhutan and West Bengal), was approved by the Planning Commission in May 1959, for implementation during the Second and early Third Plan periods. Initially two units of 9 MW each were to be installed and later two similar units were to be added, if and when warranted by seasonal demand.

2. Project estimates

2.1. The estimated costs of the project, as revised from time to time, and the actual expenditure incurred up to 31st March 1974 were:—

| Project estimate 1958 | Revised estimate February 1967 | Revised estimate May 1972 | Actual expenditure upto March 1974 |
|--------------------------|--------------------------------------|---------------------------------|--|
|--------------------------|--------------------------------------|---------------------------------|--|

(In lakhs of Rupees)

| | | | | | |
|----------------|----|--------|--------|---------|---------|
| Units I and II | .. | 298.74 | 860.19 | 1520.52 | 1336.38 |
|----------------|----|--------|--------|---------|---------|

2.2. The initial estimated cost of the generating station with two 9 MW units together with all civil works (Rs.298.74 lakhs) was first revised in February 1967 when the project was nearing completion.

The cost increased mainly because of (i) increase in the cost of civil works (Rs.340.90 lakhs), (ii) omissions in the original estimates (Rs.42.76 lakhs), (iii) procurement of additional equipment (Rs.32.59 lakhs) and (iv) repair and reconstruction of roads, protection walls of power house, mountain slopes, etc., caused by flood in July 1964 (Rs.37.23 lakhs).

2.3. The second revision of the estimate in May 1972 took into account the actual expenditure incurred till then. This recorded an increase of about 69 per cent over the 1967 estimates, giving due allowance to the damage caused by another flood in October 1968. The excess was more pronounced in respect of diversion weir, power house generating plants, control equipment and yards, roads/bridge, building, etc. While the cost of 'civil works and generation' increased from Rs.263 lakhs to Rs.1025 lakhs, the indirect cost increased from Rs.50 to Rs.591 lakhs.

The broad reasons for the increase were:—

- (i) additional works of value Rs.334.00 lakhs, not provided for both in the original estimate and the revised estimate of February 1967, and
- (ii) increased volume of work, upward revision of rates and other factors (Rs.392.46 lakhs).

Due to this increase in the capital cost of the project over the original estimated cost, the cost per KW of installed capacity increased from Rs.1,660 estimated in 1958 to Rs.5,807 in May 1972.

3. Project execution

3.1. The work commenced in February 1960 on the basis of an agreement with the Bhutan Government for harnessing the river. During construction the following major changes in the lay-out of the component structures were made:—

- (a) A 2,200 ft. open contour channel was substituted by a highly reinforced underground tunnel from considerations of safety due to instability of the mountain slopes.
- (b) Location of diversion weir was shifted 1,000 ft. upstream due to difficulty in stabilising the right bank jhora and for affording river diversion facilities. Consequently, the length of the R.C.C. duct was also increased by 1,100 ft.
- (c) Due to inadequate field investigation, site of surge shaft had to be changed, its depth increased from 288 ft. to 530 ft. and penstock designs were modified.
- (d) The floods in July 1964, which exceeded the design flood level at the power house site by 21.1 ft. necessitated modification in the power house design and shifting of the location of transformer and switch yards.

3.2. The original estimate envisaged that construction of the generating station would be completed within three years of commencement so that units I and II could be commissioned in 1961-62 and 1962-63 respectively. Construction of the main structures commenced only in January 1961 after finalisation of tenders. Construction works of all the main structures, viz. diversion weir, intake structure, R.C.C. duct, tunnel surge shaft penstocks, etc., were awarded to a contractor in December 1959 and January 1961 for completion by June 1963. Construction of the power house building including sub-structure, machine foundation works and tail-race channel, was awarded to the same contractor in February 1962. Later in September 1962, construction of diversion weir and intake structure was withdrawn from him due to his inability to undertake excavation 38 ft. below the river bed, and the work was executed departmentally. Construction by the contractor did not, however, progress according to schedule. The delay was stated mainly to the following reasons:—

- (a) The Government of India had directed that no work should be taken up before an agreement was executed with Bhutan. The agreement was executed in the middle of the year 1959 and construction of the main structure was taken up from the beginning of 1961 after finalisation of tenders.

- (b) Various precautions had to be taken during the construction of tunnels because of the nature of the underlying rock structures in the project area. As the terrace materials were unsuitable for locating any structure on or within them, sub-surface explorations by drilling had to be done to decide the suitable foundation conditions.
- (c) Changes in the design and location of tunnels, surge shaft, diversion weir, etc., as mentioned in paragraph 3.1.
- (d) Reconstruction of roads and bridges, repairs to plant and machinery, etc., damaged in the severe flood of July 1964.

3.3. The main works were completed by the contractor in March 1967, but the diversion weir executed departmentally was not ready even then. Therefore, Unit I was commissioned on 27th March 1967 and Unit II on 29th June 1967 by diverting water to the intake structure by means of a coffer dam. See paragraph 3.4(vi).

3.4. Some points noticed in regard to execution of the project are mentioned below :

(i) The contract for the construction of the power house building, tail-race, etc., was awarded to the firm (which had not quoted for these) on negotiated rates for a total amount of Rs.26.07 lakhs (which increased to Rs.39 lakhs eventually), ignoring the offer of Rs.19.28 lakhs by the lowest acceptable tenderer, on the ground that his rates were high. This was reported in paragraph 85(b) of the Audit Report, 1965.

(ii) As per the schedule of the quantities, the total value of the three contracts with the main contractor of the project in respect of construction of tunnels, R.C.C. duct and the power house was originally Rs.159.79 lakhs. Subsequently, there were changes in the classification of rocks and in the design of works. The contract value was increased in June 1969 to Rs.285.09 lakhs caused by increase in the quantity and volume of works (Rs.93.63 lakhs), additional payment for extra works (Rs.14.60 lakhs) and payments outside the scope of the contract (Rs.17.07 lakhs).

(iii) The contract provided for supply and use of fine and coarse aggregates of the prescribed specification to give requisite strength to the concrete lining works. The contractor, however, failed to procure the aggregates locally and had to carry them from two river beds which were 30 and 50 miles away from the work site. The Board had to incur an extra expenditure of Rs.7.66 lakhs on this account.

