

The Directors have pleasure in presenting the Seventy-first Annual Report and the Audited Statement of Accounts for the year ended 31st March, 2000.

**Financial Results:** During the year under review, the Company achieved an aggregate income of Rs. 2,429.63 crore, representing an increase of 3.4% over the income of the previous year. The highlights of the financial results are :

	<b>1999-2000</b>	1998-99
	<b>Rs. crore</b>	Rs. crore
Total Income	<b>2,429.63</b>	2,349.43
Gross Profit before Depreciation	<b>580.32</b>	521.67
Depreciation	<b>183.47</b>	171.39
Profit before Tax	<b>396.85</b>	350.28
Provision for Taxation (Income-tax and Wealth-tax)	<b>90.03</b>	80.02
Profit after Tax	<b>306.82</b>	270.26
Add:		
Balance of Profit brought forward from Previous Year	<b>52.34</b>	29.25
	<b>359.16</b>	299.51
Less:		
Income-tax and Interest on Income-tax in respect of earlier years (net)	<b>4.62</b>	0.95
Prior Period Adjustments	<b>(0.62)</b>	(0.25)
Contingencies Reserve	<b>13.10</b>	12.28
Tariffs & Dividends Control Reserve	<b>(1.73)</b>	(11.63)
Consumers' Benefit Account	<b>0.19</b>	—
Debt Redemption Reserve	<b>42.14</b>	8.47
Amount Available for Appropriations	<b>301.46</b>	289.69
Appropriations:		
Dividends on		
(i) Preference Shares	<b>10.41</b>	9.16
(ii) Equity Shares	<b>50.95</b>	46.83
Corporate Tax on Dividends	<b>6.75</b>	6.07
Transfer to Preference Share Capital Redemption Reserve	<b>21.10</b>	15.30
Transfer to General Reserve	<b>149.95</b>	159.99
Balance carried to Balance Sheet	<b>62.30</b>	52.34
	<b>301.46</b>	289.69

**Dividends:** The Directors paid the following dividends on (a) Preference Shares and (b) Equity Shares for the financial year ended 31st March, 2000.

(a) <b>On Preference Shares</b> (Pro rata)	(Rs. crore)
(i) at the rate of Rs.10.00 per share on 10% Cumulative Redeemable Preference Shares of Rs.100 each aggregating Rs.63,00,00,000	6.30
(ii) at the rate of Rs.11.00 per share on 11% Cumulative Redeemable Preference Shares of Rs. 100 each aggregating Rs. 2,00,00,000	0.22
(iii) at the rate of Rs. 12.00 per share on 12% Cumulative Redeemable Preference Shares of Rs. 100 each aggregating Rs. 22,00,00,000	2.64
(iv) at the rate of Rs.12.50 per share on 12.50% Cumulative Redeemable Preference Shares of Rs.100 each aggregating Rs.10,00,00,000	1.25
	<u>10.41</u>

**(b) On Equity Shares**

Interim Dividend of Rs. 3.70 per share paid on 13,77,25,666 Equity Shares of Rs. 10 each (Previous Year Rs. 3.40 per share)	50.95
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The Board of Directors do not propose to pay any final dividend and the interim dividend paid is to be treated as the final dividend for the year 1999-2000.

## Operational Performance

### Electricity Supply Division:

**Energy Sales:** The growth in terms of units sold and break-up of sales of energy under different categories of consumers for the last two years are as follows:

Million units sold (in KWH) to various classes of consumers			
Class of Consumers	<b>1999-2000</b>	1998-1999	Percentage Change %
Residential	<b>2,834</b>	2,707	4.69
Industrial	<b>1,150</b>	1,142	0.70
Commercial	<b>1,121</b>	1,040	7.79
Others	<b>63</b>	61	3.28
Total	<b>5,168</b>	4,950	4.40

**Consumers:** The number of consumers at the end of the year was 19.77 lakhs which represents an increase of 4.38% over the previous year's.

**System Peak:** The Maximum Demand registered in the Company's System was 1,121 MVA against 1,065 MVA during the previous year, marking an increase of 5.25% and recording system utilization at 69.97% of the installed capacity of 1,602 MVA.

