

# ANNUAL REPORT

## 1996-97



POWER GRID CORPORATION OF INDIA LIMITED

## MISSION

Establishment and operation of Regional and National Power Grids to facilitate transfer of power within and across the Regions with reliability, security and economy, on sound commercial principles.











## OBJECTIVES

The Corporation has set following objectives in line with its mission :

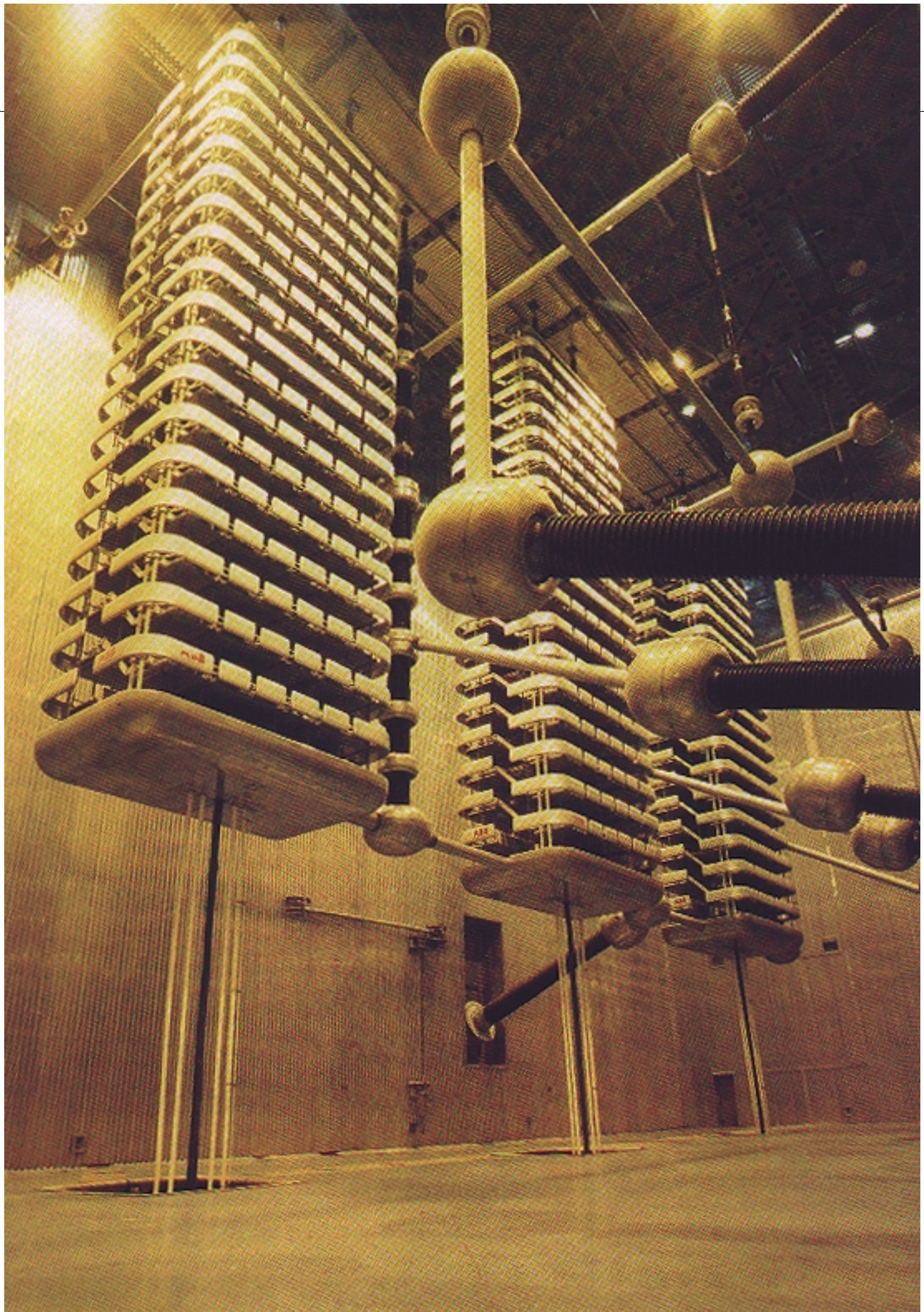
- Efficient operation and maintenance of transmission systems.
- Strengthen Regional Power Grids and establish Inter Regional links leading to formation of National Power Grid.
- Establish/augment Regional load dispatch centres and communication facilities.
- Introduce rational tariff structure for exchange of power.
- Establish Power Pools to facilitate exchange of power between States/Regions leading to formation of National Power Grid.
- Achieve constructive cooperation and build professional relations with stakeholders, peers and other related organizations.



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## THE CHANGING FACE OF INDIAN POWER SCENARIO

Since its invention Electricity remains the Power behind the great industrial revolutions. It won't be an exaggeration to state that POWER SECTOR is the foundation on which any modern economy stands, Ours is no exception. Recognizing this as the basic ingredient to achieve industrial self reliance and looking at the social overhead capital involved, our national planners kept power sector exclusively under government jurisdiction. Though the sector has taken long strides in the direction of capacity addition and distribution since the day of independence, the demand is insatiable.

With liberalization of the economy and structural changes that are initiated in various quarters, the demand for reliable and quality power is ever increasing. And, when the reliable and quality power is in demand can the quality of power supply management be far behind!

The concept of Power and its transmission have recently undergone a sea changes. Traditionally perceived as a basic infrastructure for the country's economic development, transportation of power is now being seen in marketing terms.

Today, the Indian power sector is undergoing metamorphosis. The move is towards segregating generation, transmission and distribution into exclusive fields of business operation. State Electricity Boards are getting restructured into commercial organizations. Of late it has been understood that keeping the wheel of this sector roll in the pace as



demand by the economy can no more be government's job alone. Facilitating the massive investment requirement through only budgetary support would be probably insufficient. Thus this sector is getting open to private players also. The key is optimum efficiency, economy of operation and power at affordable price for the customer.

The restructuring in the Central Indian Power Sector as envisaged, would induce competition among generators and distributors in their



respective markets wherein generating companies will have the options to supply electricity to more than one distributing agency. This will ensure efficiency gains and optimal utilization of natural/depletable energy resources available in the country, which will have a cascading multiplier effect on all facets of the country's economy.

## POWERGRID : THE CHANGE AGENT

Power Grid Corporation of India Limited (POWERGRID) incorporated in October 1989 is the Change Agent in the evolutionary restructuring movement that is sweeping the Indian power sector- an amalgamating force and a partner to the development of Indian power sector.

Today, POWERGRID operates about 27,853 ckt. kms of transmission lines comprising 400 KV, 220 KV, 132 KV AC transmission lines and HVDC transmission system, criss-crossing the entire length and breadth of the country with a total installed transformation capacity of around 23,331 MVA distributed over 54



sub-station and maintained at a persistent level of over 98% of line availability, which is comparable with the the international standards.

Of the total installed generating capacity of 81,500 MW in India, about 30% is connected to POWERGRID network and about a quarter of the total energy exchanged in India, is handled by POWERGRID. Further, today POWERGIRD has about 16% of the total EHV transmission network of the entire country mainly ranging from 132 to 400 KV system.

POWERGRID stands as one among the top six transmission Utilities in the world whose line availability have always been maintained at above 98%. The net value of assests as on 31st March 1997 is about Rs. 5,600 crores, with a net profit of about Rs. 306 crores on a turn over of around Rs. 1000 crores and it is today one of the largest bulk power transmission organizations in the world. At present about 10,700 ckt. kms. of 800, 400, 220, 132 KV & HVDC transmission system along with 17 sub-stations including extension of bay are under construction and a further, 25,000 ckt. kms of



transmission lines are planned to be executed in the coming plan periods. As per the extimates available, about Rs. 13,000 crores of investment is to take place for various projects of POWERGRID during 9th Five Year Plan, which excludes the additional investments of around Rs. 5,000 crores for the transmission projects associated with the IPP projects.

### **INTER-REGIONAL EXCHANGE OF POWER**

Presently various regional grid systems are generally operating at different parameters owing to varying degrees of power

shortages, generation mix, load pattern etc., their integrated operation through AC links poses technical problems. Therefore, it has been decided to interconnect various regional grids through HVDC back to back links which technically enable integrated operation at different parameters and also ensure controlled power exchange between the two interconnected regions.

POWERGRID has already interconnected Western and Northern Region as well as Eastern and North-Eastern Regions. In addition, it has a 400 kv D/C Ramagundam Chandrapur line between Western and Southern Region operating in radial mode. Other such links already under construction are HVDC back to back at Chandrapur, the link between jeypore (Orissa)-Gazuwaka (Andhra Pradesh), 400 kv D/C line between Bongaigaon (Assam-NER) and Malda (West Bengal-ER). To further augment the transmission network and evacuate surplus power from Eastern Region, POWERGRID has planned a 500 MW HVDC link between Biharshariff (Bihar-ER) - Sasaram (Bihar-ER) and Rihand (U.P-NR)





which would facilitate transfer of power to Northern Region.

With the completion of above mentioned regional ties the basic framework of National Power Grid will be complete and about 1000 MW to 1500 MW of power can be exchanged between various regions on a regular basis.

While the above mentioned inter-regional links would establish a well connected national grid, the capacities of such links will have to be augmented from time to time. Steps have been initiated by POWERGRID to identify such links. Based on its preliminary findings, POWERGRID has plans to take up in the near future transmission projects like 400 KV Raipur-Rourkela, 2000 MW HVDC Bipole from Talcher to Bangalore, which would further augment the inter-regional exchange capacity.

Furthermore, POWERGRID has evolved a long term perspective for the nation in association with an international consultants PTI Inc., USA. Looking at the fact that hydro potential by and large is concentrated in North-Eastern and Northern Regions, with coal reserves abundant in the boundaries of Eastern and Western Regions whereas the load is spread all over the country, it is essential to plan for high capacity overlaying transmission network linking various regions to facilitate free exchange of power. The scheme evolved broadly would comprise of a High capacity 400 KV links in chicken neck area, ring of 2 nos. 800 KV lines interconnecting Eastern Region, Western region and Northern region, 2nd HVDC bipole of 2500 MW between Eastern Region and Southern region and 2nd 500 MW HVDC back to back



at Vizag between Eastern Region and Southern Region.

The above projects have been prioritized by POWERGRID taking into account the potential for generation, development of loads and requirement of various regional grids.

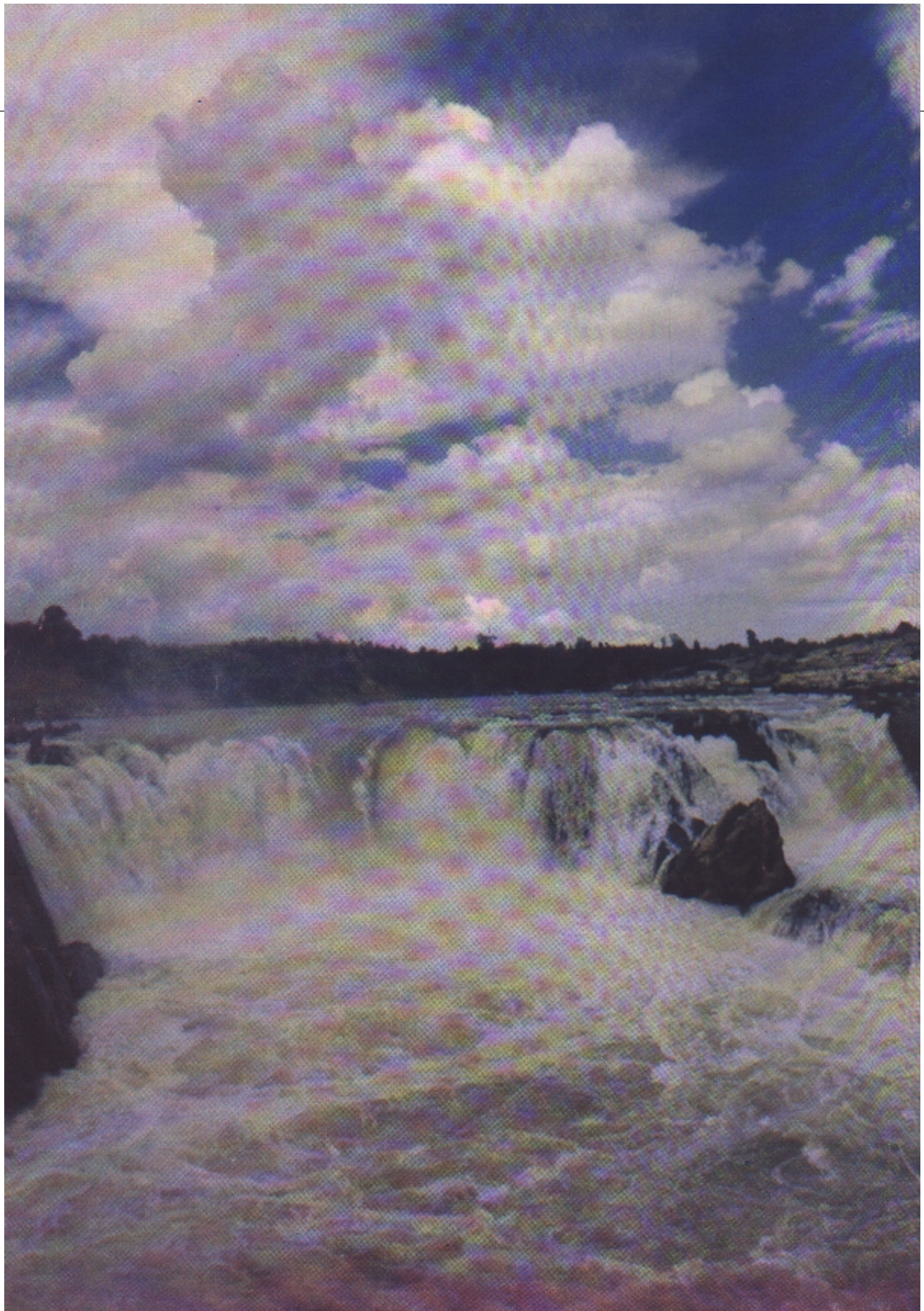
### **TECHNOLOGY**

In a business like power transmission, especially in a market characterized by demand supply

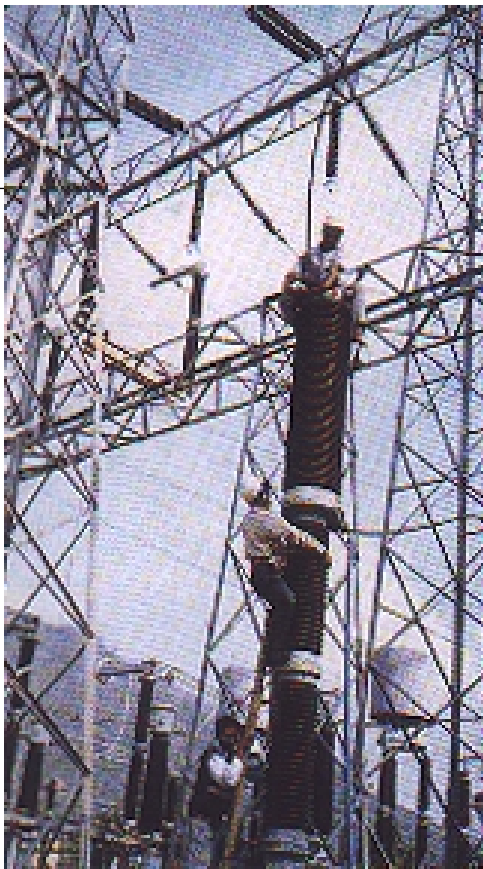
imbalances, technology plays a major role in ensuring reliable transmission system availability and in reducing grid failures. POWERGRID is constantly striving to improve its technology and technological knowhow.

In order to cater to the diverse geographical and climatic conditions of India, POWERGRID has designed transmission towers for different wind/ice conditions, marsh/water logged and midstream









consisting of over 7,000 professionals is spread all over the Indian nation withstanding the various geographic, climatic and political conditions to ensure reliable transmission system availability. POWERGRID's human resource, with a wide variation in their academic, economic, geographic and social backgrounds, is truly representative of the strength and philosophy of the country as well as the true asset base of the company. This realization is reflected in the HR philosophy of the organization. 'POWERGRID believes that its core strength lies in its people, cares for their development and considers the HRD efforts and investment rather than an expenditure.

locations besides special towers for river and power line crossings. Engineering expertise includes implementation of 400 KV AC transmission system and highly specialized areas of 800 KV AC systems, 500 KV HVDC bipole and back-to back systems.

POWERGRID employs Hot-line maintenance technique to ensure maximum line availability without interruptions even during maintenance activities which reflects operational and maintenance expertise of the organization as transmission system availability is over 98%.

For faster restoration of transmission lines in the event of failure due to storm, tornado, landslide, etc. Emergency Restoration System have been utilized which can save time period between 1-4 weeks as against conventional methods of casting foundation and connecting spare towers.

### **HUMAN RESOURCE- the driving Force**

POWERGRID's human resource

a project specific Environmental and Social Management Plan to be adopted in the project cycle and make an integral part of the project cycle and make an integral part of the project execution process.

### **POWERGRID LONG TERM PERSPECTIVE**

The Long term perspective of POWERGRID entails that it will be a "facilitator-cum-change Agent" in restructuring the Indian Power Sector. In order to establish free exchange of power across the regions, POWERGRID has evolved a long term transmission plan in collaboration with PTI of USA. Towards this, POWERGRID has an ambitious plan of interconnecting all the power regions through a 800 kV Power Highway. The key business areas emerging in the future are namely Transmission Services, System Operation, Energy Accounting and System Administrator and Facilitator in Energy Trading. POWERGRID plans to promote creation of Regional Power Pools in all the power regions of the country, on a voluntary co-operation basis, of public and private utilities, for benefits of the pool members. POWERGRID envisages the concept of "Joint Network Operator" with SEBs for intergrated regional system planning. In addition to stressing on its core strength in power transmission business, POWERGRID has plans to diversify into the area of telecommunication by initially leasing out its fiber optic earth wires.

It is matter of great pride for POWERGRID that its employees have been winning the prestigious "Prime Minister's Shram Shri Awards" every year for their exceptional zeal and enthusiasm towards work.

### **REDEFINING THE GREEN BOUNDARIES**

POWERGRID is sensitive to the environmental issues and the social concerns. POWERGRID has evolved Environmental and Social Policy and Procedures (ESPP), keeping in mind the broad framework of laws, policies, constitutional commitments and responsibilities.

POWERGRID is the only organization in the power sector, and perhaps in the entire country, who is finalising its ESPP policy in consultation with the public. POWERGRID, inter-alia, carries out social and environmental assessment of its projects to evolve



**Shri R. P. Singh**



**Shri R. K. Madan**



**Dr. V. K. Garg**



**Shri Bhanu Bhushan**



**Shri S. R. Shivrain**



**Shri J. Vasudevan**



**Shri Arun Gupta**



**Shri A. L. Jaggi**



**Shri R. Natarajan**



**Shri S.C. Parakh**



**Shri Ajay Dua**



**Shri K. Ramanathan**

# BOARD OF DIRECTORS



## **Shri R.P. Singh**

Assumed Charge of Chairman and Managing Director w.e.f 23.8.97  
Director (Personnel) w.e.f. 11.9.95 and additional current charge of CMD  
from 1.11.96 to 22.8.97

## **Shri R.K. Madan**

Director (Projects)- Assumed Charged w.e.f 20.8.96

## **Dr. V.K. Garg**

Director (Finance)- Assumed Charge w.e.f. 17.9.97

## **Shri Bhanu Bhushan**

Director (Finance)- Assumed Charge w.e.f. 13.11.97

## **Shri S.R. Shivrain**

Part-time Director-Assumed Charge w.e.f. 11.01.95

## **Shri J. Vasudevan**

Part-time Director-Assumed Charge w.e.f. 28.11.96

## **Shri Arun Gupta**

Chairman and Managing Director-From 30.1.96 to 31.10.96

## **Shri A.L. Jaggi**

Director (Operations) -From 7.12.93 to 31.5.97

## **Shri R. Natarajan**

Director (Finance)-From 12.7.96 to 30.9.96

## **Shri S.C. Parakh**

Director (Projects)-From 15.11.91 to 31.7.96

## **Shri Ajay Dua**

Part-time Director-From 6.12.95 to 28.11.96

## **Shri K. Ramanathan**

Part-time Director-From 9.1.96 to 1.2.97.

## **Company Secretary**

Shri P.D. Tuteja

## **Particulars of Statutory Auditors**

**M/s. B.M. Chatrath & Co.**  
21, Old Court House Street,  
Calcutta - 700 001

**M/s Umamaheswara Rao & Co.**  
12-B, Skylark Apartments,  
Basheer Bagh,  
Hyderabad - 500 029

**M/s Rasool Singhal & Co.**  
R-402, Anupam Apartments  
Arjun Nagar  
New Delhi

## **Bankers**

Indian Overseas Bank ● Union Bank of India ● Bank of Baroda ● State Bank of Hyderabad  
● State Bank of Travancore ● State Bank of India ● State Bank of Patiala ● State Bank of Bikaner & Jaipur  
● Central Bank of India ● Corporation ● Canara Bank ● Oriental Bank of Commerce  
Syndicate Bank ● Dena Bank ● State Bank of Mysore ● Punjab National Bank ● Vijaya Bank

## **Regd. Office:**

Hemkunt Chambers, 89, Nehru Place, New Delhi - 110 019





Gentlemen,

It is a great privilege to welcome you to this 8th Annual General Meeting of POWERGRID. While the country is celebrating the 50th year of independence, POWERGRID's contribution towards the nation building during a comparatively smaller stint of six years cannot be undermined. It is true that this company has seen only one of the eight five year plans the country has passed by, but during this 8th plan period we have added around 10,000 ckt km of EHV line to the national transmission network. The asset base of the company grew from Rs. 3521 crores in 1992-93 to Rs. 5582 crores thereby resulting in a growth of 59%. The turnover went of from Rs. 634 crores in 1992-93 to Rs. 1058 crores registering an average annual growth rate of 13.4% during the last five years. The profit netted at Rs. 306 crores by 1996-97 indicating a growth of 29% compared to 92-93. We could also meet the loan utilization targets. During the extant period Rs. 1422 crores of External Assistance through Budget and Rs. 1368 crores of External Commercial Borrowings were utilized 30% of the total power

generated in the country was wheeled over systems of POWERGRID.

Based on the result of performance for the year 1996-97, POWERGRID has again achieved "Excellent Performance" rating as per its MOU with Ministry of Power. As on March 31, 1997, POWERGRID operates a total of around 27, 853 CKMs transmission lines distributed over 54 sub-stations with 23,331 MVA of transformation capacity. The operational performance of POWERGRID transmission system has been impressive in all the five power regions. Overall average availability of transmission lines during the year was 99.48% which is comparable with best international standards. During the year, POWERGRID has commissioned 609 CKMs transmission lines, while, about 10,700 ckt. kms. our under construction. In the process our capital expenditure during the year touched Rs. 1543 crores. Paid up capital of the company as on 31st March, 1997 stands at Rs. 3,020 crores as against Rs. 2,992 crores as on 31st March, 1996. The debt: equity ratio of the Corporation during the financial year, has remained satisfactory at 1.04: 1.00, increasing only marginally over the last year ratio of 0.91 : 1.00.

## OPERATIONAL PERFORMANCE

In line with the exceptionally high availability of POWERGRID's systems this year also the availability remained over 98%. This level of availability has been achieved by adopting latest state-of-the-art techniques like hot line maintenance, condition monitoring of EHV equipment, time synchronizing and upgradation of RTUs. A unique feature in this year has been the use of Emergency Restoration System (ERS) which was successfully used to restore damaged lines in the Northern and Western Regions. In the Eastern Region, 7 towers of 400 kV Maithon Jamshedpur line got damaged. This line was restored in only 7 days as compared to the normal requirement of 20 days. Deployment of ERS has helped in optimising tower inventory by reducing the number of spare towers considerably. A rough estimate indicates the saving to be to the tune of Rs. 40 crores.

## CONSTRUCTION MANAGEMENT

The performance of POWERGRID in the construction area has been widely acclaimed amongst others by the international Funding Agencies like World Bank, etc. During the last year we have constructed 2,653 CKMS of





transmission lines against the MoU target of 2500 CKMs. This has been achieved by adopting thrust in the areas of Engineering, Contracts, Quality Assurance and Inspection. A significant achievement of this year has been the commissioning of 400 kv line associated with Uri HEP in Jammu & Kashmir facing acute law and order problems. Construction activities were undertaken in all other regions including region with very difficult terrain like North-Eastern Region where substantial progress was made by commissioning transmission systems namely Kathalguri, Doyang and Agartala.

## **INTER-REGIONAL POWER EXCHANGE**

Presently various regional grid systems are generally operating at different parameters owing to varying degrees of power shortages, generation mix, load pattern etc. Their intergrated operation through AC links poses technical problems. Therefore, it has been decided to interconnect various regional grids through HVDC back to back links which technically enable integrated operation at different parameters and also ensure controlled power exchange between the inter-connected regions.

As you may be well aware, HVDC link at Vindhyachal connecting Northern & Western Regions and a

220 kV link connecting Eastern & North Eastern regions are already under operation. In addition, a 400 kV D/C Ramagundam-Chandrapur line is also under operation in radial mode. With the completion of HVDC links under construction at Chandrapur and Gazuwaka, 400 kv HVAC Malda Bongaigaon link, the path of a National grid shall be completed by the year 2001 and 1000-1500 MW of powr can be transferred across the regions on a regular basis.

While the above mentioned inter-regional links would establish a well connected national grid, the capacities of such links will have to be augmented from time to time. Based on its preliminary findings, POWERGRID has plans to take up in the near future transmission projects like 400 kV Raipur-Rourkela, 2000 MW HVDC Bipole from Talcher to Bangalore, which would further augment the inter-regional exchange capacity. In the long run. the scheme evolved broadly would comprise of a High capacity 400 kv link in chicken neck area, ring of 2 nos. of 800 kv lines interconnecting Eastern Region, Western region and Northern region, 2nd HVDC bipole of 2500 MW between Eastern Region and Southern region and 2nd 500 MW HVDC back to back at Vizag between Eastern Region and Southern Region.

The above projects have been prioritized by POWERGRID taking into account the potential for generation, development of loads and requirement of various regional grids.

## **ASSISTING THE SEB's**

POWERGRID is helping out SEBs by extending available inhouse expertise in the areas of system studies project management, including design, engineering procurement management etc and providing consultancy services in various fields. Presently, we are involved in providing Project Management Consultany to GRIDCO. Similarly system Studies

are carried out for Bihar State Electricity Board. Haryana State Electricity Board has availed our consultancy in the area of Contracts Management for preparation of bid documents of transmission projects.

Inadequate shunt compensation in the distribution network of the state utilities has been a perpetual problem faced in the country. This leads to higher T&D losses, degradation of voltage profiles, under-utilization of EHV transmission network and this has been a primary reason for unsatisfactory regional grid operations. SEBs, on account of financial constraints, have not been able to accord a high priority and are also not in a position to raise funds from multi-lateral/international lenders. Exploiting its excellent performance with national and international finaciers, POWERGRID has tied up financial assistance for procurement and erection of Shunt Capacitors in the state networks so as to help them in overcoming the existing deficiencies. This offer has been extended to all the SEBs in the country and procurement actions have been initiated for implementation of such schemes in different states in a phased manner.

POWERGRID has invited bids for 150 MVAR of Shunt Capacitors for Delhi Vidyut Board. While actions are being initiated to meet the capacitor requirements of Punjab, Haryana and Rajasthan State Electricity Boards by way of procuring around 1000 MVAR capacity on their behalf, commercial agreemetrn's with these SEBs for recovery of costs incurred.

## **STRENGTHENING THE REGIONAL GRIDS**

It has been observed from day to day operations that several shortcomings have arisen inthe grid with increased demand (without significant commensurate development in the system)n over the years. The delay in implementation of



approved generation projects and transmission network and the absence of R&M measures for the old establishments have further aggravated the condition. To improve the situation POWERGRID has proposed steps to be taken up to modify some state owned transmission lines and further more a comprehensive plan has been submitted to Government of India to undertake 33 such state oriented schemes involving a capital outlay of Rs 814 crores.

POWERGRID on behalf of BSEB, has recently carried out modification of existing 132 kV D/C Biharshariff-Bodhgaya and Gaya-Barhi line to enhance power transfer to Western Bihar. Some of the projects on the anvil, namely; Budhipadar-Korba 220 kV S/c line, Dehri-Karamnasa 132 kv S/c, Balimela-Upper Sileru 2nd 220 kV ckts. are proposed to be taken up to enhance the power tranfer between the regions.

## **IXTH PLAN PROGRAMME**

### **POWERGRID's Identified Projects**

POWERGRID envisages to invest around Rs. 13000 crores during the 9th Plan excluding transmission systems associated with mega IPPs. With the present level of financial strength and the loans contracted, POWERGRID will be able to meet this investment requirement. This is further

reinforced by the recent comments of the World Bank and the ODA that POWERGRID's current financial position is sound and provides a strong foundation for continued investment and expansion. Some of the major ongoing projects contributing to the IXth plan outlay substantially are Nathapa-Jhakri transmission line, Dulhasti line, Kishenpur-Moga line, Jeypore-Gazuwaka HVDC back to back system, Regional Load Despatch and Communication Schemes in Southern and Northern regions etc. Likewise major new projects those are going to come during this plan period are North-East HVDC back to back system, Talcher-II inter-regional HVDC link between Eastern region and Southern Region, LD&C schemes for Eastern, North Eastern as well as Western regions, etc.

### **Evacuating IPP's Power**

The national transmission plan earmarks a central sector outlay of Rs. 18,000 crores for the IXth plan period. As already mentioned POWERGRID has identified schemes worth Rs. 13,000 crores and it is expected that an additional investment of Rs. 5,000 crores is required to be allocated towards construction of transmission systems associated with mega IPPs. This additional mandate may skew the present balance of Debt Equity, which is at 50:50. This issue has already been

addressed to Ministry of Power and CEA. The necessary reforms in the tariff structure as assured by these agencies coupled with conversion of the outstanding GOI loans into equity by way of capital restructuring would pave the path for POWERGRID in achieving the target.

## **VENDOR DEVELOPMENT**

For effective project management aimed at containing time and cost over run, in time supply of material with shorter lead time becomes one of the key factors. Recognising this fact POWERGRID has endeavoured to source certain crucial item by developing domestic vendors. Towards this, POWERGRID has already established exclusive vendor-development group to promote such activities. We have put in a lot of efforts to develop domestic vendors for items like insulators, hardware and accessories etc. In this process, POWERGRID has supported BHEL for supply of 210 KN AC and DC insulators to be used on 800 kv/ 400 kv transmission lines. which were earlier being sourced from abroad. These steps have resulted in, amongst other item, supply of more than 18,000 kms. of conductor during this year. Similar activities are being taken up by POWERGRID with domestic vendors for other items like hardware accessories, etc. Looking at the massive investment programme of POWERGRID in the coming plan period this effort will go a long way in cutting down the lead times.

## **REINFORCING COMMERCIAL EFFECTIVENESS**

The turnover of the corporation has increased by around 57% compared to 1992-93. This remarkable impetus speaks of our commercial effectiveness. It won't be incongruous to mention that a substantial amount





in the form of outstanding dues was inherited from the constituent organizations by POWERGRID. We are in the process of liquidating the same by persuading the defaulting SEBs as well as through central appropriation.

On other hand to restrict the outstanding dues from further mounting high the constituents were persuaded to open LCs. Presently, the total amount on this account stands at approximately 75% of the average billing. This has resulted in realizing 100% of the undisputed billing. In addition to this POWERGRID has proposed to take over specific transmission assets from the major defaulting SEBs like UPSEB to be adjusted against outstanding receivables inherited from the parent constituent organizations. Considerable progress has been made towards such asset take over and is being followed up closely for completion of the balance activities.

### **REDEFINING THE GREEN BOUNDARIES**

POWERGRID is sensitive to the environmental issues and the social concerns. POWERGRID has evolved Environmental and Social Policy and Procedures (ESPP), keeping in mind the broad framework of laws, policies, constitutional commitments and responsibilities.

POWERGRID is the only organization in the power sector, and perhaps in the entire country, who is finalizing its ESPP policy in consultation with the public. POWERGRID, inter-alia, carries out social and environmental assessment of its projects to evolve a project specific Environmental and Social Management Plan to be adopted in the project cycle and make an integral part of the project execution process.

### **TRANSMISSION BEYOND NATIONAL BOUNDARY**

In line with the policy of the Government of India to strengthen friendly relations with neighbouring countries, projects under electricity exchange programme has been taken up with Bangladesh. A recent tripartite meeting between Governments of India and Bangladesh and Asian Development Bank held at Manila has discussed related administrative, financial and commercial issues and further deliberations are in progress.

POWERGRID had been purchasing power from Chukha HEP in Bhutan for the past few years to sell the same in various regions in India through massive transmission network constructed by POWERGRID. During the year 1996-97, sale of power to the tune of over Rs. 100 crores has been made.





Following the Mahakali Treaty [Article (2b)] between Governments of India and Nepal, a 132 kV transmission line from Tanakpur upto Mahindranagar will be constructed by POWERGRID to facilitate transfer of 70 million unit of power annually from India. The project is likely to be executed in 1½ years time.

### **DIVERSIFICATION IN TELECOMMUNICATION BUSINESS**

POWERGRID transmission network provides an excellent connectivity amongst various state capitals, major towns and distant cities. These provides a ready-made right-of-way for installation of overhead optical fibre cables for carrying high speed audio, video and data signals. Telecommunication network could thus be established over

an already existing lattice system and would provide extremely robust support. In addition, the communication is very clear and is remarkably cost effective. The organization is thus strategically in an advantageous position for providing such facilities at a low operating cost. At the outset we have plans to lease out these optical fibre cables to a third party on cost effective basis. With this experience, POWERGRID would later on be in a position to expand these activities further and may associate with a joint venture partner, if so required, to provide telecommunication services in line with other telecom operators.

### **PRIVATIZATION IN THE TRANSMISSION SECTOR**

The huge fund requirement of Rs 57,000 crores during IXth plan

period to meet the national transmission requirement necessitates involvement of private sector with a view to supplement the efforts of SEBs and POWERGRID.

The Govt. of India envisage to carry out necessary amendments to the electricity laws that will recognize transmission as an enlusive field of business operation and allow private sector participation as a licensee. Some major inter state transmission lines have been identified for possible private sector participation.

### **CONCLUSION**

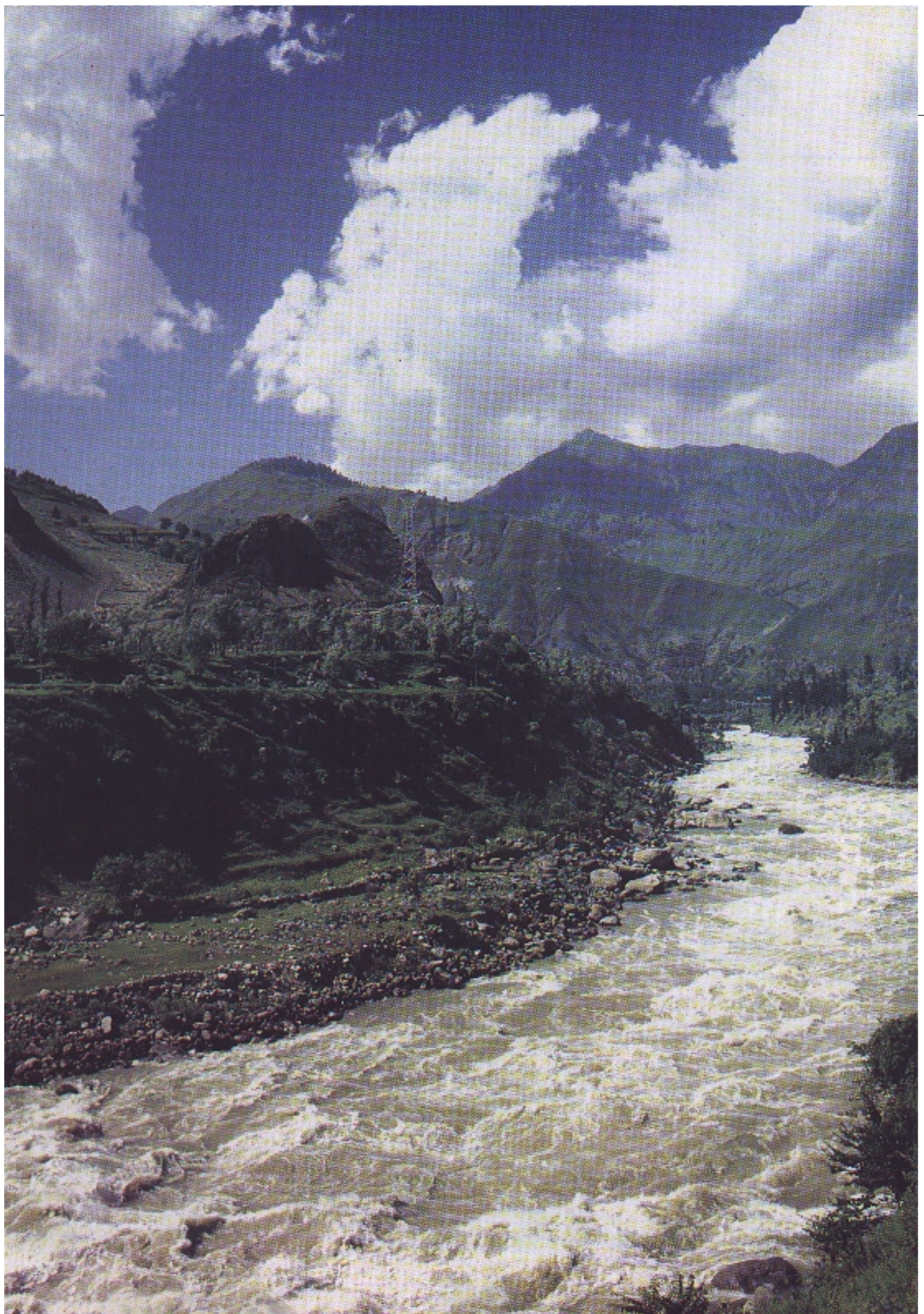
POWERGRID, occupying a unique place in the Indian power scenario, bears testimony to India's vision for the future, where regional imbalances in power demand and supply are eliminated and power, the life-blood of civilization, is made available to the needy. POWERGRID, conceived as a change agent and failitator in the power sector, is a young organization creating waves in the national and international power scenario.