(iv) Rupees 8.76 lakhs were paid during the period from September 1963 to March 1970 towards the cost of construction of a third adit though the contract stipulated that the cost of adits, if any, opened in excess of two provided in the contract was to be borne by the contractor.

(v) The ratio of soft and hard rock in the excavation of soil at the power house site was decided by the Board as 50: 50 against the ratio of 90: 10 recommended by the site Engineer-in-charge of the project and the Resident Geologist of the Government of India on the basis of actual soil test. This resulted in extra payment of Rs.1.05 lakhs. This was reported in paragraph 127(b) of the Audit Report, 1966.

(vi) The work of construction of the diversion weir (excluding supply of gates and hoists) was awarded to the main contractor in January 1961 for a total value of Rs.32 lakhs. The work was, however, withdrawn from him in July 1962 for departmental execution at a different site after the contractor had executed a part of the work at the original site. This had to be abandoned and an infructuous expenditure to the extent of Rs.1.09 lakhs was incurred. Additional equipment valued at Rs.32.59 lakhs were acquired between November 1956 and December 1965 for the departmental works. The work was taken up without a set programme of work and about 2,000 work-charged and casual labourers were engaged. The construction work progressed slowly with the result that the barrage, scheduled for completion in January 1965, was not complete even in March 1967. The power house was, therefore, commissioned by diverting water towards the intake by a temporary coffer dam in March 1967 which hardly provided sufficient pondage. The temporary coffer dam washed away during each monsoon, had to be rebuilt each year departmentally, till the diversion weir was completed in 1973-74. The expenditure incurred on the coffer dam was Rs.4.00 lakhs approximately up to March 1974.

Owing to the delay in the construction of diversion weir, in spite of the fact that related works valued at Rs.10.62 lakhs were carried out through contractors, the Board had suffered loss of generation and had to bear heavy increase of capital expenditure. The estimated and actual cost of the diversion weir are given below:—

| (Rupees in lakhs) | | | |
|-----------------------------------|-----------------------------------|------------------------------|---------------------------------|
| Project estimate May 1958 | Revised estimate February 1967 | Revised estimate May 1972 | Expenditure up to March 1974 |
| 27.21 (including R.C. C. duct) | 68.93 | 137.01 | 141.82 |

(vii) During April 1962 and June 1962 there were two Major collapses in Face-6 and Face-4 of the main tunnel. The collapse in Face-6 was cleared by the contractor and he was paid at the contractual rate for clearance of slips, i.e., at 2/3rd of his rate for excavation. But in face-4, the contractor could only partially clear the collapse during the period from 11th February 1963 to 20th June 1963, as the ground water found access to the collapse zone, making the work complicated and the contractor was found incapable of handling the collapse. The work was completed departmentally during the period from 26th July 1963 to 31st December 1963 with the men, materials and machines of the contractor. He was paid Rs.1.07 lakhs for supply of materials and labour, and use of equipment against Rs.0.24 lakh payable to him as per the contract.

(viii) The Board had recovered from the contractor the cost of cement issued to him which he used in slurry and mortar in concreting the tunnel. The contractor claimed refund (Rs.0.69 lakh) as the cement was used in addition to the specified 18 cwt. of cement in 100 cft. of concrete. This claim was accepted by the Board in November 1968. As the contractor had quoted through-rate for concreting, the refund of Rs.0.69 lakh being the cost of cement used for slurry and mortar was outside the scope of the contract.

(ix) After completion of the main works of Stage—I of the project and commencement of generation of power, 1905 workers (regular, work-charged and muster roll) were rendered surplus from 30th June 1967. They were retained in employment, and idle time wages were paid pending their gradual transfer elsewhere. The expenditure incurred on pay and allowances of the surplus staff amounted to Rs.24.84 lakhs during the years 1967-68 to 1973-74. On 31st March 1974, 290 surplus staff were retained in employment.

3.5. *Report of Inquiry*: The Estimates Committee in its Second Report for 1963-64 on the State Electricity Board expressed concern over the inordinate delay and also the high cost involved in the execution of the project. As the delay caused considerable loss and involved large expenditure, in the execution of the project, the Committee recommended setting up of a commission of inquiry to fix responsibility. While considering the Audit Report 1965, the Public Accounts Committee also recommended (August 1967) for setting up of a commission of inquiry. The Government appointed a commission on 26th August 1969 to inquire and report on all the affairs of the Jaldhaka Hydel Project starting from the first project report (1958) to the date of commissioning of the first two units (June 1967). The commission reported to the Government in May 1970 that the responsibility for the excess expenditure over the original estimated cost and for the inordinate delay in commissioning was to be fixed on the Central Water and Power Commission, the West Bengal State Electricity Board, and the main contractor. The final decision of the Government on the report is still awaited (December 1974).

4. Unit III

4.1. When the project was initially designed, it was assumed that there would be a seasonal demand for additional power by the tea industry in the area and hence the civil works were designed to permit the installation

of two more 9 MW sets in the second stage. But the pattern of load development underwent a marked change after 1962 and the demand was primarily for firm power. The Board, therefore, informed the CWPC in September 1968 that the earlier proposal for installation of two additional sets to meet the seasonal load had been given up and instead Unit III of 9 MW would be installed to meet the demand for firm power.

4.2. Order for supply, delivery and erection of the third 9 MW set was placed on a Japanese firm in February 1966 at Rs.18.27 lakhs c.i.f. This was received in Calcutta during the first quarter of 1969, and excepting the package for pipings of butterfly control, all other items were received at the project site in April 1969. It was planned in August 1969 that the erection work should commence in October 1969 and be completed by November 1970. The services of Japanese engineers were, however, requisitioned only in July 1970 after physical verification of the parts received.