**System Network:** At the close of the year, there were 2,576.66 Kms of High Tension (HT) and 2,774.43 Kms of Low Tension (LT) Mains on the Company's system, with the addition of 104.05 Kms of HT and 130.10 Kms of LT lines during the year. The capacity of Distribution Transformers increased from 2,047.04 MVA to 2,205.44 MVA. During the year, 132 new substations (Previous year 177) were added and at the end of the year, there were 3,789 sub-stations.

**System Loss:** The Division continued to make strenuous efforts with a series of actions during the year on various fronts like the detection of thefts, replacement of defective/stopped meters/replacement of electro-mechanical meters by static meters, and strengthening of distribution network to improve the system. During the year, the Company carried out raids which resulted in the detection of 2,248 cases of theft with recovery of 16.54 million units. Due to these efforts, the system loss marginally declined for the sixth year in succession to 11.50%, down from 14.95% in 1993-94, 13.90% in 1994-95, 12.49% in 1995-96, 11.71% in 1996-97, 11.58% in 1997-98 and 11.53% in 1998-99.

**Customer Information:** Besides various consumer service facilities, installation of touch screen computers is an important and innovative facility provided to the customers during the year. All the information pertaining to customers regarding new connections, billing, payments, forms and facilities of collections are provided on computer which can be accessed just by touching the screen. The information is provided in English and Marathi. Touch Screen computers are installed in consumer centres at North Zone, East Zone, Central Zone and South Zone at present and the facility will be made available at all other centres shortly.

**Marketing of Electricity:** In the competitive environment and in the licenced area of distribution, efforts of the Marketing Department in servicing our existing consumers and attracting new customers were laudable. The Department provides single point facility to HT and large consumers. The single window service resulted in encouraging results wherein 80 consumers with demand exceeding 180 MVA have been provided with permanent supply and another 34 consumers with aggregate demand of 26.5 MVA with temporary supply. The Department interacts with prospective customers to render the best of services.

**Tariff:** There was no revision in the basic tariff of the Company for the supply of energy during the year.

**Reasonable Return:** The Net Profit of the Company for 1999-2000 was Rs. 306.82 crore. The Clear Profit in respect of the electricity licensed business of the Company was Rs. 173 crore

which was short of Reasonable Return by about Rs. 7 crore.

#### **Dahanu Thermal Power Station:**

The Power Station of the Company at Dahanu generated 3,895 million units at an average Plant Load Factor (PLF) of 88.7% during the year against 3,353 million units generated at a PLF of 76.6% in the previous year. The Station achieved the highest ever Plant Availability of 98.42% (previous year 92.24%), one of the highest among Indian utilities, demonstrating the capability of the plant to operate at its full rated capacity. The Station continued to improve upon the operating norms of the Power Station with specific oil consumption declining to 0.1670 ml/Kwh against 0.4784 ml/Kwh in the previous year (the norm being 3.5 ml/Kwh), auxiliary power consumption of 7.04% as against 7.44% (the norm being 8.50%), the heat rate of 2,313 Kcal/Kwh against 2,314 Kcal/Kwh in the previous year (the norm being 2,500 Kcal/Kwh) and Demineralised water consumption of 0.90% against 1.25% in the previous year.

**Simulator for Process Control and Instrumentation:** The Process Control and Instrumentation Department has developed an inhouse "Simulator-cum-Electronic Module Test Bench" for their DDC Pro-control System which is the main system used in DTPS for Process Control. The main uses of these simulators are Off-Line testing of all the Process Control electronic modules, checking of different types of Field Measuring Devices and Drives and, most important, kit for training purposes. This simulator can be used for testing and repairing electronic modules.

**Islanding & Load Shedding Scheme:** The Company is in the process of commissioning "Islanding & Load Shedding Scheme" in BSES network area for environment system stability by means of Supervisory Control and Data Acquisition System (SCADA). Under this Scheme, Local SCADA Panels are installed at various Receiving Stations. Operators will have access and control for load shedding based on frequency through these panels by allocating priorities and frequency settings to various 33 KV Feeders. On the other hand, the Master Station at Dahanu will continuously carry out the balance calculation. Accordingly, in the eventuality of islanding, the master load at Dahanu will send instructions on the quantum of load to be shed by each Receiving Station.

#### **Contracts Division and EPC Business Group:**

The Contracts Division including the EPC Business Group improved its turnover to Rs. 391 crore during the year. The Division has booked orders amounting to Rs. 665.34 crore, an increase of about 45% over the previous year. During the year, two more Regional Offices were opened at Kochi and Bhopal for carrying out contracting activities in the respective regions.