In the years to come, the role of POWERGRID would expand in terms of becoming a powerful force in the economic development of the country by virtue of being a bulk power mover between States and Regions. It will contribute significantly to the growth of the country by making power available to the remotest parts of the country in the shortest possible time frame.



**(R.P. Singh)**  
Chairman & Managing Director

Place : New Delhi  
Dated : 17th September 1997





To  
The Members,  
Gentlemen,

I am privileged to present to you on behalf of the Board of Directors, the 8th Annual Report on the operations of the Power Grid Corporation of India Limited (POWERGRID), together with the Audited Statements of Accounts for the financial year 1996-97.

At the dawn of the 6th anniversary of business operation, retrospection gives immense satisfaction as the brief 5 years of POWERGRID history is studded with remarkable achievements covering Organisational Development, Cultural transformation to its hardcore business operations.

## SIGNIFICANT ACHIEVEMENTS DURING THE YEAR 1996-97

### MOU PERFORMANCE

Based on the provisional results of performance for the year 1996-97, POWERGRID is again poised to achieve "Excellent Performance" rating as per its MOU with Ministry of Power.

### OPERATIONAL

As on March 31, 1997, POWERGRID operates a total of 27, 853 CKMS of 400 kV, 5125 CKMs of 220 kV, 1125 CKMs of 132 kV and 1630 CKMs of HVDC system distributed over 54 sub-station with 23,331 MVA of transformation capacity. The operational performance of POWERGRID transmission system has been impressive in all

the five power regions. Overall average availability of transmission lines during the year was 99.48% which is comparable with best international standards.

During the year, POWERGRID has commissioned 609 CKMs of 400, 220 and 132 kV transmission lines along with 583 MVA of transformation capacity. Major projects commissioned include 400 kV Uri-Wagoora line, 220 kV Wagoora-Pampore line, a part of Kathalguri, Doyang & Agartala transmission system.

### CONSTRUCTION

Construction performance for the year 1996-97 has also been noteworthy. POWERGRID has constructed 2,653 CKMs. of transmission lines surpassing the target of 2,550 CKMs.

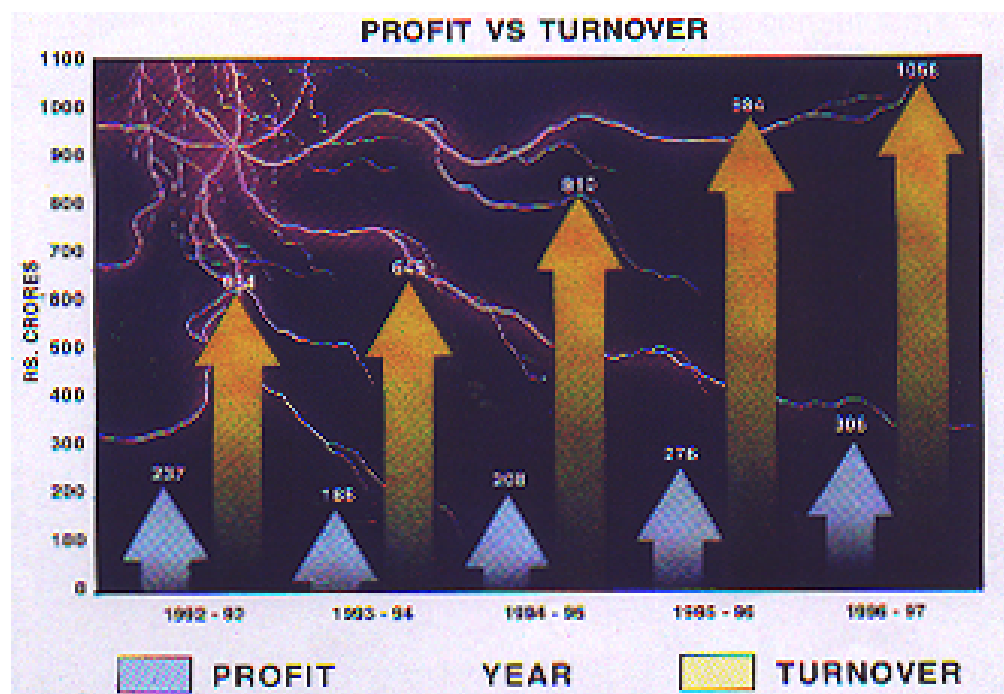
Presently, about 10,700 CKMs. of transmission lines with voltage levels varying from 132 kV to 800 kV and 17 substations including bays, are under construction which are

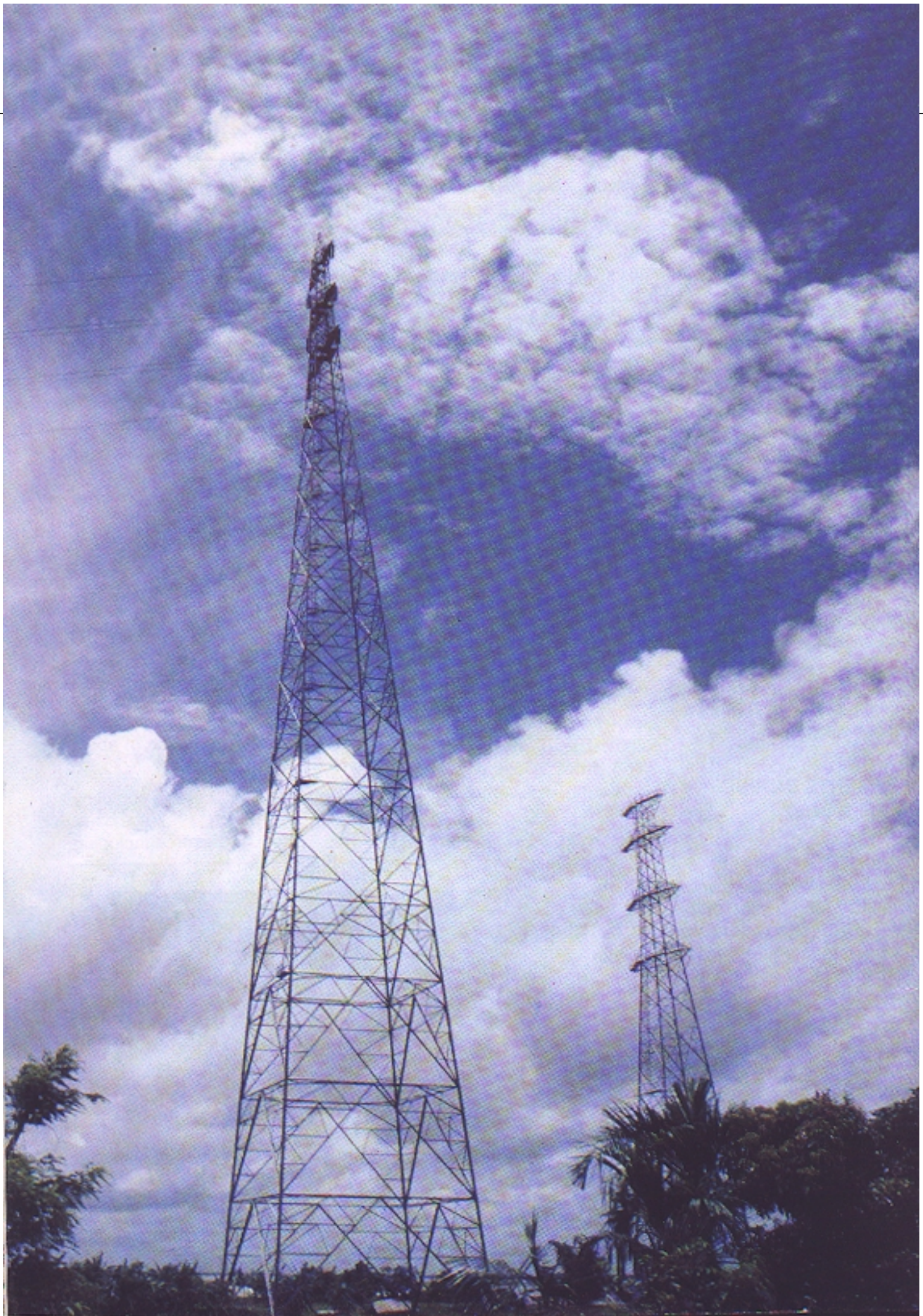
expected to be completed in the coming years. During the past financial year substantial contribution was also made in the direction of systems improvement.

### FINANCIAL

Financial performance of the Corporation has been commendable for the financial year 1996-97. During the year, Corporation has earned a net profit of Rs. 305.76 crores against a total Turn Over of Rs. 1058 crores including miscellaneous income. Since the Corporation is not having any taxable income, no provision for tax has been made. However, a provision of Rs. 0.1 crore has been made for Wealth Tax. At the end of this financial year the Corporation stands on an asset base of about Rs. 5,582 crores.

Paid up capital of the company as on 31st March, 1997 stands at Rs. 3,020.04 crores (including Rs. 162.89 crores of Share Capital Deposit) as against Rs. 2,992.24 crores as on 31st March, 1996.





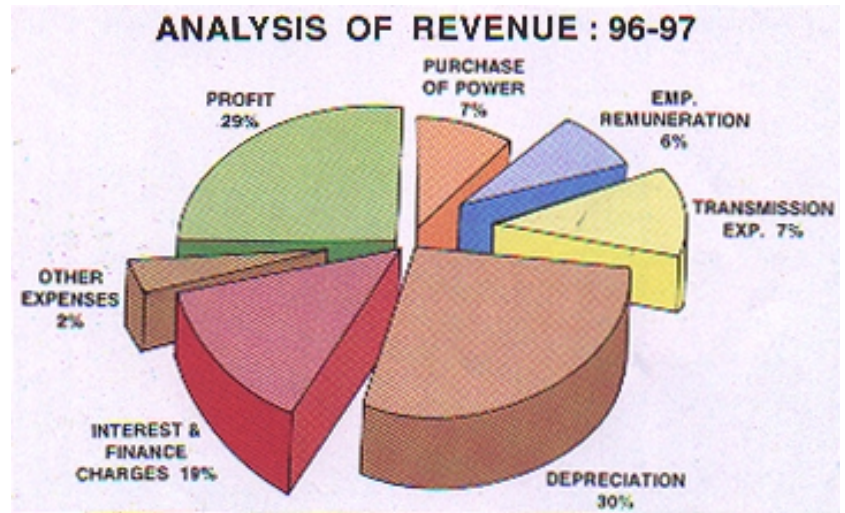


## Dividend

The Directors recommended a lump sum dividend of Rs. 20 crores for the year ended 31st March, 1997 to maintain the self financing ratio. Accordingly a provision of Rs. 20 crores towards proposed dividend for the Financial Year 1996-97 has been made in the books of accounts. The dividend shall be paid to the President of India, after its approval by the shareholders in the Annual General Meeting. As a consequence of the amendment to the Income Tax Act, 1961, Provision of Rs. 2 crores being tax on proposed dividend has also been made.

## Transfer of Profit to Reserves

An amount of Rs. 175 crores has been transferred to General Reserve, Rs. 112 crores to Bonds Redemption Reserve and Rs. 4 crores has been transferred to Self Insurance Reserve Account.



## BUDGET UTILIZATION

POWERGRID has been so far consistently meeting the budget allocation targets in the 8th plan. During the financial year 1996-97, POWERGRID has utilized Rs. 1,557 crores against a budget allocation of Rs. 1,500 crores

POWERGRID has also exceeded the external assistance utilization target for the financial year 1996-97 and utilized Rs. 337 crores against a target of Rs. 321 crores.

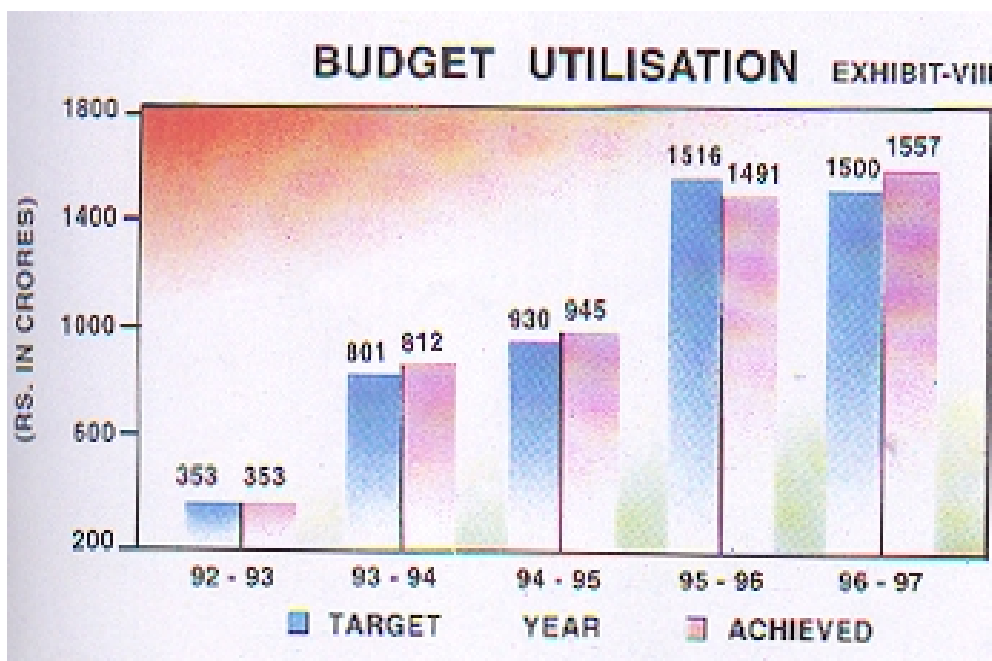
## COMMERCIAL

Gross Turn Over (including miscellaneous income) during the Financial Year 1996-97 reached Rs. 1058 crores.

We continued to realise 100% and in some months even in excess on the monthly notified billing all through the year. This was the result of our relentless endeavour to minimise the sundry debtors. 21 constituents were persuaded to open LC and total LC amount as on 31st March 1997 stands at Rs. 50.19 crores, which is more than 70% of average monthly billing by POWERGRID.

Bulk Power Transmission Agreements (BPTA) were signed with all the constituents in the country. In addition to this POWERGRID entered into BPTA with Kerala State Electricity Board (KSEB) for transmission lines associated with Kayamkulam power plant.

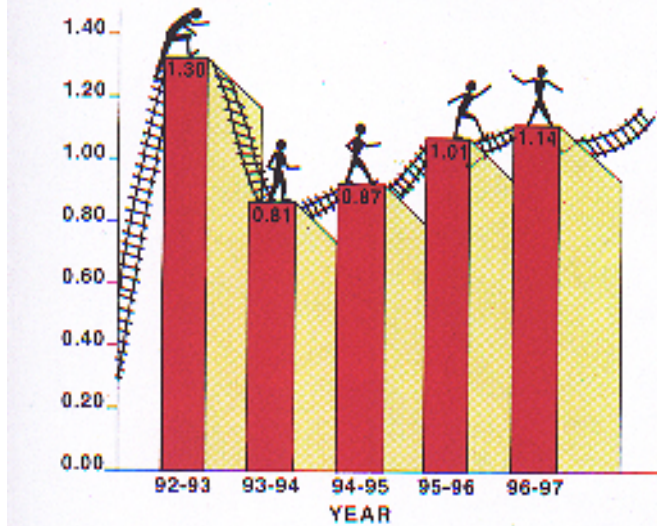
During the year other long pending issues were successfully resolved. Some of these relate to issuance of notification for transmission lines associated with ex-NHPC system, foreign exchange







### DEBT / EQUITY RATIO



utilised. The remaining investment was funded mainly through Bonds and Internal Resources.

### BUSINESS DEVELOPMENT

Since the inception of business development activities, POWERGRID has bagged various assignment amounting to a total professional fee of Rs. 22.66 crores.

The first consultancy work awarded to POWERGRID by Electricity Department, Government of Pondicherry for turnkey Design, Engineering and Contract Management as well as setting up of sub-stations was successfully completed.

During the last financial year, POWERGRID has participated in the international competitive bidding for review consultancy services related to strengthening of transmission system of West Bengal State Electricity Board (WBSEB). The bid was submitted along with two international consultants of Japan i.e. M/s EPDCI and TEPSCO. This project is funded

variation, O&M charge relate to ex-NTPC system, tariff for additional line and associated bays of Salal-II transmission system etc. The total financial implication associated with these notification amounts to Rs. 182.22 crores.

The effectiveness of the commercial efforts taken by POWERGRID can be well summarised with the following comments by World Bank:

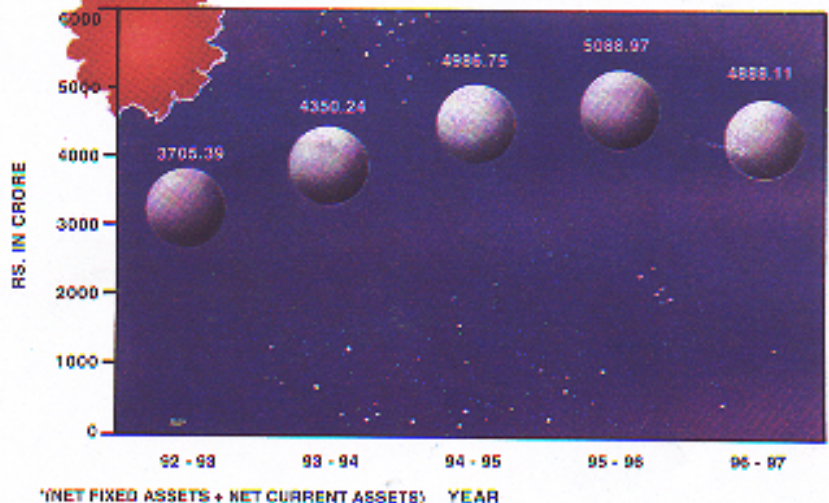
“POWERGRID’s bill disputes have been resolved, tariffs notified as required and the settlement of validated arrears has been agreed in a manner satisfactory to the Bank”.

### VIIITH PLAN PERFORMANCE

During 8th five year plan spanning from Financial Year 1992-93 to 1996-97, actual expenditure against the capital outlay budgeted for POWERGRID of Rs. 4539 crores was exceeded and an amount of Rs. 5158 crores was utilised. Around 10,000 CKMs. of EHV line was added to the transmission network.

The asset base of the company grew from Rs. 3521 crores thereby resulting in a growth of 56%. The turnover went up from Rs. 634 crores in 1992-93 to Rs. 1058 crores registering an average annual growth rate of 13.4% during the last five years. Net profit also rose by 29%. We could also meet the loan utilisation targets. During the extant period RS. 1422 crores of External Commercial Borrowings were

### CAPITAL EMPLOYED\*









by OECF and estimated to be around Rs. 851 crores. It is expected that it shall be awarded shortly.

Haryana State Electricity Board (HSEB) has awarded POWERGRID the work of preparation of bid document of transmission projects consisting of 15 Nos. transmission lines. The professional fee for this work is about Rs. 22 Lakhs.

POWERGRID is providing consultancy services to GRIDCO for the Project Management Consultancy (PMC) alongwith M/s. Merz & Mclellan, which was awarded by the ODA, U.K. The total consultancy fee for the duration of 5 years to POWERGRID is to the tune of \$12812 (Rs. 4.28 crores).

Some of the other business development efforts include conducting system studies for Bihar State Electricity Board (BSEB), O&M contract spanning over 5 years duration for 400 kV transmission lines from Karnataka Electricity Board (KEB), third party inspection contract of Andhra Pradesh State Electricity Board (APSEB) for 400 kV / 220 kV transformers, conductors, earthwire and accessories.

### **POWERGRID PROJECTS**

The projects undertaken by POWERGRID are broadly classified as i) Generation Linked Projects, ii) Grid Strengthening Projects, iii) Inter-regional links and iv) Unified Load Despatch & Communication Schemes. Further, in view of the entry of the various large Independent Power Producers in the Power Sector, POWERGRID is also

contemplating possible investments towards implementation of transmission projects related to IPP projects.

### **GENERATION LINKED PROJECTS**

During the 8th Five Year Plan POWRGRID met all its commitments for providing transmission services for evacuation of power from various power stations executed under Central Sector. Major projects commissioned by the organisation during this period are Uri transmission system, Gandhar transmission system, Salal-II transmission system, Kathalguri transmission system (part) etc. POWERGRID stands by its commitment to provide evacuation arrangements for all the power projects being implemented by various agencies in Central Sector. To meet the requirements of evacuation and dispersal of power.

POWERGRID is executing important schemes like Nathpa Jhakri (400 kV), Unchahar (220 kV), Ganga Valley (800 kV), RAPPB (220 kV), Vindhyachal Stage-II (400 kV) & Vindhyachal Additional (400 kV), Kayamkulam (220 kV) and Kathalguri (400 kV). During the last financial year none of the generating stations associated with POWERGRID's evacuation system was affected by non availability of lines.

### **GRID STRENGTHENING PROJECTS**

Removal of deficiencies in the regional grids calls for augmenting major load centres for delivery of shares of individual beneficiaries and enhancing the reliability and security of power supply. Grid strengthening occupies a priority in the operations of POWERGRID. A number of such projects are on the anvil. Recognising weakness of the transmission network in the North-





Eastern Region, particularly Southern Assam and the states of Mizoram and Tripura, POWERGRID is implementing a scheme for augmentation of transmission system in North-Eastern Region. The existing transmission lines get overloaded during peak hours and during contingent conditions severely affect the voltage profile and result in heavy transmission losses. This scheme shall provide alternative paths for supply of power to these beneficiaries with security and thus shall meet the much needed transmission requirements of this part of the Region.

In Southern Region, another 400 kV circuit between Ramagundam and Hyderabad is being augmented which would help in evacuation of power imported from Western to Southern Region via Ramagundam-Chandrapur HVDC Back-to-Back link. This link would also help in relieving the loading on the

immediate evacuating lines of Ramagundam STPP like Ramagundam-N' Sagar and Ramagundam-Hyderabad 400 kV links.

In Northern Region, POWERGRID is implementing the prestigious 800 kV transmission line from Kishenpur to Moga to provide a corridor to facilitate exchange of bulk power pooled at Kishenpur from various power stations under operation/execution in the Himalayan region to be depooled at Moga in Punjab to cater to the requirements of the Northern Grid. It may be mentioned that this transmission line would be one of the first 800 kV line to be commissioned in this country.

To meet the ever growing power demand in various parts of the Northern Region, POWERGRID is implementing a 400 kV new substation at Jalandhar along with loop in loop out of Chamera Moga 400 kV D/C line. Further, a 220 kV D/C line from this substation to Dasuya has also been planned.

To provide redundancies in the transmission network and to ensure that power evacuation and disbursement is not bottlenecked, a number of projects have been constructed. Some of the major projects like Moga-Hissar-Bhiwani-Bawana-jaipur, 220 kV link lines at Hissar are already commissioned whereas 400 kV Chamera-I- Kishenpur is nearing completion.

### **Strengthening of Regional Grids**

It has been observed from the day to day operation that several shortcomings have arisen in the grid with increased demand (without significant commensurate

development in the system) over the years. The delay in implementation of approved generation projects and transmission network and the absence of R&M measures for the old establishments have further aggravated the condition. In this direction, a number of projects have been identified in various Regions to overcome shortcomings which are coming in the way of better operation of the grids. The schemes thus emerged out of constraints currently being faced in the operation of Regional Grid systems, have in principle been considered necessary by CEA as well.

Based on above and also supported by system studies, a number of projects in different regions are proposed to be constructed by POWERGRID. In total 33 projects have been identified at an investment of Rs. 814 crores and the execution time shall vary from 1-4 years from date of investment decisions.

### **MOVES TO FACILITATE TRANSFER OF POWER**

In order to ensure optimum utilisation of the unevenly distributed energy resources in the country, most economic generation of power at coal pit-heads and hydro locations, exchange of power across the regions is quite essential.

Presently various Regional Grid systems are generally operating at different parameters owing to varying degrees of power shortages, generation mix, load pattern etc., their integrated operation through A.C. links poses technical problems. Therefore, it has been decided to interconnect various regional grids through



HVDC back to back links which technically enable integrated operation at different parameters and also ensure controlled power exchange between the two interconnected Regions.

### **Short Term Plan**

Today POWERGRID is operating a 500 MW HVDC back to back link at Vindhyachal interconnecting Western and Northern Region. In addition, it has a 400 kV D/C Ramagundam-Chandrapur line between Western and Southern Region operating in radial mode.

### ***HVDC back to back at Chandrapur***

POWERGRID is presently executing a 1000 MW HVDC back to back at Chandrapur which is being superimposed on 400 kV A.C. Ramagundam-Chandrapur line to establish an asynchronous link between Western and Southern Regions. This HVDC station has been completed and recently its both poles were test charged. This link would be operational by September-October, 1997 and enable power transfer of the order



of 1000 MW between these Regions on regular basis thereby resulting in more stability to both the systems. This link can also be utilised to transfer power from Eastern Region to Southern Region via Western Region.

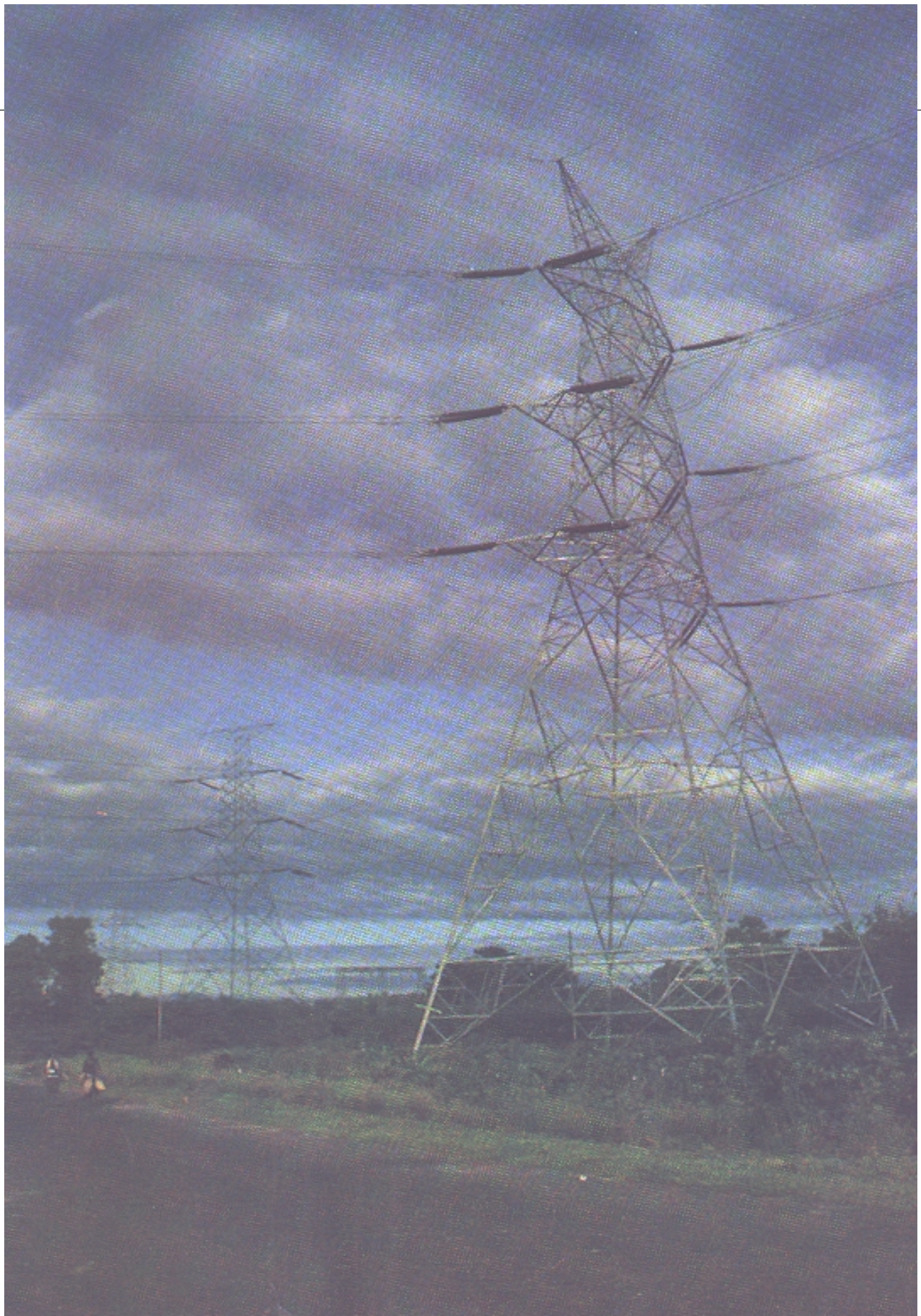
### **HVDC Back to Back at Gazuwaka**

POWERGRID is also implementing 500 MW HVDC link between Jeypore (Orissa)-Gazuwaka (Andhra Pradesh). This link would interconnect Eastern Region with Southern Region and is scheduled for completion by February, 1999.

### ***Bongaigaon-Malda 400 kV D/C line***

POWERGRID is executing a 400 kV D/C line between Bongaigaon (Assam-North Eastern Region) and Malda (West Bengal-Eastern Region) as a part of Kathalguri transmission system construction of which is expected to be completed during 1997-98 and this would provide means to export power out of NER in the range of 800 MW.







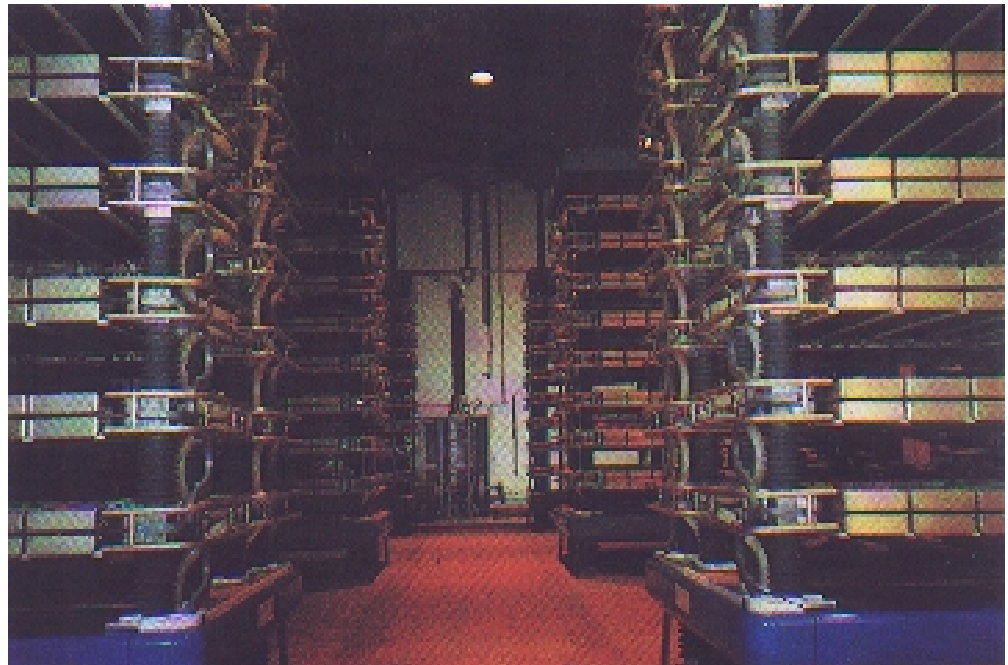
## ***HVDC Back to Back at Sasaram***

To further augment the transmission network and evacuate surplus power from Eastern Region, POWERGRID has planned a 500 MW HVDC link between Biharshariff (Bihar-Eastern Region)-Sasaram (Bihar-Eastern Region) which would facilitate transfer of power to Northern Region. This scheme has been accorded clearance by CEA and would soon be submitted for consideration of PIB. The negotiation for procurement of HVDC equipment is in advanced stage and tendering activity for transmission system is under progress. The project is programmed for commissioning within 3-4 years of investment approval from GOI i.e., around mid of 2000-2001.

With the completion of above mentioned regional ties the basic framework of National Power Grid will be complete and about 1000 MW to 1500 MW of power can be exchanged between various regions on a regular basis.

## **Medium Term Plan**

While the above mentioned Inter-Regional links would establish a well connected national grid, the capacities of such links will have to be augmented from time to time. Steps have been initiated by POWERGRID to identify such links. The preparation of Feasibility Reports would be taken up by POWERGRID to identify such links. The preparation of Feasibility Reports would be taken up by POWERGRID after establishing their viability in consultation with CEA and the concerned States/Regions. Based on its preliminary findings, POWERGRID has plans to



take up the following transmission projects in future which would further augment the inter-regional exchange capacity:-

### ***400 kV Raipur-Rourkela System***

This project envisages construction of a 400 kV double circuit transmission line from Raipur (MP-Western Region) to Rourkela (Orissa-Eastern Region) to establish an inter-regional link between Western and Eastern regions of the country. The need of the project has emerged out of extensive system studies carried out by POWERGRID to meet the transmission requirements of the two regions.

### ***200MW HVDC Bi-pole from Talcher to Bangalore***

NTPC has plans to extend its Talcher STPP by additional 2000 MW by adding 4 units of 500 MW each under Stage-II. The generation project has 'in principle' clearance of CEA. As NTPC has identified constituents of Southern Region as beneficiaries of Talcher-II project, its associated Transmission System

has been evolved by POWERGRID after discussions with the concerned agencies. This project envisages construction of a 2000 MW HVDC bi-pole link between Talcher (Orissa) in Eastern Region to Bangalore (Karnataka) in Southern Region.

## **Long Term Plan**

POWERGRID has evolved a long term perspective for the nation in association with an international consultants PTI Inc., USA. Looking at the fact that hydro potential by and large is concentrated in North-Eastern and Northern Regions, with coal reserves abundant in the boundaries of Eastern and Western Regions whereas the load is spread all over the country, it is essential to plan for high capacity overlaying transmission network linking various regions to facilitate free exchange of power.

The scheme evolved broadly would comprise of:

- a) High capacity 400 kV links in chicken neck area



- b) A ring of 2 Nos. of 800 kV lines interconnecting Eastern Region, Western region and Northern Region.
- c) 2nd HVDC bipole of 2500 MW between Eastern Region and Southern region
- d) 2nd 500 MW HVDC back to back at Vizag between Eastern Region and Southern Region

The above projects have been prioritized by POWERGRID taking into account the potential for generation, development of loads and requirement of various regional grids. It is proposed that 2 nos. of 400 kV lines with quadruple conductors would be executed between Siliguri/ Birpara and Purnea through chicken neck area,

during 9th Plan period at an estimated cost of Rs. 500 crores. It would facilitate evacuation of power from various hydro and gas projects identified in North Eastern Region and Bhutan under central/private sector.

The next phase shall comprise of an 800 kV single circuit transmission ring from IB valley-Biharshariff (in Eastern Region)-Allahabad-Agra (in Northern Region)-Nagda-Jabalpur (in Western Region)-IB apart from Biharshariff-Purnea-Birpara (in Eastern Region). This would facilitate evacuation of bulk thermal power from Eastern Region and large quantum of gas and hydro power from North Eastern Region to anywhere in the country. The estimated cost of this project is Rs. 5000 crores and is likely to be

completed during early 10th Plan.

By end of 10th Plan POWERGRID intends to supplement the above mentioned 800 kV ring by another circuit to handle larger quantum of power and also execute 2nd HVDC bipole of 2500 MW between Eastern Region and Southern Region and another 500 MW HVDC back to back at Vizag between Eastern Region and Southern Region at an estimated cost of Rs. 5000 crores.

The above schemes have been evolved to plan a high capacity power transmission highway across the country so as to provide flexibility in locating power stations and planning individual transmission systems and would enable the synchronised operation of North-Eastern Region, Eastern Region,





Northern Region and Western Region whereas the Southern Region shall be operated in asynchronous mode.