The Japanese engineers arrived at the project site on 2nd October 1970, and the erection work commenced in the third week of October 1970. It was expected that the set would be commissioned in October 1971. But the working conditions in Jaldhaka deteriorated to such an extent by July 1971 due to labour trouble that during July and August 1971 there was practically no progress in erection. Nevertheless, the foreign engineers had to be paid during this period. The Board, therefore, decided in September 1971 to release them on the assurance of the suppliers that the engineers would be available for completion of the remaining erection work and commissioning of the set as soon as the situation improved. The Japanese engineers left India on 8th September 1971. They were requested to return to the site again in February 1972. But the suppliers asked for (February 1972) and were paid enhanced supervision charges on this occasion as the original contract period had expired. This entailed an additional expenditure of Rs.2.35 lakhs as compared to the previous occasion. The engineers returned to the project site in June 1972 and after completion of the erection work, the third generating set was commissioned in November 1972. The cost of unit III up to 31st March 1974 was Rs.73.70 lakhs against the revised estimate (May 1972) of Rs.47.48 lakhs. Indirect charges totalling Rs.31.56 lakhs on the entire project during 1972-73, were debited to the third set instead of distributing it proportionately to other heads, viz., Jaldhaka Stage I, survey and investigation. This meant over-capitalisation of the third set to the extent of Rs.26.19 lakhs which was about 83 per cent of the indirect charges in 1972-73.

5.. Performance evaluation

5.1. The following table shows the performance of the project during the five years up to 1973-74:—

| | 1969-70 | 1970-71 | 1971-72 | 1972-73 | | 1973-74 |
|--|---------|---------|---------|---------------------------------------|--|---------|
| | | | | April 1972 to October 1972 (7 months) | November 1972 to March 1973 (5 months) | |
| (a) Installed capacity (in MW) | 18 | 18 | 18 | 18 | 27 | 27 |
| (b) Average load (in MW) | 3.7 | 4.2 | 3.3 | 5.7 | 5.4 | 7 |
| (c) Estimated units to be generated during the first 5 years taking the rated capacity of units as 9 MW for the first year and 18 MW for the remaining 4 years of operation (in MKwh.) | 46.72 | 55.81 | 65.20 | .. | .. | .. |
| (d) Power actually generated (in MKwh) | 24.23 | 20.79 | 20.19 | 27.81 | 19.32 | 61.31 |
| (e) Shortfall in generation over that estimated (in MKwh) | 22.49 | 35.03 | 45.01 | .. | .. | .. |
| (f) Percentage of shortfall in generation on projected estimates | 48.0 | 62.7 | 69.0 | .. | .. | .. |
| (g) Power generated per MW of installed capacity (thousand Kwh per MW) | 1346 | 1155 | 1122 | 1545 | 715 | 2271 |
| (h) Auxiliary consumption (in MKwh) | 0.71 | 0.52 | 0.40 | 0.60 | 0.80 | 2.03 |
| (i) Units sent out (in MKwh) | 23.51 | 20.27 | 19.79 | 26.89 | 18.05 | 58.48 |
| (j) Hours of operation .. | 6552 | 4896 | 6168 | 4873 | 3597 | 8423 |
| (k) Maximum demand (in MW) | 8.4 | 9.0 | 9.5 | 9.2 | 9.4 | 15.6 |
| (l) Plant utilisation factor (percentage of average load to rated capacity) | 20.5 | 23.3 | 18.3 | 31.7 | 20.0 | 25.9 |
| (m) Plant load factor (percentage of average load to maximum demand) | 44 | 47 | 35 | 62 | 57 | 45 |

5.2. Consolidated outage reports and availability reports of the generating units (monthly and/or yearly) were not maintained in the power house from which outage periods (forced and planned) of units could be ascertained. No summary of causewise analysis was compiled for taking remedial measures.

The broad reasons for the shutdowns as stated by the Management were as below :

| Year | Outage hours | Reasons |
|------------|--------------|--|
| 1967-68 .. | 10 | Maintenance of mechanical and electrical side of generating unit including transformer yard. |
| 1967-68 .. | 24 | Emergency penstock manhole repair. |
| | <u>34</u> | |
| 1968-60 .. | 788 | Repairs after flood. |
| 1969-70 .. | 2,208 | Diversion of water flow due to damage to coffer dam by flood and thorough repair and overhauling of unit II. |
| 1970-71 .. | 3,864 | Ditto. |
| 1971-72 .. | 2,126 466 | Labour trouble. Repair of expansion joint of penstock. |
| | <u>2,592</u> | |
| 1972-73 .. | 290 | Mechanical trouble, generator overcurrent, repair of unit II. |
| 1973-74 .. | 84 | Forced outage due to leakage for turbine gauge, bearing, bursting of cable and silty and muddy water. |
| | 254 | Pre-arranged shutdown due to repair and maintenance work. |
| | <u>338</u> | |

5.3. The actual generation was lower than that expected in the project report of 1958. The plant utilisation factor and plant load factor were low. It was stated by the Management (May 1972) that both the units could not be run simultaneously due to insufficient pondage of water since the diversion weir had not been completed.

5.4. Apart from the delay in installation and commissioning of Unit III, the single major factor which affected the generation of power was non-completion of the diversion weir.

Further, it was also noticed by the project authority that during the monsoon period, the muddy water of Jaldhaka with high content of suspended abrasive materials affected the turbine blades. This frustrated the initial assumption on which the project was designed to generate additional seasonal power during the rainy season. This problem was

overcome by the project authorities by taking up early in 1972 a scheme estimated to cost about Rs.35.47 lakhs to conduct water direct from Bindu Khola (another stream joining Jaldhaka river from the Bhutan side near the diversion weir and whose water was clearer) to the intake structure for supply of about 500 cusecs of water during monsoon months to ensure the operation of the two units during the period. The powerhouse which had been commissioned in 1967 could generate power in the rainy season for the first time in 1972 by constructing a temporary structure for the purpose. The arrangement was made semi-permanent during the year 1972-73 at a cost of Rs.16.43 lakhs up to March, 1974.

6. Manpower

6.1. As per the project report, the total staff required for operation and maintenance of the plant was 79, but the sanctioned strength during 1973-74 was 410. Total staff (other than surplus) actually employed on 31st March 1974 was 363.

No comprehensive study or examination has so far (March 1975) been conducted to assess the precise manpower requirements or to lay down the standards of productivity.