The Elastimold Division commenced manufacture of transmission system for the newly introduced 3 phase Locomotives used by Indian Railways.

## GROWTH PLANS AND OUTLOOK

**Corporate Plans:** With greater thrust being given to the privatization of the distribution system and opening up of transmission business, further and larger business opportunities are expected to emerge, which will enable the Company to implement its Corporate Plan successfully with renewed vigour. Meanwhile, the Company actively continues to pursue the various projects currently under implementation.

**Wind Farm:** The Company during the year commissioned the entire Wind Farm consisting of 33 windmills with aggregate capacity of 7.59 MW at Jogimatti in North Karnataka on schedule and without any cost overrun. After successful trial operation, the windmills have commenced commercial operation. These windmills supplied 4.2 million units of horse power to the State grid. It is expected that during the current windy period i.e. April to September 2000, the Wind Farm will demonstrate its optimum capacity based on the potential of the wind power.

**Palghar Project:** The Government of Maharashtra has cleared the proposal of the Company for setting up a 495 MW Power Station at Saphale in Palghar, Maharashtra. The Company is following up on various other statutory permissions and clearances related to the Project including from the Maharashtra State Electricity Board. The Company has completed the evaluation of offers for the supply of main plant equipment and erection thereof. The Company continues to make progress on various surveys related to the project.

**BSES Telecom Limited (BTL),** a wholly-owned subsidiary of the Company, has drawn plans to exploit the opportunities emerging from the convergence of technologies in the telecommunication and information fields. BTL is actively pursuing business proposals in last mile connectivity through Optic Fibre Network services, information technology services and internet services including the development of comprehensive value added portals and vortals. The Company has launched its internet service – Powersurfer.net in Mumbai. It has also launched several plans to offer whole range of value added services in various internet related areas, including setting up a chain of e-mart Kiosks in Mumbai through a Joint Venture with Sriven Multitech Limited of Hyderabad. BTL has installed India's first broad band service offering connectivity to customers in SEEPZ in Mumbai. BTL is also setting up a meter manufacturing unit in the Union territory of Dadra to manufacture single phase and three phase electronic meters to cater to the requirements of the Company and of all its subsidiary companies. The project is in an advanced stage of implementation.

**ST-BSES Coal Washeries Limited (SBCW):** During the year, SBCW allotted 35,68,606 Equity Shares of Rs. 10 each to the Company and other co-promoters. As a result, the equity holding of the Company declined to 45% of the enlarged share capital of SBCW and SBCW ceased to be a subsidiary of the Company with effect from 23rd June, 1999.

The Coal Washery, which commenced commercial operation during the year, produced around 6,17,000 tonnes of clean coal of which almost 5,80,000 tonnes were supplied to the Company's Power Station at Dahanu thereby reducing dependence on imported coal. In addition, the Washery is also supplying small quantities of washed coal to power generating and cement units located near it. SBCW has plans to expand its capacity by setting up coal washeries in other parts of the country for supplying washed coal to State Electricity Boards and other coal consuming units.

**BSES Kerala Power Limited (BKPL),** a joint venture with Kerala State Industrial Development Corporation Limited (KSIDC), has successfully synchronised all the 3 units of the open cycle mode and the Power Station is ready for trial operation and commercial production. The erection of the main power plant equipment for the combined cycle mode of operation of 165 MW is nearing completion and will be commissioned shortly. The power generated from this Power Station will be supplied to the grid of KSEB. BKPL has signed a Power Purchase Agreement (PPA) with KSEB for the combined cycle mode of operation. The PPA provides security for the revenue recovery through Letter of Credit, Escrow Account and State Government Guarantee. To meet the requirement of funds for the project, the Company subscribed to further 2,10,20,000 Equity Shares of Rs. 10 each aggregating Rs. 21,02,00,000 during the year.