### **UNIFIED LOAD DESPATCH & COMMUNICATION FACILITIES**

Unified Load Despatch and Communication (LD&C) Projects are essential for enhanced performance of Regional/National Grids and are extremely attractive techno-economically. It has been established that a typical project of Rs. 600 crores in Indian system would recover its cost within a period of about 3½ years. Realising the merits and need of these projects, POWERGRID will be investing over Rs. 2,500 crores for augmentation of LD&C facilities in all the power regions.

At present the implementation of LD&C facilities is in progress in Southern & Northern Regions. The technology being new, POWERGRID is seeking the services of pioneer international consultants to help timely execution

of such projects. The tenders of these two project have been invited, bidders shortlisted and price bids are scheduled to be sought in near future. These projects are expected to be commissioned by the turn of the century. Other such projects in the pipeline are for North-Eastern Region (NE-RLDC), which is under investment approval of the Govt. of India. The remaining schemes for Western Region (W-RLDC) and Eastern Region (E-RLDC) are in different stages of integrated system operation and control.

### **DOVETAILING MEGA IPPS**

In the era of liberalization and opening up of the Indian economy, POWERGRID is shouldering the responsibility to promote private sector participation in development of mega power projects having capacity 1000 MW or more and envisaging more than one State as beneficiary. POWERGRID signed an MOU with M/s Consolidated Electric Power Asia Ltd. Hong Kong for gigantic task of developing

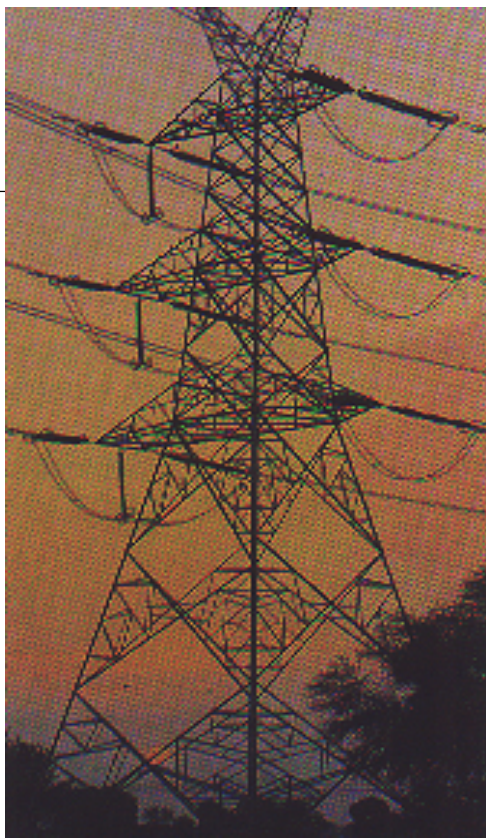
transmission system to evacuate power of more than 10,000 MW in different phases to various beneficiary states. In addition POWERGRID will also strive to dovetail other IPPs into the overall transmission system by selection of Independent Power Producers (IPPs) on international competitive bidding basis and will also provide escort services and act as a facilitator to IPPs.

### **TECHNOLOGY-THE CUTTING EDGE**

In a business like power transmission, especially in a market characterized by demand-supply imbalances, technology plays a major role in ensuring reliable transmission system availability and in reducing grid failures. POWERGRID is constantly striving to improve its technological knowhow.

In order to cater to the diverse geographical and to cater to the diverse geographical and climatic conditions of India, POWERGRID has designed transmission towers for different wind/Ice conditions, marshy/water logged and mid stream locations besides special towers for river and power line crossings. Engineering expertise includes implementation of 400 kV AC transmission system and highly specialized areas of 800 kV AC systems, 500 kV HVDC bi-pole and back-to-back systems.

Hot-line maintenance technique is employed to ensure maximum line availability without interruptions even during maintenance activities which reflects operational and maintenance expertise of the organisation as transmission system availability is over 98.5%.



For faster restoration of transmission lines in the event of failure due to storm, tornado, landslide, etc. Emergency Restoration System (ERS) have been utilized which can save time period between 1-4 weeks as against conventional method of casting foundation and connecting spare towers.

To analyse the grid disturbances, we have indigenously developed cost effective and enhanced Remote Terminal Units (RTUs) for time stamping of power system events by re-engineering the RTUs. The chronological sequencing of events that occurred during power system operations are essential specially during grid disturbances and enable pin pointing problem areas accurately for undertaking proper corrective action.

POWERGRID in association with Central Power Research Institute (CPRI), has undertaken study for measurements of AC/DC fields in EHV transmission lines and sub-stations. It has also undertaken field testing on 400 kV transmission system to evaluate the need or otherwise for pre insertion resistors.

POWERGRID has also introduced special earthing device in case of double circuit transmission line, which facilitates maintenance of one circuit when the other is charged

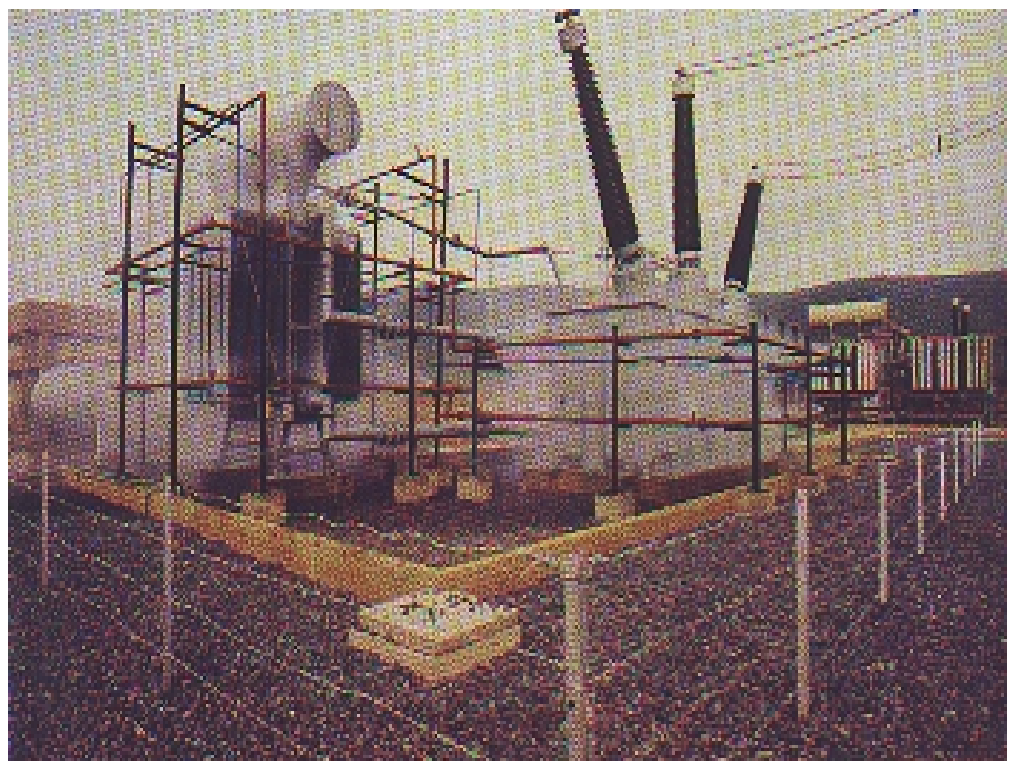
The task of indigenously developing Time Digital Simulator (TDS) for Northern Region is underway in association with IIT, Kharagpur and developing Artificial Neural Networks for load flow study to be used as part of the system operation is going on in association with IIT, Delhi.

POWERGRID is also equipping itself with the latest computing facilities besides making forays into communications. A wide telecommunications network of about 9200 kms. in length is already envisaged based on the most optimum techno-economic mix of Digital Microwave and Fibre Optic Communications systems. In addition, new technologies in telecommunication like VSAT links, Multi-access Radio and point to

point UHF radio are also being implemented for various operational and corporate requirements.

## CONTRACTS MANAGEMENT

POWERGRID with active support from the World Bank and Asian Development Bank, has evolved its procurement strategy based on the latest market trend in the industry. Earlier international Bidding procedures in the sector were oriented more towards the purchaser than the contractor and the number of packages for a project used to be large. POWERGRID in consultation with multilateral funding agencies have attempted to change this to put the purchaser and supplier on a more equitable footing and wherever possible to club similar packages under one umbrella. This has resulted in not only attracting attention of larger companies but also curtailing administrative and procurement time and cost. Moreover, to avoid small bidders joining the fray, POWERGRID has introduced







financial parameters as a part of the qualifying requirements. However , while switching over to international trend in procurement, interest of indigenuous industry are well protected . Both the World Bank and Asian Development Bank have on number of occasions lauded POWERGRID's performance in procurement areas so much so that POWERGRID was recommended to be a consultant to some of the SEBs for such activities. As a matter of fact, one of the recent loans provided by Asian Development Bank to POWERGRID has been termed as a "model case".

### **INTEGRATED PROJECT MANAGEMENT**

POWERGRID has developed an Integrated Project and Construction Management System to ensure



availability and optimal utilisation of input resources resulting in elimination of time and cost over-run in implementation of its projects. A 3 tier detailed network developed with Site contractors Regional Offices and at Corporate level is monitored at scheduled intervals to integrate all project activities and exercise control measures at every stage of implementation, resulting in completion of projects on schedule.

Streamlined computer data based systems to accommodate all necessary input from related resources including vendors etc. have been developed and regular monitoring at all levels along with exception reporting to the top management level is carried out throughout the project implementation cycle resulting in eliminating chances of slippages from schedule. The software is constantly upgraded with the help of international experts, wherever necessary to take full advantage of managerial expertise available in this field.

Adoption of such techniques have immensely benefited POWERGRID project implementation programme resulting in implementation of its projects on schedule.

### **HUMAN RESOURCE-PUTTING PEOPLE FIRST**

POWERGRID's human resource consisting of over 7,000 professionals is spread all over India, withstanding the various geographic, climatic and political conditions to ensure reliable transmission system availability. POWERGRID's human resource, with a wide variation in their academic, economic, geographic and social backgrounds, is truly representative of the strength and philosophy of the country viz. "Unity in the midst of Diversity". Human resource of POWERGRID, operating in the Regions from hilly terrain to plain and desert to forests and rivers, withstanding sub-degree temperatures, daring the natural and man-made dangers, in the service





of the nation, is truly its most significant asset. This realization is reflected in the human resource philosophy of the organisation. 'POWERGRID believes that its core strength lies in its people, cares for their HRD efforts an investment rather than an expenditure'. The World Bank has also appreciated the cultural unification in POWERGRID.

Human resource policies of the organization are aimed at attracting, retaining and maintaining the best of the talent available in the country besides maintaining the morale and motivation of the existing human resource. Various schemes and incentives have been developed to facilitate their career growth with a view to 'Putting People First'.

Human resorce Development, (HRD) model of POWERGRID has been lauded as 'one of the best models seen before' by Overseas Development Administration, UK and is being used by it in the countries of its operation, besides requesting POWERGRID's association as a HRD consultant. Manila based Asian Regional Training and Development Organization (ARTDO), an umbrella body of HRD professionals and associations, has bestowed the 1996 ARTDO Asia-Pacific HRD Award on POWERGRID in recognition of its HRD efforts and the impact they have created within the nation and beyond.

It is matter of great pride for POWERGRID that its employees have been winning the prestigious "Prime Minister's Shram Shri Awards" every year for their

exceptional zeal and enthusiasm towards work.

### **SOURCING OF FUNDS**

The International Financial Institutions have actively supported POWERGRID since its very inception. They have expressed their confidence in POWERGRID's capabilities to operate, monitor and construct the Regional and National power grids. They have already committed around Rs. 6,000 crores for financing new projects of POWERGRID.

The World Bank loan commitment today amounts to about US\$ 1.5 billion for financing various projects of POWERGRID. This includes the World bank direct loan to POWERGRID for an amount of US \$ 350 million for POWERGRID System Development Project.

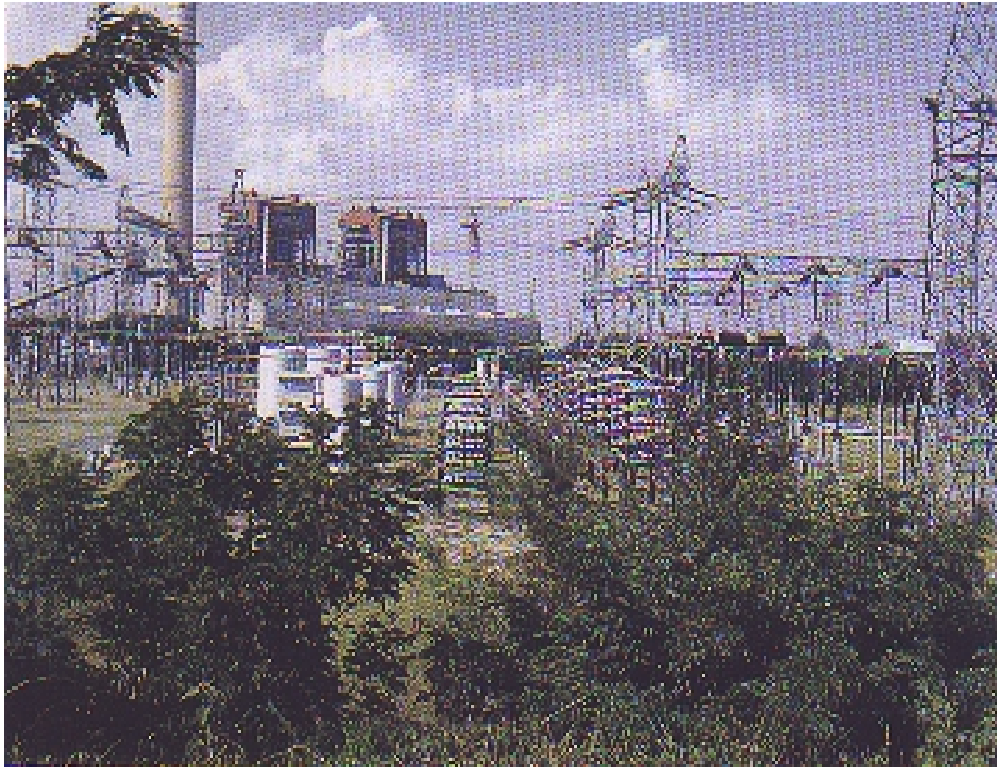
Further, the World Bank has agreed "in principle" to extend the 2nd loan to POWERGRID, on a time slice concept, amounting to around

US \$ 1.20 billion against a basket of projects spread in a time slice of 5-7 years.

Similarly Asian Development Bank has extended POWERGRID, a first sectoral loan in the Indian Power Sector of US \$ 275 million against a basket of the projects which include Augmentation of Transmission System in North-Eastern Region and the Overseas Economic Cooperation Fund, Japan has already provided a loan amounting to Yen 32.754 billion towards the implementation of transmission system associated with the Gas Power Projects of Gandhar, Kathalguri and Faridabad.

In addition, European Investment Bank, Overseas Development Administration, West Merchant Bank, the Banque Indosuez and Credit Nationale, Paris, Industrial Bank of Japan & Export-Import Bank of Japan etc. have also financed POWERGRID projects and have shown keen interest in financing new projects.





## REDEFINING THE GREEN BOUNDARIES

POWERGRID is sensitive to the environmental issues and the social concerns. POWERGRID has evolved Environmental and Social Policy and Procedures (ESPP), keeping in mind the broad framework of laws, policies, constitutional commitments and responsibilities.

POWERGRID is the only organisation in the power sector, and perhaps in the entire country, who is finalising its ESPP policy in consultation with the public. POWERGRID, inter-alia, carries out social and environmental assessment of its projects to evolve a project specific Environmental and Social Management Plan to be adopted in the project cycle and make an integral part of the project execution process.

## ASSURING QUALITY

In POWERGRID, quality is a way of life. The Corporation is fully

committed to provide the best possible time-bound quality services to its customers in all areas of its operations, the organization's quality vision encompasses design, engineering, execution, operation & maintenance and related management functions.

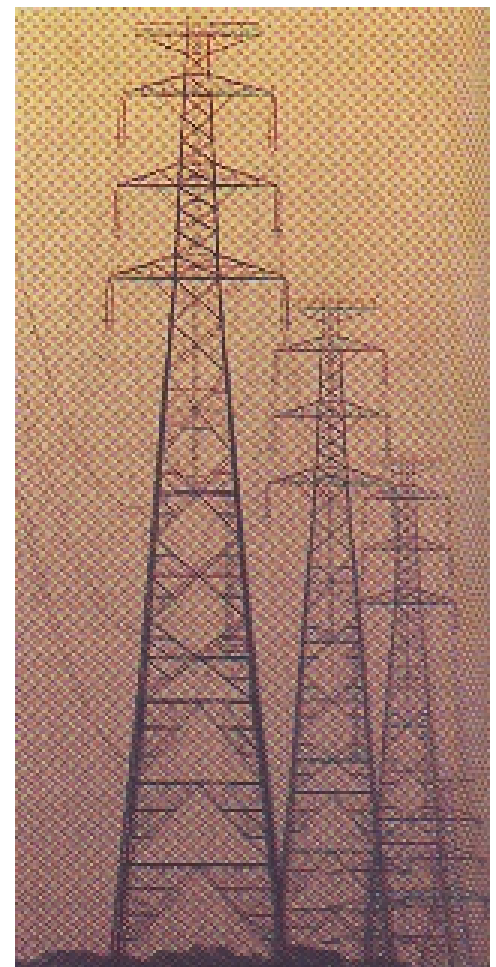
POWERGRID is first Indian power utility to get ISO 9001 Quality Systems Certification by NQA-Quality System Registrar, UK for turnkey execution of Transmission Line and Sub-station projects upto 400 kV inclusive of design, engineering, procurement, construction, operation and maintenance. POWERGRID also obtained the certificate of registration for its Quality Management System from Electricity Association Quality Assurance (EAQA).

## FUTURE PERSPECTIVE IXTH PLAN PROGRAMME

POWERGRID envisages to invest around Rs. 13000 crores

during the 9th Plan excluding transmission systems associated with mega IPPs. With the present level of financial strength and the loans contracted, POWERGRID will be able to meet this investment requirement. This is further reinforced by the recent comments of the World Bank and the ODA that POWERGRID's current financial position is sound and provides a strong foundation for continued investment and expansion.

The national transmission plan earmarks a central sector outlay of Rs. 18,000 crores for the IXth plan period. As already mentioned POWERGRID has identified schemes worth Rs. 13,000 crores and it is expected that an additional investment of Rs. 5,000 crores is required to be allocated towards construction of transmission systems associated with mega





IPPs. This additional mandate may skew the present balance of Debt Equity, which is firm at 50:50. This issue has already been taken up with Ministry of Power and CEA. The necessary reforms in the tariff structure as assured by these agencies coupled with conversion of the outstanding GOI loans into equity by way of capital restructuring would pave the path for POWERGRID in achieving the targets.

Apart from preparing itself to raise the required funds, POWERGRID has taken a strategic move to develop vendors to ensure adequate supply and execution of such large projects. Unless the present limitations of existing industry are supplemented, implementation of 9th Plan programme would not be feasible. Towards this, POWERGRID has already established exclusive vendor development group to promote such activities. As a result, POWERGRID has supported BHEL for supply of 210 KN insulators to be used on 800 kV/400 kV lines in snow bound areas which hitherto were being sourced only from two foreign firms. Similarly, in the area of supply of tower material, many other potential suppliers are being developed. These steps have resulted in, amongst other items, supply of more than 18000 kms. of conductor during this year - a commendable achievement considering the past trend in the industry.

Major inter-regional projects to be undertaken by POWERGRID during the 9th plan inter alia cover; 500 MW Eastern-Northern, 2000 MW HVDC bipole from Talcher-II-Bangalore area, 2000 MW HVDC bi-pole from IB valley to Jaipur and

400 kV transmission system from Raipur-Rourkela and 400 kV system from IB valley to Western Region via Raipur.

### REGIONAL POWER POOLS

In order to fully utilize the benefits of the intergrated operation of National Power Grid, POWERGRID plans to form Regional Power Pools to facilitate a continuous economic exchange of power between SEBs on sound commercial principles. This will helps SEBs, Central agencies and private agencies to supply power to the consumers in the most economic way by

optimizing power generation and supply all over the nation. POWERGRID will act as a facilitator, without any commercial interest, by operating and managing the power pools and providing requisite information to members for operation.

However, to make this happen, power pooling options have to be agreed upon, the power tariff structure needs to be rationalized and regulatory mechanism is to be introduced. POWERGRID is propagating these concepts in line with its overall goal.







## TRANSMISSION BEYOND NATIONAL BOUNDARY

### **Bangladesh**

In line with the policy of the Government of India to strengthen friendly relations with neighbouring countries, projects under electricity exchange programme has been taken up with Bangladesh. Under this programme, transmission links at suitable locations will be established to supply power from Eastern India to Western Zone of Bangladesh and receive power from power surplus Eastern Zone of Bangladesh to North-Eastern Region of India.

### **Bhutan**

POWERGRID had been purchasing power from Chukha HEP in Bhutan for the past few years to sell the same in various Regions in India through massive transmission network constructed by POWERGRID. During the year 1996-97, sale of power to the tune of over Rs. 100 crores has been made.

### **Nepal**

The Mahakali Treaty [Article (2b)] between Government of India and Govt. of Nepal provides that Nepal shall have the right to receive 70 million units of energy on a continuous basis annually, free of cost, from the date of entry into force of the Treaty. For this purpose, India is required to construct a 132kV transmission line upto Mahendra Nagar, Nepal on the Indo-Nepal Border from the Tanakpur Power Station. A 132Kv transmission line from Tanakpur upto this point will be constructed by POWERGRID. The



project is likely to be executed in one and half years time.

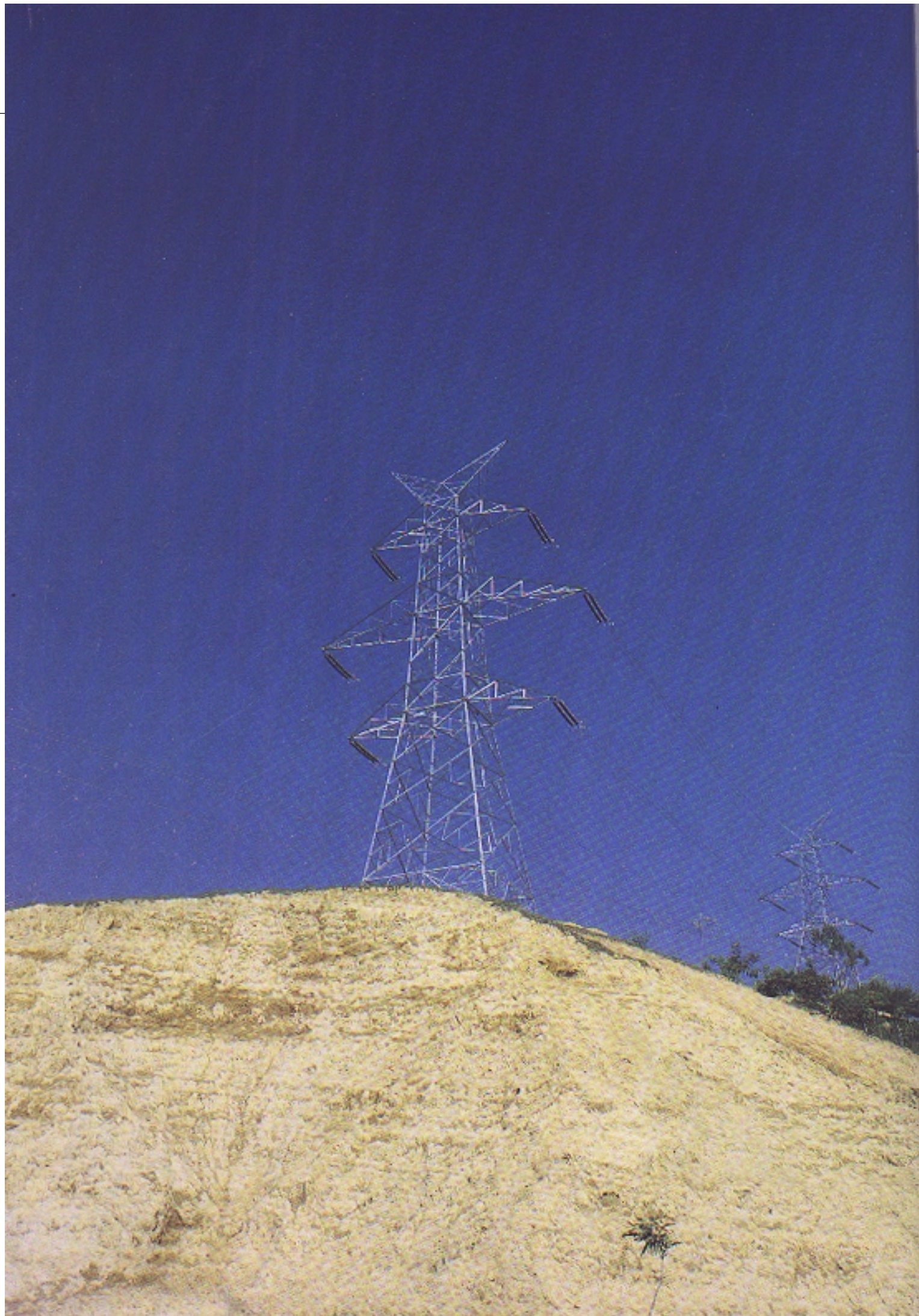
## DIVERSIFICATION IN TELECOMMUNICATION BUSINESS

POWERGRID transmission network provides an excellent connectivity amongst various state capitals, major towns and distant cities. These provide a ready-made right-of-way for installation of overhead optical fibre cables for carrying high speed audio, video and data signals. Telecommunication network could thus be established over an already existing lattice system and would provide extremely robust support. In addition, the communication is very clear and is remarkably cost effective. The organisation is thus strategically in an advantageous position for providing such facilities at a low operating cost. It has plans to diversify in a phased manner as a provider of telecommunication services. It is ready to exploit the deregulation of long distance communication media to its advantage by utilising its network

spread over the country. As a part of its system coordination and control projects, it is to provide a complex hybrid communication network *inter alia* involving optical fibre transmission systems with a higher fibre transmission systems with a higher fibre count. Before taking a regular plunge into this business, it has identified the issues that will have to be dealt with Government of India and the State Electricity Boards, telephone operators. To enter into this diversification area, GOI should empower POWERGRID to enter into joint ventures and assist in arriving at an agreement with Department of Telecommunication, MTNL etc.

## EVOLVING ROLE OF POWERGRID

In its brief but significant appearance in the Indian Power Sector, POWERGRID has opened up new vistas ushering in 'Change' in every facets of Electric Power. Utility Services in the country. POWERGRID is evolving as a "Facilitator-cum-Change Agent" to oversees the manifestation of







change in redefining and restructuring the Indian Power Sector. The future perspective of POWERGRID thus entails multiple role of POWERGRID, with various business areas, such as, Provider of Transmission Services, System Operator, Energy Accounting and System Administrator and Facilitator in Energy Trading. Further, POWERGRID also plans to diversify in the areas of Distribution, Telecommunication, etc. through Joint Ventures besides providing its expertise as Consultancy Services in all aspects of Transmission & Distribution of power.

#### **PARTICULARS OF EMPLOYEES**

The particulars of employees of the Corporation who were in receipt

of remuneration in excess of the limit prescribed under Section 217 (2A) of the Companies Act, 1956 is given in Annexure-I to this Report.

#### **CONSERVATION OF ENERGY, TECHNOLOGY ABSORPTION AND FOREIGN EXCHANGE EARNINGS AND OUTGO**

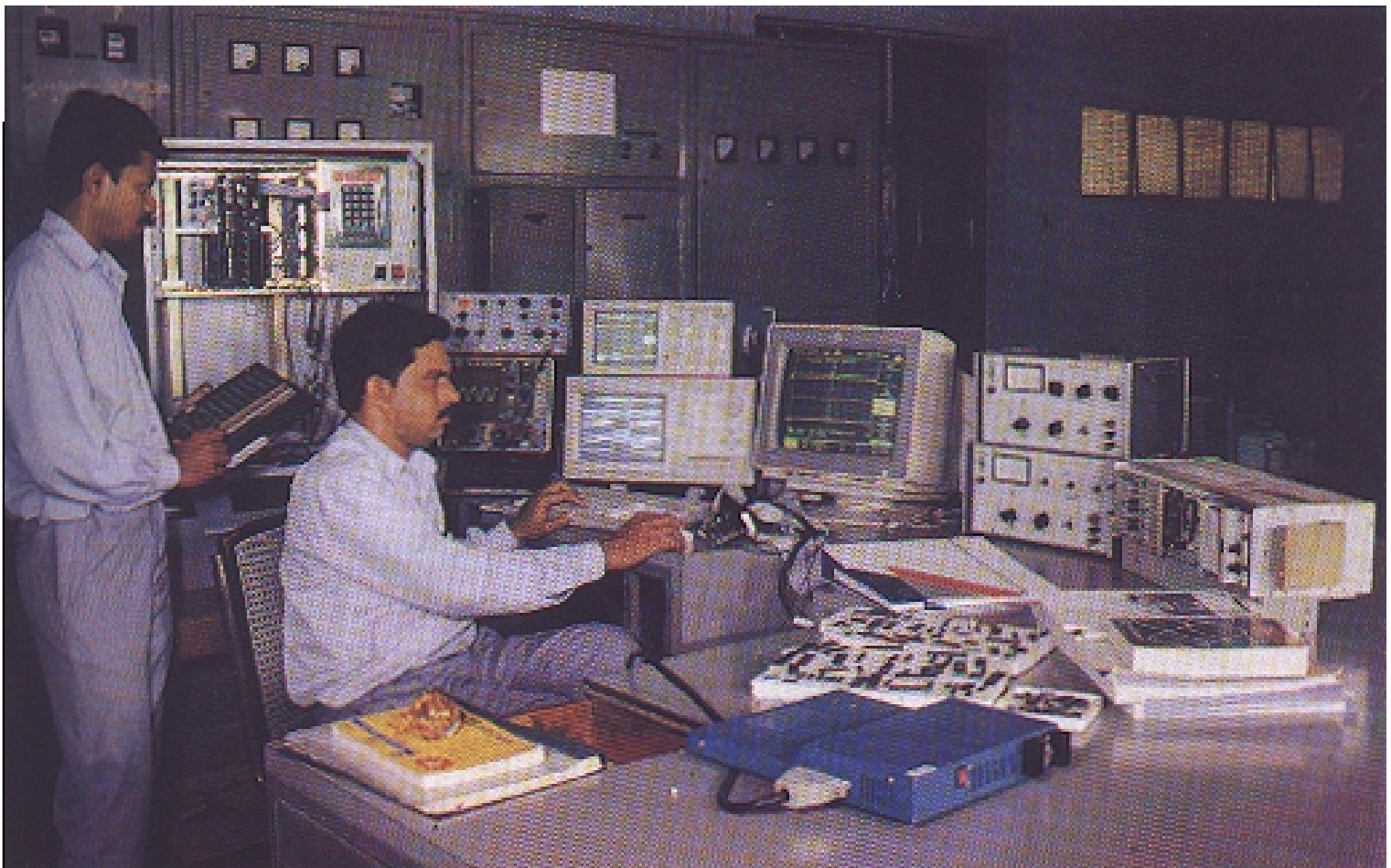
As regards the requirement of the disclosure under Section 217(1) (e) of the Companies Act, 1956 read with Rule 2 of the Companies (Disclosure of Particulars in the Report of Board of Directors) Rules, 1988 relating to conservation of energy, technology absorption and foreign exchange earnings and outgo information is given in Annexure-II to this Report.

#### **COMPTROLLER AND AUDITOR GENERAL'S COMMENTS**

Review of the accounts for the year ended 31st March, 1997 by the Comptroller and Auditor General of India u/s 619(4) of the Companies Act, 1956 along with Directors' comments on the points raised by the CAG is given in Annexure-III of the Report.

#### **POWERGRID'S BOARD**

During the year, while Shri R.P. Singh, Director (Personnel) was assigned the additional charge of Chairman & Managing Director of the Corporation w.e.f. November 1, 1996, Shri R.K. Madan was appointed as Director (Projects) w.e.f. August 20, 1996, and Shri J Vasudevan, joint Secretary





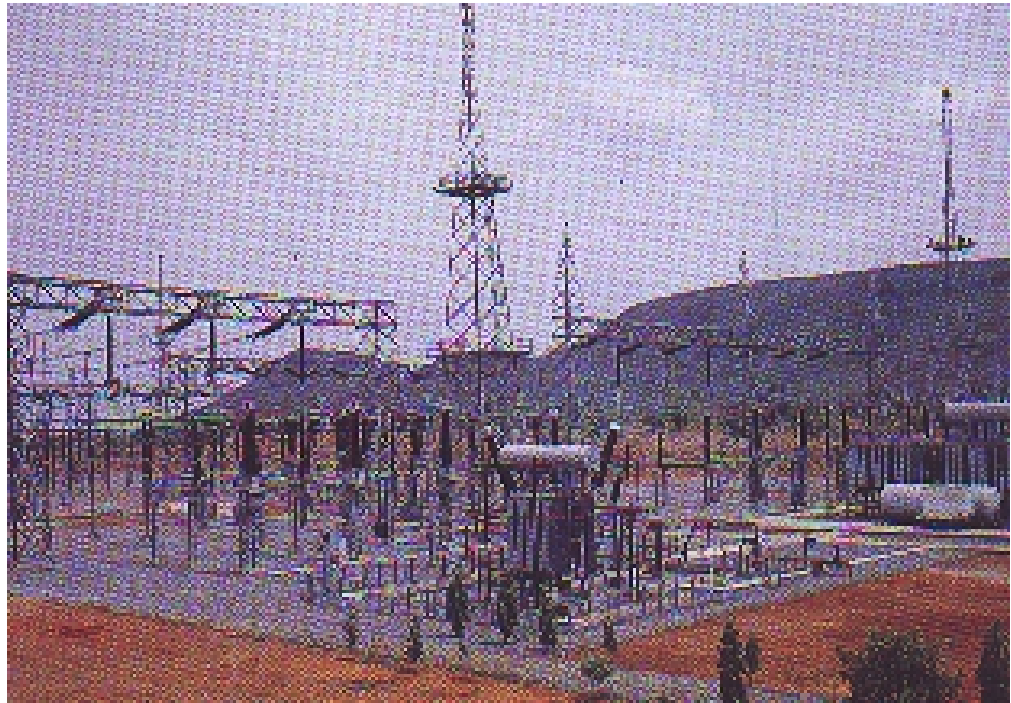
(System), Ministry of Power, as a member of POWERGRID's Board w.e.f. November 28, 1996.

Shri Arun Gupta relinquished the post of Chairman and Managing Director of that Corporation w.e.f. October 31, 1996, which he had held as additional charge apart from being CMD of NJPC Ltd. Shri R. Natarajan held the post of Director (Finance) for a period of about three months from July 12, 1996 to September, 1996. Further, Shri S.C. Parakh, Director (Projects) and Shri A.L. Jaggi, Director (Operations) laid down their office on July 31, 1997 respectively, on attaining the age of superannuation. POWERGRID also bade farewell to Shri K. Ramanathan, Member (Power System), CEA and Shri Ajay Dua, Joint Secretary (System and External assistance) MOP who have ceased to be the Directors. Board of Directors record their deep appreciation for the contribution and guidance received from all of them.

### ACKNOWLEDGEMENTS

The Directors place on record their grateful thanks for the guidance and cooperation extended all through by Ministry of Power, Central Electricity Authority, Ministry of Home Affairs, Deptt. of Economic Affairs of Finance and other concerned Govt. departments/agencies at the Central and state level without whose active support these achievements would not have been possible.

The Directors further wish to place on record their sincere thanks to the Principal Director of Commercial Audit and Ex-Officio Member Audit Board-III for the



cooperation during the year. Your Directors also acknowledge the valuable suggestions and guidance received from the statutory auditors (M/s. B.M. Chatrath & Co., M/s Umamaheshwara Rao & Co. and M/s Rasool Singhal & Co.) during the course of audit of accounts of the company for the year under review.

Your Directors take this opportunity to express their thanks to the various national/international financial institutions/banks for the continued trust and confidence reposed by them by rendering the continuous timely assistance and patronage for successful implementation of the various projects by the company.

Last but not the least, the Board of Directors place on record the valuable contribution and appreciation for the support and the cooperation extended by each

member of the POWERGRID family in the affairs of the company.