6.2. Overtime wages paid to the staff showed a rising trend every year as shown below:—

| Year | Pay of establishment | Overtime allowance | Percentage of overtime allowance to pay. |
|---------|----------------------|--------------------|--|
| | (In lakhs of Rupees) | | |
| 1969-70 | 2.26 | 0.39 | 17 |
| 1970-71 | 2.60 | 0.60 | 23 |
| 1971-72 | 3.36 | 0.89 | 27 |
| 1972-73 | 4.32 | 1.75 | 41 |

7. Financial results

Though the first two units were commissioned in March and June 1967 respectively, separate accounts have not been prepared to ascertain the working results of the project, nor have cost accounts been kept showing the cost of generation of saleable electricity. The original project report envisaged that from the fifth year of its operation the project would become self-financing and earn a net return of 0.75 per cent on the capital outlay. According to the revised estimate of February 1967, the project was expected to be self-financing from the fourth year of its operation, i.e., in 1970-71 and earn a net return (after meeting all revenue charges including depreciation and interest) of 2.66 per cent on the capital outlay in the fifth year with three units in operation.

As against these forecasts, unit III was commissioned in November 1972 only and all the three sets were available for operation during the whole year from 1973-74. The working results for the year 1973-74 were as follows:—

| | | | | Estimated at the end of fifth year of operation | Actuals for 1973-74 |
|--|----|----|--------------|---|------------------------|
| A—Units sent out (in MKwh) | .. | .. | .. | 91.71 | 58.48 |
| Gross revenue from sale of power (in lakhs of Rupees) | .. | | .. | 123.12 | 75.21 |
| B—Revenue expenditure (in lakhs of Rupees) | | | | | |
| Operation and maintenance | .. | .. | .. | 10.00 | 32.19 |
| Depreciation | .. | .. | .. | 17.00 | 35.82 |
| Interest at 6 per cent. | .. | .. | .. | 67.48 | 83.62 |
| | | | Total | 94.48 | 151.63 |
| Surplus (+) | | | | (+)28.64 | (-)76.42 |
| Deficit (—) | | | | | |

The overall deficit of Rs.105.06 lakhs resulted from shortfall of revenue due to reduced generation of power (Rs.47.91 lakhs) and excess expenditure (Rs.57.15 lakhs).

8. Other topics of interest

(a) For transportation of civil engineering materials to the project site and removal of small slips with a view to expediting completion of the remaining works of the project, an order was placed by the Board on a firm of Calcutta in September 1969 for a shovel loader at Rs.1.72 lakhs. Even before the order was placed, the Management was aware that the machine was too small to be used for heavy duty. The performance of the shovel (which was delivered in May 1970) during initial tests, was not satisfactory as it could not take full load and even with light load the rear wheels were found to slip and vibrate. The machine went out of order in December 1970 after barely 16 hours of light duty. In spite of requests, the suppliers have not rectified the defects during the guarantee period up to May 1971. Full payment was made to the suppliers in November 1970. The machine is still lying idle (December 1974).

(b) Orders were placed on three contractors for works detailed below:—

| Name of the work | Estimated amount (in lakhs of Rupees) | Month of placement of order |
|--|---------------------------------------|-----------------------------|
| (i) Protection work of hill side slopes above the intake structure at barrage. | 6.56 | March 1967 |
| (ii) Protection stone masonry wall along the top periphery above intake at Bindu Khola. | 0.14 | March 1967 |
| (iii) Extension and maintenance of masonry drain of Forest Department above slip area above intake at Bindu Khola. | 0.34 | April 1967 |

Though these orders did not stipulate departmental supply of boulders and sand, the materials were issued to the contractors at Rs.20.00 and Rs.15.00 per 100 cft., when these materials had cost the Board Rs.80 and Rs.94 respectively per 100 cft. In addition, considerable departmental labour was engaged to carry boulders and sand from the stacking yard to the work sites.

The Board recovered only Rs.1 06 lakhs against the actual expenditure of Rs.3.76 lakhs on the materials and labour supplied.

Final payments to the contractors were made in August and September 1969, without obtaining the approval of the competent authority for the expenditure of Rs.8.30 lakhs against the approved estimate of Rs.6.12 lakhs and for the non-recovery of the full cost of the materials supplied.

(c) To expedite the construction of the project, the Board sanctioned in 1963 the purchase of 4 L.W. Dumpers and one Euclid Dumper from the Kosi River Valley Project, provided these were in good working condition. Delivery of the dumpers valued Rs.7.75 lakhs was taken on 1st June 1963 at the Kosi Dam site and payment was made in November 1963. An engineer from Jaldhaka who inspected these in February 1964 observed that the Euclid Dumper could be put to operation after some minor repairs. Instead of using these in the Jaldhaka Project, the four L.W. Dumpers were lent to the Government of Uttar Pradesh for use at Obra Dam. On receipt of the equipment, the Obra Dam authorities sent a list of essential spare parts (cost Rs.0.50 lakh approximately) required for the dumpers. These were purchased by the Board in January 1965 and sent to the Obra Dam. The dumpers were brought back to Jaldhaka in May/June 1965 when one of the dumpers suffered a major break-down *en route* and was repaired at a cost of about Rs.7,800. From 1st June 1963 the Board had to bear the wages of 18 operators and helpers transferred from the Kosi Project along with the equipment. A sum of Rupees 0 10 lakh was paid to Kosi Project by way of wages of these operators and helpers for the period from June 1963 to October 1963. From 1st November 1963, the Board directly met the wages of the work-charged personnel though their services could not be utilised for construction of the Jaldhaka Hydel Project till May/June 1965. The project authorities were not able to indicate what amounts, if any, were recovered for hiring out the dumpers to the Obra Dam authorities.

(d) The actual cost for each budget head was not compiled and thus no periodical review of the progressive actual cost of works-in-progress was made for the purpose of timely control over expenditure within the limit of the sanctioned estimate.

Temporary advances amounting to Rs 0.95 lakh remained outstanding for 3 to 9 years against various officials of the project. Most of them were given advances on 10 to 15 occasions without the adjustment of earlier advances. Some of these officials had left the project or were transferred elsewhere, but the advances remained outstanding in the accounts of the project (December 1974).

Undisbursed amounts of salary and wages and advances of travelling allowance given to site officers of the project were kept for over 2 to 6 years in the personal custody of those officials although these could be so retained only up to 3 months.