**BSES Andhra Power Limited (BAPL),** a subsidiary of the Company, has made further progress on its 210 MW naphtha based Power Project at Samalkot in Andhra Pradesh. The said Company has acquired land admeasuring about 201 acres for the project. The Company has awarded most of the contracts for Offshore and Onshore equipment supplies, engineering activities and civil and structural construction works. The civil works for raw water reservoir and storm water drains have been completed. The Company is arranging Fuel Supply from Bharat Petroleum Corporation Limited for supply of naphtha. The Company has approached the Ministry of Petroleum and Natural Gas for allocating natural gas in place of naphtha to the project. The debt finance requirement for the project has been fully tied up with a consortium of banks. The Company during the year subscribed to further 2,45,00,000 Equity Shares of Rs. 10 each aggregating Rs. 24.50 crore of BAPL as Promoters' contribution to the project.

**Maithon Power Project:** The Company has decided to form a joint venture with Damodar Valley Corporation to set up the proposed 1000 MW pithead Maithon thermal power project on the right bank of river Barakar at Maithon in Dhanbad district of Bihar. The project is one of the approved projects recognized with the status of Mega Power Project and will be eligible to all facilities and concessions available in the Mega Power Project Policy enunciated by the Government of India.

The project has secured most of the clearances and approvals from the authorities concerned. The project will be implemented in accordance with the Corporate Plan of the Company. The Government of India has approved the association of BSES as a co-promoter of the project, with BSES and DVC each holding 45% of the equity share capital, and the balance equity shares to be placed with financial institutions and the public.

**Tamil Nadu Industries Captive Power Company Limited (TICAPCO)**, a subsidiary of the Company is following up the techno-economic clearance from the Central Electricity Authority to its 250 MW lignite based Power Project proposed to be set up at Srimushnam in Tamil Nadu. The Company has submitted a revised draft Power Purchase Agreement to Tamil Nadu Electricity Board (TNEB) based on its discussions with officials of TNEB. TICAPCO has appointed National Thermal Power Corporation Limited as the Consultants for the main plant. TICAPCO has obtained the administrative sanction of the State Government for acquisition of land. It has completed the land survey, soil investigation study, water feasibility study and railway siding study, etc. at the site. TICAPCO is closely following up with the authorities concerned for obtaining the remaining clearances to the project.

**BSES Infrastructure Finance Limited**, a wholly owned subsidiary of the Company, recorded significant improvement in its financial performance and declared a dividend of 10% on the equity capital of the Company. The said Company advises associate companies of BSES on capital structuring and deployment of short term surplus funds. It negotiates long term loans, lease financing and syndicated placement of securities for funding the various projects being implemented by the associate companies of BSES.

**Utility Powertech Limited**, a joint venture with National Thermal Power Corporation Limited (NTPC), recorded satisfactory performance during the year and has declared a dividend at 10% on the equity capital of the Company. The said Company has secured contracts to undertake maintenance jobs of NTPC Power Stations in the areas of engineering, construction management, non-conventional energy and maintenance of power projects including renovation and modernization. The Company during the year successfully completed, among others, the renovation and modernization of a 50 MW boiler at Bangladesh and overhauling of a 210 MW boiler of NTPC at Farakka.

#### **Distribution Companies in Orissa:**

The Company acquired a controlling equity stake of 51% of the equity capital of three of the four electricity distribution companies of Orissa viz. North Eastern Electricity Supply Company of Orissa Limited, Southern Electricity Supply Company of Orissa Limited and Western Electricity Supply Company of Orissa Limited with effect from 1st April, 1999.

Immediately thereafter, the top management teams were put

in place in these companies and systematic programmes aimed at improving the power supply reliability and revenue collections were launched. It was noticed that 60 to 75% of the 9 lakh consumers in these companies were either without meters or their meters were defective. Distribution losses of these companies were ranging in the order of 48 to 50%.

Actions were therefore initiated to install high quality meters and to implement system improvement measures. However, these initiatives did receive a setback for 3 to 4 months due to the super cyclone which devastated several parts of the State. Since then, distinct improvements are being witnessed and it is expected that over the next 2 to 3 years, these companies would turn around in system efficiency and profitability.

Considering the present huge transmission and distribution losses, there is vast scope for effecting improvements and achieving efficiency in operations. With the necessary financial support from the World Bank, programmes drawn for augmenting and modernizing the distribution systems of these companies are being implemented and closely monitored.

## **FINANCE**

**Raising of Funds:** The Company is assessing the requirement of funds for the proposed power project at Saphale in Palghar. After the relevant permissions and clearances to the project are received, the Company will tap the domestic and international markets to raise the necessary funds.