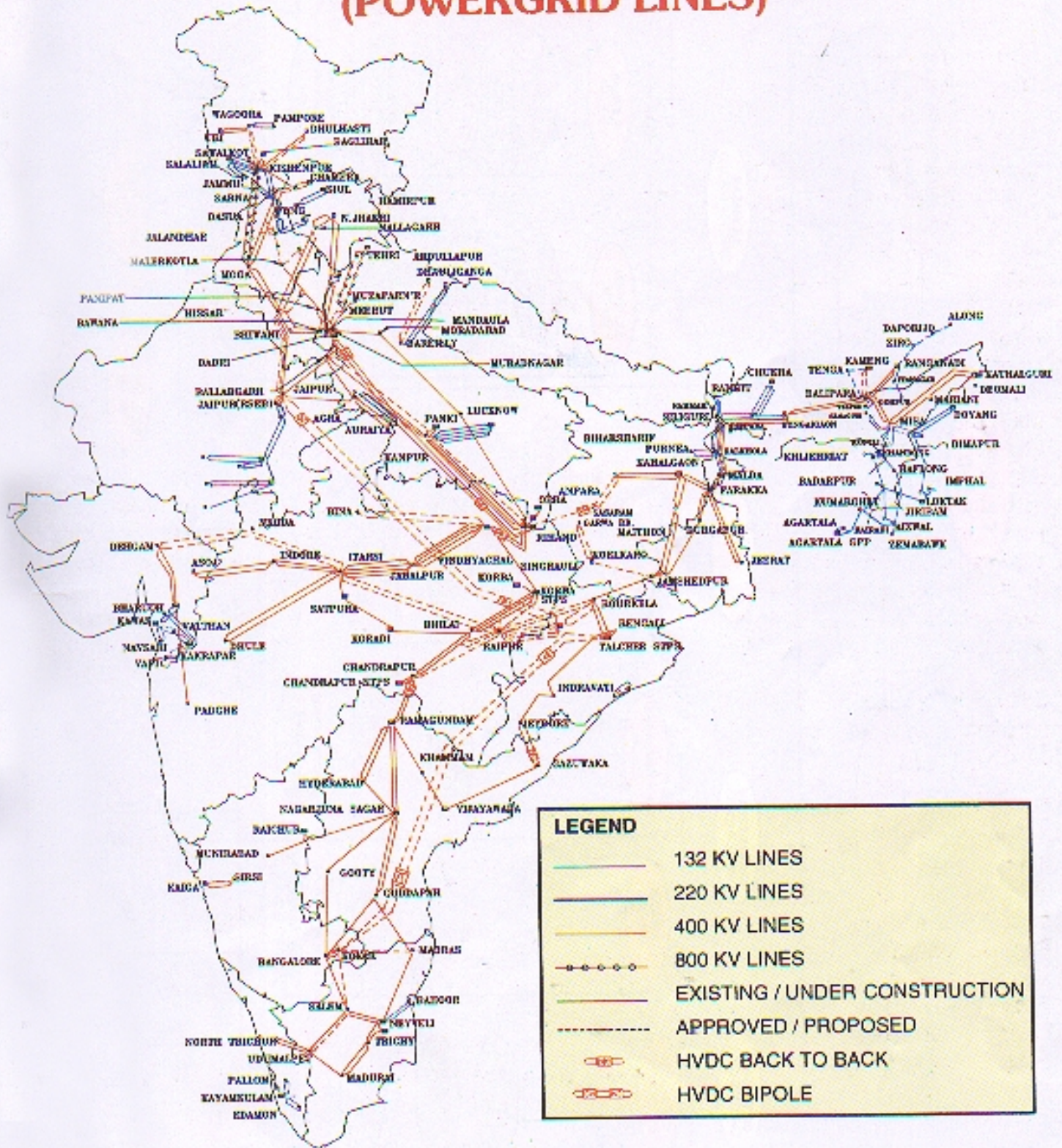
on behalf of the Board

(R.P. Singh)  
Chairman & Managing Director

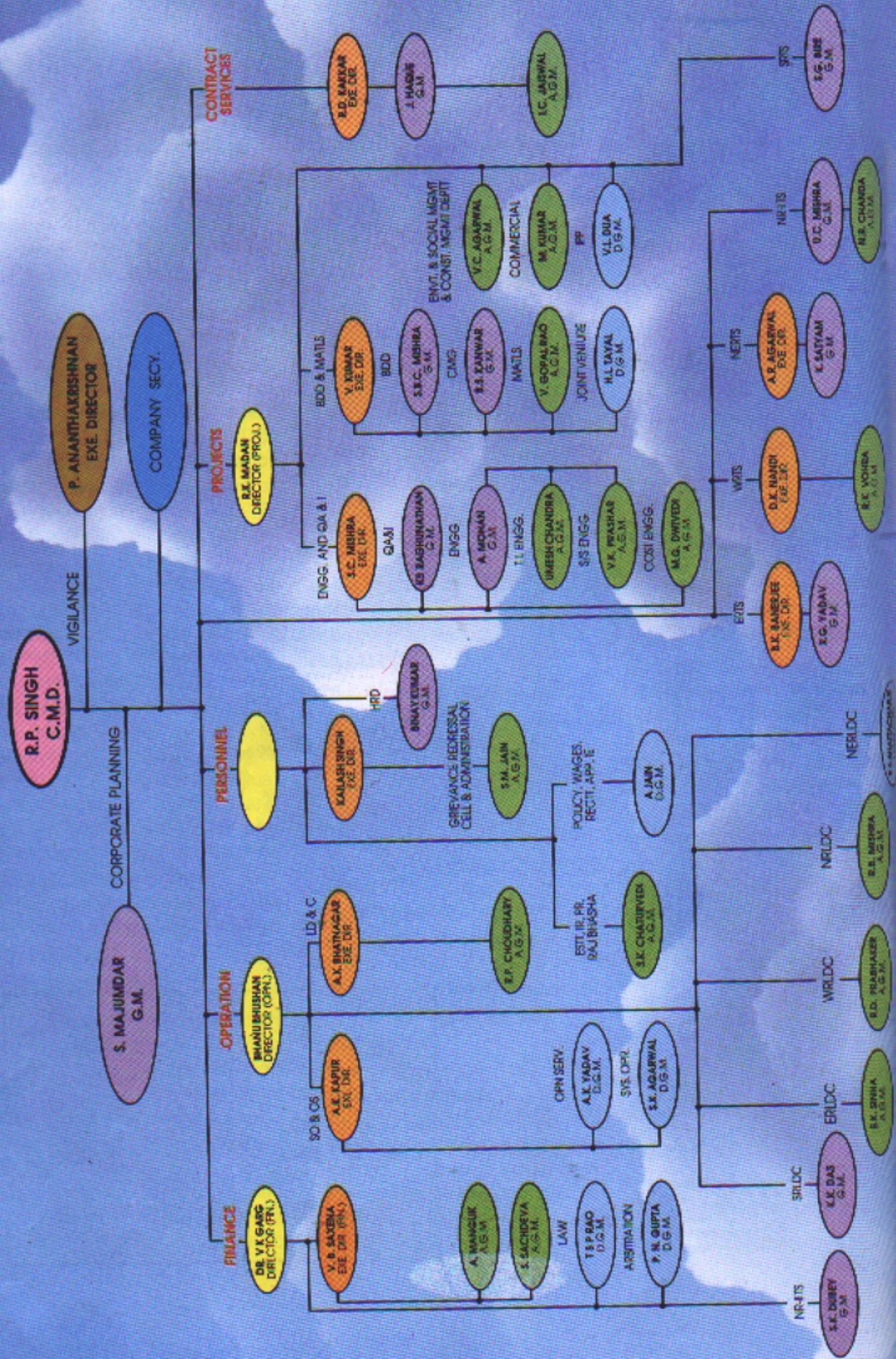
Place : New Delhi  
Dated : 17th September 1997



# POWER MAP OF INDIA (POWERGRID LINES)



# POWERGRID ORGANISATION CHART





## FINANCIAL POSITION

(Rs. in Lakhs)

	1996-97	1995-96	1994-95	1993-94	1992-93
<b>(A) WHAT THE COMPANY OWNED :</b>					
Gross Fixed Assets	558218	549168	506654	422865	352056
Less: Depreciation	<u>128348</u>	<u>95076</u>	<u>63002</u>	<u>32147</u>	<u>14159</u>
Net Fixed Assets	429870	454092	443652	390718	337897
Capital Work-in-Progress & Construction					
Stores & Advances	451046	308152	197906	170160	104896
Current Assets, Loan & Advances	<u>116060</u>	<u>110946</u>	<u>97110</u>	<u>91682</u>	<u>68308</u>
<b>TOTAL (A)</b>	<b><u>996976</u></b>	<b><u>873190</u></b>	<b><u>738668</u></b>	<b><u>652560</u></b>	<b><u>511101</u></b>
<b>(B) WHAT THE COMPANY OWED:</b>					
Borrowings From:					
- Govt. of India	117559	88517	57703	35405	79828
- Financial Institutions	17579	18357	17146	19514	4892
- Foreign Currency Loans	169545	140935	123887	106980	103335
- Cash Credit	-	-	-	4	-
- Other Loans/Bonds	172488	142153	113151	105404	80529
Current Liabilities & Provisions	<u>57119</u>	<u>56141</u>	<u>42087</u>	<u>47376</u>	<u>35666</u>
<b>TOTAL (B)</b>	<b><u>534290</u></b>	<b><u>446103</u></b>	<b><u>353974</u></b>	<b><u>314683</u></b>	<b><u>304250</u></b>
<b>(C) NET WORTH OF THE COMPANY REPRESENTED BY:</b>					
i) Equity capital (including Deposit)	302004	299224	297224	288912	184917
ii) Free Reserves and Surplus	116996	88621	62026	41767	23479
iii) Less: Misc Exp. to the extent not Written off	<u>608</u>	<u>638</u>	<u>713</u>	<u>828</u>	<u>1545</u>
<b>TOTAL (C)</b>	<b><u>418392</u></b>	<b><u>387207</u></b>	<b><u>358537</u></b>	<b><u>329851</u></b>	<b><u>206851</u></b>
<b>(D) COMMITTED RESERVES :</b>					
i) Capital Reserves	11827	11206	11206	8026	-
ii) Grants in Aid	<u>32467</u>	<u>28674</u>	<u>14951</u>	-	-
<b>TOTAL (D)</b>	<b><u>44294</u></b>	<b><u>39880</u></b>	<b><u>26157</u></b>	<b><u>8026</u></b>	<b>-</b>
<b>TOTAL (B+C+D)</b>	<b><u>996976</u></b>	<b><u>873190</u></b>	<b><u>738668</u></b>	<b><u>652560</u></b>	<b><u>511101</u></b>
<b>CAPITAL EMPLOYED</b> (Net Fixed Assets + Net Current Asset)	<b>488811</b>	<b>508897</b>	<b>498675</b>	<b>435024</b>	<b>370539</b>
<b>(E) RATIOS</b>					
Net Profit to Capital Employed (%)	6.25	5.42	4.16	4.32	6.39
Net Profit to Net Worth (%)	7.31	7.13	5.79	5.70	11.44
Net Worth per Rupee of Paid-up Capital (In Rupees)	1.39	1.29	1.21	1.14	1.12
Debt/Equity ratio	1.14:1	1.01:1	0.87:1	0.81:1	1.30:1
Liquidity Ratio	2.03:1	1.98:1	2.31:1	1.94:1	1.92:1



## FIVE YEAR SUMMARY

### OPERATING RESULTS

(Rs. in Lakhs)

	1996-97	1995-96	1994-95	1993-94	1992-93
(A) EARNED FROM:					
Transmission Charges	93422	86119	71686	55854	56234
Sale of Power	10127	10736	7947	8614	6442
Consultancy & other income	2266	1503	1360	409	730
Total Earnings	105815	98358	80993	64877	63406
(B) PAID & PROVIDED FOR:					
Purchase of Power	7158	7566	5037	5474	3660
Employees Remuneration & Benefits	6338	5616	4219	2999	2570
Transmission Expenses	2944	2339	1863	1351	1041
Administration Expenses	4234	3774	2980	2380	2027
Other Expenses (Including Prior Period Adjustment)	244	-455	514	2000	-
Deferred Revenue Expenditure	181	159	136	150	228
Provisions	1169	61	84	173	-
Total Expenditure (Excl. Depr. & interest)	22268	19060	14833	14527	9526
Profit before Depreciation & Interest	83547	79298	66160	50350	53880
Depreciation	33004	32040	28908	16663	13821
Interests & Finance Charges	19967	19662	16492	14900	16398
Net profit after Interest & Depreciation	30576	27596	20760	18787	23661
Dividend	2000	1000	500	500	-

## REVENUE EXPENDITURE ON SOCIAL OVERHEADS FOR THE YEAR ENDED 31ST MARCH, 1997



(Rs. in lakhs)

Sl. No.	Particulars	Township	Education & School	Medical Facilities Facilities	Subsidised Transport	Social & Cultural	Subsidised canteen Activities	Total	Previous Year
1.	Payment to Employees		31	367	12	102	101	613	388
2.	Material consumed	12						12	5
3.	Rates & Taxes	8						8	4
4.	Welfare expenses	9	29	137	31	197	29	432	291
5.	Others including Repair & Maintenance	150				22		172	108
6.	Depreciation	322						322	225
7.	Sub-total ( 1to 6)	501	60	504	43	321	130	1559	1021
8.	Less: Recoveries	32						32	16
9.	Net Expenditure ( 7-8)	469	60	504	43	321	130	1527	1005
10.	Previous year	335	36	367	57	129	81	1005	



## ACCOUNTING POLICIES

### 1.0 Method of Depreciation

1.1a. Depreciation is charged on straight line method as per rates prescribed under the Electricity (Supply) Act, 1948. In respect of assets, where rates have not been laid down under the aforesaid Act, depreciation is provided on straight line method as per rates prescribed under the Income Tax Act, 1961.

b. Depreciation on fixed assets is being provided from the year in which the assets become available for use, in accordance with the Electricity (Supply) Act, 1948, in preference to the Accounting Standard No. 6 of Institute of Chartered Accountants of India.

c. Depreciation is provided retrospectively to give effect of foreign exchange fluctuations relating to the fixed assets in accordance with the Electricity (Supply) Annual Accounts Rules, 1985, in preference to the Accounting Standard No. 6 of Institute of Chartered Accountants of India.

d. Capital expenditure on assets not owned by the company is amortized over a period of 4 years from the year following the year in which the first line/sub-station of the project comes into commercial operation and thereafter from the year following the year in which the relevant assets have been completed and become available for use.

1.2 In case of operating transmission system, assets of National Thermal Power Corporation Limited (NTPC), National Hydro-electric Power Corporation Limited (NHPC), North-Eastern Electric Power Corporation Limited (NEEPCO), North Eastern Electric Power Corporation Limited (NLC) transferred w.e.f. 1.4.92 Jammu and Kashmir Lines w.e.f. 1.4.93 and Tehri Hydro Development Corporation Limited (THDC) w.e.f. 1.8.93, depreciation has been charged based on gross block as indicated in transferors'

books with necessary adjustments so that the life of the assets as laid down under Electricity (Supply) Act, 1948 is maintained.

1.3 Plant and Machinery, Loose Tools and items of scientific appliances included under different heads of assets, costing either Rs. 5000/- or less or with written down value of Rs. 5000/- or less as at the beginning of the year are charged off to revenue.

### 2.0 Treatment of Expenditure during Construction.

2.1 In respect of supply-cum-erection contracts, the value of supplies received at site is taken as Capital Work-in-progress.

2.2 Incidental expenditure during construction (net) including Corporate Office expenses allocated to the projects pro-rata to the annual capital expenditure for the year is apportioned to capital work-in-progress on the basis of accretions there to. Interest during construction is apportioned on the closing balance of capital work-in-progress.

2.3 Deposit work/cost plus contracts are accounted for on the basis of statement of account received from the contractors.

2.4 Claims for price variation/exchange rate variation in case of contracts are accounted for on acceptance.

2.5 Expenses for the year, common to operation and construction activities are allocated to Profit and Loss Account and incidental expenditure during construction in proportion of;

i) Transmission charges/Net sales (Sales of Power minus purchase of Power) to annual capital outlay in the case of Corporate office and.

ii) Transmission charges/Net sales (Sale of Power minus purchase of Power) to accretions to capital work-in-progress in the case of projects.

2.6 In respect of assets commissioned. the interest on

loans for capital works, chargeable to Profit and Loss Account is ascertained on the basis of approved debt equity ratio for the project, irrespective of actual availment of the loan and equity which is reallocated in the year of conversion of debt equity to conform to the approved norms for the said project.

### 3.0 Renovation and Modernisation

3.1 Expenditure having the effect of extending the useful life of an asset, increasing output, capacity efficiency of an asset, decreasing operating cost of an asset alteration, replacement, renovation of building or plant and asset rebuilt by replacement of its components over a period of time is being capitalized. Major replacement substitution of one fixed asset by another, particularly of an old asset by a new asset of an old part by a new part with an expenditure limit of Rs. 10 lacs and above for each transmission line (i.e. between two sub-station, switching stations or company's Bays situated in State Electricity Boards' sub-stations) and each substation, during a financial year is being capitalized. However, the cost of replaced/substituted asset alongwith accumulated depreciation is withdrawn when the expenditure on the replacing asset is capitalized. In the light of this policy, framed in line with Electricity (Supply) Annual Accounts Rules 1985 the following items are accordingly capitalized for value of Rs. 10 lacs and above:

a. Towers, Conductors & Earth wires, Insulators, Accessories & Hardware and Foundations etc.

b. Transformers, Shunt Reactors, Circuit Breakers, Isolators, Current Transformers (CTS), Capacitance Voltage Transformers (CVTs), Lightning Arrestor, Structures, Bus Post Insulators, Busbars, main and auxiliary structures, cables and cable trenches, protection, Control Power Line Career Communication (PLCC)





equipments, other switchyard equipments, High Voltage Direct Current (HVDC) equipments and associated buildings etc.

#### **4.0 Conversion or Translation of Foreign Currency Items**

4.1 Foreign Currency loans/deposits/liabilities are translated/converted with reference to the rates of exchange ruling at the year end. Difference is transferred to capital work-in-progress/fixed assets in case of capital assets and is charged off to revenue, in case of capital assets and is charged off to revenue, in case of current assets.

#### **5.0 Valuation of Inventories**

5.1 Inventories, other than scrap are valued at cost on weighted average basis.

5.2 Steel scrap and conductor scrap are valued at estimated realizable value and other scrap is accounted for as and when sold.

#### **6.0 Treatment of Retirement Benefits.**

6.1 Gratuity is provided on actuarial valuation basis.

#### **7.0 Recognition of Income**

7.1 Transmission charges are accounted for based on tariff rates notified by Government of India under the Electricity Supply Act, 1948. In case of transmission projects where tariff has not been notified, transmission charges are being billed as per Bulk Power Transmission agreements or as decided by the concerned regional electricity boards or on norms and parameters followed by Government of India for fixation of tariff.

7.2 Sale of power purchased from M/s Chukha Hydel Power Corporation Ltd. Bhutan is billed and accounted for on the basis of a composite rate consisting of power tariff as notified by GOI from time to time and the transmission tariff as mutually agreed to by Eastern Region SEBs as per bulk power

transmission and supply agreement.

7.3 Surcharge recoverable from debtors is accounted for on receipt basis.

7.4 Liquidated damages/warranty claims and interest on advances to suppliers, are accounted for on acceptance/settlement.

7.5 Income from Consultancy/Contract Services is being accounted for on the basis of actual progress/technical assessment of work executed except in cases where contracts provide otherwise.

#### **8.0 Valuation of Fixed Assets**

8.1 In the case of commissioned assets, Deposit works/cost plus contracts where final settlement of bills with contractors is yet to be effected, capitalisation is made on provisional basis subject to necessary adjustments in the year of final settlement..

8.2 Assets and Systems common to more than one Transmission System are capitalized on the basis of engineering estimates/assessments.

8.3 Net pre-commissioning expenditure is adjusted directly in the cost of related assets and systems.

8.4 The cost of land includes provisional deposits, payments/liabilities towards compensation, rehabilitation and other expenses, but does not include the deposits/advances/expenditure incurred wherever possession of land is still to be taken.

8.5 Capital expenditure on assets not owned by the company is reflected as a distinct item in capital work in progress till the period of completion and thereafter in fixed assets.

#### **9.0 Capital Reserve**

9.1 Grants-in-aid received from Central Government or other authorities towards capital expenditure for Projects and betterment of transmission system, as well as consumers'

contribution to capital works are treated as capital reserve. However, grants received for specific projects/assets are treated as capital reserve, while the same are under construction and deducted from fixed assets as and when assets are capitalised.

#### **10.0 Self Insurance**

10.1 An appropriation on estimated basis is made in the accounts in respect of future losses which may arise from uninsured risks of machinery breakdown for Shunt Reactors and fire risk for the equipments in operating sub-station including building and cable galleries, etc. and credited to Self Insurance Reserve Account except for machinery breakdown for valve halls of High Voltage Direct Current (HVDC) and Fire risk for HVDC equipments & SVC Substations.

#### **11.0 Mandatory Spares**

11.1 Mandatory spares in the nature of sub-station equipments/capital spares i.e. standby/service/rotational equipment and unit assemblies either procured alongwith the equipments or subsequently are being capitalized and depreciation is charged as per rates applicable to those equipments.

11.2 Mandatory spares of consumable nature, transmission line items are treated as inventory items, after commissioning of the line.

#### **12.0 Miscellaneous**

12.1 Expenses on Training and Recruitment, Research and Development are charged to revenue.

12.2 Pre-paid expenses, prior-period expenses and income of items of Rs. 5,000/- and below are accounted to appropriate heads of account.

12.3 Bonds issue expenses/fron-end fees are being written off over the period of bonds/loans.



# BALANCE SHEET

## AS AT 31st MARCH 1997

(Rupees in Lacs)

	SCHEDULE NO		AS AT 31ST MARCH, 1997	AS AT 31ST MARCH, 1996
<b>SOURCES OF FUNDS</b>				
<b>Shareholders' Funds</b>				
Capital	1		3,02,004	2,99,224
Reserves and Surplus	2		<u>1,61,290</u>	1,28,501
			4,63,294	4,27,725
<b>Loan Funds</b>				
Secured loans	3		1,80,315	1,06,797
Unsecured loans			<u>2,96,856</u>	2,83,165
			<u>4,77,171</u>	3,89,962
			<u>9,40,465</u>	<u>8,17,687</u>
<b>APPLICATION OF FUNDS</b>				
<b>Fixed Capital Expenditure</b>				
<b>Fixed Assets</b>				
Gross Block	4	5,58,218		5,49,168
Less: Depreciation		<u>1,28,348</u>		95,076
Net Block		4,29,870		4,54,092
Capital Work-in-Progress	5	3,65,567		2,46,760
Construction stores and advances	6	<u>85,479</u>	8,80,916	61,392
				7,62,244
<b>Current Assets, Loans and Advance</b>				
Inventories	7	10,839		10,743
Sundry debtors		42,067		40,746
Cash and Bank balances		32,835		24,901
Other current assets		2,249		1,163
Loans and Advances		<u>28,070</u>		33,393
		1,16,060		1,10,946
<b>Less Current Liabilities and Provisions</b>				
Liabilities	8	54,872		55,033
Provisions		<u>2,247</u>		1,108
Net current assets		<u>57,119</u>	58,941	56,141
				54,805
<b>Miscellaneous expenditure (to the extent not written off or adjusted)</b>				
	9		608	638
			<u>9,40,465</u>	<u>8,17,687</u>
			<u>62,836</u>	<u>31,500</u>
Contingent liabilities	10			
Notes on accounts	17			

Schedule 1 to 17 and Accounting Policies form integral part of Accounts

**P.D. TUTEJA**  
Secretary

**V.B. SAXENA**  
ED( Finance)

For Rasool Singhal & Co.  
Chartered Accountants

**M. H. Singhal**  
Partner

**R.K.MADAN**

Director (Projects)

As per our report of even date  
For Umamaheswara Rao & Co.  
Chartered Accountants

**L. Shyama Prasad**  
Partner

**R.P. SINGH**

Chairman & Managing Director

For B.M. Chatrath & Co.  
Chartered Accountants

**P.R. Paul**  
Partner

Place : New Delhi  
Date : 26th June, 1997

# PROFIT AND LOSS ACCOUNT

## FOR THE YEAR ENDED 31ST MARCH 1997



Rupees in Lacs)

	SCHEDULE No.	For the Year Ended 31st March, 1997	For the Year Ended 31st March, 1996
<b>INCOME</b>			
Transmission charges		93,422	86,119
Sale of Electric Power		10,127	10,736
Consultancy/Project Management and Supervision Fees	11	578	141
Other Income		<u>1,688</u>	<u>1,362</u>
		<u>1,05,815</u>	<u>98,358</u>
<b>EXPENDITURE</b>			
Purchase of Electric Power Transmission and Administration Expenses	12	18,612	16,427
Depreciation		33,203	32,196
Prior Period adjustment (Net)	16	<u>278</u>	- 335
		52,093	48,288
Less: Incidental expenditure during construction transferred to capital Work-in-progress	15(A)	<u>5,353</u>	5,008
		46,740	43,280
Deferred Revenue Expenditure Written off Provision	13	181	159
Loss on Fixed Assets discarded		1,169	61
		<u>24</u>	<u>34</u>
Profit (before interest & finance charges off Interest and finance charges		55,272	51,100
Less: Interest & finance charges transferred to capital Work-in-progress	14	48,339	47,258
	15(B)	<u>28,372</u>	37,912
		19,967	18,250
		30,576	19,662
Profit for the year (before tax)		1	27,596
Provision for taxation		30,575	1
Profit after tax		921	726
Balance profit from last year's account		2,000	1,000
Proposed Dividend		200	—
Tax on Proposed Dividend		11,216	7,200
Transfer to Bonds Redemption Reserve		400	200
Transfer to Self Insurance Reserve		17,500	19,000
Transfer to General Reserve		<u>180</u>	<u>921</u>
Balance of profit carried over to Balance Sheet		<u>180</u>	<u>921</u>

**P.D. TUTEJA**  
Secretary

For Rasool Singhal & Co.  
Chartered Accountants

**M. H. Singhal**  
Partner

**V.B. SAXENA**  
ED( Finance)

**R.K.MADAN**  
Director (Projects)  
As per our report of even date  
For Umamaheswara Rao & Co.  
Chartered Accountants

**L. Shyama Prasad**  
Partner

**R.P. SINGH**  
Chairman & Managing Director  
For B.M. Chatrath & Co.  
Chartered Accountants

**P.R. Paul**  
Partner

Place : New Delhi  
Date : 26th June, 1997



## SCHEDULES

### CAPITAL SCHEDULE-1

Rupees in Lacs)

	AS AT 31ST March, 1997	AS AT 31ST March, 1996
<b>AUTHORISED</b>		
5,00,00,000 (Previous year 5,00,00,000) equity shares or Rs. 1000/- each.	<u>5,00,000</u>	<u>5,00,000</u>
<b>ISSUED, SUBSCRIBED AND PAID UP</b>		
285, 71,540 (Previous year 282, 93, 540) equity shares of Rs. 1000/- each fully paid up	2,85,715	2,82,935
Share capital deposit	<u>16,289</u>	<u>16,289</u>
	<u>3,02,004</u>	<u>2,99,224</u>

### RESERVES AND SURPLUS SCHEDULE-2

(Rupees in Lacs)

	BALANCE AS AT 1ST APRIL, 1996	ADDITIONS	BALANCE AS AT 31ST MARCH, 1997
Capital Reserve	11,206	621	11,827
Grants in aid	28,674	3,793	32,467
Self Insurance Reserve	400	400	800
General Reserve	75,000	17,500	92,500
Bonds Redemption Reserve	12,300	11,216	<u>23,516</u>
	<u>1,27,580</u>	33,530	1,61,110
Surplus as per Profit & Loss Accounts	921		180
	<u>1,28,501</u>		<u>1,61,290</u>

### LOAN FUNDS SCHEDULE-3

Rupees in Lacs)

	AT AT 31ST MARCH, 1997	AS AT 31ST MARCH, 1996
<b>SECURED LOANS</b>		
<b>BONDS I SERIES</b>		
a. 16.75% / 17%, Taxable 7 years Redeemable non-convertible Bonds of Rs. 1000/- each redeemable at par on 10/13th March, 1999	3,680	3,680
b. 9% Tax-free 10 years Redeemable Non- convertible Bonds of Rs 1000/- each redeemable at par on 10th March, 2002	3,900	3,900
Secured by equitable mortgage of immovable properties and hypothecation of movable properties of Korba & Singrauli Transmission System	<u>7,580</u>	7,580



**LOAN FUNDS**  
**SCHEDULE-3 - (Contd.)**

(Rupees in Lacs)

		AT AT 31ST MARCH, 1997	AS AT 31ST MARCH, 1996
<b>LOAN FROM LIFE INSURANCE CORPORATION</b>			
a.	Secured by equitable mortgage of Kathalguri Transmission system	1,288	1,463
b.	Secured by equitable mortgage of immovable properties and hypothecation of movable properties of CTP-I Vijayawada Sub-station	<u>1,190</u>	1,590 3,053
<b>LOAN FROM UNIT TRUST OF INDIA</b>			
	Secured by equitable mortgage of immovable properties of Kahalgaon Transmission System	15,000	15,000
<b>LOAN FROM INDIAN OVERSEAS BANK</b>			
	Secured by Hypothecation of Immovable assets of Chandrapur HVDC Transmission System and 400 KV Chamera-Kishenpur Transmission system	4,375	5,000
<b>LOAN FROM INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT</b>			
	Secured by equitable mortgage of immovable properties and hypothecation of movable properties of Vindhyachal and Rihand Transmission systems and further guaranteed by G.O.I. WEST MERCHANT BANK, UK (Guaranteed by consortium of Bankers, which is secured by hypothecation of Machinery of Jeypore-Gajuwaka HVDC transmission system and pending creation of Equitale Mortgage of Land of Indravati Sub-station	52,586	24,495
	PENDING FINALISATION OF TRIPARTITE AGREEMENT BACK TO BACK AGREEMENT, AMOUNT PAYABLE TO GOVERNAMENT OF INDIA ON ACCOUNT OF	7,834	1,058
<b>NHPC PURCHASE CONSIDERATION</b>			
a.	9% B Series 10 years Bonds of Rs. 1000/- each redeemable at par on 11th Dec, 1997	1,913	1,913
	Secured by equitable mortgage of Chukha Transmission lines		
<b>NLC. PURCHASE CONSIDERATION</b>			
a.	13% E Series 7 years Bond of Rs. 1000/- each redeemable at par in December, 1996	<u>3,549</u>	3,549
b.	9% E Series 10 Years Bonds of Rs. 1000/- each redeemable at par in December, 1999/ March, 2000	<u>3,549</u>	3,549
	Secured by equitable mortgage of Neyveli-Salem-Madras Line	3,549	7,098
<b>Total Secured Loan</b>		<u>1,80,315</u>	1,06,797



**LOAN FUNDS**  
**SCHEDULE-3 (Contd.)**

(Rupees in Lacs)

		AT AT 31ST MARCH, 1997	AS AT 31ST MARCH, 1996
<b>BONDS II SERIES</b>			
a.	15% Taxable years redeemable non-convertible Bonds of Rs. 1000/- each redeemable at par on 11th February, 1999	23,600	23,600
b.	10.5% Tax-free 5 years redeemable non-convertible Bonds of Rs. 1000/- each redeemable at par on 11th February, 1999	1,400	1,400
	Secured by equitable mortgage of immovable properties and hypothecation of movable properties of Ramagundam Stage-I and II Transmission System & Nagarjuna Sagar -Gooty Transmission Line	-----	25,000
			25,000
<b>BONDS III SERIES</b>			
a.	13.5% Taxable 7 Years Redeemable non-convertible Bonds of Rs. 1000/- each Redeemable at par on 28th Feb. 2002	1,600	1,600
b.	9.75% tax free 7 years Redeemable non-convertible Bonds of Rs. 1000/-each redeemable at par on 28th October, 2001	10,000	10,000
c.	16.25% taxable 5 years Redeemable non-convertible Bonds of Rs. 1000/- each redeemable at par on 1st September, 2000 Secured by mortgage/equitable mortgage of immovable properties and hypothecation of movable properties of Auraiya/Moga-Bhiwani Transmission Systems and Bonds at (C) above further additionally secured by equitable mortgage of immovable properties of CTP-I transmission system (except Vijaywada	-----	25,000
			11,600
<b>BONDS IV SERIES</b>			
a.	17% taxable 5 years redeemable non-convertible Bonds of Rs. 1000/- each redeemable at par on 8th January, 2001	10,686	---
b.	17.5% taxable 5 years redeemable non-convertible Bonds of Rs. 1000/- each redeemable at par on 29th March, 2001	3,626	---
c.	17.75% taxable 5 years redeemable non-convertible Bonds of Rs. 1000/- each redeemable at par on 16th July, 2001	20,688	---
	Secured by equitable mortgage of immovable properties and hypothecation of movable properties of Doyang and Farakka Transmission Systems and mortgage/hypothecaton of immovable/movable properties of Anta Transmission Line	-----	35,000



**LOAN FUNDS**  
**SCHEDULE-3 (Contd.)**

(Rupees in Lacs)

	AT AT 31st MARCH, 1997	AS AT 31st MARCH, 1996
<b>UNSECURED LOANS</b>		
<b>BONDS III SERIES</b>		
16.25% Taxable 5 years Redeemable non-convertible Bonds of Rs. 1000/- each Redeemable at par on 1st September, 2000	---	13,400
Equitable mortgage/hypothecation of Assets of Auraiya and Moga-Bhivani Transmission System and CTP-I transmission System (except Vijayawada Sub-station), effected during 1996-97 and classified as secured		
<b>BONDS IV SERIES</b>		
A. 17% Taxable 5 years redeemable non-convertible Bonds of Rs. 1000/- each redeemable at par on 8th January, 2001	---	10,686
b. 17.5% Taxable 5 years redeemable non-convertible Bonds of Rs. 1000/- each redeemable at par on 29th March, 2001	---	3,626
Equitable mortgage/mortgage/hypothecation of Assets of Doyang, Farakka and Anta Transmission Systems effected during 1996-97 and classified as secured	---	14,312
<b>BONDS V SERIES</b>		
15.75% 5 years redeemable non-convertible Bonds of Rs. 1000/- each redeemable at par on 24th Feb. 2002 To be secured by Mortgage/hypothecation of immovable and movable properties of Chamera-Moga or Gandhar Transmission System	20,000	---
<b>LOAN FROM GOVERNMENT OF INDIA</b>	<b>1,17,559</b>	<b>88,517</b>
<b>LOANS GUARANTEED BY GOVT OF INDIA</b>		
a. West Merchant Bank, UK & State Bank of India, London	17,463	6,004
b. Credit National, France	9,348	9,452
c. Banque Indosuez, France	8,921	8,146
d. Skandinviska Enskilda Banken I, Sweden	2,476	3,938
e. Skandinorviska Enskilda Banken II, Sweden	14,660	23,581
f. Asian Development Bank	7,274	---
	<b>60,142</b>	<b>51,121</b>



**LOAN FUNDS**  
**SCHEDULE-3 (Contd.)**

		Rupees in Lacs)
	AT AT 31st MARCH, 1997	AS AT 31st MARCH, 1996
PENDING FINALISATION OF TRIPARTITE AGREEMENT/ BACK TO BACK AGREEMENT AMOUNT PAYABLE TO GOVERNMENT OF INDIA ON ACCOUNT OF		
A. NTPC PURCHASE CONSIDERATION		
1. Loans from		
a. Industrial Bank of Japan and Nippon Life Insurance	3,746	4,154
b. Syndicated Loan from Industrial Bank of Japan & other Japanese Banks/Financial Institutions	20,144	24,983
c. Exim Bank, Japan	21,600	26,236
d. Unit Trust of India	101	304
2. Bonds issued by NTPC	<u>25,696</u>	29,265
	71,287	84,942
B. NHPC PURCHASE CONSIDERATION		
a. Export Development Corporation, Canada	3,493	3,888
b. Bonds issued by NHPC	<u>13,583</u>	13,583
	17,076	17,471
C. NLC PURCHASE CONSIDERATION		
Bonds issued by NLC	6,701	8,902
UNSECURED LOANS FROM OTHERS		
Neyveli Lignite Corporation	<u>4,091</u>	4,500
<b>Total Unsecured Loans</b>	<u>2,96,856</u>	<u>2,83,165</u>
<b>GRAND TOTAL (SECURED+UNSECURED)</b>	<u>4,77,171</u>	<u>3,89,962</u>





## FIXED ASSETS-TRANSMISSION LINES SCHEDULE - 4A

(Rupees in Lacs)

DESCRIPTION	GROSS BLOCK				DEPRECIATION				NET BLOCK	
	AS AT 1.4.96	ADDITIONS DURING THE YEAR	ADJUSTMENT DURING THE YEAR	AS AT 31-3-97	AS AT 1.4.96	ADDITIONS DURING THE YEAR	ADJUSTMENT DURING THE YEAR	AS AT 31-3-97	AS AT 31-3-97	AS AT 31-3-96
LAND (Including Development										
a) Freehold	144	306	11	439	-	-	-	-	439	144
b) Leasehold	341	13	-11	365	1	3	-	4	361	340
Roads, bridges, culverts & helipads	3	1	-	4	-	-	-	-	4	3
BUILDINGS										
Others	6	-	-	6	2	-	-	2	4	4
Temp. erection	1	8	-	9	1	3	-	4	5	-
Water, Supply, Drainage & Sewerage	1	-	1	-	-	-	-	-	-	1
PLANT & MACHINERY	326562	5219	2056	329725	46874	17106	-16	63996	265729	279688
Construction and Workshop equipment	22	-	-6	28	7	3	-1	11	17	15
Electrical Installation	62	-	-	62	30	6	1	35	27	32
Vehicles	9	8	-1	18	6	-	-	6	12	3
Furniture, Fixtures and Other equipment	16	4	-	20	1	2	-	3	17	15
EDP & WP Machines	23	9	-	32	3	4	-	7	25	20
<b>TOTAL (A)</b>	<b>327190</b>	<b>5568</b>	<b>2050</b>	<b>330708</b>	<b>46925</b>	<b>17127</b>	<b>-16</b>	<b>64068</b>	<b>266640</b>	<b>280265</b>