(e) The plants, equipment and buildings at Jaldhaka Power House have been insured with the Life Insurance Corporation of India for Rs.119.67 lakhs covering the risks of fire, riots, strike, malicious damage, flood and earthquake. Insurance premia paid from May 1969 to May 1974 amounted Rs.3.44 lakhs. The value of the assets has not, however, been reduced each year taking depreciation into account. The Corporation admits claims only on the basis of the depreciated value of assets. A saving of Rs.0.71 lakh could have been effected on the premia paid for the period from May 1970 to May 1974 had the depreciated value at the end of each year been indicated for the purpose of insurance.

9. Expansion scheme

The Jaldhaka Stage II scheme is an extension of the project taken under Stage I. The project report was submitted to the C.W.P.C. in 1960. Since the augmentation of firm power in the three districts of Darjeeling, Jalpaiguri and Cooch Behar became a matter of urgent importance it was decided (February 1967) to exploit the residual head of 225 ft. below Jaldhaka Stage I and the tail-race water from it to generate a firm power of 8 MW by installing 2 units of 4 MW each. The Planning Commission approved in October 1973 that the total cost of the scheme should not exceed Rs.315.56 lakhs. The plant and equipment is to be purchased from indigenous sources. Total firm generation from the scheme has been worked out (October 1973) to 32.80 MKwh per annum.

The estimated cost has been revised to Rs.424.54 lakhs (June 1974) due to the following reasons:—

- (i) For construction of a new road in place of the old road which was devastated in the 1973 flood season beyond repairs.
- (ii) For construction of a bridge over the river Jaldhaka as per the terms of agreement with the Government of Bhutan.
- (iii) Increase in the cost of materials and labour since submission of the project report to the C.W.P.C.

Tenders for certain civil works valued Rs.55.95 lakhs (e.g., construction of reinforced cement concrete duct, diversion structure, forebay and spillway, etc.) were invited in March 1973 and work commenced in May 1973.

Thirty per cent of water conductor system has been completed and tenders for generation equipment have been finalised (November 1974). Tenders for penstock have been called (November 1974). Major portion of the civil works is expected to be completed by 1975-76. Progress of work was hampered for want of cement and steel and due to financial stringency, according to the report of the project authorities (November 1974). The total expenditure incurred up to March 1974 was Rs.5.12 lakhs.

Section VIII

OTHER TOPICS OF INTEREST

WEST BENGAL STATE ELECTRICITY BOARD

1. **Damage to radiators:** Two 31.5 MVA transformers alongwith 16 radiators were purchased in May and June 1967 for the Joka sub-station and were kept in the open. The transformers could be commissioned in September 1970 and March 1973 respectively, due to delay on the part of contractors in their erection. The Divisional Engineer stated that some of the radiators were found to have been damaged during transit to the sub-station. He had also stated in August 1971 that the damage was aggravated by corrosion due to prolonged and improper storage. Damage during rail/road transit had not been detected at the time of receipt of the radiators and no claim was assessed or preferred on the insurance company or the carriers. Out of 16 radiators, 11 were repaired at a total cost of Rs.30,500 and the remaining were replaced by new ones for Rs.44,300.

2. **Extra expenditure on purchase of A.C.S.R. Conductors:** The Board decided (March 1973) that bulk purchase of the essential materials for the rural electrification programme during 1973 should be made at the prevailing market rates without calling for tenders. Accordingly, two orders were placed, one on 5th April 1973, and the other on 12th April 1973, on a supplier from Bombay for ACSR Conductors as follows:—

Rate per km.

| | | |
|----------------------------------|---|--|
| Order, dated 5th April 1973 | 3,000 kms. "Weasel" ACSR Con- ductors. | Rs. 848 plus excise duty and sales tax. |
| | 1,000 kms. "Rabbit" ACSR Con- ductors. | Rs. 1,389 plus excise duty and sales tax. |
| Order, dated 12th April 1973. | 2,500 kms. "Weasel" ACSR Conductors. | Rs. 980 plus sales tax. |

It was stated (April 1973) that since the full requirement of the material could not be covered by available supplies at the previous agreed rates and time was running short, the second order of 12th April was placed on the same firm at higher rates. Supplies against both the orders were required to be completed by June 1973 and hence the purpose of paying the higher rate for the second order involving an additional expenditure of Rs.2.18 lakhs. was not clear.

The Board asked their bankers in Bombay to open a letter of credit valid up to 30th June 1973 in favour of the suppliers but the bank opened the letter of credit valid up to 31st July 1973 and hence the firm continued to supply the materials even after the contractual date. It was also noticed that the supplier was mainly delivering against the second order placed at

a higher rate. As the Board was, in the meantime, forced to go slow with the rural electrification programme due to paucity of funds, the supplier was advised telegraphically on 26th July 1973 to suspend further supplies. This was followed by another telegram on 30th July 1973 by when supplies against the second order had been completed and only 1,073 km of "Weasel" conductor and 373 km of "Rabbit" conductor remained to be supplied against the first order.

Notwithstanding the slowing down of the rural electrification programme, for which the Board had asked for suspension of supplies, negotiations were being held with another firm in the same month, i.e., July 1973 for supply of the same two types of conductor in pursuance of a letter of intent issued on 29th June 1973. An order was placed on the firm on 2nd August 1973 for 500 km of "Weasel" conductor and 2,500 km of "Rabbit" conductor bypassing the normal purchase procedure of inviting open tenders. The rate agreed was Rs.980 per km for "Weasel" conductor and Rs.1,560 per km for "Rabbit" conductor subject to a rebate of $\frac{1}{4}$ per cent in lieu of handling at destination and transport of stores. Had the order, dated 5th April 1973, on the first firm for the balance quantity of conductors to be supplied (viz., 873 kms.) not been cancelled, the Board could have saved Rs.0.9% lakh.

A scrutiny of the records also revealed that about 4,000 kms. of "Weasel" type conductors were held in stock in May 1974 which had been declared by the Additional Chief Engineer to be surplus to the requirements of the rural electrification work. The Board incurred a loss of Rs.3.15 lakhs on the purchase of ACSR conductors in this case.