**Preference Share Capital:** The Company during the year redeemed 12.50% Redeemable Cumulative Preference Shares of Rs. 10 crore. With this, the Preference Shares outstanding at the end of the year aggregated Rs. 87 crore.

**Depositories:** For the convenience of the shareholders, the Company extended the facility of Quick Demat Scheme under which shares surrendered to the Company were dematerialized in 2 to 5 days' time. There has been encouraging response to dematerialization of shares with close to 90% of the equity share capital of the Company now held in demat form.

**Equity Shareholdings:** The Company has been notified of the intention of Reliance Power Ventures Limited (RPVL) and Reliance Industries Limited (RIL) to make an offer to the shareholders of the Company to acquire additional 20% of the voting capital of the Company. RIL and various persons acting in concert currently hold about 14.82% of the voting capital of the Company. RPVL and RIL have issued a Public Announcement in newspapers on 24th May, 2000 offering to acquire additional 20% of the Equity Shares of the Company at a price of Rs. 234.60 per share.

**Loans:** The Company has availed of a loan of Rs. 31.40 crore on soft terms from Indian Renewable Energy Development Agency Limited (IREDA) to finance the setting up of a 7.59 MW Wind Farm Project at Chitradurga District of Karnataka. The loan shall be repayable in 36 quarterly instalments beginning from 31st December, 2000.

In order to reduce the interest burden on the Company from the high coupon rate term loans, the Company prepaid the balance loans to Indian Financial Institutions amounting to Rs. 43 crore. In addition, with a view to minimizing the foreign exchange exposure, the Company prepaid US\$ 17.64 million (approximately Rs. 77.18 crore) to the International Bank for Reconstruction and Development (IBRD), being a part of the loan availed for the Dahanu Power Project. With this prepayment, the entire term loans availed by the Company from the Financial Institutions for the Dahanu Power Project stand prepaid, except for a part of the loan availed from IBRD.

**Investments:** Out of the outstanding investments of Rs. 48.92 crore recoverable from the assets of a non-banking finance company, the Company had received Rs. 14 crore upto the previous year and Rs. 19.18 crore in the current year in instalments, pursuant to the Order passed by the Hon'ble Special Court. The Company also received during the year, the entire balance amount of Rs. 15.74 crore along with the accrued yield of about Rs. 2.62 crore upto the contractual dates of transactions from the subsidiary of a nationalized bank in the form of equity shares of reputed companies.

**Deposits:** The deposits accepted by the Company from the public and shareholders aggregated Rs. 10.14 crore as on 31st March, 2000. Deposits amounting to Rs. 29.69 lakh due for repayment, were unclaimed by 338 depositors as on 31st March, 2000. Since then, 118 depositors have claimed their deposits aggregating Rs. 10.89 lakh.

**Accounts:** As regards Note No. 2 referred to in Notes forming part of the Accounts regarding 'Treatment of Exchange' fluctuations on Foreign Currency liabilities relating to 'Fixed Assets', the details given in the said note are self-explanatory.

**Subsidiary Companies:** As required under Section 212 of the Companies Act, 1956, the audited statements of accounts along with the Reports of the Boards of Directors of BSES Andhra Power Limited, BSES Infrastructure Finance Limited, BSES Kerala Power Limited, BSES Telecom Limited, Tamil Nadu Industries Captive Power Company Limited, Utility Powertech Limited and the respective Auditors' Reports thereon for the year ended 31st March, 2000, are annexed.

However, three of the subsidiaries of the Company viz. North Eastern Electricity Supply Company of Orissa Limited, Southern Electricity Supply Company of Orissa Limited and Western Electricity Supply Company of Orissa Limited having extended their financial period from 1st April, 1999 to 30th June, 2000, necessitated due to delay in approval of their Annual Accounts of the previous year which were subject to audit by the Comptroller and Auditor General of India. The

audited statements of accounts along with the Reports of the Boards of Directors of the respective companies and the respective Auditors' Reports thereon are not due for closure on 31st March, 2000 and hence are not annexed hereto.

#### **Technology Absorption and Foreign Exchange Earnings and Outgo:**

The information relating to technology absorption, foreign exchange earnings and outgo required to be disclosed under Rule 2 of the Companies (Disclosure of Particulars in the Report of Board of Directors) Rules, 1988, is given in Annexure 1 to this Report.