## FIXED ASSETS-SUBSTATIONS SCHEDULE-4B

(Rupees in Lacs)

DESCRIPTION	GROSS BLOCK				DEPRECIATION				NET BLOCK	
	AS AT 1.4.96	ADDITIONS DURING THE YEAR	ADJUSTMENT DURING THE YEAR	AS AT 31-3-97	AS AT 1.4.96	ADDITIONS DURING THE YEAR	ADJUSTMENT DURING THE YEAR	AS AT 31-3-97	AS AT 31-3-97	AS AT 31-3-96
LAND (Including Development										
a) Freehold	2705	651	-21	3377	-	-	-	-	3377	2705
b) Leasehold	802	43	1	844	43	17	-	60	784	759
<b>Unclassified</b>	246	-	-	246	-	-	-	-	246	246
Roads, bridges, culverts & helipads	1709	26	3	1732	135	51	-	186	1546	1574
BUILDINGS										
a) Main Plant	3320	165	-202	3687	503	206	-21	730	2957	2817
b) Others	3256	66	115	3207	452	110	-2	564	2643	2804
Temporary Erection	140	5	1	144	90	26	-	116	28	50
Water, Supply, Drainage & Sewerage	433	8	-1	442	62	25	-	87	355	371
Plant & Machinery	194028	5599	4285	195342	44578	14668	-48	59294	136048	149450
Construction and Workshop equipment	497	101	4	594	134	42	-	176	418	363
Electrical Installation	576	19	-21	616	150	54	-1	205	411	426
Vehicles	188	8	13	183	110	12	5	117	66	78
Aircraft/Aero engines, Boats	3	-	-	3	1	-	-	1	2	2
Furniture, Fixture and Other equipment	826	103	35	894	217	107	4	320	574	609
EDP & WP Machines	230	35	-2	267	73	27	-	100	167	157
Laboratory and Workshop equipment	286	90	-31	407	142	48	-4	194	213	144
Capital Expenditure on Assets not owned by the Company	114	-	-	114	15	29	-	44	70	99
<b>TOTAL (B)</b>	<b>209359</b>	<b>6919</b>	<b>4179</b>	<b>212099</b>	<b>46705</b>	<b>15422</b>	<b>-67</b>	<b>62194</b>	<b>149905</b>	<b>162654</b>



## FIXED ASSETS-RESEARCH & DEVELOPMENT SCHEDULE-4C

**NET BLOCK**  
(Rupees in Lacs)

DESCRIPTION	GROSS BLOCK				DEPRECIATION					
	AS AT 1.4.96	ADDITIONS DURING THE YEAR	ADJUSTMENT DURING THE YEAR	AS AT 31-3-97	AS AT 1.4.96	ADDITIONS DURING THE YEAR	ADJUSTMENT DURING THE YEAR	AS AT 31-3-97	AS AT 31-3-97	AS AT 31-3-96
BUILDINGS										
Others	68	5	2	71	5	2	-	7	64	63
<b>TOTAL (C)</b>	<b>68</b>	<b>5</b>	<b>2</b>	<b>71</b>	<b>5</b>	<b>2</b>	<b>-</b>	<b>7</b>	<b>64</b>	<b>63</b>

## FIXED ASSETS-OFFICE COMPLEX SCHEDULE-4D

(Rupees in Lacs)

DESCRIPTION	GROSS BLOCK				DEPRECIATION				NET BLOCK		
	AS AT 1.4.96	ADDITIONS DURING THE YEAR	ADJUSTMENT DURING THE YEAR	AS AT 31-3-97	AS AT 1.4.96	ADDITIONS DURING THE YEAR	ADJUSTMENT DURING THE YEAR	AS AT 31-3-97	AS AT 31-3-97	AS AT 31-3-96	
LAND(Including Development)											
a) Freehold	-	144	-	144	-	-	-	-	144	-	
b) Leasehold	700	68	-	768	4	1	-	5	763	6961	
BUILDINGS											
Others	413	31	-141	585	43	18	-5	66	519	370	
Temporary Erection	179	11	11	179	100	37	10	127	52	79	
Water, Supply, Drainage & Sewerage	1	-	-	1	-	-	-	-	1	1	
Electrical Installation	30	14	-	44	4	2	-	6	38	26	
Vehicles	65	-	3	62	37	10	3	44	18	28	
Furniture, Fixtures and Other equipment	960	108	4	1064	264	126	1	389	675	696	
EDP & WP Machines	705	137	28	814	148	98	13	233	581	557	
<b>TOTAL (D)</b>	<b>3053</b>	<b>513</b>	<b>-95</b>	<b>3661</b>	<b>600</b>	<b>292</b>	<b>22</b>	<b>870</b>	<b>2791</b>	<b>2453</b>	

## FIXED ASSETS-TOWNSHIP ASSETS SCHEDULE-4E

(Rupees in Lacs)

DESCRIPTION	GROSS BLOCK				DEPRECIATION				NET BLOCK		
	AS AT 1.4.96	ADDITIONS DURING THE YEAR	ADJUSTMENT DURING THE YEAR	AS AT 31-3-97	AS AT 1.4.96	ADDITIONS DURING THE YEAR	ADJUSTMENT DURING THE YEAR	AS AT 31-3-97	AS AT 31-3-97	AS AT 31-3-96	
LAND (Including Development)											
a) Freehold	157	-	-2	159	-	-	-	-	159	157	
b) Leasehold	65	13	3	75	7	2	-	9	66	58	
Roads, bridges, culverts & helipads	771	25	1	795	63	24	-	87	708	708	
BUILDINGS											
Others	6677	1892	-9	8578	518	224	-2	744	7834	6159	
Temporary erection	48	24	-	72	25	11	-	36	36	23	
Water, Supply, Drainage & Sewerage	1108	70	-11	1189	103	36	-	139	1050	1005	
Electrical Installation	477	29	-29	535	91	44	-2	137	398	386	
Vehicles	6	-	-3	9	4	-	-3	7	2	2	
Furniture, Fixtures and Other equipment	181	52	-26	259	29	18	-1	48	211	152	
Hospital Equipment	1	-	-	1	-	-	-	-	1	1	
School Equipment	3	-	-	3	1	-	-	1	2	2	
Capital Expenditure on Assets not owned by the Company	4	-	-	4	-	1	-	1	3	4	
<b>TOTAL (E)</b>	<b>9498</b>	<b>2105</b>	<b>-76</b>	<b>11679</b>	<b>841</b>	<b>360</b>	<b>-8</b>	<b>1209</b>	<b>10470</b>	<b>8657</b>	



## FIXED ASSETS SCHEDULE-4

(Rupees in Lacs)

DESCRIPTION	GROSS BLOCK				DEPRECIATION				NET BLOCK	
	AS AT 1.4.96	ADDITIONS DURING THE YEAR	ADJUSTMENT DURING THE YEAR	AS AT 31-3-97	AS AT 1.4.96	ADDITIONS DURING THE YEAR	ADJUSTMENT DURING THE YEAR	AS AT 31-3-97	AS AT 31-3-97	AS AT 31-3-96
LAND (Including Development)										
a) Freehold	3006	1101	-12	4119	-	-	-	-	4119	3006
b) Leasehold	1908	137	-7	2052	55	23	-	78	1974	1853
c) Unclassified	246	-	-	246	-	-	-	-	246	246
Roads, bridges, culverts & helipads	2483	52	4	2531	198	75	-	273	2258	2285
BUILDINGS										
Main Plant	3320	165	-202	3687	503	206	-21	730	2957	2817
Others	10420	1994	-33	12447	1020	354	-9	1383	11064	9400
Temporary erection	368	48	12	404	216	77	10	283	121	152
Water, Supply, Drainage & Sewerage	1543	78	-11	1632	165	61	-	226	1406	1378
Plant & Machinery	520590	10818	6341	525067	91452	31774	-64	123290	401777	429138
Construction and										
Workshop equipment	519	101	-2	622	141	45	-1	187	435	378
Electrcial Installation	1145	62	-50	1257	275	106	-2	383	874	870
Vehicles	268	16	12	272	157	22	5	174	98	111
Aircraft/Aero engines, Boats	3	-	-	3	1	-	-	1	2	2
Furniture, Fixtures and										
Other equipment	1983	267	13	2237	511	253	4	760	1477	1472
EDP & W/P Machines	958	181	26	1113	224	129	13	340	773	734
Laboratory and										
Workshop equipment	286	90	-31	407	142	48	-4	194	213	144
Hospital Equipment	1	-	-	1	-	-	-	-	1	1
School Equipment	3	-	-	3	1	-	-	1	2	2
Capital Expenditure on Assets not owned by the Company	118	-	-	118	15	30	-	45	73	103
<b>Grand Total</b>	<b>549168</b>	<b>15110</b>	<b>6060</b>	<b>558218</b>	<b>95076</b>	<b>33203</b>	<b>-69</b>	<b>128348</b>	<b>429870</b>	<b>454092</b>
Previous year	506655	42946	433	549168	68297	26791	12	95076	454092	



## CAPITAL WORK IN PROGRESS-TRANSMISSION LINE PROJECTS SCHEDULE - 5A

(Rupees in Lacs)

	BALANCE AS AT IST APRIL, 1996	ADDITIONS DURING THE YEAR	ADJUSTMENTS	CAPITALIZED DURING THE YEAR	BALANCE AS AT 31ST MARCH, 1997
Buildinga (others)	-	17	-	-	17
PLANT & MACHINERY (including associated civil works)					
a. On own A/C & on supply- cum-erection contract	1,44,098	86,989	-6,274	5,210	2,32,151
b. Others	-	38	38	-	-
Electrical installations	-	35	-35	-	70
Survey, Investigation, Consultancy & Supervision Charges	662	33	-232	-	927
Survey & Soil Investigation	680	230	13	-	897
Difference in Exchange on foreign Loans					
a) Skandinorviska Enskilda Banken I Sweden	-	2	-	2	-
b) Skandinorviska Enskilda Banken II Sweden	-	-1,095	-	-1,095	-
c) Industrial Bank of Japan and Nippon Life Insurance	-	-361	-	-361	-
d) Syndicated Loan from Industrial Bank of Japan and other Japanese Banks/ Financial Institutions	-	-384	-	-384	-
e) EXIM Bank, Japan	-	-467	-	-467	-
f) Export Development Bank (Canada)	-	-181	-	-181	-
i) International Bank of Reconstruction and Development	760	-1,702	128	-	-1,070
j) Asian Development Bank	-	18	2	-	16
<b>TOTAL (A)</b>	1,46,200	83,172	-6,360	2724	2,33,008



**CAPITAL WORK IN PROGRESS-Sub Stations  
SCHEDULE - 5B**

(Rupees in Lacs)

	BALANCE AS AT IST APRIL, 1996	ADDITIONS DURING THE YEAR	ADJUSTMENT	CAPTALIZED DURING THE YEAR	BALANCE AS AT 31ST MARCH, 1997
Development of Land	237	89	-	18	308
Roads, bridges, culverts & helipads	345	219	3	27	534
Buildings (others)	1,256	568	57	350	1,417
Temporary erection	14	5	6	8	5
Water supply, drainage and sewerage	40	218	12	12	234
PLANT & MACHINERY (including associated civil works)					
a. On own account & on-supply- cum-erection contract	90,281	44,586	6,420	5,105	1,23,342
b. Others	559	291	13	597	240
Electrical installations	283	51	159	50	125
Furniture fixtures & other office equipments	6	103	1	6	102
Survey, Investigation					
Consultancy & Supervision Charges	2,148	310	-	-	2,458
Survey & Soil Investigation	1,276	151	627	-	800
Difference in Exchange on foreign Loans					
a) Skandinorviska Enskilda Banken I Sweden	-	154	2	152	-
b) Skandinorviska Enskilda Banken II Sweden	-	-1,460	-33	-1,427	-
c) Industrial Bank of Japan and Nippon Life Insurance	-	-46	-	-46	-
d) Syndicated Loan from Industrial Bank of Japan and other Japanese Banks/ Financial Institutions	2	-1915	-1256	-657	-
e) EXIM Bank, Japan	148	-2006	-1259	-608	9
f) International Bank of Reconstruction and Development	251	-726	-117	-275	-83
i) West Merchand Bank, UK & State Bank of India London	39	900	-	-	939
j) Credit National, France	622	-693	-	-	-71
k) Banque Indo suez, France	42	-611	-	-	-569
i) West Merchant Bank, U K	-	133	-	133	-
l) Asian Development Bank	-	18	-	18	-
<b>TOTAL (B)</b>	<b>97,549</b>	<b>40,339</b>	<b>4,635</b>	<b>3,463</b>	<b>1,29,790</b>



## CAPITAL WORK IN PROGRESS- OFFICE COMPLEX SCHEDULE - 5C

(Rupees in Lacs)

	BALANCE AS AT IST APRIL, 1996	ADDITIONS DURING THE YEAR	ADJUSTMENTS	CAPTALIZED DURING THE YEAR	BALANCE AS AT 31ST MARCH, 1997
Buildings (Others)	4	139	-1	32	112
Electrical Installations	92	-	92	-	-
Furniture Fixtures & Other office equipment	59	-	-	59	-
<b>TOTAL (C)</b>	<b>155</b>	<b>139</b>	<b>91</b>	<b>91</b>	<b>112</b>

## CAPITAL WORK IN PROGRESS- TOWNSHIP ASSETS SCHEDULE - 5D

(Rupees in Lacs)

	BALANCE AS AT IST APRIL, 1996	ADDITIONS DURING THE YEAR	ADJUSTMENTS	CAPTALIZED DURING THE YEAR	BALANCE AS AT 31ST MARCH, 1997
Development of land	28	2	-	4	26
Roads, bridges, culverts & helipads	36	51	3	24	60
Buildings (others)	1,589	1,251	119	1,615	1,106
Temporary erection	13	2	-6	16	5
Water supply drainage and sewerage	97	91	-2	74	116
Electrical installations	75	37	-1	45	68
Furniture fixtures & other office equipments	11	5	-1	14	3
<b>TOTAL (D)</b>	<b>1,849</b>	<b>1,439</b>	<b>112</b>	<b>1,792</b>	<b>1,384</b>

## CAPITAL WORK IN PROGRESS- INCIDENTAL EXPENDITURE DURING CONSTRUCTION SCHEDULE - 5E

(Rupees in Lacs)

	BALANCE AS AT IST APRIL, 1996	ADDITIONS DURING THE YEAR	ADJUSTMENTS	CAPTALIZED DURING THE YEAR	BALANCE AS AT 31ST MARCH, 1997
INCIDENTAL EXPENDITURE DURING CONSTRUCTION	1,007	32,573	-	-	33,580
Less: Allocated to Capital Work in Progress	-	32,307	-	-	32,307
<b>TOTAL (E)</b>	<b>1,007</b>	<b>266</b>	<b>-</b>	<b>-</b>	<b>1,273</b>



## CAPITAL WORK IN PROGRESS SCHEDULE - 5

(Rupees in Lacs)

	BALANCE AS AT IST APRIL, 1996	ADDITIONS DURING THE YEAR	ADJUSTMENTS	CAPITALIZED DURING THE YEAR	BALANCE AS AT 31ST MARCH, 1997
A. Transmission Line Projects	1,46,200	83,172	-6,360	2,724	2,33,008
B. Sub Stations	97,549	40,339	4,635	3,463	1,29,790
C. Office Complex	155	139	91	91	112
D. Township Assets	1,849	1,439	112	1,792	1,384
E. Incidental Expenditure During Construction	1,007	266	-	-	1,273
<b>GRAND TOTAL (A+B+C+D+E)</b>	<b>2,46,760</b>	<b>1,25,355</b>	<b>-1522</b>	<b>8,070</b>	<b>3,65,567</b>
Previous year	1,31,643	1,54,168	-74	39,125	2,46,760

## CONSTRUCTION STORES & ADVANCES SCHEDULE-6

(Rupees in Lacs)

	AS AT MARCH, 1997	AS AT 31ST MARCH, 1996
<b>CONSTRUCTION STORES (at cost)</b> (As certified by the Management)		4,883
Steel	1,920	223
Cement	244	26,770
Others	59,835	31,876
Less- Provision for likely shortages	683	-
	<u>61,136</u>	31,876
<b>ADVANCE FOR CAPITAL EXPENDITURE</b>		
Secured	843	1,184
Unsecured and considered good		
(a) against Bank guarantees	20,273	25,184
(b) Others (without B.G.)	3,227	3,148
	<u>24,343</u>	<u>29,516</u>
	<u>85,479</u>	<u>61,392</u>
<b>CONSTRUCTION STORES INCLUDES</b>		
Materials in transit, under inspection and with contractors	28,241	26,070



## CURRENT ASSETS, LOANS AND ADVANCES SCHEDULE-7

(Rupees in Lacs)

AS AT 31ST  
MARCH, 1997      AS AT 31ST  
MARCH, 1996

### CURRENT ASSETS

#### INVENTORIES

(Valued at cost except Steel & Conductor scrap at estimated realisable value and as certified by Management)

Loose tools	96		100
Consumable stores	79		86
Components, Spares & other spare parts	10,664	10,839	10,557
			10,743

Inventories includes stores in transit  
Rs. 40 Lacs (Previous Year Rs. 32 lacs)

#### SUNDRY DEBTORS

(unsecured, considered good)  
Debts outstanding for a period exceeding six months

Others debts	29,136		16,139
	12,931	42,067	24,607
			40,746

#### CASH & BANK BALANCES

Cash, drafts, stamps and imprest	2,276		3,673
Remittance in transit	18		490

#### SHORT TERM DEPOSITS

Indian Banks	3,540		4,875
Balance with scheduled banks on Current Accounts	14,001		15,863
Balance of Unutilised money out of the Bonds issues kept in Public Deposit Account with Government of India	13,000	32,835	24,901

#### OTHER CURRENT ASSETS

Interest accrued	2,119		999
Others	130	2,249	1,163

#### LOANS AND ADVANCES

LOANS TO	4,268		3,516
Employees	46	4,314	47
Othes			3,563





## CURRENT ASSETS, LOANS AND ADVANCES SCHEDULE-7 (Contd.)

(Rupees in Lacs)

		AS AT 31ST MARCH, 1997		AS AT 31ST MARCH, 1996
<b>ADVANCES</b>				
<b>ADVANCES RECOVERABLE IN CASH OR IN KIND FOR VALUE TO BE RECEIVED</b>				
From Contractors & Suppliers, Including				
Material issued on loan	320			344
From Employees	395			384
Claims Recoverable through Central	617			799
Appropriation	9,000			15,629
Others	1,867			1,025
	12,199			18,181
Less: Provision for bad and doubtful Advances and claims	370			314
	11,829			17,867
Deposits with customs, port trust and other authorities	11,927			11,963
	23,756			29,830
		28,070		33,393
		1,16,060		1,10,946
<b>PARTICULARS OF LOANS AND ADVANCES</b>				
Secured		3,649		2,500
Unsecured considered good		24,421		30,893
Considered doubtful		370		314
Less Provision made		28,440		33,707
		370		314
		28,070		33,393
Due from Directors & Officers of the Company	<b>MAXIMUM AMOUNT 1996-97</b>		<b>MAXIMUM AMOUNT 1995-96</b>	
Directors	4		5	2
Officers	171		157	139
		2		4
		139		136



## CURRENT LIABILITIES AND PROVISIONS SCHEDULE-8

(Rupees in Lacs)

	AS AT 31ST MARCH, 1997	AS AT 31ST MARCH, 1996
<b>CURRENT LIABILITIES</b>		
<b>SUNDAY CREDITORS</b>		
For capital expenditure	8,729	20,598
Other goods and services	1,468	1,828
Book overdraft (Banks)	-	74
	10,197	22,500
Deposits, retention money from contractors and others.	26,017	12,485
Less : Investments held as security	36	17
	25,981	12,468
Other Liabilities	9,383	12,551
<b>INTEREST ACCRUED BUT NOT DUE ON LOANS FROM</b>		
Government of India	3,004	2,660
<b>FOREIGN BANKS/FINANCIAL INSTITUTIONS</b>		
Industrial Bank of Japan and Nippon Life Insurance	30	34
Syndicated Loan from Industrial Bank of Japan & other Japanese Banks/Financial institutions	15	19
Exim Bank, Japan	44	53
Skandinorviska Enskilda Banken I Sweden	25	40
Skandinorviska Enskilda Banken II Sweden	210	342
Export Development Bank (Canada)	55	63
International Bank of Reconstruction and Development	1,099	550
West Merchant Bank, U.K. & State Bank of India, London	324	16
Credit National, France	3	17
Banque Indosuez, France	273	185
West Merchant Bank, U.K. II	12	7
Other Loans	727	701
Interest accrued but not due on Bonds	3,490	2,827
	9,311	7,514
	54,872	55,033
<b>PROVISION</b>		
Taxation (Wealth Tax)	1	1
Provisions for shortages in materials	43	37
Others	3	70
Proposed dividend	2,000	1,000
Tax on Proposed Dividend	200	-
	2,247	1,108
	57,119	56,141



**MISCELLANEOUS EXPENDITURE (To the extent not written off or adjusted)**  
**SCHEDULE-9**

(Rupees in Lacs)

	BALANCE AS AT IST APRIL, 1996	ADDITIONS	DEDUCTIONS	BALANCE AS AT 31ST MARCH, 1997
Deferred Revenue expenditure	638	151	181	608
	<u>638</u>	<u>151</u>	<u>181</u>	<u>608</u>

**CONTINGENT LIABILITIES**  
**SCHEDULE-10**

(Rupees in Lacs)

	AS AT 31ST MARCH, 1997	AS AT 31ST MARCH, 1996
Claims against the Company not acknowledged as debts	40,513	29,970
Others	22,323	1,530
	<u>62,836</u>	<u>31,500</u>

**OTHER INCOME**  
**SCHEDULE-11**

(Rupees in Lacs)

	FOR THE YEAR ENDED 31ST MARCH, 1997	FOR THE YEAR ENDED 31ST MARCH, 1996
Hire charges for equipment	5	13
Interest from		
Indian Banks	967	830
Others	1,271	422
	<u>2,238</u>	<u>1,252</u>
Profit on sale of fixed assets	41	12
Miscellaneous income	556	618
	<u>2,840</u>	<u>1,895</u>
Less : Income transferred to incidental expenditure during construction-Sch 15C	1,152	533
	<u>1,688</u>	<u>1,362</u>



**TRANSMISSION, ADMINISTRATION & OTHER EXPENSES  
SCHEDULE-12**

(Rupees in Lacs)

	FOR THE YEAR ENDED 31ST MARCH, 1997	FOR THE YEAR ENDED 31ST MARCH, 1996
<b>EMPLOYEE COST</b>		
<b>EMPLOYEES' REMUNERATION AND BENEFITS</b>		
Salaries, wages, allowances & benefits	7,134	6,532
Contribution to provident and other funds	650	441
Welfare expenses	1,379	1,008
	<u>9,163</u>	7,981
<b>TRANSMISSION EXPENSES</b>		
<b>REPAIRS &amp; MAINTENANCE</b>		
Buildings	330	295
<b>PLANT &amp; MACHINERY</b>		
Sub Station	755	572
Transmission lines	228	266
Construction equipment	3	3
Others	171	156
	<u>1,487</u>	1,292
Power charges	1,649	1,227
Water charges	10	7
	<u>3,146</u>	2,526
<b>ADMINISTRATION EXPENSES</b>		
Training & Recruitment expenses	194	195
Less: Fees for training and application	6	3
	<u>188</u>	192
Legal expenses	27	21
Professional charges (including TA/DA)	55	439
Consultancy expenses (including TA/DA)	216	45
Communication expenses	997	814
Travelling expenses (excluding foreign travel)	1,441	1,348
Foreign travel	60	171
	<u>1,501</u>	1,519
Tender expenses	81	91
Less: Sale of tenders	24	34
	<u>57</u>	57



**TRANSMISSION, ADMINISTRATION & OTHER EXPENSES  
SCHEDULE-12 (Contd.)**

(Rupees in Lacs)

	FOR THE YEAR ENDED 31ST MARCH, 1997	FOR THE YEAR ENDED 31ST MARCH, 1996
<b>PAYMENT TO STATUTORY AUDITORS</b>		
Audit Fee (subject to approval of company law board)	4	3
Tax Audit Fees	1	1
Expenses	17	13
	<u>22</u>	<u>17</u>
Advertisement and publicity	26	39
Printing and stationery	207	218
EDP hire and other charges	37	33
Entertainment expenses	56	59
Brokerage & Commission	4	6
Donations	30	-
Research & development expenses	14	-
Rent	494	358
Construction stores written off	-	1
Miscellaneous expenses (excluding Director's fee)	1,620	1,304
Insurance	707	534
Rates and taxes	28	19
Non operating expenses	3	228
Expenses for Guest House	15	18
Less Income from Guest House	1	1
	<u>14</u>	<u>17</u>
	<u>6,303</u>	<u>5,920</u>
	<u>18,612</u>	<u>16,427</u>
Stores consumption included in repair and maintenance	263	203

**PROVISIONS  
SCHEDULE-13**

(Rupees in Lacs)

	FOR THE YEAR ENDED 31ST MARCH, 1997	FOR THE YEAR ENDED 31ST MARCH, 1996
Shortage in stores	7	15
Doubtful debts, loans and advances	49	9
Doubtful claims	6	37
Theft of material in NER	244	-
Material issued to Contractors	863	-
	<u>1,169</u>	<u>61</u>



## INTEREST AND FINANCE CHARGES SCHEDULE-14

(Rupees in Lacs)

	FOR THE YEAR ENDED 31ST MARCH, 1997	FOR THE YEAR ENDED 31ST MARCH, 1996
<b>INTEREST ON</b>		
Loans from Government of India	13,111	9,262
<b>LOANS FROM BANKS</b>		
Indian	836	683
Foreign		
Industrial Bank of Japan & Nippon & Life Insurance	197	220
Industrial Bank of Japan & Other Japanese Banks and Financial Institutions	916	1,151
Exim Bank, Japan	1,281	1,479
Skandinorviska Enskilda Banken I Sweden	96	138
Skandinorviska Enskilda Banken II Sweden	529	796
Export Development Bank (Canada)	368	403
International Bank for Reconstruction and Development	2,778	1,261
West Merchant Bank, U.K. & SBI London	654	33
Credit National, France	181	126
Banque Indosuez, Switzerland	575	288
West Merchant Bank	123	12
Asian Development Bank	105	-
	7,803	5,907
<b>LOANS FROM FINANCIAL INSTITUTIONS</b>		
Unit Trust of India	2,428	2,457
Life Insurance Corporation of India	440	385
	2,868	2,842
Secured/Unsecured redeemable Bonds	19,698	13,979
Others	720	1,115
	45,036	33,788
<b>FINANCE CHARGES</b>		
Rebate to Customers	1,520	1,218
Commitment Charges	295	332
Other finance charges	1,488	2,574
	48,339	37,912



## INCIDENTAL EXPENDITURE DURING CONSTRUCTION SCHEDULE-15

(Rupees in Lacs)

	FOR THE YEAR ENDED 31ST MARCH, 1997	FOR THE YEAR ENDED 31ST MARCH, 1996
<b>A. EXPENSES</b>		
<b>EMPLOYEES' REMUNERATION AND BENEFITS</b>		
Salaries, wages, allowances and benefits	2,224	1,944
Contribution to provident and other funds	215	131
Welfare expenses	386	290
	2,825	2,365
<b>REPAIRS &amp; MAINTENANCE</b>		
Buildings	55	57
Construction equipment	2	--
Others	43	46
	100	103
Power charges	100	83
Water charges	2	1
	202	187
<b>ADMINISTRATION EXPENSES</b>		
Legal expenses	9	7
Professional charges	31	238
Consultancy expenses	149	29
Communication expenses	238	248
Traveling expenses (incl. foreign Travel)	518	567
Tender expenses	58	63
Less : Income from sale of tenders	14	19
	44	44
Payment to Auditors (including expenses)	10	8
Advertisement and Publicity	15	21
Printing and stationery	83	92
EDP hire and other charges	11	11
Entertainment expenses	29	27
Brokerage and commission	-	1
Rent	294	189
Miscellaneous expenses	503	330
Insurance	123	93
Rates and taxes	8	9
Depreciation	199	156
Guest House Expenses	3	7
Non Operation Expenses	1	225
	2,268	2,302
	58	154
Prior Period adjustment (net)	5,353	5,008
<b>TOTAL (A)</b>	<b>5,353</b>	<b>5,008</b>



## INCIDENTAL EXPENDITURE DURING CONSTRUCTION SCHEDULE-15 (Contd.)

(Rupees in Lacs)

	FOR THE YEAR ENDED 31ST MARCH, 1997	FOR THE YEAR ENDED 31ST MARCH, 1996
<b>B. INTEREST AND FINANCE CHARGES</b>		
INTEREST ON		
Loan from Government of India	8,354	5,239
LOAN FROM BANKS		
Indian	836	681
Foreign		
International Bank For Reconstn & Development	2,654	1,147
West Merchant Bank, U.K. & State Bank of India, London	654	33
Creditt National, France	180	126
Banque Indosuez, Switzerland	575	288
West Merchant Bank U.K.	123	12
Asian Development Bank	54	-
	4,240	1,606
LOANS FROM FINANCIAL INSTITUTIONS		
Unit Trust of India	1,504	1,833
Life Insurance Corporation of India	309	92
	1,813	1,925
	11,483	6,033
	-	3
Secured/Unsecured Redeemable Bonds		
Others		
FINANCE CHARGES		
Commitment charges	288	329
Other finance Charges	1,358	2,434
Total (B)	28,372	18,250
<b>C. LESS OTHER INCOME</b>		
Hire charges	1	-
INTEREST FROM		
Indian banks	8	158
Foreign banks	62	152
Others	1,007	207
Profit on fixed assets sold/discarded	1	2
Miscellaneous income	73	14
Total (C)	1,152	533
GRAND TOTAL (A+B-C)	32,573	22,725





**PRIOR PERIOD ADJUSTMENT (NET)**  
**SCHEDULE-16**

(Rupees in Lacs)

	FOR THE YEAR ENDED 31ST MARCH, 1997	FOR THE YEAR ENDED 31ST MARCH, 1996
<b>INCOME</b>		
Depreciation written back-others	32	2,004
Excess provision written back	22	24
Transmission charges	255	1,434
Interest written Back-Others	8	1
Others	53	104
	<u>370</u>	<u>3,567</u>
<b>EXPENDITURE</b>		
Salary, wages, allowances & benefits	25	183
Power charges	16	25
Rates and taxes	2	6
Insurance	1	4
Depreciation	147	2,014
Transmission charges written back	199	314
Interest	15	52
Othes	243	634
	<u>648</u>	<u>3,232</u>
	<u>278</u>	<u>-335</u>
Prior period expenditure/income (Net)		



## NOTES ON ACCOUNTS SCHEDULE-17

1. The Transmission System situated in Jammu and Kashmir associated with National Hydro-electric Power Corporation (NHPC) has been taken over w.e.f. 1.4.93 as mutually agreed upon by NHPC and the company and is pending regularisation on account of completion of legal formalities.
2. The Transmission Systems of Neyveli Lignite Corporation (NLC) has been taken over w.e.f. 01.04.1992 as per the Act of Parliament and is pending compliance of necessary formalities.
3. The Regional Load Despatch Centres of Central Electricity Authority were transferred to the company alongwith associated manpower as per the orders of Ministry of Power, Govt. of India, from time to time. The transfer of ownership and determination of cost of assets so taken over are pending the legal formalities. The operational expenses amounting to Rs. 1408 lacs (Previous year Rs. 634 lacs) have been charged to profit and loss account. During the year company has also incurred capital expenditure of Rs. 334 lacs.
4.
  - (a) The land owned by the company has been classified into freehold and leasehold to the extent possible, based on available documentation and the balance has been shown as unclassified.
  - (b) The conveyancing of the title to the freehold land and execution of lease agreement in certain cases (value not ascertained) in favour of the company are awaiting completion of legal formalities.
  - (c) Leasehold land includes Rs. 743 lacs (Previous year Rs. 618) for land acquired in Katwaria Sarai, New Delhi on perpetual lease for which title deed is not yet executed. As the land is acquired on perpetual lease and it does not have a limited useful life, no depreciation has been charged in accounts.
  - (d) Land valuing Rs. 467 lacs situated at Jalandhar has been acquired during the year, possession of which was taken but registration is pending in favour of the company.
  - (e) Building includes Rs. 544 lacs paid during the year for 20 flats at Mumabi, possession of which was taken but registration is pending in favour of the company.
5. Value of ten Spare towers known as Emergency Restoration System (ERS) procured as a part of three Transmission lines yet to be commissioned, was capitalised as the company has put to use two ERS during 96-97 and found them capable of using as independent units in accordance with Accounting Policy No. 11.1
6. As per accounting policy no 3.0 on renovation and modernisation of existing assets, the amount capitalised during the year is Rs. 57 lacs (Previous year Rs. 527 lacs).
7. Pending reconciliation, materials amounting to Rs. 1334 lacs in commissioned lines is shown as construction stores lying with contractors. However an amount of Rs. 863 lacs has been provided for likely shortages.
8. Certain assets like furniture, fixtures, etc., retained by the transferor organisations, which are included in the assets of the company and depreciation charged thereon will be settled/adjusted in subsequent years.
9. Fixed assets include company's share of Rs. 562 lacs (previous year Rs. 562 lacs) in common services and facilities of 400 KV substation of Uttar Pradesh State Electricity Board (UPSEB) and Rajasthan State Electricity Board (RSEB) pending execution of formal agreements for joint ownership.
10. Materials in transit/under inspection/with contractors, are subject to confirmation/reconciliation and consequential adjustments.
11. During the year:
  - i) An amount of Rs. 10140 lacs being exchange difference (Previous year Rs. 3150 lacs) in respect of Fixed Assets and Capital Work in Progress is adjusted in the carrying amount.
  - ii) An amount of Rs. 116 lacs ( Previous year Rs. 1 lac) being exchange difference on current assets is accounted for in Profit and Loss Account as misc. income.
12. Balances shown under advances, sundry debtors, sundry creditors and loans are subject to confirmation. In the opinion of the management the value of current assets, loans and advances on realisation in the ordinary course of business, will not be less than the value at which these are stated in the Balance Sheet.

13. In the year 1993-94 the company had forfeited the bonds of Rs. 12420 lacs (CANFINA Rs. 10320 lacs, ABFSL Rs. 2100 lacs) and had set off the deposits with those companies of Rs. 11206 lacs and front-end fee of Rs. 1214 lacs. However, in the year 1994-95 the company has restored the said deposits by crediting Capital Reserve account to protect the financial interest of the company in accordance with legal advice.
- Pending settlement of the issue with CANFINA and ABFSL relating to 1st series, 1992 Bonds.
- (a) Rs. 50 lacs paid by ABFSL during the year 1993-94 has been accounted by the company as interest income due on deposits in that year.
- (b) As in previous year.:
- (i) The company has not accounted for interest income on deposits, amounting to Rs. 1424 lacs (previous year Rs. 1424 lacs) (cumulative interest Rs. 7204 lacs).
- (ii) The company has also not accounted for interest payable of Rs. 304 lacs (previous year Rs. 304 lacs) (cumulative Rs. 1538 lacs) on bonds of Rs. 1977 lacs.
14. Share Capital Deposit of Rs. 16289 lacs (Previous year Rs. 16289 lacs) includes Rs. 15789 lacs of equity shares to be allotted against Purchase Consideration payable to Government of India.
15. A sum of Rs. 621 lacs (Previous year Nil) on account of refund of excise duty in respect of certain transmission towers taken over from transferor organisations, has been credited to capital reserve as the refund can not assets wise be identifiable.
16. In the absence of taxable income and non applicable of MAT, no provision for income tax for the year is considered necessary.
17. Estimated amount of capital commitments is Rs. 172335 lacs (previous year Rs. 184243 lacs).
18. No payment is overdue for the purchases made from small scale/ancillary industries. Hence no provision of interest is made in the accounts.
19. Provision has not been made for entry tax and sales tax on works contracts and materials issued to contractors for which appeals are pending and/or the amounts are not ascertainable.
20. The guarantee fee as demanded vide Government of India office memo of 4.6.93 on loans which have been transferred from NTPC/NHPC has not been provided for as;
- i) These loans were sanctioned prior to said demand letter,
- ii) There was no guarantee fee clause in original guarantee agreement with transferor organisations, and
- iii) The demand for guarantee fee has not been received by the company from transferor organizations.
21. Liability for grauity upto 31.03.97 has been provided as per Actuarial Valuation vide certificate dated 10.02.97
20. (a) Pending notification of GOI, the transmission charges recoverable on account of foreign exchange fluctuations amounting to Rs. 3966 lacs (net) for financial year 1996-97 (previous year Rs. 4297 lacs) have been accounted for on provisional basis as per previous practice.
- (b) In accordance with the decision taken in the 40th NEREB meeting, the transmission lines namely 400 Kv Miryani-Misa line and 132 KV Dimapur-Imphal line which are ready for commercial operation, have not been capitalised as these lines had not been declared as commissioned. As per the said decision, all expenditure including IDC till the date of declaration of commissioning will be capitalised. Therefore total capital cost that is to be capitalised could not be ascertained and its impact on profitability is not ascertainable at this stage.
- (c) As per decision taken in 40th NEREB meeting, the transmission tariff for NER was frozen at 30 paise per unit for two years and also there would be no annual adjustment bill till 31st march 98.
- However pending annual adjustment bill which is to be raised on beneficiaries after 31st march 98, excess transmission charges of Rs. 261 lacs has not been considered as income for the year.
- (d) Government of India, Ministry of power vide Notification No. F.No. 2/3/Tarrif/Powergrid/96 dated 26th Nov. 1996 has revised O&M Expenses in respect of Ex-NTPC lines of POWRGRID w.e.f. 1.4.95. Accordingly the additional transmission charges for 95-96 in respect of Northern, Southern and Western regions amounting to Rs. 1937 lacs have been accounted for in the Year 1996-97.