3. Delay in application of revised tariff: As per the resolution of the Board (August 1965) and the revised tariff effective from 31st August 1965, bulk consumers of energy for industrial purposes were to be charged at item 'E' (overall rate 18 paise per unit) and for combined power and lighting at item 'F' (overall rate 28 paise per unit). Bulk consumers having industrial motors and appliances were required to pay at item 'E', whereas those for combined power and lighting having motors and other appliances, e.g., railway stations, hospitals, military bases, educational institutions, etc., were to pay at item 'F'. As per the tariff, however, an industrial consumer having motors and other appliances consuming more than 10 per cent of the total power for domestic purposes, was required to pay at item 'F'. Depending on the nature and purpose of consumption, high voltage bulk supplies were thus required to be classified into items 'E' and 'F'. However, in a large number of cases such supplies were classified under item 'E', ignoring the provisions under item 'F'. On detection of a case of undercharge in respect of an industrial consumer (August 1968), the Chief Engineer of the Board emphasised in March and September 1969 the necessity of applying the correct tariff. In March 1972, the Chief Engineer clarified that old cases need not be

reopened. Subsequently (September, 1972) he directed that the revised tariff should apply to those cases as well. But action to apply the revised tariff was taken in some cases only in August 1971, and in some other cases the revision was applied as late as in August 1974. As a result of the delay or omission in the application of correct tariff, there was further undercharge as detailed below:

(a) *Delay in application of revised tariff:* (i) Twelve non-industrial bulk consumers, viz., research institutions, military installations, railway stations, etc., chargeable at item 'F' from 31st August 1965 for combined power and lighting, were actually charged at item 'E' up to August 1969. Had the appropriate tariff been applied, these consumers would have to pay Rs.20.98 lakhs as against Rs.13.54 lakhs actually charged and realised. Since no supplementary demand was raised there was a short realisation of Rs.7.44 lakhs.

(ii) A railway pumping station which had been consuming power for lighting its yard, station and staff quarters, and an educational institution using power for lights, fans, etc., were required to be charged at item 'F' from 31st August 1965, but were continued to be charged at item 'E' till August 1974. Had the appropriate tariff been applied, they would have to pay Rs.24.29 lakhs as against Rs.17.35 lakhs actually paid. This resulted in short realisation of Rs.6.94 lakhs.

(b) *Loss of revenue:* The Board was making bulk supply of energy since November 1960 to the workshop premises of the South Eastern Railway at Kharagpur. The Railway authorities had been consuming energy outside the workshop premises for other purposes, viz., yard lighting, street lighting, pumping of water and lighting of the railway colony. The Board was required to inspect the premises of the consumers and assess the purpose of consumption of energy, viz., domestic and others, for applying the appropriate tariff rates, but no such action was taken up to February 1972 and the entire energy consumed was being charged at item 'E' applicable for consumption for industrial purposes. The Board charged the correct tariff with effect from August 1972, at the instance of Audit, and decided to realise the arrear dues retrospectively from September 1965. In the absence of relevant data pertaining to the period prior to February 1972, it was not possible to raise any additional demand. Subsequently, the Railway authorities furnished (August 1973) the consumption data pertaining to the period 1968 onwards. The Board intimated the Railway authorities in September 1974 about its decision to raise a demand for Rs.25.99 lakhs being the arrear for the period from January 1970 to July 1972. The claim preferred in December 1974 has been accepted in principle by the Railways, but payment has not been made yet (December 1974).

In the absence of proper tariff being applied for the power consumed for the period from 31st August 1965 to December 1969, the Board was put to a loss of Rs.33.16 lakhs. The Railways, however, furnished data in

respect of consumption for the period from January 1968 to December 1969, which could not be verified in the absence of proper metering arrangements required to be made by the consumer, nor was any assessment made by the Board in respect of consumption for this and the earlier periods.

4. Fabrication of towers: For construction of 132 KV transmission line from Durgapur to Gokarna *via* Sainthia, the work of fabrication of towers was awarded to a firm in December 1967. Although the Board had stipulated that in addition to the quantity of steel actually required, five per cent extra would be supplied by it against wastage (2 per cent accountable), the firm demanded (October 1968) for increase of this additional steel to 10 per cent (7 per cent being accountable). Alternatively, the firm offered to complete the job at a "through rate" of Rs.1,395 per M.T. on JPC price of steel. The limit for wastage was increased by the Board in March 1969, and the alternate offer was not accepted although it would have absolved the Board of the responsibility of timely procurement of steel. This would have also avoided transport cost to the extent of about Rs.40,000 in carrying the steel sections from the Board's stockyards to the contractor's premises.

Steel weighing 3,458 M.T. was issued to the firm between December 1969 and May 1973, but in the absence of records showing the actual quantities issued on the various dates, it was not possible to assess whether the firm completed fabrication within 6 to 8 months of the supplies of steel as stipulated in the agreement. The Board has not effected any reconciliation between the quantities of steel supplied to the firm and the finished transmission towers received. On the basis of the incomplete records maintained, it has been worked out that about 390.425 M.T. of steel valued at about Rs.6.63 lakhs remained to be accounted for (November 1974) by the contractor for which the Board did not hold any security.

Although the work was initially expected to be completed earlier than April 1971, the firm could not fabricate the towers in time despite payments having been made to them on liberal terms. The due date was later extended, without any formal request by the contractor, to January 1972, but the fabrication was completed only in December 1972.

According to the agreement the steel sections procured by the firm, due to non-availability in the Board's stock, were to be paid for at JPC rates; the Board agreed in December 1971 to pay for 341 M.T. of angles and 38.7 M.T. of steel plates at open market price involving additional payment of Rs.3.40 lakhs.

The fabricator was required to supply finished tower members of various sections as per the drawing, specifications and requirement of each section indicated in the bill of materials of different types of towers. In the absence of proper control over fabrication, a large number of tower

members mostly of heavier sections, was supplied at random. This resulted in an excess supply of steel weighing 42.308 M.T. valued at Rs.0.92 lakh, including galvanising and fabrication charges.

5. **Procurement of Sal wood poles:** The Board entered into an agreement in January 1971 with the Forest Department for purchase of two lakhs Sal wood poles without any stipulation regarding delivery schedule. As per this agreement, the Board engaged contractors for marking, felling, logging and transportation of the poles. Orders were placed between December 1970 and July 1971 on the Forest Department for 47,371 poles costing Rs.25.40 lakhs (Rs.18.95 lakhs being royalty payable to the Forest Department and Rs.6.45 lakhs paid to the contractors for logging, transportation, etc.).