#### **Year 2000 Compliance:**

Thanks to the detailed review of the exposure of all areas relating to the Year 2000 (Y2K) risk and the follow-up action taken in consultation with an internationally reputed consulting agency, your Company managed a smooth transition to the new millennium without any adverse impact on its systems and facilities.

#### **Personnel:**

The BSES Management Institute set up by the Company conducted 100 courses on various management subjects including areas related to power generation and distribution in order to develop the professional skills of its managerial cadre.

With a view to recognizing and appreciating the outstanding contribution of employees, the Company confers Meritorious Performance Awards to deserving members of the staff. During the year, 44 staff members were conferred with such awards for contributions of exceptional nature. Similarly, Group Awards were conferred for productivity, safety and housekeeping on various Divisions of the Company.

The Company has entered into a fresh wage agreement with the staff union in settlement of their demands for a four year period upto 30th June, 2002.

Information as per Section 217(2A) of the Companies Act, 1956, read with the Companies (Particulars of Employees) Rules, 1975, is given in Annexure 2 and forms part of this Report.

#### **Directors:**

Shri J P Thacker resigned from the Board on 3rd February, 2000 after serving on the Board of the Company for over 32 years. Shri Thacker holds the unique distinction of having served on the Board of the Company for the longest ever tenure by any of its members. The Board recorded with appreciation the invaluable and immense contribution made by Shri J P Thacker during his illustrious association with the Company.

In the casual vacancy caused by the resignation of Shri N Ganga Ram, Shri S Rajgopal was appointed as a Director of the Company under Article 106 of the Articles of Association of the Company on 28th December, 1998. He holds office up to the date of the forthcoming Annual General Meeting and is eligible for re-appointment. The Company has received notice in writing under Section 257 of the Companies Act, 1956, proposing the candidature of Shri S Rajgopal.

Shri Ananda Mukerji, who was appointed as a nominee of ICICI Limited, ceased to be a Director consequent upon prepayment of term loans availed from a consortium of financial institutions led by ICICI Limited. The Board recorded with appreciation the invaluable contribution made by Shri N. Ganga Ram and Shri Ananda Mukerji in the deliberations of the Board during their tenures as Directors of the Company.

The Board of Directors has re-appointed Shri S S Dua as Whole-time Director designated as Director (Technical) for the period 21st July, 2000 up to 20th July, 2003. The terms of appointment and remuneration are being placed before the Members for approval.

Shri Y P Gupta and Shri M P Modi retire by rotation under Article 118 of the Articles of Association of the Company and are eligible for re-appointment.

**Auditors:**

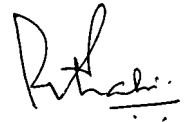
M/s. Haribhakti & Co., Auditors, will retire at the conclusion of the Meeting and are eligible for re-appointment. They have, pursuant to Section 224 (1B) of the Companies Act, 1956,

furnished the certificate regarding their eligibility for re-appointment as the Auditors of the Company. Their re-appointment, if made, will have to be by a Special Resolution as required by Section 224A of the Companies Act, 1956.

**Acknowledgement:**

The Board of Directors wishes to thank the Government of India (including the Ministry of Power), Government of Maharashtra (Energy and Environment Departments), Maharashtra Pollution Control Board, Maharashtra State Electricity Board, USAID, Indian and Overseas Financial Institutions, Bankers, Consumers, Shareholders, Tata Electric Companies and the Employees of the Company at all levels for the continued co-operation and unstinted support extended to the Company.

On behalf of the Board of Directors



**R.V. Shahi**  
*Chairman and Managing Director*

Mumbai, 31st May, 2000

## ANNEXURE 1 TO THE DIRECTORS' REPORT

Disclosure under the Companies (Disclosure of Particulars in the Report of Board of Directors) Rules, 1988.