- (e) Pending finalization of agreement with WBSEB, transmission charges for auto transformer at Malda sub station amounting to Rs. 59 lacs for 96-97 and Rs. 34 lacs for the period 1.9.95 to 31.03.96 have been accounted for on the basis of normal tariff principles.
- (f) Tariff has been revised in respect of Ex-NLC lines based on Bulk Power Transmission Agreement dt. 18.6.96 entered between the company and the beneficiaries. The aforesaid agreement has resulted in downward revision of tariff and accordingly the transmission charges amounting to Rs 131 lacs for the period from 1.4.92 to 31.3.96 and Rs. 56 lacs for 96-97 has been refunded during the year.
23. Income from Consultancy, Project Management and Supervision fees includes Rs. 54 lacs (Previous year Rs. 44 lacs) for management fee for Mandola Sub-station for which agreement is yet to be finalised with DESU.
24. In terms of Accounting policy no. 7.3 total Surcharge on outstanding dues from State Electricity Boards upto 31.03.97 amounting to Rs. 22041 lacs (Previous year Rs. 11997 lacs) has not been accounted for.
25. In case of Chukha transmission system the Corporate office expenses and Regional office expenses were allocated on the basis of net sales of power (i.e. sale of Power minus purchase of Power) as against previous years basis of allocation on gross sales of Power. Due to change in accounting policy, the current year's profit is higher by Rs. 55 lacs.
26. During the year the company has identified and valued steel scrap and conductor scrap as per Accounting Policy No. 5.2, which has resulted in accounting an unrealised Profit of Rs. 58 lacs in the current year's income
27. (a) Due to theft taken place in Doyang Transmission line project involving loss of towers, conductors etc of Rs. 352 lacs, an estimated loss of Rs. 244 lacs has been provided for in the accounts after considering the amount of Rs. 108 lacs expected to be recovered from insurance company.
- (b) Advance include Insurance claims recoverable for Rs. 26 lacs on account of fire accident that occurred at Corporate Centre, New Delhi on 18th June, 1996, which is yet to be accepted by the Oriental Insurance Company.
28. During the year convertor transformers installed at Dadri-Rihand switchyard indicated malfunctioning and were sent to manufacturer (BHEL) for carrying out the repairs. The loss/damage on this account has not been accounted for as it is not ascertainable.
29. Pay revision for Executives, Supervisors and workers is due w.e.f. 1.1.97 No. provision have been made in books as the amount is not ascertainable.
30. Depreciation charged in the Accounts as per Accounting Policy No. 1.1 a is higher by Rs 5007 lacs (Previous year higher by Rs. 3164 lacs) if calculated as per Section 205 (2)(b) of Companies Act 1956. The cumulative effect of the same upto 31st March is lower by Rs. 947 lacs (upto previous year Rs. 5954 lacs).
31. The company does not consider encashment of leave of employees as retirement benefit in preference to AS-15 of ICAI. The encashment of leave by retiring employees is accounted for on cash basis.
32. (a) Figures have been rounded off to nearest rupees in lacs.
- (b) Previous year's figures have been regrouped/rearranged wherever necessary.
33. (a) Employees' remuneration and benefits include the following for the Directors including Chairman & Managing Director:

	<u>Current Year</u> (Rs.lacs)	<u>Previous Year</u> (Rs./lacs)
Salaries & Allowances	11	7
Contribution to Provident Fund & Other Funds including Gratuity & Group Insurance	1	1
Other benefits	3	2



(b) In addition to the above remuneration, the Whole Time Directors have been allowed to use the staff car (Including private journeys) on payment of Rs. 250/Rs.400 per month, as contained in the Ministry of Finance (BPE) Circular No.2(18)/pc/64 dt. 29.11.64 as amended.

34.	Quantitative information in respect of Purchase & Sale of Power				
			<b>Current Year</b>		Previous Year
	a) Purchase of Power (Million units)		1433		1510
	b) Sale of Power (Million units)		1433		1510
			<b>Current Year</b>		Previous Year
			<u>(Rs./lacs)</u>		<u>(Rs./lacs)</u>
35	a) Value of imports calculated on CIF basis:				
	i) Capital goods		29605		37611
	ii) Spare Parts		-		-
	b) Expenditure in foreign currency		<b>Current Year</b>		Previous Year
			<u>(Rs./lacs)</u>		<u>(Rs./lacs)</u>
	i) Professional and Consultancy fees		672		1350
	ii) Interest		4653		5532
	iii) Others		14658		15451
	c) Value of Components, Stores and spare parts consumed:				
		<b>%age</b>	<b>Current Year</b>		<b>% age</b>
		<u>          </u>	<u>(Rs./lacs)</u>		<u>          </u>
					Previous Year
					<u>(Rs./lacs)</u>
	i) Imported	-	-		-
	ii) Indigenous (including fuel)	100%	284		167
	d) Earnings in foreign exchange:				
			<b>Current Year</b>		Previous Year
			<u>(Rs./lacs)</u>		<u>(Rs./lacs)</u>
	i) Interest		71		172
	ii) Grant-in-aid (HVDC Chandrapur)		3792		13723
	iii) Others		4		-
36.	Additional information as required under part IV of Schedule VI of the Companies Act, 1956, as certified by the management.				
	<b>i) Registration Details</b>				
	Registration No.		55-38121		
	State Code		56		
	Balance Sheet Date (Rs in Lacs)		31st March, 1997		
	<b>ii) Capital raised during the year</b>				
	Public Issue		-		
	Right Issue		-		
	Bonds Issue		-		
	Private Placement		2780		



**iii) Position of mobiliation and deployment of funds**

Total liabilities	940465
Total Assets	940465

**Sources of Funds**

Paid up capital	302004
Reserves & surplus	161290
Secured Loans	180315
Unsecured Loans	296856
Application of Funds	
Net Fixed Assets	429870
Capital work in progress including construction stores & advance	451046
Investments	-
Net Current Assets	58941
Miscellaneous	608

**iv) Performance of Company**

Turnover	103549
Other Income (including consultancy)	2266
Total Expenditure	75150
Profit before Tax	30576
Profit after Tax	30575
Earning per Share (Rs.)	107.01
Dividend Amount	2000

**v) Generic Names of Principal product/service of company.**

Item code No.

Product Description : Transmission and Sale of Power

**P.D. TUTEJA**  
Secretary

**V.B. SAXENA**  
ED (Finance)

**R.K. MADAN**  
Director (Projects)  
As per our report of even date  
For Umamaheswara Rao & Co.  
Chartered Accountants

**R.P. SINGH**  
Chairman & Managing Director

For Rasool Singhal & Co.  
Chartered Accountants

**M. H. Singhal**  
Partner

**L. Shyama Prasad**  
Partner

For B.M. Chatrath & Co.  
Chartered Accountants

**P.R. Paul**  
Partner

Place : New Delhi

Date : 26th June, 1997



The Members,  
Power Grid Corporation of India Ltd.  
New Delhi.

We have audited the attached Balance Sheet of Power Grid Corporation of India Ltd. as at 31st March, 1997 and Profit & Loss Account for the year ended on that date together with the Schedules, and report that:

1. The Company is governed by the Electricity (Supply) Act 1948; the provisions of the said Act read with the rules thereunder, have prevailed wherever the same have been inconsistent with the provisions of the Companies Act, 1956.
2. As required by the Manufacturing and the Other Companies (Auditors Report) Order, 1988 by the Company Law Board in terms of Section 227 (4A) of the Companies Act, 1956, we give in the Annexure a statement on the matters specified in paragraphs 4 and 5 of the said Order.
3. Further to our comments in the annexure referred to in paragraph 2 above;
  - a) We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit;
  - b) In our opinion, proper books of account as required by law have been kept by the Company, so far as appears from our examination of the books;
  - c) The Balance Sheet and Profit & Loss Account dealt with by this report are in agreement with the books of account.
  - d)
    - i) Depreciation on fixed assets has been charged, as per Accounting Policy No. 1.1 in preference to Accounting standard 6 of the Institute of Chartered Accounts of India and the impact of the same indicated in Note No. 3.0 of Notes on Accounts-Schedule 17.
    - ii) "RENOVATION AND MODERNISATION", as per Accounting Policy No. 3.0 adopted from 1993-94, the Company has capitalised replacement of an old part with an expenditure of Rs. 10 lakhs and above. In our opinion, replacement of an old part does not increase the life of complete asset. Hence capitalisation of a part does not give fair value of assets. By this policy, the company has overstated its fixed assets and understated its revenue expenditure. Total Impact of the above on fixed assets and profit and loss account has not been ascertained.

**e) Schedule -17 Notes on Accounts:**

- i) Note No. 13 dealing with the forfeiture of 1st issue of Bonds, 1992 in 1993-94 and exhibiting the same with adjustment of deposits kept with Canbank Financial Services Ltd. (CANFINA) and Andhra Bank Financial Service Ltd. (ABFSL) and treatment of front-end and deferred revenue expenditure and restoration of the said deposits of Rs. 11206 lacs by crediting capital reserve in the year 1994-95.

In our opinion there is an over statement of capital reserve to the extent of Rs. 11206 lacs. Liability under "Loan Funds" or principal amount of Rs. 12420 lacs and cumulative interest of Rs. 9753 lacs have not been accounted for. However, the same has been shown as contingent liability.

Provision for interest payable of Rs. 1927 lacs on bonds has not been made and interest income of Rs. 1424 lacs on the deposits made with CANFINA & ABFSL has not been accounted for, resulting in higher profit by Rs. 503 lacs.

- ii)
  1. Note No.2 dealing with the takeover of transmission system of Neyveli Lignite Corporation Ltd. (NLC), pending completion of necessary formalities the final impact on total value of assets/liabilities and profit/loss is not ascertainable;
  2. Note no. 7, regarding pending of reconciliation of materials, shown as Construction Stores lying with Contractors and making the provision of Rs. 863 lacs;
  3. Note No. 8, regarding withholding of certain assets by transferor organisations pending settlement/adjustment and charging of depreciation thereon;

4. Note No. 9, regarding inclusion of Rs. 562 lacs of common services in fixed assets'
5. Note No. 15, regarding creation of Capital Reserve from excise duty refund;
6. Note No. 19, regarding no provision for entry tax and sales tax on works contracts and materials issued to contractors, the impact of which on liabilities and profit not ascertainable;
7. Note No. 22(a), regarding transmission charges recoverable on account of Foreign Exchange fluctuation;
8. Note No. 22 (b), regarding ascertainment of capital cost of 400 KV Miryani-Misa Line and 132 KV Dimapur-Imphal Line;
9. Note No.23, regarding inclusion of Rs. 54 lacs for consultancy, project management and supervision fees;
10. Note No. 25, regarding allocation of Corporate/Regional office expenses in case Chukha Transmission System.
11. Note No. 26, regarding valuation of Steel/Conductor Scrap and accounting of an unrealised profit of Rs. 58 lacs;
12. Note No, 27(a), regarding provision for loss on theft on estimation basis;
13. Note No. 27(b), regarding insurance claim of Rs. 26 lacs yet to be accepted by the Oriental Insurance Company;
14. Note No. 29, regarding provision for pay revision of executives, supervisors and workers;
15. Note No. 31, regarding encashment of leave of employees as retirement benefit, in preference to Accounting Standard 15 of the Institute of Chartered Accountant of India.

iii) The confirmation of balance shown under advances, sundry debtors, sundry creditors, loans, material in transit/under inspection/with contractors and reconciliation thereof is pending. The impact of the above on assets and liabilities and on the profit cannot be ascertained.

Subject to our comments referred to in para 3(d) and (e) above, and their consequential effect on Balance Sheet and Profit and Loss Account, in our opinion and the best of our information and according to the explanations given to us, the said accounts read with the Notes on Accounts given in Schedule -17 and Accounting Policies, give the information required by the Companies Act, 1956, in the manner so required and as applicable to the companies governed by Electricity (Supply) Act, 1948 and give a true and fair view:

- i) in the case of Balance Sheet, of the state of affairs of the Company as at 31st March, 1997; and
- ii) in case of profit & Loss Account, of the profit for the year ended on that date.

**For Rasool Singhal & Co.**  
Chartered Accountants

**M. H. Singhal**  
Partner

**For Umamaheswara Rao & Co.**  
Chartered Accountants

**L. Shyama Prasad**  
Partner

**For B.M. Chatrath & Co.**  
Chartered Accountants

**P.R. Paul**  
Partner

Place : New Delhi  
Date : 26th June, 1997



## ANNEXURE TO AUDITORS' REPORT



1. The company has generally maintained proper records, except in some cases where it is in the process of updation showing full particulars including quantitative details and situation/location, as far as practicable of its fixed assets. Most of the fixed assets have been physically verified by the professional agencies during the year except certain assets held by Transferor Organisations. The materiality in discrepancies, if any, between book records and physical inventory could not be ascertained in the absence of comparison with book records.
2. None of the fixed assets have been revalued during the year.
3. According to the information and explanations given to us, the stocks o stores and spare part at most of the places have bee physically verified during the year by the professional agencies. in Our opinion the frequency of verification is reasonable.
4. According to the information and explanations given to us, in our opinion, the procedures of physical verification of stocks followed by the professional agencies are reasonable and adequatte in relation to the size of the company and the nature of its business.
5. Material discrepancies, if any, between physical and book balances of stocks could not be ascertained in the absence of comparision between the physical balance and book balance. Hence the question of properly dealing with the discrepancies in the books of account can not be commented upon.
6. In our opinion and on the basis of our examination of the stock records the valuation of stocks is fair and proper in accordance with the normally accepted accounting principles, and is onthe same basis as in last year except as commented in para 5 above and identification of the obsolete stock and depreciation in the value if necessary.
7. The company has not taken any loans from the companies, firms the other parties listed in the register maintained under Section 301 of the Companies Act, 1956. There are no companies under the same management as defined under Subsection (I-B) of Section 370 off the Companies Act, 1956.
8. The company has not granted any loan, secured or unsecured to companies, firms or other parties listed in the register maintained under Section 301 of the Companies Act, 1956. There are no companies under the same management as defined under the said section.
9. The Company has given deposits to Canbank Financial Services Ltd. and Andhra Bank Financial Services Ltd., and advances in the nature of loans to employees. The employees are generally repaying theh principal amount and interest as per stipulation. The Canbank Financial Services Ltd., and Andhra Bank Financial Services Ltd., have not repaid the principal amount and interest thereon as stipulated. The company has infomed that they are taking reasonable steps for recovery of principal and interest.
10. In our opinion and according to the information and explanations given to us, there are adequate internal control procedures commensurate with the size of he company and the nature of its business with regard to purchases of stores, components, plant and machinery, equipment and other assets and for the sale of goods/services.
11. According to the information and explanations given to us, there are no transactions of purchase and sale of goods and materials made in pursuance of contracts or arrangement entered in he register maintained U/S 301 of the Companies Act, 1956 aggregating during the year to Rs. 50000/- (Rupees fifty thousand only) or more in respect of each party.
12. According to the information and explanations given to us, the company does not have unserviceable or damaged stores.
13. The company has not accepted any deposits from the pubic, under Section 58-A of the Companies Act, 1956 and rules made thereunder.
14. The Company does not have any by- product. In our opinion reasonable records have bee maintained by the company for the sale and disposal of scrap.
15. The Company has a system of Intenal Audit. In our opinion, it requires to be further strengthened to commensurate with the size and nature of its business.
16. The Central Govt. has not prescribed maintenance of cost records U/S 209 (1) (d) of the Companies Act, 1956 in respect of the company.



17. The company is regular in depositing Provident Fund dues with the appropriate authority. As per information made available to us, ESI Act is not applicable to the company.
18. According to the information and explanations given to us, there were no undisputed amounts payable in respect of Income Tax, Wealth Tax, Sales Tax, Customs Duty and Excise which have remained outstanding, as at 31st March, 1997 for a period of more than six months from the date they became payable.
19. According to the information and explanations given to us, personal expenses have been charged to revenue account, other than those payable under contractual obligations or in accordance with generally accepted business practice.
20. The Company is not a Sick Industrial Company as defined in Section 3(1) (O) of the Sick Industrial Companies (Special Provisions) Act, 1985.
21. In regard to the company's activities relating to consultancy, project management, supervision and contracts, we report that:
  - 1) The company has a reasonable system of allocation of man hours consumed on the respective activities.
  - ii) The company has a reasonable system of internal control of allocation of man hours commensurate with the size of the company and the nature of its business.
  - iii) The company has a reasonable system of recording receipts, issues and consumption of materials and stores commensurate with the size and the nature of its business.
22. In regard to company's activities relating to the trading, there are no damaged goods to be determined. Hence, the question of providing for loss does not arise.

**For Rasool Singhal & Co.**  
Chartered Accountants

**M. H. Singhal**  
Partner

**For Umamaheswara Rao & Co.**  
Chartered Accountants

**L. Shyama Prasad**  
Partner

**For B.M. Chatrath & Co.**  
Chartered Accountants

**P.R. Paul**  
Partner

Place : New Delhi  
Date : 26th June, 1997

# ANNEXURE TO DIRECTORS' REPORT



**ANNEXURE-I**

## PARTICULARS OF EMPLOYEES PURSUANT TO SECTION 217 (2A) OF THE COMPANIES ACT, 1956

Sl. No.	Names	Designation and Nature of Employment	Qualification	Remuneration (Rs.)	Experience Year	Date of Commencement of Employment	Age (Years)	Last Employment held
<b>Employed for the full year</b>								
1.	Adak N.C.	Dy. Manager	M.Sc.	309,269	9	16/08/91	37	NTPC
2.	Agarwal A.K.	Dy. Manager	B.E. (Civil)	342,673	5	14/11/91	45	NEEPCO
3.	Agarwal A.K.	Chief Manager	B.A. PGDM, LLB	419,533	23	01/04/91	48	NHPC
4.	Agarwal A.R.	GM	B.E. (Elect.)	332,936	25	19/11/91	49	NHPC
5.	Agarwal R.T.	Chief Manager	ACA	388,067	15	29/10/91	41	NTPC
6.	Agarwal S.C.	Dy. Manager	B.E.M. Tech.	315,466	10	16/08/91	35	NTPC
7.	Agarwal Sunil	Manager	B.E. (E)	331,130	11	16/08/91	34	NTPC
8.	Agarwal Vijay	Manager	M.Tech. (Civil)	366,353	12	19/12/91	37	NHPC
9.	Agarwal L.N.	Manager	M.Tech.	389,190	15	19/11/91	36	NHPC
10.	Agarwal Sushil Kumar	DGM	B.E. (E), M.Tech	365,130	19	21/06/91	43	NTPC
11.	Agarwal V.C.	AGM	M.E. (Civil)	427,203	19	16/08/91	54	NTPC
12.	Ajit Singh	Manager	AICWA	347,092	22	14/11/91	47	NEEPCO
13.	Akhil Kumar	Chief Manager	M.E.	315,018	18	16/08/91	40	NTPC
14.	Alok	Manager	B.E.(EL.)	307,823	11	16/08/91	33	NTPC
15.	Amarjeet	Manager	B.E. (E)	344,009	14	16/08/91	36	NTPC
16.	Amuthan R.	Manager	B.E. (Elec. & Electronics)	317,928	14	16/08/91	37	NTPC
17.	Anand Anish	DCDE	B.Sc., (Engg.)	316,943	11	16/08/91	33	NTPC
18.	Anand Kumar K.	Chief Manager	Mechanical (E)	456,290	13	16/08/91	49	NTPC
19.	Anbunesan G.	Manager	B.E. (El.)	320,655	14	01/01/94	39	CEA
20.	Anil Prakash	Dy. Manager	B.Sc. Engg. (Mech.)	313,895	21	16/08/91	42	NTPC
21.	Anoop Kumar	Chief Manager	B.E. (E)	335,600	15	16/08/91	35	NTPC
22.	Appa Rao M.S.	Manager	B.Tech (Elect.)	303,189	17	01/12/92	41	NTPC
23.	Apte S.R.	Manager	B.E.	317,679	18	16/08/91	41	NTPC
24.	Arora R.K.	Manager	B.E. (E)	324,461	13	16/08/91	36	NTPC
25.	Arya Ravi	Chief Manager	B.E. (Elec.)	378,580	16	16/08/91	39	NTPC
26.	Arya Sanjay	Manager	Dip. in Mgt. B.Sc., I.C.W.A.	309,162	13	01/11/91	36	NTPC
27.	Asthana A.K.	Chief Manager	B.E.	501,136	17	16/08/91	51	NTPC
28.	Awasthi Ashok	Chief Manager	B.E.	352,770	14	16/08/91	38	NTPC
29.	Bandhopadhyay S.	Chief Manager	B.E.	311,180	25	19/11/91	47	NHPC
30.	Bandhopadhy A.K.	Manager	B.Sc. (Engg..) (E)	316,510	19	16/08/91	48	NTPC
31.	Banerjee B.K.	ED	B.E	431,335	32	16/08/91	56	NTPC
32.	Banerjee Jyotirmoy	Manager	B.E. (Elect.), M.B.A.	309,385	10	19/02/92	36	NTPC
33.	Bansal L.R.	Chief Manager	B.E. Civil	349,154	16	19/11/91	40	NHPC
34.	Bansal S.K.	Manager	Dip. (El. & Civil)	308,122	28	16/08/91	50	NTPC
35.	Basu Pritam	Chief Manager	B.E.	362,466	13	16/08/91	37	NTPC
36.	Behal A.K.	Manager	B.E., B.Sc. Part-I	332,368	15	19/11/91	36	NHPC
37.	Behera Subrat	DCDE	B.Sc. Engg.	329,177	10	16/08/91	33	NTPC
38.	Bhan S.K.	Manager	B.Sc., Engg., Elect.	327,972	13	19/12/91	43	NHPC
39.	Bhardwaj H.D.	Chief Manager	B.Sc. Elect.	315,627	23	19/11/91	48	NHPC
40.	Bhari Ramesh	DGM	B.Sc. Engg.,	404,796	14	16/08/91	45	NTPC
41.	Bhat C.L.	Chief Manager	B.E.,Elect.	345,404	21	19/11/91	48	NHPC
42.	Bhatia A.K.	Dy. Manager	ACA	310,705	19	19/12/91	47	NHPC
43.	Bhatnagar A.K.	E.D. (L.D.&C.)	B.Sc. Engg.	411,678	15	27/08/91	57	CMC
44.	Bhatnagar M.C.	DGM	B.E. (Elect.) Dip. in pers. Mgmt.	355,552	15	16/08/91	46	NTPC
45.	Bhattacharjee A.	Manager	B.E. (Elect.)	384,026	15	19/11/91	45	NHPC
46.	Bhattacharya B.B.	Chief Manager	B.Sc. Eng. (Mech.)	334,067	16	16/08/91	50	NTPC
47.	Bhattacharya K.S.	DGM	B.Sc.(H) M.Tech.	421,630	25	16/08/91	53	NTPC
48.	Bhattacharya Projal	CDE	B.Sc. Engg.	315,143	11	16/08/91	39	NTPC
49.	Bhide M.P.	Manager	M.Tech	350,499	26	16/08/91	48	NTPC
50.	Bhouyan K.	Manager	B.E. (El.)	309,865	10	14/11/91	41	NEEPCO
51.	Bhowal S.K.	Sr. Engineer (Engg.)	B.E. (El.)	333,460	10	14/11/91	36	NEEPCO
52.	Bhujade S.J.	Chief Manager	B.E.	306,060	13	16/08/91	35	NTPC
53.	Bhushan Bhanu	E.D. (Engg.)	B.Sc. Engg. (Elect.)	467,405	24	16/08/91	53	NTPC



Sl. No.	Names	Designation and Nature of Employment	Qualification	Remuneration (Rs.)	Experience Year	Date of Commencement of Employment	Age (Years)	Last Employment held
54.	Bhushan Bharat	DGM	B.E. (Elect.)	352,404	18	16/08/91	39	NTPC
55.	Bhushan Ravi	Dy. Manager	Dip. in Mech.	366,964	23	19/11/91	44	NHPC
56.	Binepal A.S.	DGM	B.E. (Mech.)	391,857	27	19/11/91	56	NHPC
57.	Bire S.G.	AGM(WR)	B.E. (El.)	357,161	31	16/08/91	54	NTPC
58.	Birla Rajesh	Manager	B.E. (El.)	356,992	12	19/11/91	37	NHPC
59.	Bisharad R.	Dy. Manager (F&A)	B.Com.	324,494	24	14/11/91	49	NEEPCO
60.	Borgohain S.B.	Manager	B.Sc., M.A.	400,178	14	14/11/91	38	NEEPCO
61.	Chadha Anil	Dy. Manager	ACA	348,071	14	06/12/91	39	NTPC
62.	Chadha K.C.	Chief Manager	B.E., Elect.	371,758	16	19/11/91	40	BHEL
63.	Chaitanya K.V.R.	Manager	B.Sc. Engg. (Elect.)	301,532	18	01/01/95	43	NTPC
64.	Chakraborty D.	DCDE	M.B.A.	351,272	13	16/08/91	36	NHPC
65.	Chakraborty S.	CDE	B.Tech. (Elect.)	366,992	17	19/12/91	48	NHPC
66.	Chakraborty S.	Manager (F)	ACA,LLB, MA(Eco)	326,821	13	16/08/91	46	NHPC
67.	Chanana Anil	DGM	B.E. (Elect.)	327,584	26	19/11/91	50	NHPC
68.	Chanda N.R.	DGM	B.E. (Elect.)	390,487	17	16/08/91	50	NTPC
69.	Chandra Dinesh	DGM(E&OS)	M.Tech.	309,386	21	01/08/93	45	THDL
70.	Chandra Mohan K.	Chief Manager	B.E. (Elect.)	348,470	14	16/08/91	50	NTPC
71.	Chandra Umesh	DGM	B.E.	373,113	17	16/08/91	48	NTPC
72.	Chaporkar R.D.	Chief Manager	B.E.	326,130	27	16/08/91	55	NTPC
73.	Chatopadhyay D.	Chief Manager	B.E. (E)	315,981	10	16/08/91	45	NTPC
74.	Chatterjee D.	Manager	B.E. (Civil)	333,432	11	16/08/91	39	NTPC
75.	Chatterjee P.K.	DCDE	M.Tech.	300,573	12	29/06/92	35	NHPC
76.	Chaturvadi S.K.	DGM	M.Sc. (Spl.) P.G. Dip. in PM&IR	408,652	16	16/08/91	46	NTPC
77.	Chaubey Dilip Kumar	Dy. Manager	M.Tech. (PS)	337,369	11	23/12/91	36	NTPC
78.	Chaubey S.B.	DGM	B.Sc. Engg. (El.)	396,377	18	16/08/91	53	NTPC
79.	Chaudhary D.K.	DGM	B.E.	403,445	19	10/02/92	50	NEEPCO
80.	Chaudhary R.P.	DGM	B.Sc. Engg. (Elect.)	392,824	18	16/08/91	52	NTPC
81.	Chaudhary D.	DGM	B.E. (Civil)	334,381	18	16/08/91	47	NTPC
82.	Chaudhan S.S.	Manager	B.E.(E)	362,782	13	16/08/91	42	NTPC
83.	Chohan R.D.S.	Sr. Manager	DIEE	352,196	22	19/11/91	46	NHPC
84.	Chopra B.L.	Cief Manager	B.E. (Elect) M.I.E.	356,614	23	19/11/91	48	NHPC
85.	Chopra Rajiv	DCDE	B.Sc. Engg.	321,490	12	19/11/91	37	NHPC
86.	Chopra S.K.	Manager	B.Sc. Engg. (Civil)	304,257	12	19/12/91	35	NHPC
87.	Chopra Virandra Nath	CDE	B.E.	397,592	11	16/08/91	52	CEA
88.	Choudhary Samir	Chief Manager	B.E. (Elect.)	371,563	20	16/08/91	44	NTPC
89.	Choudhury H.R.	Chief Mnager (Aug.)	B.E. (Mech.)	363,796	16	14/11/91	42	NEEPCO
90.	Choudhury H.C.	Manager	B.E. (El.)	391,327	16	19/11/91	39	NHPC
91.	Choudhury K.K.	DGM	B.E. (Mech.)	383,186	17	14/11/91	45	NEEPCO
92.	Choudhury T.K.	Dy. Manager	Dip. (CE)	307,507	21	14/11/91	42	NEEPCO
93.	Das Dilip Kumar	DGM	B.Sc. Engg., (Elect.)	351,212	16	16/08/91	49	NTPC
94.	Das Dr. K.K.	General Manager	B.Sc. Engg., Ph.D.	325,602	27	01/01/94	52	CEA
95.	Das Falix	Chief Manager	B.E.	337,752	30	16/08/91	53	NTPC
96.	Das Hari	DGM	B.Sc., IE (Mech.)	413,854	34	16/08/91	55	NTPC
97.	Das Supratim	Dy. Manager (C&M)	B.E. (El)	331,650	10	14/11/91	36	NEEPCO
98.	Dasgupta A.	Chief Manager	B.E.	354,974	13	16/08/91	46	NTPC
99.	Dasgupta A.	Chief Manager (PMS)	B.E. (El.)	381,103	32	14/11/91	55	NEEPCO
100.	Dash B.K.	CDE	AMIE	369,442	15	16/08/91	49	NTPC
101.	Datta A.K.	DGM	B.E. (El.)	366,345	24	16/08/91	47	NTPC
102.	Datta S.K.	DGM (Ngp. Divn.)	B.E. (Civil)	375,402	23	16/08/91	54	NTPC
103.	Dattatraya V.	Manager	B.E. (El.) AMIE	304,667	12	16/08/91	47	NTPC
104.	Davar Meenakshi	Manager	M.Sc.	338,931	13	03/12/91	37	NTPC
105.	De Bhowmick A.K.	Chief Manager	M.E.	353,523	11	16/08/91	45	NTPC
106.	De Bhowmick B.N.	Chief Manager	B. Tech.	364,182	13	04/11/91	36	NTPC
107.	De Prolaya Kumar	Manager	B.A.	379,540	10	08/12/92	45	NLC
108.	Debnath B.K.	Dy. Manager (F&T)	B.Com	410,644	29	14/11/91	54	NEEPCO
109.	Deka P.	Sr. Engg. (C&M)	B.E. (El.)	308,033	6	14/11/91	32	NEEPCO
110.	Day Utpal	Dy. Manager (O&M)	N.A.	330,508	14	16/08/91	49	NTPC
111.	Dhanjal G.S.	DGM	B.Sc. Engg (E)	393,024	26	16/10/93	51	NTPC
112.	Dhantre P.	Manager	B.E.	314,595	12	16/08/91	34	NTPC
113.	Dhawan A.L.	Dy. Manager	B.Sc. (Engg.)	319,581	15	19/11/91	38	NHPC



Sl. No.	Name	Designation and Nature of Employment	Qualification	Remuneration (Rs.)	Experience Year	Date of Commencement of Employment	Age (Years)	Last Employment held
114.	Dhayasheelan D.D.	DGM (F&A)	C.A.	376,946	22	19/12/91	48	NHPC
115.	Dhingra T.D.	Manager	B.A.	337,737	28	01/12/91	54	NLC
116.	Dixit P.N.	Chief Manager	B.E. (El.)	365,406	10	16/08/91	38	NTPC
117.	Dua D.D.	Chief Manager	ICWA	378,662	15	01/04/91	55	NTPC
118.	Dua V.L.	DGM	Diploma in Mech. Eng.		339365	28/01/91	50	NTPC
119.	Dube S.K.	AGM	B.E. (Elect.)	367,067	17	16/08/91	49	NTPC
120.	Duggal N.K.	Manager	DIME PDDBA	308,905	15	19/11/91	42	NHPC
121.	Dutta D.K.	Chief Manager	B.Sc. Engg. (Elect.)	334,839	20	16/08/91	44	NTPC
122.	Dwivedi K.N.	Chief Manager	M.A. MSW	375,291	12	26/02/91	57	FCI
123.	Dwivedi M.G.	DGM	B.Sc. Engg. (Elect.)	393,185	15	19/11/91	52	NHPC
124.	Easwaran M.	Dy. Manager	M.E. (Elec.)					
125.	Eswaran S.	Dy. Manager	Dip. in Elect. Engg.	304,726	29	01/01/94	51	CEA
126.	Gahlot P.V.	Technicain	B.E. (El.)	307,908	21	01/01/94	48	CEA
127.	Ganesh Singh	DGM	ITI (El.)	635,573	8	16/08/91	32	NTPC
128.	Ganguli R.	Manager (T&C)	M.E.	335,360	19	16/08/91	46	NTPC
129.	Garg A.K.	Manager	B.E. (El.)	356,752	15	16/08/91	36	NTPC
130.	Garg Minaxi	Manager	B.A. LL.B.	337,128	16	16/08/91	41	NHPC
131.	Garg Sanjay	Manager	B.E. (Elect.)	316,936	10	24/12/91	36	NTPC
132.	Garg Sanjay	Chief Manager	M.E. (CS)	359,261	10	24/12/91	36	NTPC
133.	Garg Subodh	Chief Manager	B.Sc.	387,250	15	16/08/91	41	NTPC
134.	Gautam B.S.	Manager	B.Sc. (Elect.)	356,393	15	19/11/91	38	NHPC
135.	Ghosh A.	Chief Manager (C&M)	L.E. (El.)	357,677	20	14/11/91	51	NEEPCO
136.	Ghosh Sudeep	Manager	B.Sc. Engg.	388,236	12	16/08/91	35	NTPC
137.	Giridhar D.V.	Chief Manager	B.Tech (El.)	352,557	13	16/08/91	41	NTPC
138.	Gogoi K.C.	Chief Manager	B.E. (Mech.)	393,063	17	14/11/91	48	NEEPCO
139.	Goswami A.K.	Dy. Manager	Dip. (C)	314,609	21	14/11/91	43	NEEPCO
140.	Goswami Madan Mohan	CDE	B.E.	390,228	14	16/08/91	40	NTPC
141.	Govindarajan K.	Manager (Finance)	B.Com., ACA	300,698	13	01/12/92	37	NLC
142.	Gudoo Ranjana	Dy. Manager	B.A., LL.B.	313,611	9	07/02/92	48	NTPC
143.	Gulati J.S.	Dy. Manager	B.Com., ACA	301,991	13	09/10/91	42	NTPC
144.	Gupta B.B.	Dy. Manager	Diploma (Elec.)	315,786	17	19/12/91	46	NHPC
145.	Gupta B.K.	DGM	B.E. (Mech.)	331,728	14	16/08/91	48	NTPC
146.	Gupta B.M.	CPM	B.A.,MSW	354,320	28	16/08/91	49	NTPC
147.	Gupta C.S.	Manager	B.Sc., Engg. (E)	325,596	12	16/08/91	34	NTPC
148.	Gupta D.K.	CDE	B.E.(Elect.)	363,720	18	01/07/91	40	NTPC
149.	Gupta Gopal	CDE	Dip. in Mgmt.					
150.	Gupta K.K.	Manager	B.Sc.Engg. (Elect)	348,530	18	19/11/91	41	NHPC
151.	Gupta K.K.	Manager	B.E. (El.)	341,514	15	16/08/91	46	NTPC
152.	Gupta M.K.	Manager	M.Com., FCA	378,815	14	16/08/91	40	NTPC
153.	Gupta M.K.	Manager	B.E. (El.)	319,710	11	16/08/91	33	NTPC
154.	Gupta M.R.	DGM	B.Sc. Engg. (Elec.)	340,545	15	16/08/91	49	NTPC
155.	Gupta N.K.	Manager	B.E. (C)	337,183	11	16/08/91	40	NTPC
156.	Gupta P.C.	Dy. Manager	Dip. in Mech. Engg.	312,605	15	14/01/91	49	NTPC
157.	Gupta P.K.	Manager	B.Tech. (Elect.)	336,949	13	19/12/91	40	NHPC
158.	Gupta P.K.	Chief Manager	B.Sc. (Elect.)	322,730	16	19/11/91	44	NTPC
159.	Gupta Paras Nath	Chief Manager	B.E. (Elect.) LL.B.	416,749	13	16/08/91	53	NTPC
160.	Gupta R.K.	Manager	Dip. in Civil Engg.	337,999	13	19/02/92	52	NHPC
161.	Gupta R.S.	Manager	B.E. (El.)	300,681	16	16/08/91	38	NTPC
162.	Gupta Rakesh	Manager	B.Sc. Engg. (Elect.)	342,871	12	16/08/91	37	NTPC
163.	Gupta S.K.	CDE	B.Tech. Elect.	424,532	15	19/11/91	36	NHPC
164.	Gupta S.K.	Dy. Manager	B.Tech. (Elect.)	311,470	11	16/08/91	32	NTPC
165.	Gupta S.K.	Chief Engineer	B.E. (El.) Hon.	322,448	16	16/08/91	38	NTPC
166.	Gupta Seema	DCDE	B.E. (Elec.) Dip. in Mgt.	308,256	13	16/08/91	35	NTPC
167.	Gupta Sujan	Manager	B.E.	354,407	13	16/08/91	37	NTPC
168.	Gupta T.C.	Chief Manager	B.E. (El.)	408,808	15	16/08/91	40	NTPC
169.	Gupta V.K.	Manager	B.Sc. Engg. (E.)	318,910	25	19/11/91	50	NHPC
170.	Gupta Vinay Kumar	Chief Manager	M.Tech.	404,064	13	16/08/91	42	NTPC
171.	Gupta Vinod Kumar	DCDE	M.Tech.	321,828	12	16/08/91	36	NTPC
172.	Gupta Y.P.	Dy. Manager	ACA	316,281	10	16/08/91	39	NTPC
173.	Gupta Sanjai	Manager	B.E. (Elect.)	375,807	15	19/11/91	36	NHPC
174.	Gururaja Rao	Chief Manager	B.Sc. (El. & Com.)	330,176	13	16/08/91	40	NTPC
175.	Handa A.K.	Manager	B.Sc. Engg. (Civil)	305,929	13	19/11/91	38	NHPC