Although the agreement with the Forest Department continued to be valid and there was sufficient stock of Sal wood poles in the Board's store yard in North Bengal, 22,800 Sal wood poles costing Rs.19 lakhs were purchased direct by the Board from various private suppliers between February 1971 and May 1972, resulting in an extra expenditure of Rs.2.98 lakhs.

CALCUTTA STATE TRANSPORT CORPORATION

6. **Payment of incentive and overtime allowances:** With a view to increasing the number of vehicles on road, the Calcutta State Transport Corporation introduced from 1st August 1971, an incentive scheme for each depot under which the incentive amount was to be linked with the number of vehicles sent out of the depot for plying. No incentive payment was admissible where vehicles supplied by the mechanical section were not actually put on the road.

In view of the complaint by the mechanical staff that they were being deprived, for no fault of theirs, of the incentive payments in respect of vehicles made available to the traffic section, but not "out-shedded", i.e., put on the road for plying on routes, this scheme was amended in April 1972 to enable the mechanical staff to earn the incentive payment irrespective of whether the vehicles made available were actually put on the road or not. Out of the total incentive of Rs.11.0 lakhs paid to the depot staff during the period from 20th April 1972 and 31st March 1973, Rs.5.14 lakhs represented payments in respect of vehicles not actually put on the road. Similarly in 1973-74, Rs.3.58 lakhs out of the total sum of Rs.8.02 lakhs paid as incentive were in respect of vehicles not actually put on the road.

The table below indicates the depot-wise position of vehicles which could not be "out-shedded" during 1972-73 and 1973-74:

| Depot | Number of vehicles supplied | | Number of vehicles out-shodded | | Number of vehicles unutilised | |
|--------------------|-----------------------------|-----------------|--------------------------------|-----------------|-------------------------------|---------------|
| | (2 shifts) | | (2 shifts) | | | |
| | 1972-73 | 1973-74 | 1972-73 | 1973-74 | 1972-73 | 1973-74 |
| Lake Depot .. | 1,26,191 | 1,15,972 | 1,00,364 | 93,794 | 25,827 | 22,179 |
| Taratola Depot .. | 72,430 | 53,007 | 48,555 | 47,357 | 23,875 | 5,650 |
| Howrah Depot .. | 1,06,224 | 1,04,201 | 84,209 | 75,701 | 22,015 | 28,500 |
| Pakpara Depot .. | 1,05,003 | 81,997 | 87,411 | 74,425 | 17,592 | 7,572 |
| Belghoria Depot .. | 1,09,404 | 80,678 | 85,244 | 71,822 | 24,160 | 8,856 |
| | <u>5,19,252</u> | <u>4,35,855</u> | <u>4,05,783</u> | <u>3,63,099</u> | <u>1,13,469</u> | <u>72,756</u> |

The percentages of unutilised vehicles to available vehicles during 1972-73 and 1973-74 were 22 and 17 respectively. According to the log books maintained in each depot, non-availability of drivers and conductors was mostly shown to be the reason for not out-shedding the vehicles made available.

The incentive scheme further stipulated that no overtime allowance should be paid to the mechanical staff on any account. But overtime allowances to the extent of Rs.3.91 lakhs and Rs.3.75 lakhs were paid in 1972-73 and 1973-74 respectively to the depot mechanical staff, although they were receiving incentive payments at the same time.

T. B. Nagarajan

(T. B. NAGARAJAN)

Accountant General, West Bengal.

CALCUTTA,

The 19th Aug 1975

Countersigned.

A. Bakshi

(A. BAKSI)

Comptroller and Auditor General of India.

NEW DELHI,

The 21 AUG 1975

ANNEXURE

ANNEXURE 'A'

Statement showing summarised financial results of Government Companies

| Sl. No. | Name of the Company | Name of the Department | Date of incorporation. | Period of accounts | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|----------------------|--|--------------------------------|------------------------|--------------------|------------------------|------------------------|---|-------------------------------|----------------------------------|--|------------------|----------------------------------|---|----|----|----|----|----|
| | | | | | Total capital invested | Profit (+) Loss (-) | Total interest charged to pro- fit and Loss account | Inte- rest on long- term loan | Total return on capital invested | Percen- tage of total return on capital invested | Capital employed | Total return on capital employed | Percen- tage of total return on capital employed. | | | | | |
| (In lakhs of Rupees) | | | | | | | | | | | | | | | | | | |
| 1. | Kalyani Spinning Mills Limited | Public Undertakings Department | 13-1-1960 | 1973-74 | 517.53 | (-) 49.60 | 27.39 | 17.10 | (-) 32.50 | Nil | 246.60 | (-) 22.21 | Nil | | | | | |
| 2. | West Bengal Small Industries Corporation Limited | Do. | 29-3-1961 | 1973-74 | 634.59 | (+) 37.80 | 12.74 | 10.30 | (+) 48.10 | 7.58 | 631.44 | (+) 50.54 | 7.86 | | | | | |
| 3. | Electro-Medical and Allied Industries Limited | Do. | 29-6-1961 | 1973-74 | 40.75 | (-) 1.94 | 0.92 | 0.92 | (-) 1.02 | Nil | 20.89 | (-) 1.02 | Nil | | | | | |
| 4. | Durgapur Projects Limited | Do. | 6-9-1961 | 1973-74 | 6100.72 | (-) 332.33 | 239.96 | 239.96 | (-) 92.37 | Nil | 3851.17 | (-) 92.37 | Nil | | | | | |
| 5. | Durgapur Chemicals Limited | Do. | 31-7-1963 | 1973-74 | 1440.24 | (-) 106.94 | 52.02 | 52.03 | (-) 54.91 | Nil | 723.18 | (-) 54.92 | Nil | | | | | |
| 6. | State Fisheries Development Corporation Limited | Fisheries Department. | 30-3-1966 | 1973-74 | 45.20 | (-) 3.57 | .. | .. | (-) 3.57 | Nil | 28.70 | (-) 3.57 | Nil | | | | | |