- (A) Conservation of Energy : Not applicable  
 (B) Technology Absorption : As below

### FORM 'B'

#### RESEARCH AND DEVELOPMENT (R & D)

1. Specific areas in which R & D carried out by the Company : None
2. Benefits derived as a result of the above R & D : NA
3. Future Plan of Action : NA
4. Expenditure on R & D : NA

#### Technology Absorption, Adaptation and Innovation

##### (I) Dahanu Thermal Power Station:

1. In brief, efforts made towards technology absorption adaptation and innovation:
  - (a) Complete automatic control and monitoring of the Turbine, Boiler and Auxiliaries by Digital Distributed Control, Monitoring and Information System (DDCMIS).
  - (b) State-of-the-art Electrostatic Precipitator and technologies for complete environmental safeguard.
  - (c) Supervisory Control and Data Acquisition (SCADA) system for Transmission and Distribution and establishing load despatch centre for BSES grid.
  - (d) Microprocessor-based fire detection and protection system.
  - (e) Utilisation of concrete volute pumps for CW system.
  - (f) Erection of the tallest Chimney (275.3 mtrs.) in the country.
  - (g) Advanced Air Pollution Monitoring system.
  - (h) (LAN) Local Area Network with Fibre Optic cabling for office automation.
  - (i) Advanced materials management system (Software).
  - (j) CCTV (Closed Circuit Television).
  - (k) Implementation of ERP package and upgradation of LAN.
  - (l) On-line Steam & Water sampling and analysis (SWAS) system.
  - (m) Cellular Mobile Telephone and Paging system.
  - (n) On-line Heat rate Analysis degradation monitoring and expert system package (HRDMS).
2. Benefits derived as a result of the above efforts:
  - (a) Complete automatic control and monitoring of all parameters of the turbine and turbine auxiliaries, boiler and boiler auxiliaries and effective and quick diagnosis of the system.
  - (b) A very high efficiency (99.94%) Electrostatic Precipitator to collect fly ash generated. The fly ash emission is within limits even with one out of six fields out of service.
  - (c) Effective network monitoring and control of load distribution of BSES grid and effective diagnosis of the system.
  - (d) Automatic detection of fire and control of fire.
  - (e) Avoidance of corrosion from saline sea water.
  - (f) Dispersion of ash to longer distance and reduction of the density of ash deposition, by a stack of 275.3 metres, the highest in India.
  - (g) Automatic on-line monitoring of flue gas at chimney and automatic on-line monitoring of ambient air parameters like SO<sub>2</sub>, NO<sub>x</sub>, and SPM at fixed stations located at Vangaon, Ashgahd and Kosbad which are around 10 Kms distance at South, East and North sides respectively of the plant.
  - (h) Software and data sharing, thus reducing paper wastage.
  - (i) Computerised materials indenting, issuing and inventory control and monitoring.
  - (j) Computerised maintenance planning, monitoring and control of O & M activities.
  - (k) Thermovision camera for observation of Hot Spots for remedial action for EHV (Extra High Voltage) system.
  - (l) FFT (Fast Frequency Track) analyzer for vibration analysis of Rotating equipments.
  - (m) Implementation of Quality Management System to improve efficiency of plant.
  - (n) For continuous improvement of the environment setting objectives and targets to prevent or reduce pollution and waste, to minimise use of resources.
  - (o) CCTV to reduce expenditure on security.
  - (p) This will improve efficiency of plant, maintenance management, inventory management, finance management.
  - (q) Can perform automatic configuration sampling of water cycle (Boiler & Turbine) and steam parameter and analysis of the same for better

maintenance of water and steam chemistry thereby improving the life of pressure parts and other steam and water paths.

- (r) Fast and improved communication with key personnel, specially useful during emergencies.
- (s) Plant efficiency monitoring is on-line with this package and extremely useful in diagnosing degradation of performance.

3. Imported Technologies : None

**(II) Supply Division:**

- 1. In brief, efforts made towards technology adaptation, adoption and innovation :
  - (a) Installation of good quality long range Electromechanical meters with imported magnetic suspension bearing and register counters.
  - (b) Installation of Single phase Static Meters for residential consumers.
  - (c) Installation of solid state meters for small commercial consumers.
  - (d) Procurement of 1500 KVA and 2000 KVA Dry Type Distribution Transformers.
  - (e) Interactive Voice Response System (IVR).
  - (f) Procurement of microprocessor based automatic VARLOG compensation LT capacitors.
  - (g) Procurement of SF6 Gas Insulated Ring Main Units with motorized isolators for Substations.