Sl. No.	Name	Designation and Nature of Employment	Qualification	Remuneration (Rs.)	Experience Year	Date of Commencement of Employment	Age (Years)	Last Employment held
174.	Haque Jainul	AGM	B.E. (Elect.)	406,775	14	16/12/91	50	NTPC
175.	Hazarika M.	Chief Manager	B.E. (El.)	353,355	18	14/11/91	42	NEEPCO
176.	Hazarika S.K.	Manager	B.E. (El.)	356,324	14	16/08/91	37	NTPC
177.	Holani Ajay	Manager	B.E.	346,493	12	15/06/92	35	NTPC
178.	Holla M.R.V.	Manager	B.E. (El.)	371,558	20	16/08/91	48	NTPC
179.	Hussain Anwar J.S.	Chief Manager	B.E. (Elect.)	375,795	36	12/01/92	57	NLC
180.	Jaggi A.L.	Dir (Operation)	B.E.(Elect.)	422,252	32	19/11/91	58	NHPC
181.	Jain Anil	Chief Manager	B.E. (Elect.)	346,120	15	16/08/91	37	NTPC
182.	Jain Ashwani	DGM	B.Sc. Engg.	358,731	17	16/08/91	39	NTPC
183.	Jain D.K.	Manager	B.E. (El.)	309,948	14	16/08/91	37	NTPC
184.	Jain H.C.	CPM	MA (PA), PGD PM & IR	334,333	16	19/11/91	57	NHPC
185.	Jain Navin Kumar	CDE	B.Tech. (Elect. Engg.)	374,712	17	16/08/91	39	NTPC
186.	Jain Neelam Kant	Chief Manager	B.E.	367,838	15	16/08/91	39	NTPC
187.	Jain P.K.	Chief Manager	B.Sc. Engg.	365,285	12	19/11/91	48	NHPC
188.	Jain P.K.	Chief Manager	B.E. (El.)	400,075	20	19/11/91	48	NHPC
189.	Jain S.K.	Manager	LLM., B.Sc.	302,940	22	16/08/91	44	NTPC
190.	Jain S.L.	Manager	BEME (Civ.) MIE	377,727	30	19/11/91	55	NHPC
191.	Jain S.M.	AGM	B.Sc. Engg.	438,847	17	10/11/91	55	NTPC
192.	Jaiswal I.C.	DGM	I.C.W.A.	374,450	18	16/08/91	47	NTPC
193.	Jana Bimal Kumar	Dy. Manager	M.Tech.	330,083	12	16/08/91	37	NTPC
194.	Janakirman V.	Dy. Manager	L.E.E.	309,798	32	01/12/92	52	NLC
195.	Javeri C.S.	Manager	B.E.	310,804	25	19/12/91	48	NHPC
196.	Jebaraj John P.	Dy. Manager	B.E.	328,620	10	14/12/91	32	NLC
197.	Jha I.N.	Manager	B.Sc. Engg.	333,262	13	07/08/92	37	NTPC
198.	Jha Indusekhar	CDE	B.E.	382,904	16	16/08/91	38	NTPC
199.	Jindal Satish	Manager	B.E.	359,460	12	16/08/91	38	NTPC
200.	Joshi D.C.	Manager	B.Tech. (E) DIM	302,400	14	16/08/91	37	NTPC
201.	Joshi S.D.	Manager	B.E.	314,818	13	16/08/91	37	NTPC
202.	Juneja Yogesh	Manager	P.G. Dip. (Fin.), I.C.W.A.	397,085	14	30/09/91	37	BHEL
203.	Kakkar A.K.	DCDE	B.Sc. Engg. (Elect.) Diploma	363,994	13	19/11/91	33	NHPC
204.	Kakkar R.D.	GM (I/C)	B.Sc. Engg. (El.)	459,114	30	08/04/91	54	NTPC
205.	Kalaimathi M.	Manager	B.E. (El. & Ec.)	302,400	13	01/12/92	36	NLC
206.	Kalanithy T.	Dy. Manager	B.E.	327,997	11	01/12/92	35	NLC
207.	Kalita L.	Dy. Manager	B.E. (E)	310,024	10	14/11/91	35	NEEPCO
208.	Kannan C.	Dy. Manager (F&A)	B.E. (Mech.), AICWA	305,348	11	01/12/92	34	NLC
209.	Kanwal Singh	Manager	B.E. (Mech.)	358,936	16	19/11/91	37	NHPC
210.	Kanwar B.S.	GM	B.Sc. Engg. (Elect.)	363,312	34	19/11/91	56	NHPC
211.	Kanwar R.S.	Chief Manager	B.E. (Elect.)	346,450	19	19/11/91	47	NHPC
212.	Kapil A.K.	DGM	M.I.E. (Civil)	338,743	35	19/11/91	55	NHPC
213.	Kapur Guljit	Chief Manager	B.Sc. Engg. (Elect.)	351,477	9	19/11/91	46	NHPC
214.	Kar Manoj Kumar	Dy. Manager	M.A., LL.B.	320,997	8	19/12/91	32	NHPC
215.	Kathuria B.D.	Chief Manager	B.A., P.G. Dip. (PM&IR)	369,265	18	16/10/91	56	NTPC
216.	Kaushal P.K.	Chief Manager	B.Sc. (Engg.)	324,039	23	19/11/91	49	NHPC
217.	Khan Md. Zahid	DCDE	B.E. (Mech.)	330,845	13	16/08/91	44	NTPC
218.	Khanna A.K.	DGM	B.E. (El.)	383,063	27	16/08/91	50	NTPC
219.	Khanna Mukesh	ACDE	Dip. (Elect.) Engg.	309,199	14	28/06/91	33	NTPC
220.	Khare V.K.	STA TO ED (WR & SR)	B.E., M.B.A.	336,151	14	16/08/91	37	NTPC
221.	Khastagir S.	Chief Manager	M. Tech.	343,936	17	16/08/91	40	NTPC
222.	Khattri A.K.	DGM	D.I.E.E.	309,550	15	16/08/91	50	NTPC
223.	Khurana Arvind Mohan	CDE	B.Sc. Hons	376,971	13	16/08/91	43	NTPC
224.	Kidwai I.R.	Chief Manager	B.Com., Dip. (1Yr.) Busi. Mgmt.	419,668	14	31/01/92	43	NTPC
225.	Kishore Bhagat	Chief Manager	DIME, AMIE	324,672	24	19/11/91	50	NHPC
226.	Kishore Bhagat	DCDE	B.Sc. Engg.	322,894	12	16/08/91	38	NTPC
227.	Krishnamohan V.	DCDE	B.E.	375,986	13	01/08/91	37	NTPC
228.	Krishnan Ranjit	Manager	B.Sc. Engg. (Mech.) Dip. in Mgmt.	329,193	14	16/08/91	39	NTPC



Sl. No.	Name	Designation and Nature of Employment	Qualification	Remuneration (Rs.)	Experience Year	Date of Commencement of Employment	Age (Years)	Last Employment held
229.	Krishna Kumar K.	Chief Manager	M.Sc. Engg. (El.)	327,461	16	16/08/91	47	NTPC
230.	Krishnamurthy M.	Manager	B.Tech. (Elect.)	319,024	13	01/12/92	38	NLC
231.	Kukraja H.C.	DGM	B.Sc., Engg. (El.) ADIM	408,889	25	16/08/91	48	NTPC
232.	Kumar Arun	DGM	B.E.	476,923	19	26/06/91	42	NTPC
233.	Kumar Ashwani	Dy. Manager	B.Sc. Engg. (Elect.)	300,784	12	19/11/91	36	NHPC
234.	Kumar Bidyut	Manager	M.Tech. (IE)	311,444	12	19/12/91	35	NHPC
235.	Kumar Binay	GM	M.A. Hons.	455,456	12	19/05/91	49	THDC
236.	Kumar Deepak	Chief Manager	B.E. (Elect.)	357,629	16	21/01/91	40	NTPC
237.	Kumar Kishore P.	Chief Manager	B.E. (Elect.) Dip. in O.R.	359,481	15	16/08/91	37	NTPC
238.	Kumar Krishan M.	CDE	B.Sc. (Engg.)	350,079	16	16/08/91	41	NTPC
239.	Kumar Mithlesh	Chief Manager	B.E. (El.)	404,890	17	19/11/91	42	NHPC
240.	Kumar Mukesh	Chief Manager	B.Sc. Engg.	335,072	14	16/08/91	39	NTPC
241.	Kumar Mukul	Manager	B.E. (E)	360,422	13	16/08/91	42	NTPC
242.	Kumar Pankaj	CDE	B.E.	360,603	16	16/08/91	39	NHPC
243.	Kumar Pankaj	Chief Manager	B.Sc. Engg. (Elect.)	347,085	15	19/11/91	39	NHPC
244.	Kumar Pratap P.	Manager	B.Tech. (Civil)	347,263	13	19/12/91	36	NHPC
245.	Kumar Raj	CDE	B.Sc., B.E. (Elect.)	384,206	14	19/11/91	43	NHPC
246.	Kumar Rajesh	CDE	B.Sc., Engg.	334,928	14	16/08/91	38	NTPC
247.	Kumar Rajesh	Manager	B.Sc. Engg. (E) PGDIM	348,390	11	16/08/91	33	NTPC
248.	Kumar Rajiv	Manager	B.E. (El.)	332,340	13	16/08/91	35	NTPC
249.	Kumar Rakesh	DCDE	B.Tech.	351,000	12	16/08/91	36	NTPC
250.	Kumar Sailil	Manager	B.Sc. (Elect.) Dip. (1Yr.) Mmt.	313,972	13	19/12/91	35	NHPC
251.	Kumar Selva C.	Manager	B.E.	315,909	13	14/12/92	39	NLC
252.	Kumar Sunil	Chief Manager	B.Sc. Eng. (Elect.)	382,577	16	19/11/91	35	NHPC
253.	Kumar Suresh	Manager	B.Tech. (Elect.)	338,768	13	19/12/91	39	NHPC
254.	Kumar Vijay	Manager	B.Sc. Engg. (Elect.)	374,418	14	09/07/92	46	NHPC
255.	Kumar Virendra	GM	M.Tech. (Stru. Engg.)	517,866	20	16/08/91	57	NTPC
256.	Kushwaha Amrendra S.	DCDE	B.Tech. (Elec.)	361,313	13	16/08/91	37	NTPC
257.	Lakshminarayana P.	Dy. Manager	B.E. (El.)	334,206	12	16/08/91	41	NTPC
258.	Lakshmiapati V.	Chief Manager	B.E. (El.)	323,792	13	16/08/91	53	NTPC
259.	Lal J.G.	Chief Manager	B.Sc. LL.B.	314,320	14	19/11/91	44	NHPC
260.	Lal Krishan	Dy. Manager	Dip. in Pers. Mgt.	309,634	18	01/11/91	50	NTPC
261.	Lal Munishwar	Chief Manager	B.E. (E), PGD instrm.	418,331	19	01/11/91	43	NTPC
262.	Lal S.K.	Manager	B.E. (Civil)		14	19/11/91	43	NHPC
263.	Madan R.K.	DIR (Projects)	B.Sc. Engg. (Elect.)	429,581	18	19/11/91	56	NHPC
264.	Majumdar S.K.	AGM (CP)	B.E.; (Mech.)	368,077	18	14/01/91	48	NTPC
265.	Malviya Umesh	CDE	B.E.	327,950	15	16/08/91	36	NTPC
266.	Manglik A.	AGM	B.E.	402,148	20	16/08/91	50	NTPC
267.	Mathews C.T.	Manager	B.Sc. (Engg.)	347,085	14	16/08/91	36	NTPC
268.	Mathur S.K.	Chief Manager	B.E.(E), MBA	364,607	10	16/08/91	47	NTPC
269.	Mazumdar S.P.	Dy. Manager	B.Sc., MBA	324,330	20	14/11/91	48	NEEPCO
270.	Mediratta R.K.	Manager	B.Tech., MIE Dip. MG	338,798	28	16/08/91	51	NTPC
271.	Mehra Anil	Manager	B.Sc. Engg. (Mech.)	306,309	12	01/07/92	37	NHPC
272.	Mehra Sanjeev	Chief Manager	B.Tech. Elect. PGDM (Busi. Mgt.)	385,822	14	16/12/91	38	NTPC
273.	Mehta B.D.	Sr. Admn. Officer	B.A., ICWA	320,428	18	02/01/92	51	PFC
274.	Mina R.S.	Chief Manager	B.E. (Elect.)	373,316	16	19/11/92	40	NHPC
275.	Mishra A.K.	Dy. Manager	B.Sc. Engg.	306,482	11	16/11/92	34	NTPC
276.	Mishra L.N.	Dy. Manager	M.Tech. (Mgt. & Sys.)	312,582	7	10/02/93	34	BEL
277.	Mishra P.K.	Manager	Dip. in Civil Engg.	325,413	28	16/08/91	34	NTPC
278.	Mishra R.C.	Manager	DIEE	379,051	26	16/08/91	54	NTPC
279.	Mishra R.K.	Manager	B.E. Hons.	398,982	12	16/08/91	52	NTPC
280.	Mishra S.B.C.	GM	B.E.	333,901	27	19/11/91	34	NHPC
281.	Mishra U.C.	GM	BE.(El.)	325,392	19	19/11/91	50	NHPC
282.	Mishra S.C.	ED	B.Sc. (Engg.) Elect.	430,575	23	16/08/91	52	NTPC
283.	Mitra C.	Chief Manager	B.E. (Elect)	361,739	17	19/11/91	42	NHPC



S. No.	Names	Designation and Nature of Employment	Qualification	Remuneration (Rs.)	Experience Year	Date of Commencement of Employment	Age (Years)	Last Employment held
284.	Mittal A.K.	DGM	B.E. (Elect.), M.Tech.	348,986	21	16/11/91	44	NHPC
285.	Mittal R.K.	Chief Manager	LL.M.	361,492	13	16/01/92	44	NEEPCO
286.	Mittal S.K.	Manager	B.E. (El.) Hon.	424,212	17	19/11/91	37	NHPC
287.	Mittal Sudhir	CDE	M.Tech.	385,221	10	16/08/91	41	NTPC
288.	Miya U.M.	Manager	B.E. (El. Power)	305,418	12	16/08/91	39	NTPC
289.	Mohan Rajiv	Chief Manager	B.E.	307,211	12	16/08/91	48	NTPC
290.	Mondal Jashobant	CDE	B.Tech.	364,414	16	16/08/91	39	NTPC
291.	Mondal O.M.	Chief Manager	ME (El.)	329,400	23	16/08/91	48	NTPC
292.	Mukhopadhyay P.R.	Chief Manager	B.Sc. (Hons.), AMIE	325,835	19	16/08/91	45	NTPC
293.	Murthy N.S.	Chief Manager	B.E. (Elect.)	331,372	16	16/08/91	50	NTPC
294.	Nagappan V.B.	Dy. Manager	I.C.W.A.	309,854	15	14/12/92	40	NLC
295.	Nagendran H.R.	Chief Manager	B.Tech. (Elec.)	314,320	19	1/12/92	42	NLC
296.	Nagpal A.K.	CFM	MA, PGDM, SAS	383,648	15	16/08/91	48	NTPC
297.	Nagpal R.	Manager	B.E. (Elec.)	336,535	11	16/08/91	34	NTPC
298.	Nagpal S.K.	Chief Manager	B.E.Elec.	464,486	13	19/11/91	47	NHPC
299.	Nandi D.K.	ED (WR&SR)	M.Tech.	426,360	25	16/08/91	55	NTPC
300.	Nandra G.S.	Manager	AMIE	328,633	17	19/11/91	50	NHPC
301.	Narasimhan S	Chief Manager	B.E. Hons.	359,251	11	23/01/91	38	NTPC
302.	Narasimhan S.P.L.	Dy. Gen. Manager	AMIE (Elect.)	414,824	17	16/08/91	55	NTPC
303.	Narayan Prem	Manager	B.Tech.	339,145	13	16/08/91	43	NTPC
304.	Narayanan M.	Dy. Gen. Manager	B.Sc., BE PG Dip. in Bus. Admn.	387,461	16	16/08/91	57	NTPC
305.	Narula S.K.	ED(HRD&CMG)	B.A.,P.G. Dip in Lbour Law,	537,570	19	19/02/91	53	NTPC
306.	Nath D.B.	Dy. Manager	BE (C)	304,227	15	14/11/91	41	NEEPCO
307.	Nath H.I.	Sr. A.O.	B.Com.	337,388	21	14/11/91	50	NEEPCO
308.	Nath P.V.	Manager	M.Tech.	319,104	12	19/11/91	34	NHPC
309.	Nayak Rabindra Nath	DGM	M.Tech. (Elect.)	404,732	13	21/01/91	42	NTPC
310.	Neelakantan V.	Chief Manager	B.E. (Elect & Electronics)	354,698	12	16/08/91	46	NTPC
311.	Negi S.K.	Chief Manager	B.Tech. (El.)	336,276	15	16/08/91	40	NTPC
312.	Nema S.K.	DGM	M.B.A.	354,605	16	09/11/91	53	NHPC
313.	Nigam S.K.	Manager	B.Sc. Engg. (Elec.)	331,578	14	16/08/91	47	NTPC
314.	Nundy S.	Dy. Manager	ICWA, Dip in Mgmt.	343,103	10	16/11/91	39	NHPC
315.	Oommen Abraham	Manager	M.Com., ICWA	314,697	12	01/10/92	40	NTPC
316.	Pal A.K.	CDE	B.E.	375,368	16	28/06/91	41	NTPC
317.	Pal P.K.	Manager	B.E. (Elect.)	316,872	15	19/11/91	37	NTPC
318.	Palit Pulak Kumar	DCDE	B.Sc. Engg. Dop. in Com. Apl.	372,871	14	16/08/91	36	NTPC
319.	Palit S.K.	Manager	M.Tech.	336,546	10	16/08/91	38	NTPC
320.	Pande U.	Manager	B.E.	315,663	11	16/08/91	32	NTPC
321.	Pandey A.S.	Manager	B.Sc. Engg.	332,433	13	19/11/91	42	NHPC
322.	Pandey B.S.	Chief Manager (T&C)	B.E. (El.)	375,564	11	16/08/91	43	NTPC
323.	Pandey Deepak	DCDE	B.Sc. Engg. (Elect.)	326,772	15	19/11/91	38	NHPC
324.	Pandey Indu	Manager	B.Sc., B.L. Sc.	351,439	15	19/12/91	46	NHPC
325.	Pandey M.C.	Manager	B.E. (El.)	314,130	12	16/08/91	37	NTPC
326.	Pandey T.	Manager (PMS)	B.E. (El.)	320,780	14	16/08/91	37	NTPC
327.	Pandey V.B.	Manager	B.Sc. B.E. (Mech.)	370,908	21	19/11/91	48	NHPC
328.	Pankaj P.C.	Chief Manager	B.Sc. ( Engg.)	306,842	16	19/11/91	41	NHPC
329.	Pant B.C.	Dy. Manager	B.Sc. Engg. (Elect.)	305,448	13	14/07/92	41	NHPC
330.	Parihar J.K.	Chief Manager	B.E. (Elect.)	373,809	14	16/08/91	37	NTPC
331.	Prakash Alok	Dy. Manager	B.E. (Civil)	328,349	10	16/08/91	36	NTPC
332.	Pathak A.K.	DGM	B.E. (Engg.)	386,082	31	16/08/91	54	NTPC
333.	Pathak S.C.	Manager	Dip. Elec. Engg.	388,861	25	16/08/91	50	NTPC
334.	Patir A.	Chief Manager	B.E.	359,819	17	14/11/91	39	NEEPCO
335.	Paul Anupam	Manager	B.E. (El.)	325,960	10	14/11/91	34	NEEPCO
336.	Paul Bhoj	Chief Manager	BE (El)	321,500	15	16/10/93	40	NTPC
337.	Paul Choudhury B.	Dy. Manager	BE (El)	341,375	8	14/11/91	35	NEEPCO
338.	Pavgi Avinash M.	DCDE	B.Tech	319,133	12	16/08/91	36	NTPC
339.	Pillai Manmoharan R.	Chief Manager	B.Sc. Engg. (Elect.)	330,043	19	01/12/92	43	NLC
340.	Ponniiah M.S.J.	Manager	B.E. (Elect. Engg.)	300,852	14	01/12/92	37	NLC





Sl. No.	Name	Designation and Nature of Employment	Qualification	Remuneration (Rs.)	Experience Year	Date of Commencement of Employment	Age (Years)	Last Employment held
341.	Prabhkar R.D.	AGM (WRLDC)	M.Sc. (Engg.)	306,729	26	19/11/91	49	NHPC
342.	Prakash D.	Dy. Manager	B.Sc. (Engg.)	303,120	19	16/08/91	46	NTPC
343.	Prasad Awadhesh	Chief Manager	B.E. (Elect.)	344,715	17	19/11/91	42	NHPC
344.	Prasad Badri	Chief Manager	B.E. (Elect.)	347,498	16	19/11/91	40	NHPC
345.	Prasad P.N.	CDE	B.Tech.	346,610	16	12/11/91	39	NHPC
346.	Prasad S.	Chief Manager	B.Sc. (Civil)	339,141	25	14/11/91	47	NEEPCO
347.	Prasad S.S.	Chief Manager	M.Tech.	425,556	14	13/11/91	41	NTPC
348.	Prasad Surendra	Chief Manager	PG Dip in Pers. Mgt. BE (EL.)	302,425	16	16/08/91	38	NTPC
349.	Prasad Y.S.	Manager	B.Com., ACA	384,613	18	23/09/91	37	NTPC
350.	Pratap K.	Chief Manager	B.Tech. (El.)	360,415	10	16/08/91	42	NTPC
351.	Punnaih D.	Manager	B.E.	354,729	9	11/12/92	49	NLC
352.	Puri Surinder Kumar	ACDE	Diploma in Engg.	325,247	16	16/08/91	47	NTPC
353.	Radhakrishnan G.	Chief Manager (Pin)	B.SC. Engg. (El.)	354,157	35	12/01/92	57	NLC
354.	Raghunathan K.S.	GM	B.E.	407,812	19	16/08/91	53	NTPC
355.	Raghuram K.	Chief Manager	B. Tech.	344,237	12	16/08/91	39	NTPC
356.	Raghuram P.R.	Chief Manager	B.E. El./Comm.	388,995	19	16/08/91	41	NTPC
357.	Raghwendra Rai	Manager	B.Sc. Engg.	326,267	12	16/08/91	35	NTPC
358.	Rahaman L.	Chief Manager	B.E.	359,323	17	14/11/91	47	NEEPCO
359.	Rai N.K.	Manager	B.Sc. Engg. (Mech.) AMIE	313,371	13	19/12/91	45	NHPC
360.	Raj Bhoj	Sr. Engr.	Dip. Elec. Engg.	324,499	19	19/11/91	47	NTPC
361.	Rajagopalan R.	Dy. Manager	ACA	303,748	9	28/02/91	39	NHPC
362.	Rajasekaran S.	Dy. Manager	B.Tech. (Civil) Dip. in Computer	303,025	11	01/12/92	38	NTPC
363.	Ram Chet	Manager	Dip. Elec. Engg.	310,483	21	16/08/91	47	NTPC
364.	Ram Niwas	Chief Manager	B.E.	314,379	15	19/11/91	39	NTPC
365.	Rama Murthy T.	Manager (Finance)	B.Com., ACA	350,802	12	16/08/91	38	NTPC
366.	Ramachandran A.K.	GM	Mech. Engg.	483,419	21	06/12/91	58	NTPC
367.	Ramaiah V.	Chief Manager	BE (Civil)	317,185	15	16/08/91	49	NTPC
368.	Ramakrishna K.	Manager	B.E. (El.)	324,212	12	16/08/91	38	NTPC
369.	Ramalingam R.J.	Manager	ACA. Co. Secy. (Inter.), LL.B.	355,188	13	22/10/91	46	NTPC
370.	Ramanna K.A.	Chief Manager	B.Sc., B.E..	340,429	13	16/08/91	57	NTPC
371.	Ramdas B.K.	Dy. Manager	B.Com, ACA	328,138	18	19/12/92	52	NHPC
372.	Rangan N.P.	Manager	B.Com(Hons.) ACA	330,610	15	16/08/91	41	NTPC
373.	Ranjan R.	Manager	B.Sc. Engg. (Elect.)	350,419	12	19/11/91	37	NHPC
374.	Rao A.G.	Manager	FCA., A.I.C.W.A.	395,933	17	16/08/91	42	NTPC
375.	Rao G.M.	DGM	BE (El.) M.Tech. (IE)	326,972	16	16/08/91	52	NTPC
376.	Rao Gopala V.	AGM	B.E.	407,808	17	16/08/91	57	NTPC
377.	Rao Hanumantha N.	Manager	B.Sc. Engg.	313,017	13	22/12/92	37	NLC
378.	Rao M.M.	Chief Manager	B.E. (El.)	321,658	29	01/01/94	52	CEA
379.	Rao Manmath V.	Manager	I.C.W.A., LL.B.	349,889	8	30/12/91	42	NTPC
380.	Rao R.Y.	Chief Manager	B.E. (El)	348,467	12	16/08/91	36	NTPC
381.	Rao Sanyasi U.V.	Manager	M.E.	339,395	11	16/08/91	42	NHPC
382.	Rao Sunil K.	DGM	MBA	374,211	17	16/08/91	40	NTPC
383.	Rao T.P.	Chief Manager	B.E. Elec.	373,708	17	19/11/91	54	NHPC
384.	Rao V.R.	Manager	B.E. (Elec.)	331,873	11	16/08/91	38	NTPC
385.	Rastogi B.R.	Manager	Dip. in Engg. (1Yr.)	303,065	13	16/08/91	43	NTPC
386.	Rath Gopal Krishna	CDE	B.Sc., Engg.	375,691	14	10/08/92	44	NHPC
387.	Rathore Kailash	DCDE	B.E. (Elec.)	353,151	12	16/08/91	34	NTPC
388.	Ravi S.	Manager	B.E.(Elec)	326,318	12	16/08/91	35	NTPC
389.	Reddy N.C.	Manager	Adv. C.A., Licenciante	340,088	14	16/08/91	43	NTPC
390.	Rizvi A.R.	Manager	B.E. (M)	365,405	15	16/08/91	45	NTPC
391.	Rohtagi A.K.	Chief Manager	B.E. (E) AMN	396,764	18	02/12/91	39	NHPC
392.	Roy Alok	DGM	M. Tech.	364,700	19	16/08/91	41	NTPC
393.	Roy K.K.	Chief Manager	B.Sc. Engg. (Elect.)	313,458	17	19/11/91	50	NHPC
394.	Roy S.	Chief Manager	B.Sc. (Elect.)	331,711	18	16/08/91	43	NTPC
395.	Roy S.	Chief Manager	B.E. (El.)	364,147	28	16/08/91	51	NTPC
396.	Roy S.D.	Manager (C&M)	B.E. (El.)	338,273	13	16/08/91	37	NTPC
397.	Roy S.K.	Manager	B.Sc. (Engg.)	363,641	15	19/11/91	38	NHPC
398.	Roychoudhury B.	Dy. Manager	B.E. (M)	349,533	10	14/11/91	35	NEEPCO



S. No.	Names	Designation and Nature of Employment	Qualification	Remuneration (Rs.)	Experience Year	Date of Commencement of Employment	Age (Years)	Last Employment held
399.	Saberwal Anil	Manager	M.Sc. (Geog.), LL.B.	337,506	13	16/08/91	36	NTPC
400.	Sahay S.N.	Manager (PMS)	B.Sc. (Engg.)	419,344	13	16/08/91	37	NTPC
401.	Sai R.S.T.	DGM	LL.B., B.Tech., PGDM	351,960	15	16/08/91	41	NTPC
402.	Saini J.S.	Chief Manager	B.Sc. Engg.	314,380	20	19/11/91	54	NHPC
403.	Samanta C.B.	Chief Manager	B.E. (Elect.)	362,961	15	19/11/91	38	NHPC
404.	Sarkar A.S.	DGM	B.E. (El.)	328,368	19	16/08/91	49	NTPC
405.	Sarkar D.K.	Manager	B.Tech (Civil), ACA	383,324	6	05/09/91	40	DW CON. LTD.
406.	Sarkar G.S.	DGM	B.E. (E)	355,000	22	16/08/91	47	NTPC
407.	Sarkar K.	Chief Manager	B.E. (Elect)	335,820	15	16/08/91	42	NTPC
408.	Sarkar Robin Kumar	CDE	B.E.	367,127	12	16/08/91	38	NTPC
409.	Sasmal R.P.	Chief Manager	B.Sc. Engg.	349,160	16	16/10/93	39	NTPC
410.	Satyam K.	AGM	BE (Civil)	353,189	28	16/08/91	51	NTPC
411.	Satyanarayana K.V.V.	Chief Manager	B.Tech (El & Ec)	321,662	15	16/08/91	38	NTPC
412.	Saxena N.K.	Chief Manager	B.E. Sc. (E&T-C)	318,455	13	16/08/91	48	NTPC
413.	Saxena N.S.	DGM	Ph.D.	350,549	24	16/08/91	47	NTPC
414.	Saxena Vikas	DGM	B.Tech.	356,898	17	16/08/91	39	NTPC
415.	Sehgal Y.K.	CE	B.Sc. Engg.	481,846	10	16/08/91	40	NTPC
416.	Sekhar V.	Chief Manager	B.E. (Civil)	371,165	11	16/08/91	38	NTPC
417.	Selvakumar S.V.P	Manager	B.E.	345,853	14	14/12/92	38	NLC
418.	Selvaraju R.	Chief Manager	B.E.	356,416	18	01/12/92	43	NLC
419.	Selwyn P.E.	Manager (HRM)	MA (SW)	337,569	22	01/12/92	46	NLC
420.	Sein Debashis	Manager	B.E.	313,221	13	16/08/91	36	NTPC
421.	Sein R.N.	DCDE	B.E. (Civil)	327,900	13	29/06/92	42	NHPC
422.	Sein S.	Chief Manager	B.E.	305,438	17	16/08/91	39	NTPC
423.	Sein Subir	DCDE	ME	320,243	8	16/08/91	32	NTPC
424.	Sethi Mahendra Kumar	Chief Manager	Dip. (Elec.) & Dip. in Mgmt.	363,795	12	15/10/91	46	NTPC
425.	Shankaran R.	Chief Manager	B.E. (El.)	335,020	15	16/08/91	50	NTPC
426.	Sharan H.H.	Manager	B.E.	336,186	14	16/08/91	36	NTPC
427.	Sharma A.K.	Chief Manager	B.E.	329,105	13	16/08/91	36	NTPC
428.	Sharma A.K.	Manager	B.E.	333,661	13	16/08/91	36	NTPC
429.	Sharma Appa S.V.	Manager	B.E.	313,277	10	16/08/91	45	NTPC
430.	Sharma Bhasker	Chief Manager	B.Sc. BE	342,774	13	16/08/91	44	NTPC
431.	Sharma C.M.	Chief Manager	B.Sc. (Engg.)	322,941	24	16/08/91	47	NTPC
432.	Sharma D.K.	DGM	B.Tech (H) (El.)	383,012	20	14/11/91	41	NEEPCO
433.	Sharma D.R.	Manager	BA., SAS	317,943	30	16/08/91	55	NTPC
434.	Sharma D.V.	Dy. Manager	Dip. in Elec.	310,455	17	19/11/91	47	NHPC
435.	Sharma K.L.	Dy. Manager	BE (El.)	329,673	9	14/11/91	37	NEEPCO
436.	Sharma Prashant	Chief Manager	B.E. (Mech.)	343,186	15	16/08/91	42	NTPC
437.	Sharma R.K.	ACDE	B.Sc. Engg. (Elect.)	315,233	13	19/12/91	48	NHPC
438.	Sharma R.L.	Manager	B.Tech. (Elect.)	350,704	12	16/08/91	41	NTPC
439.	Sharma S.K.	Manager	M.E. Mech.	311,763	14	19/11/91	40	NHPC
440.	Sharma S.S.	DGM	B.Sc. (El.)	403,823	22	16/08/91	44	NTPC
441.	Sharma T.C.	Manager (I/C-SS)	BE (El.)	361,172	8	16/08/91	36	NTPC
442.	Sharma V.K.	DGM	B.Sc. Engg. (Elec.)	387,555	15	16/08/91	44	NTPC
443.	Sharma V.N.	Chief Manager	BA,SAS	358,000	33	19/11/91	54	NHPC
444.	Sharma V.V	Chief Manager	B.Sc. Engg. (Elect.)	365,607	13	16/12/91	44	NTPC
445.	Siddappa H.S.	Chief Manager	B.E. (El.)	320,215	20	01/01/94	46	CEA
446.	Singh A.K.	Chief Manager	B.E.	419,401	16	12/11/92	38	NHPC
447.	Singh B.R.	Chief Manager	B.Sc. ;Engg. (Elec.)	399,193	20	19/11/91	52	NHPC
448.	Singh C.P.	Manager	B.E.	361,033	17	14/11/91	40	NEEPCO
449.	Sing D.S.	Chief Manager	B.E. (El.)	372,114	17	16/08/91	43	NTPC
450.	Sing Fateh	Chief Manager	Dip. (El.)	318,710	34	16/08/91	54	NTPC
451.	Singh H.B.	Chief Manager	B.E. (Elect.)	347,923	15	16/08/91	41	NTPC
452.	Singh Hardev	Chief Manager	B.Sc.(Elect.)	358,931	23	19/11/91	48	NHPC
453.	Singh J.P.	Dy. Manager	AICWA, B.Sc.	310,737	20	16/08/91	45	NTPC
454.	Singh Jagdish	DGM	B.E. (Elect.)	527,938	16	19/11/91	52	NHPC
455.	Singh Jaipal	Chief Manager	B.E.	401,466	14	16/08/91	38	NTPC
456.	Singh Jogendra	CDE	M.Tech.	350,063	14	16/08/91	36	NTPC
457.	Singh K.N.	Manager	B.Sc. (Engg.)	325,545	12	16/08/91	36	NTPC
458.	Singh Kailash	ED(HRM &ADMN)	B.A., LL.B.	553,266	28	01/05/91	56	HSCL
459.	Singh M.G.	ChiefManager(Imp)	B.E. (E)	381,224	18	14/11/91	46	NEEPCO