| | | | | | | | | | | | |
|--|-----------|---------|------------|--------|-------|-------|----------|------|------------|-------|-------|
| 7. West Bengal Industrial Development Corporation Limited | 6-1-1967 | 1973-74 | 738.89 (-) | 6.34 | 22-11 | 22-11 | (+)15.77 | 2.13 | 700.26 (+) | 15.77 | 2.25 |
| 8. West Bengal Mineral Development and Trading Corporation Limited | 23-2-1973 | 1973-74 | 12.90 (-) | 2.35 | .. | .. | (-) 2.35 | Nil | 9.91 (-) | 2.35 | Nil |
| 9. West Bengal State Textiles Corporation Limited | 19-3-1973 | 1973-74 | 251.00 (-) | 0.16 | 3.06 | 3.06 | (+) 2.90 | 1.16 | 250.13 (+) | 2.90 | 1.16 |
| 10. West Bengal Sugar Industries Development Corporation Limited | 30-5-1973 | 1973-74 | 58.00 | .. | 0.39 | .. | .. | Nil | 69.32 (+) | 0.39 | 0.56 |
| 11. West Bengal Agro-Industries Corporation Limited | 16-8-1968 | 1972-73 | 302.62 (+) | 9.35 | .. | .. | (+) 9.35 | 3.09 | 302.62 (+) | 9.35 | 3.09 |
| 12. West Bengal Dairy and Poultry Development Corporation Limited | 4-2-1969 | 1972-73 | 55.80 (+) | 3.65 | .. | .. | (+) 3.65 | 6.54 | 33.18 (+) | 3.65 | 11.00 |
| 13. Westinghouse Sazby Farmer Limited | 19-7-1969 | 1972-73 | 380.07 (-) | 163.42 | 29.07 | 17.89 | (-)45.53 | .. | 154.57 (-) | 34.35 | Nil |
| <hr/> | | | | | | | | | | | |
| 9830.82 (-)465.43 358.59 345.48 (-)119.95 .. 6531.60 (-)106.84 | | | | | | | | | | | |
| <hr/> | | | | | | | | | | | |
| 738.49 (-)50.42 29.07 17.89 (-)32.53 .. 490.37 (-)21.35 | | | | | | | | | | | |

ANNEXURE 'B'

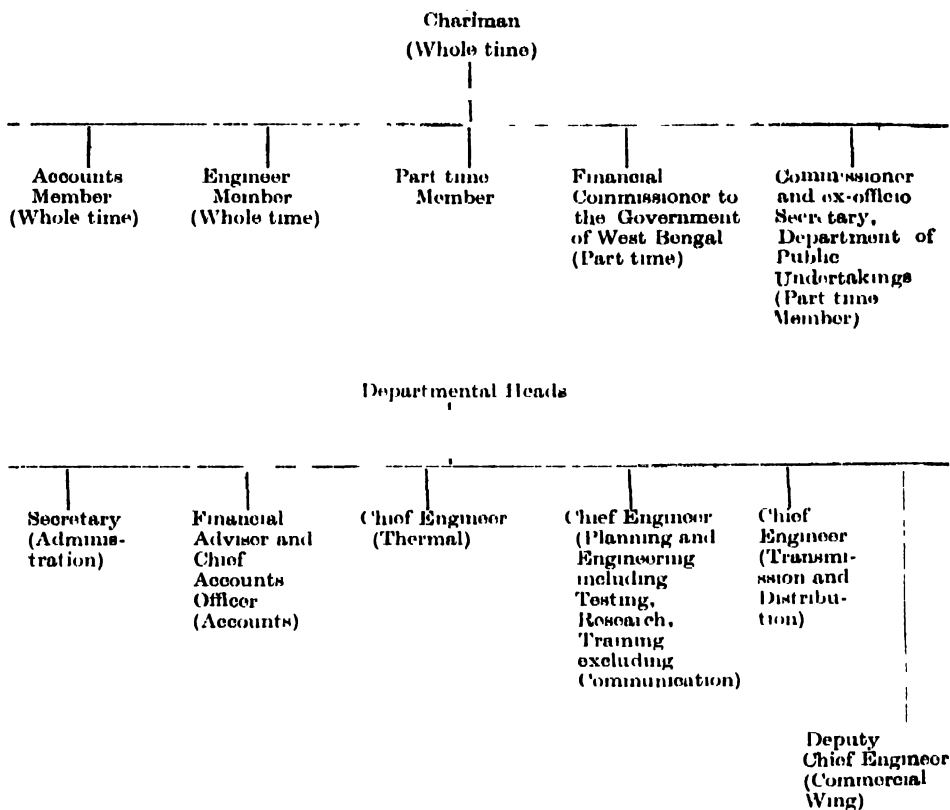
Statement showing summarised financial results of Statutory Corporation/Board

| Sl. No. | Name of the Corporation/Board. | Name of the Department | Date of incorporation. | Period of accounts | Total capital invested | Profit (+) Loss (-) | Total interest charged to Pro. fit and Loss Account | Inte- rest on long- term loans | Total return on capital invested | Person- tage of total return on capital invested | Capital employed | Total return on capital employed | Person- tage of total return on capital employed. |
|---------|-------------------------------------|-----------------------------------|------------------------|--------------------|------------------------|------------------------|---|--------------------------------|----------------------------------|--|--------------------|----------------------------------|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | | | | | | | (In lakhs of Rupees) | | | | |
| 1. | West Bengal State Electricity Board | Department of Power. | 1-5-1955 | 1973-74 1972-73 | 19322.44 15153.96 | (+)64.86 (+)63.26 | 326.78 475.41 | 286.52 471.71 | 351.38 534.97 | 1.82 3.53 | 7567.14 7662.83 | 391.04 538.67 | 5.18 7.03 |
| 2. | West Bengal Financial Corporation | Department of Public Undertakings | 1-3-1954 | 1973-74 1972-73 | 861.22 770.76 | (+)16.17 (+)19.09 | 31.22 31.49 | 31.22 31.49 | 47.39 50.58 | 5.50 6.56 | | | |

ANNEXURE 'C'

Organisation Chart of the West Bengal State Electricity Board

(Referred to in para 2 of Section V)



Price : Inland Rs. 4.50

Foreign 4s. 10d. or \$ 0.55