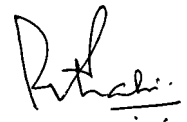
- 2. Benefits derived as a result of the above efforts:
  - (a) (i) Sustained accuracy at all loads.
    - (ii) Longer Life
  - (b) (i) High Accuracy
    - (ii) Recording of units in the event of common temper

- (c) (i) Optical port facility for data transfer
  - (ii) Load Survey capability
  - (iii) Telemetry capability
- (d) (i) Maintenance-free
  - (ii) No fire hazard
- (e) (i) Speedy redressal of consumer complaints related to supply
  - (ii) Auto-logging of consumers complaints
  - (iii) Enhanced consumer satisfaction
- (f) (i) Reduction in Distribution Transformer losses
  - (ii) Improvement in Voltage profile
  - (iii) Automatic control of Power factor at the substation
- (g) (i) Higher Rupturing Capacity
  - (ii) Maintenance-free
  - (iii) Suitable for remote operation of SCADA System.

**(C) Foreign Exchange Earnings and Outgo:**

The required information in respect of foreign exchange earnings and outgo is given in Note No. 7 of the Accounts.

On behalf of the Board of Directors



**R.V. Shahi**  
Chairman and Managing Director

Mumbai, 31st May, 2000

## ANNEXURE 2 TO THE DIRECTORS' REPORT

Statement containing information as per Section 217(2-A) of the Companies Act, 1956 read with the Companies (Particulars of Employees) Rules, 1975 and forming part of the Directors' Report for the year ended 31st March, 2000.

Sr. No.	Names	Designations/ Nature of duties	Gross Remuneration Rs.	Net Remuneration Rs.	Qualifications	No. of years experience	Date of Commencement of Employment	Age	Last Employment held
A.	Employees employed throughout the financial year 1999-2000 and who were in receipt of remuneration for that financial year in the aggregate of not less than Rs. 6,00,000 per annum.								
1.	Shri S.S. Dua *	Director (Technical)	9,66,488	5,98,612	BSc, Engg (Elect.) FIIFE, FIE	37	17-01-1995	61	Executive Director (O.S.), National Thermal Power Corporation Ltd.
2.	Shri K.H. Mankad *	Director (Finance)	12,85,922	8,49,188	BCom, LLB, ACA, AICWA, ACS	36	28-02-1995	57	General Manager (Finance & Taxation), Mukand Ltd.
3.	Shri K.K. Saha Chaudhuri	Executive Director (DTPS & PP)	6,06,699	4,78,295	BE (Mech Engg.)	31	05-07-1995	53	Dy. General Manager (O&M), National Thermal Power Corporation Ltd.
4.	Shri R.V. Shahi *	Chairman & Managing Director	18,64,694	11,32,039	BSc Engg (Mech), Post Graduation in Indl Engg, Diploma in Business Management, Diploma in Advanced Industrial Management	32	14-10-1994	55	Director (Operations), National Thermal Power Corporation Ltd.
B.	Employees employed for part of the financial year 1999-2000 and who were in receipt of remuneration at the rate of not less than Rs. 50,000 per month.								
1.	Shri N.A. Bhasme	Dy. General Manager	6,02,273	4,91,830	BSc., BE (Elec)	36	01-02-1973	60	Contractor, Erection HT/LT installations
2.	Shri M.N. Joglekar	Executive Director (Supply)	8,90,154	8,19,224	BE (Elec), DBA, LLB, FIE	36	08-02-1961	60	Dy. Engr., Construction grade, Gujarat Electricity Board.
3.	Shri Harry P.	Dy. General Manager	5,52,166	4,61,221	BE (Elec), FIE., Chartered Engr, National Supervisor	37	22-11-1974	60	General Manager, Surindra Engineering Co. Pvt. Ltd.

- Notes:
- All the above employees were employed on non-contractual basis except those marked (\*) Asterisk.
  - Gross remuneration as shown in the statement includes salary, commission to a director, special allowance, house rent allowance or the actual rent paid by the Company or municipal rateable value in the case of free unfurnished quarters of the Company, transport allowance, employer's contribution to provident fund and superannuation fund, reimbursement of medical expenses, leave travel assistance, leave encashment and perquisites in respect of free use of company's motor car and personal accident insurance premium, as applicable.
  - In addition to the above remuneration, the employees are also entitled to gratuity.
  - The net remuneration is arrived at by deducting from the gross remuneration, Income-tax, Company's contribution to Provident Fund and Superannuation Fund and the monetary value of non-cash perquisites, wherever applicable.
  - Experience includes number of years' service both within the Company and elsewhere, wherever applicable.
  - None of the above is related to any Director of the Company.