S. No.	Names	Designation and Nature of Employment	Qualification	Remuneration (Rs.)	Experience Year	Date of Commencement of Employment	Age (Years)	Last Employment held
460.	Singh M.K.	Dy. Manager	B.E.	304,620	10	21/10/92	35	NHPC
461.	Singh M.K.	Manager	B.Sc. Engg. (Civil)	335,780	12	16/08/91	40	NTPC
462.	Singh Mahinder	Chief Manager	B.Tech.	354,448	19	16/08/91	44	NTPC
463.	Singh Prabhaker	DGM	BE(EI.)	316,510	18	16/08/91	39	NTPC
464.	Singh Prem Pal	Sr. Manager	B.E.	306,692	8	24/11/91	34	NHPC
465.	Singh R.	CFM	PGD in PM&IR, LL.B.	384,975	17	14/11/91	42	NEEPCO
466.	Singh R.B.	Chief Manager	B.E. (E)	390,019	11	16/08/91	41	NTPC
467.	Singh R.C.	Chief Manager	B.Tech. (Elect.)	320,510	17	18/08/91	55	NTPC
468.	Singh R.K.	Chief Manager	B.Tech. (El.)	403,980	16	30/12/91	38	NHPC
469.	Singh R.N.	Manager	B.E. (El.)	324,274	11	16/08/91	33	NTPC
470.	Singh R.P.	Chief Manager	B.E. (Mech.)	374,823	16	16/08/91	37	NTPC
471.	Singh R.P.	CMD/DIR (P)	M.Sc. Engg.	417,529	20	21/01/91	49	NTPC
472.	Singh R.S.	Dy. Manager	B.Sc. (Engg.)	313,202	10	14/11/91	34	NEEPCO
473.	Singh Rajendra	Manager (O&M)	BE (El.)	346,436	13	14/11/91	37	NEEPCO
474.	Singh Ravindra	Sr. Engineer	Dip. in Mech & Civil Engg.	312,964	15	19/11/91	46	NHPC
475.	Singh S.	Chief Manager	B.E.	360,470	18	16/08/91	44	NTPC
476.	Singh S.C.	Chief Manager	BE (El.)	436,962	20	16/08/91	45	NTPC
477.	Singh S.K.	Manager	B.Sc. (Engg.)	377,492	13	19/11/91	37	NHPC
478.	Singh S.N.P.	Chief Manager	B.Sc. (Engg.)	337,966	26	16/08/91	46	NTPC
479.	Singh Sanjeev	Chief Manager	B.E. (Elect.)	354,737	15	16/08/91	36	NTPC
480.	Singh Sunil Kumar	Manager	B.Sc. (Elec.)	318,360	10	16/8/91	36	NTPC
481.	Singh T.S	Manager	B.Sc. (Engg.) (El.)	377,338	13	14/11/91	38	NEEPCO
482.	Singh V.K.	Dy. Manager	B.Com., M.B.A.	303,521	10	19/12/91	34	NHPC
483.	Singhal A.K.	Manager	B.E.	320,135	11	16/08/91	36	NTPC
484.	Sinha A.K.	Chief Manager (C&M)	B.Sc. (Engg.)	366,425	15	16/08/91	39	NTPC
485.	Sinha G.N.	Dy. Manager (Law)	LL.B.	317,588	9	16/08/91	44	NTPC
486.	Sinha N.K.	Manager	B.Sc., SAS	363,253	30	19/11/91	53	NHPC
487.	Sinha P.G.	Chief Manager (O&M)	B.E. (El.)	329,340	15	14/11/91	41	NEEPCO
488.	Sinha P.N.	Manager (C&M)	B.Sc. (Engg.)	329,812	13	16/08/91	43	NTPC
489.	Sinha S.K.	AGM	LLE, AMIE	433,739	27	16/08/91	51	NTPC
490.	Sinha S.R.	Sr. Manager (Admn.)	Dip. Engg.d	328,093	19	14/11/91	45	NEEPCO
491.	Sinha Sanjoy	Dy. Manager	MA (Soc.), M.Phil.	305,042	7	01/08/93	38	THDC
492.	Sivaraman Y.	Manager (F)	ACA	359748	17	16/08/91	45	NTPC
493.	Sivasankaran V.	Dy. Manager	B.Sc. Engg. (El.)	320,365	12	16/08/91	43	NTPC
494.	Sodha N.S.	Chief Manager	B.E. Hons. (El. Engg.)	377,994	12	16/08/91	43	NTPC
495.	Sohony D.G.	DGM	B.E.	328,062	25	16/08/91	47	NTPC
496.	Sood N.K.	Manager	M.Tech.	331,163	15	28/09/92	47	NHPC
497.	Sreeramulu P.	DGM (F)	B.Com., ACA	470,172	21	16/08/91	46	NTPC
498.	Srinivas Aru	Chief Manager	BE (El & Ec.)	323,321	10	16/08/91	42	NTPC
499.	Srinivas Baba K.V.	Chief Manager	B.Tech.	327,391	13	16/08/91	35	NTPC
500.	Sriram M.S.	Manager	ACA	316,994	10	27/03/91	35	NHPC
501.	Srivastava A.K.	Manager	B.E. (E) M.E.	310,370	12	16/08/91	36	NTPC
502.	Srivastava M.P.	Chief Manager	B.Sc. Engg.	322,716	26	19/11/91	51	NHPC
503.	Srivastava R.K.	Manager	AICWA	326,140	13	16/08/91	36	NTPC
504.	Srivastava Rajesh	Manager	B.E. (Elect.)	324,473	13	16/08/91	33	NTPC
505.	Srivastava V.K.	Chief Manager	B.Sc. (Engg.)	354,024	14	16/08/91	36	NTPC
506.	Srivastava A.	Dy. Manager	B.E.	302,338	12	16/08/91	34	NTPC
507.	Stafford P.S.	Chief Manager	B.E. (Mech.)	336,140	17	14/11/91	38	NEEPCO
508.	Subbalakshmy R.	Manager	P.G. Dip. in Mgt.	346,712	13	16/08/91	36	NTPC
509.	Subban S.N.	Chief Manager	B.E. (El.)	308,732	18	01/01/94	51	CEA
510.	Sudip Kar	Manager (Vig.)	B.A.	382,753	9	16/08/91	41	NTPC
511.	Suhag U.S.	Manager	B.Sc. Engg. (Elect.)	362,931	16	19/11/91	40	NHPC
512.	Sundaram A.	Manager (C&M)	B.E. (El. & Electronics)	345,040	34	12/01/92	57	NLC
513.	Suri K.R.	Chief Manager	B.E. (El.)	320080	16	16/08/91	43	NTPC
514.	Suri Rajesh	Manager	B.e. (Elect.)	315,434	11	16/10/93	34	NTPC
515.	Swapandeb	Chief Manager	B.Sc. Engg. (El.)	305,418	14	16/08/91	39	NTPC
516.	Tahilyani T.C.A.	DGM	M.Sc. Engg. (Elect.)	363,239	15	19/11/91	50	NHPC
517.	Talwar Arun	Sr. A.O.	B.Com. Hons.	330,408	24	16/08/91	46	NTPC
518.	Talwar S.K.	Chief Manager	I.C.W.A.	340,567	17	19/11/91	57	NHPC



Sl. No.	Name	Designation and Nature of Employment	Qualification	Remuneration (Rs.)	Experience Year	Date of Commencement of Employment	Age (Years)	Last Employment held
519.	Tamoli D.P.	Chief Manager	B.E.	318,037	18	16/08/91	41	NTPC
520.	Tandon Vinay	Chief Manager	B.E.	377,011	16	16/08/91	41	NTPC
521.	Taneja S.N.	Chief Manager	B.Sc. (Elect.)	385,450	17	16/08/91	46	NTPC
522.	Tata V.S.	Chief Manager	HS/ISC/INTMED	320,952	17	16/08/91	40	NTPC
523.	Tayal H.L.	DGM	Dip. (Mech.) AMIE	381,865	19	08/10/91	47	NTPC
524.	Thakkar P.J.	CDE	B.E. (Elect.)	375,582	17	19/11/91	35	NHPC
525.	Thakur P.K.	Manager	B.E. (Civil)	352,319	18	16/08/91	41	NTPC
526.	Thamilavel R.	Dy. Manager	B.E. (El.)	381,124	17	16/08/91	50	NTPC
527.	Thygarajan R.	Manager	Dip. in Elect. Engg.	312,307	15	16/08/91	47	NTPC
528.	Tiwari Sarbjeet	Manager	DIEE	335,540	15	16/08/91	50	NTPC
529.	Tomar C.S.	DGM	B.E. (Elect.)	375,941	24	16/08/91	49	NTPC
530.	Totflor R.N.	Dy. Manager	B.E. (Civil)	303,581	11	16/08/91	38	NTPC
531.	Trahan P.S.	DGM	B.Sc. DME, AMIE (M)	339,000	30	19/11/91	53	NHPC
532.	Tuteja P.D.	Co. Secy.	M.Sc. ICWA, ACS	384,597	15	21/01/91	52	NTPC
533.	Tyagi U.K.	Chief Manager	B.Sc. Engg. (Elect.)	440,829	16	19/11/91	43	NHPC
534.	Tyagi Varinder	Chief Manager	B.Sc. Engg.	369,020	15	12/11/91	45	NHPC
535.	Udayashankar H.	Dy. Manager	B.Sc., B.E., MIE, MIETE	312,578	12	16/08/91	42	NTPC
536.	Ulganathan D.	Chief Manager	LL.B., MBA B.E., DIM	330,720	24	19/11/91	41	NHPC
537.	Vaidya A.K.	Dy Manager	MA (PH), LL.B. MA (SW)	303,226	18	16/08/91	50	NTPC
538.	Vaithlingam V.	Senior Engineer	Dip. in Civil Engg.	301,229	19	16/08/91	46	NTPC
539.	Vaish A.K.	Chief Manager	B.E. (El.)	411,166	18	16/08/91	42	NTPC
540.	Vaithlingam S.	Manager (F&A)	B.Com., ACA	311,828	13	16/08/91	39	NTPC
541.	Valecha D.K.	Chief Manager	B.Sc.Engg. (Elec.)	369,873	14	16/08/91	39	NTPC
542.	Varaprasada Rao M.	Chief Manager	B.E. (Telecom)	333,035	10	16/08/91	55	NTPC
543.	Vardhan V.S.D.	Chief Manager	B.Sc. (Mech)	357,510	15	16/08/91	47	NTPC
544.	Varghese Babu	Chief Manager	B.Sc. Engg. (Elect.)	328,712	16	16/08/91	41	NTPC
545.	Varshney Prabhat	Chief Manager	B.Sc. Engg. (Mech) M.B.A.	362,053	14	24/12/91	36	NTPC
546.	Veera Raju M.	DGM	BE (El.)	345,246	15	16/08/91	57	NTPC
547.	Velayutham S.S.	Manager	B.E. (Elect. & Electronics)	330,240	11	16/08/91	38	NTPC
548.	Veluchamy V.K.	Chief Manager	B.E. (Hons.) El. Engg.	329,248	26	01/01/94	50	CEA
549.	Venkataramani S.	DGM (F)	B.Sc. AICWA	333,260	17	16/08/91	57	NTPC
550.	Venkateswarlu B.S.	Manager	ME (PS)	327, 522	14	16/08/91	41	NTPC
551.	Venu S.	Chief Manager	B.E. (Elect. & Electronics)	357,423	14	16/08/91	47	NTPC
552.	Verghese C.M.	Chief Manager	B.Tech.	332,065	20	16/08/91	43	NTPC
553.	Verma B.L.	Dy. Manager	B.A.	335,492	28	01/12/92	52	NLC
554.	Verma Chetan	Manager	B.A., Dip. 2Yrs.	338,515	14	07/07/92	39	NHPC
555.	Verma R.K.	Chief Manager	B.E. (Elec.)	350,353	13	16/08/91	37	NTPC
556.	Verma R.S.	DCDE	B.Sc. Engg. (Elec.)	364,612	15	19/11/91	44	NHPC
557.	Verulkar D.N.	Chief Mgr. (F&A)	A.C.A.	380,274	17	16/08/91	48	NTPC
558.	Vijay Gopal P.	Manager	M.Tech. Elect.	335,051	12	16/08/91	37	NTPC
559.	Vijay Kumar	Chief Manager	B.Sc., Msc., LL.B.	405,000	22	16/08/91	44	NTPC
560.	Vindal S.S.	Chief Manager	B.Sc. Engg. (Mech.)	356,856	13	16/08/91	36	NTPC
561.	Vishwanatham T.K.	Chief Manager	LLE	301,726	18	16/08/91	57	NTPC
562.	Vohra R.K.	DGM	B.Sc., Engg. (E)	406,214	14	16/08/91	47	NTPC
563.	Vyas A.K.	ACDE	B.E.	300,088	9	16/08/91	37	NTPC
564.	Wali T.K.	Chief Manager	B.E. (Elect.)	324,485	16	19/12/91	46	NHPC
565.	Xavier A.J.	DCDE	B.Sc. Engg.	329,348	15	16/08/91	39	NTPC
566.	Xavier FXJ	Chief Manager	B.E. (El & Ec.)	322,826	16	16/08/91	45	NTPC
567.	Yadav A.K.	DGM	B.E.	392,203	18	24/08/92	50	NTPC
568.	Yadav D.S.	Chief Manager	B.E. (El.)	350,466	15	16/08/91	38	NTPC
569.	Yadav R.G.	DGM	B.E. (Mech.)	379,871	19	16/08/91	47	NTPC
570.	Zaidi R.H.	Manager	B.Tech. (E)	330,655	15	19/11/91	42	NHPC



S. No.	Names	Designation and Nature of Employment	Qualification	Remuneration (Rs.)	Experience Year	Date of Commencement of Employment	Age (Years)	Last Employment held
1.	Adinarayana S.	DGM	M.Com., ACA	275,339	16	21/02/91	50	NTPC
2.	Bhatnagar Vinay	Chief Manager	M.A. , (So. Wk.)	137,428	13	06/02/91	45	NTPC
3.	Jose Joseph	DCDE	B.Sc., Engg. (Elect.)	193,707	12	16/08/91	36	NTPC
4.	Kumar Ajay	DCDE	B.Tech. (Elect.)	221,164	12	16/08/91	36	NTPC
5.	Meenakshi	APRO	P.G. Dip. in Advt. & PR.	50,843	2	15/02/93	27	P.R. CONSUL
6.	Parakh S.C.	DIR (Projects)	B.Sc., Engg. (Mech.)	427,903	19	15/11/91	58	NTPC
7.	Patnaik S.	DGM	B.Tech. (Elec.)	175,798	18	01/11/91	41	NTPC
8.	Raizada M.K.	DGM	B.Tech., Fellow in Busi. Mgmt.	318,351	17	11/12/91	44	NTPC
9.	Sharma K.L.	ED (Finance)	ACA.LL.B	300,181	15	02/04/93	58	KBCL
10.	Singh Gurnam	DGM	B.Sc., LL.B.	309,782	18	11/06/91	58	NTPC
11.	Veerasekaran P.	Dy. Manager	ACA	259,934	16	17/09/91	43	NTPC
12.	Venkateswaranchary A.	Sr. Engineer	B.E. (Elec.)	158,677	9	01/12/92	34	NLC

- Notes : 1) Remuneration includes Salary, Salary dues to revision, Allowances, Leave encasement, Leave travel concession, Payment for Subsidises leased accommodation, reimbursement of medical expenses to employees and employer's contribution to Provident funds and other funds. In addition employees are entitled to Gratuity/Group Insurance in accordance with Company's rules.
- 2) None of the Employees listed above is related to any Director of the Company.



## ANNEXURE-II

### PARTICULARS REQUIRED UNDER THE COMPANIES (DISCLOSURE OF PARTICULARS IN THE REPORT OF THE BOARD OF DIRECTORS) RULES, 1988 READ WITH SECTION 217 (I) (e) OF THE COMPANIES ACT, 1956.

#### A. CONSERVATION OF ENERGY

- a) **Energy Conservation Measures taken and on hand**  
The POWERGRID transmission system is designed in an optimal such that the losses in the transmission systems are minimised and is around 3% which is comparable to international standard.
- b) **Additional investments and proposals, if any, being implemented for reduction of consumption of Energy.**  
POWERGRID has taken up the project of installation of shunt capacitors in the power distribution network on behalf of SEB's. This shall reduce the distribution losses significantly and conserve energy.
- c) **Impact of measures at (a) and (b) above for reduction of Energy consumption and consequent impact on the cost of production of goods.**  
Overall optimisation is achieved as described above.
- d) **Total Energy consumption and energy consumption per unit of production as per from "A" of the Annexure in respect of industries specified thereto.**  
This is not applicable for POWERGRID since it does not fall under any of the industries mentioned in the schedule.

#### B. TECHNOLOGY ABSORPTION

##### Research & Development

- i) Field testing on Moga-Hissar 40kV line has been successfully carried out to examine the feasibility of elimination of 400kV circuit breaker pre-insertion resistor from the line circuit breaker upto 200km length in association with CPRI, Bangalore. The report shall be finalised in 1997-98
- ii) POWERGRID is actively considering the application of series compensation/FACTS on its Kanpur-Ballabgarh 400kV line to improve the stability and to increase the load carrying capability of line.
- iii) Report for Electrical Field measurement and Magnetic Field measurement at substations and transmission lines have been finalised and it is observed that the radiation level in POWERGRID system is in conformity to the international standards.

##### Technology & Absorption

- iv) POWERGRID has successfully implemented HVDC technology for Indian Power System. Two such links are already under operation and three more links are under construction.
- v) POWERGRID has made its maiden attempt to introduce 800 kV technology to its transmission system. In this endeavour, Kishnepur-moga line is under construction in the Northern region.
- vi) POWERGRID has acquired the latest and internationally reputed power system simulation, planning and operational tool from Power Technologies Inc. (PTI), USA through which the power system planning and operational analysis are being carried out very effectively and efficiently.

#### C. FOREIGN EXCHANGE EARNINGS AND OUTGO

##### FOREIGN EXCHANGE EARNINGS:

	(Rupees in lacs)
i) INTEREST	71
ii) GRANT-IN-AID (HVDC CHANDRAPUR)	3792
iii) OTHERS	4
	<hr/>
	3867

##### FOREIGN EXCHANGE OUTGO:

i) CAPITAL GOODS	29605
ii) PROFESSIONAL & CONSULTANCY FEE	672
iii) INTEREST	6882
iv) OTHERS	14658
	<hr/>
	51817



**COMMENTS OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA  
UNDER SECTION 619 (4) OF THE COMPANIES ACT, 1956 AND MANAGEMENT  
REPLIES THEREON FOR THE YEAR ENDED 31ST MARCH, 1997**

**COMMENTS OF CAG****MANAGEMENT REPLY****A. BALANCE SHEET****i) Reserves and Surplus (Schedule 2):****Rs. 161290 Lakhs****Capital Reserve : Rs. 11827 Lakhs**

A reference is invited to para 3 (e) (i) of the Auditors' Report read with item 13 of Notes on Accounts (Schedule 17). The deposit of Rs. 112.06 crores placed with ABFSL and CANFINA out of proceeds of 1st Bonds Issue was not paid on due dates by ABFSL/CANFINA. With a view to protect its financial interest the Company forfeited bonds of Rs. 124.20 crores by crediting to capital reserve (Rs. 112.06 crores) and to front-end-fee (Rs. 12.14 crores). The subject matter of dispute between the Company and ABFSL/CANFINA, CANARA Bank etc. was referred to Committee on Disputes of Government of India. Pending decisions on the references, provision for interest payable of Rs. 19.27 crores on bonds (Cumulative interest Rs. 97.53 crores) and interest income of Rs. 14.24 crores (Cumulative interest 72.04 crores) on the deposits has not been accounted. Showing an external liability as capital reserve is a distortion of accounts, as also pointed out in the successive comments of the Comptroller and Auditor General of India on the accounts of the Company for the years ended 31st March, 1995 and 31st March, 1996.

**ii) Fixed Assets (Schedule 4):****Rs. 558218 Lakhs**

This does not include Rs. 426.68 lakhs being the unallocated amount of interest during construction and Rs. 56.26 Lakhs towards favourable exchange rate variation on the purchase value of Emergency Restoration System which instead of being capitalised on commissioning, has been kept under Capital Work-in-progress (Schedule 5).

Besides, amount of Rs. 35.79 Lakhs recovered from contractors towards interest for relaxation of payments terms (on the basis of bills of lading

The Company considers the accounting of forfeited value of Bonds under "Capital Reserve" as appropriate.

The interest during construction and foreign exchange variation have been allocated in accordance with Accounting Policy No. 2.2. and 4.1 respectively.



instead of receipted lorry/railway receipts) has also not been allocated under Fixed and has instead been kept under Capital Work-in-progress (Schedule 5).

This has resulted in overstatement of Capital Work-in-progress and understatement of Fixed assets by Rs. 334.63 Lakhs.

**iii) Current Assets, Loans and Advances  
(Schedule 7)**

**a) Inventories**

**Components, spare and other spare parts:**

**Rs. 10664 Lakhs**

The above includes Rs. 80.66 Lakhs on account of mandatory spares of the nature of sub-station equipment/capital spares, which as per accounting policy No. 11.1 should have been capitalised. This has resulted in overstatement of Current assets, loans and advances (Schedule 7) and understatement of Fixed assets (Schedule 4) by Rs. 80.66 Lakhs.

**b) Cash and Bank Balances**

**1. Cash, drafts, stamps and imprest:**

**Rs. 2276 Lakhs**

This includes Rs. 674.83 Lakhs being the amount of a cheque deposited with the bank on 20.02.1997 which should have been included under Balances with Scheduled banks on current accounts. This has resulted in overstatement of 'Cash, drafts stamps and imprest' and understatement of 'Balances with Scheduled banks on current accounts' by Rs. 674.83 Lakhs.

**2. Short term Deposits**

**Indian Banks: Rs. 3540 Lakhs**

This includes Rs. 2000 lakhs deposited with three Banks in January 1965 as cash margin money for their guaranteeing the loans raised by the Company. This material fact should have been suitably disclosed in the accounts.

**c) Deposits with customs, port trust and other authorities: Rs. 11972 Lakhs**

The above includes Rs. 11206 lakhs on account of restoration of deposits with CANFINA and ABFSL in connection with the forfeiture of 1st issue of Bonds. As this deposit is not the nature of advances recoverable in cash or in kind for value to be received, the same should have been shown under

Noted

Noted

Noted

Noted





“Other current assets” in terms of the requirement of Part-I, Schedule-VI of the Companies Act, 1956.

**d) Particulars of Loans and Advances Secured:**

**Rs. 3649**

This includes Rs. 158.16 lakhs against which the company does not hold any security. As such, the amount should have been shown as Unsecured considered good in terms of requirement of part-I of Schedule -VI of the Companies Act, 1956.

**iv) Current Liabilities and Provisions (Schedule 8)**

**a) Other Liabilities : Rs. 9383 Lakhs**

1. This includes Rs. 105 lakhs which should have been included under ‘Interest accrued but not due’ in terms of the requirements of Part-I of the Schedule -VI of the Companies Act, 1956.

2. This also includes Rs. 743.40 lakhs being the liability on account of rent, electricity charges and payment to employees etc., which should have been shown under “Sundry creditors”.

**b) Provisions :Rs. 2247 Lakhs**

This includes Rs. 43 lakhs on account of provision for shortage of materials, which should have instead been deducted from the Construction Stores and advances (Schedule 6). This has resulted in overstatement of ‘Construction Stores and Advances’ (Schedule 6) and ‘Current Liabilities and Provisions/ (Schedule 8) by Rs. 43 lakhs.

**B. PROFIT AND LOSS ACCOUNT**

**a) Expenditure Rs. 55272 Lakhs**

i) The company has transferred an amount of Rs. 800 lakhs (Rs. 400 lakhs during the current year and another Rs. 400 lakhs during previous years) to Self Insurance Reserve Account (refer Accounting Policy No. 10.1) as an appropriation instead of charging it to Profit and Loss Account. Also, Rs. 24 Lakhs being the value of damages to circuit breakers and shunt reactor have been charged to Profit and Loss account instead of to the Self Insurance Reserve (Schedule 2). These have resulted in overstatement of Profit by Rs. 776 Lakhs (Current year : Rs. 376 lakhs and previous year Rs. 400 lakhs.

ii) A reference is invited to item NO. 20 of Notes on Accounts (Schedule 17). In terms of Ministry of Finance OM of 4.6.1993, the Company is liable to pay guarantee fee @ 1.2 percent per annum on the

Noted

Noted

Noted

Noted

Self Insurance Reserve is being created by way of appropriation as per Accounting Policy No. 10.1 Which is consistently being followed since 1994-95.

The Guarantee fee being regularly paid on the loans directly taken by POWERGRID. The Company has not provided for Guarantee fee in respect of loans transferred from NTPC/NHPC as these loans were



outstanding amounts of principal plus interests on external borrowings guaranteed by the Government of India. Further, the Company is liable to pay the guarantee fee at double the normal rate for the period of default where the guarantee fee is not paid on due dates. The Company has neither paid nor provided for guarantee fee of Rs. 4364.94 lakhs even at the normal rate of 1.2 percent per annum. Consequently, there is understatement of current liabilities and Provisions (Schedule 8) by Rs. 4364.94 lakhs and overstatement of Profit for the year by Rs. 1041.36 lakhs and Profit of previous year by Rs. 3323.58 lakhs and Profit of previous year by Rs. 3323.58 lakhs. The company has also since become liable for payment of guarantee fee at double the normal rate i.e. @ 2.4 percent cement per annum.

**b) Interest and Finance Charges: Rs. 19967 lakhs.**

The account of an amount of Rs. 24.65 lakhs being interest on World Bank loan that accrued after commissioning of two of the emergency restoration systems as Capital work-in-progress instead of being charged to the Profit and Loss account has resulted in the overstatement of Profit as well as Capital work-in-progress to that extent.

**C. NOTES ON ACCOUNTS (SCHEDULE 17)**

i) A reference is invited to para 3(e) (ii) 8 of the Auditors' Report and items 22(b) of Notes on Accounts (Schedule 17). The Maryani-Misa line and Dimapur-Imphal line which though completed and in service since October, 1995 and November 1996 were not declared to be in commercial operation as per decision of the North Eastern Regional Electricity Board. The expenditure incurred is of the order of Rs. 8371 lakhs and Rs. 1740 lakhs respectively.

ii) A reference is invited to para 3 (e) (ii) 15 of the Auditors' Report read with item 31 of Notes on Accounts (Schedule 17). The account of encashment of leave by the retiring employees on cash basis and not on actuarial valuation basis is not in accordance with the mandatory provisions of AS 15.

iii) A reference is invited to Note No. 3 relating to incurring of capital expenditure amounting to Rs. 334 lakhs during the year on regional load dispatch centre of Central Electricity Authority.

sanctioned prior to 4.6.93 and the loan agreement did not have provision for guarantee fee. It is understood that the matter is under correspondence by the transferor organisation with Govt. of India. Since these loans are still under back to back agreement, with the transferee organisations, the Guarantee fee will be provided for/paid on receipt of demand from transferee organisations.

Since ERS has been capitalised as on 31.03.97 no interest has been charged to Profit and Loss Account.

Noted

The fact has been suitably disclosed in Notes of Accounts item No. 31

Noted



The figure of note works out to Rs. 245 lakhs instead of Rs. 334 lakhs

iv) A reference is invited to Note No. 35 (b) (ii) of Schedule 17 relating to interest paid in foreign currency, which works out to Rs. 6882 lakhs instead of Rs. 4653 lakhs as mentioned in the note.

Sd/-  
(SURINDER PAL)  
PRINCIPAL DIRECTOR OF COMMERCIAL AUDIT  
AND EX-OFFICE MEMBER AUDIT BOARD -III  
NEW DELHI

Place : New Delhi

Date : 5, September, 1997

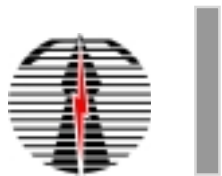
Noted

FOR AND ON BEHALF OF  
BOARD OF DIRECTORS

Sd/-  
(R.P. SINGH)  
CHAIRMAN AND MANAGING DIRECTOR

Place : New Delhi

Date : 17, September, 1997



**REVIEW OF ACCOUNTS OF POWER GRID CORPORATION OF INDIA LIMITED, NEW DELHI  
FOR THE YEAR ENDED 31ST MARCH 1997 BY THE COMPTROLLER & AUDITOR GENERAL OF INDIA**

Note : This Review of Accounts has been prepared without taking into account Comments under Section 619(4) of the Companies Act, 1956 and qualifications contained in the Statutory Auditor's Report.

**1. Financial Position**

The table below summarises the financial position of the Company under broad headings for the last three years:

	<u>1994-95</u>	<u>1995-96</u>	<u>1996-97</u>
		(Rs. in crores)	
<b>Liabilities</b>			
a) Paid-up capital			
Government (including share application money pending allotment)	2972.24	2992.24	3020.04
b) Reserves and Surplus			
i) Free Reserves and Surplus	620.26	886.21	1169.96
ii) Share Premium Account	-	-	-
iii) Capital Reserves	261.57	398.80	442.94
c) Borrowings From :			
i) Government of India	577.03	885.17	1175.59
ii) Financial Institutions	171.46	183.57	175.79
iii) Foreign Currency Loans	1238.87	1409.35	1695.45
vi) Cash Credit	-	-	-
v) Others	1131.51	1421.53	1724.88
d) i) Current Liabilities and Provisions	420.87	561.41	571.19
ii) Provision for Gratuity	-	-	-
<b>Total</b>	<u>7393.81</u>	<u>8738.28</u>	<u>9975.84</u>
<b>Assets</b>			
e) Gross Block	5066.54	5491.68	5582.18
f) Less: Depreciation	630.02	950.76	1283.48
g) Net Block	<u>4436.52</u>	<u>4540.92</u>	<u>4298.70</u>
h) Capital Work-in-Progress & Construction			
Stores & Advances	1979.06	3081.52	4510.46
i) Investments	-	-	-
j) Current Assets, Loans and Advances	971.10	1109.46	1160.60
k) Misc. Expenditure not written off	7.13	6.38	6.08
l) Accumulated loss	-	-	-
<b>Total</b>	<u>7393.81</u>	<u>8738.28</u>	<u>9975.84</u>
m) Working Capital [j-d(i)]	<u>550.23</u>	<u>548.05</u>	<u>589.41</u>
n) Capital Employed (g+m)	4986.75	5088.97	4888.11
o) Net Worth (a+b)i)+b (ii)-k)	3585.37	3872.07	4183.92
p) Net Worth per rupee of paid-up Capital (In Rupees)	1.21	1.29	1.39



## 2 Sources and Utilisation of Funds

Funds amounting to Rs. 1584.31 crores from internal and external sources were realised and utilised during the year as detailed below

(Rs. in crores)

### Sources of Funds

a) Funds from operations:	305.75	
Profit after tax	332.72	
Add: Depreciation	1.81	640.28
Add: Misc. expenditure written off		
b) Increase in Paid-up capital		27.80
c) Increase in Borrowed funds		872.09
d) Grants received		37.93
e) Increase in Capital Reserve		6.21

**Total** 1584.31

### Utilisation of Funds

a) Increase in Fixed assets	90.50
b) Increase in Working Capital (excluding proposed dividend)	53.36
c) Increase in Capital-work in progress & Construction Stores & advances	1428.94
d) Dividend paid	10.00
e) Increase in Misc. expenditure	1.51

**Total** 1584.31

## 3. Working Results

The working results of the Company for the last three years ending 31st March, 1997 are given below

	<u>1994-95</u>	<u>1995-96</u>	<u>1996-97</u>
	(Rs. in crores)		
1) Sales	799.38	969.96	1041.27
ii) Profit before tax	207.60	275.96	305.76
iii) Provision for tax	-	0.01	0.01
iv) Profit after tax	207.60	275.95	305.75

## 4. Ratio Analysis

Some important ratios on the financial health and working of the Company at the end of last three years ending 31st March, 1997 are as under:

	<u>1994-95</u>	<u>1995-96</u>	<u>1996-97</u>
	(In percentage)		
A) Liquidity Ratio [i/d(i)]	2.31	1.98	2.03
B) Debt Equity Ratio	0.87	1.01	1.14
Long term debt to Net Worth			
[c(i to v) but excluding short terms loans/o]			
C) Profitability Ratios			
a) Profit after tax to			
i) Capital Employed	4.16	5.42	6.25
ii) Net Worth	5.79	7.13	7.31
iii) Sales (including excise duty)	25.97	28.45	29.36
b) Profit after tax to Equity	6.98	9.22	10.12
c) Earning per share (in Rupees)	69.85	92.22	101.24



## 5. Inventory Levels

The inventory levels at the close of the last three years ending 31st March, 1997 are as under

	<u>1994-95</u>	<u>1995-96</u>	<u>1996-97</u>
	(Rs. in crores)		
Stores and Spares and Loose tools	71.75	107.43	108.39

## 6. Sundry Debtors

The Sundry Debtors and Sales during the last three years ending 31st March, 1997 are as follows:

(Rs. in crores)

As on 31st March	Sundry Debtors			Sales (including Excise duty)	Percentage of Sundry Debtors to sales
	Considered good	Considered doubtful	Total		
1995	297.68	-	297.68	799.38	37.24
1996	407.46	-	407.46	969.96	42.01
1997	420.67	-	420.67	1041.27	40.40

The agewise break up of Sundry Debtors at the end of 1996-97 is as under:

Debtors outstanding for	Amounts (Rs. in Crores)
Less than 6 months	171.26
6 months to 1 year	122.95
1 year to 3 year	103.60
More than 3 years	22.86
<b>Total</b>	<u>420.67</u>

Sd/  
SURINDER PAL  
Principal Director of Commercial Audit and  
Ex-Officio Member, Audit Board-III  
New Delhi

Place : New Delhi

Dated : 5th September, 1997



## **CURRENT COST ACCOUNTS**

In the context of persistent inflation in the Indian economy, the Corporation has attempted to perceive the impact of price changes on its financial position and working results. The current cost accounts shown hereunder reflect the current values of assets of the Corporation which mainly comprise fixed assets. We believe that current cost accounting assumes special importance in the case of a public utility like the Corporation the prices of whose service are determined by reference to the related costs rather than by the market forces of demand and supply as in the case of other business enterprises. If the prices of the services rendered by a public utility are determined on the basis of costs as indicated by the historical cost-based accounts, they would not cover the current cost depreciation and other current costs being incurred. Over a period of time, the enterprise will not be able to maintain its operating capability even though it may show profits as per conventional historical cost based accounts. It is perhaps for this reason that internationally, many public utilities prepare even their main accounts on the basis of current cost accounting.

### **BASIS OF ACCOUNTING UNDER CURRENT COST ACCOUNTING FOR THE CORPORATION**

1. The exercise has been conducted on the basis of the principles enunciated in the Guidance Note on Accounting for Changing Prices issued by the Institute of Chartered Accountants of India.
2. The current cost adjustments have generally been made on the basis of specific indices for various items. These indices have been computed by the Corporation as below:
  - a) Plant and machinery constitutes about 95% of the total fixed assets of the Corporation. Further, out of the various items of plant and machinery, ten specific items constitute about 95% of the total value of plant and machinery. Accordingly, an exercise has been carried out to work out the specific indices reflecting the change in prices of these items. The indices for various items of plant and machinery have been worked out on the basis of an appropriate combination. of-
    - i) detailed indices comprising the wholesale price index published by the Office of the Economic Association, Ministry of Industry, Government of India, and
    - ii) indices of specific items as circulated by the Indian Electrical and Electronics Manufacturers Association.

### **Fixed Assets**

Fixed Assets are stated at their gross current replacement cost by applying the relevant specific indices to the gross book value of each category of fixed assets. The net current replacement cost has been arrived at by charging depreciation on the gross current replacement cost at the rates specified under the Electricity (Supply) Act, 1948.

The lives of fixed assets acquired from other enterprises have been worked out on the basis of the original cost, rate of depreciation and the written down value.

### **Capital Work in progress**

Since the gestation period is 3-5 years for each project, capital work-in-progress has also been stated at its current replacement cost.

### **Inventories**

Since inventories comprise mainly machinery spares, they have been restated on the basis of the indices used for the relevant items of plant and machinery.

### **Other Assets and Liabilities**

Cash, sundry debtors loans and other liabilities have not been revalued since these are already expressed in current monetary terms.

### **Depreciation Adjustment**

The depreciation adjustment represents the difference between the amount of depreciation computed on the current cost of fixed assets and the amount of depreciation charged in the historical cost accounts.

### **Gearing Adjustment**

As a part of the operating assets of the Corporation is financed through borrowings which are to be repaid in the same monetary amount irrespective of changes in prices, the full impact of price changes as reflected by the depreciation adjustment has been reduced by adding back a proportionate amount while determining the current cost profit attributable to shareholders.

The current cost reserve represents, unrealized revaluation surplus on fixed assets, adjustment in respect of depreciation and the gearing adjustment.

## CURRENT COST BALANCE SHEET

As at 31st March, 1997

(Rs. in lakhs)

	<b>As at 31st March, 1997</b>	<b>As at 31 March, 1996</b>
<b>NET ASSETS EMPLOYED</b>		
Gross Block	1107490	1060587
Less: Accumulated Depreciation	<u>269846</u>	212285
Net Block	837644	848302
Capital Work-in-Progress	411285	279983
Construction Stores and Advances	88401	64255
<b>NET CURRENT ASSETS</b>		
Inventories	11009	11012
Other Current Assets	<u>105221</u>	99790
	116230	110802
Less: Current Liabilities and Provisions	<u>57119</u>	55727
	59111	55075
Miscellaneous Expenditure (to the extent not written off or adjusted)	<u>608</u>	638
	<u>1397049</u>	<u>1248253</u>
<b>FINANCED BY</b>		
<b>SHREHOLDERS FUNDS</b>		
Share Capital	302004	299224
Current Cost Reserve	478341	452640
Other Reserves and surplus	<u>139533</u>	106428
	919878	858292
<b>LOAN FUNDS</b>		
Secured Loans	180315	106797
Unsecured Loans	<u>296856</u>	283164
	477171	389961
	<u>1397049</u>	<u>1248253</u>

## CURRENT COST PROFIT AND LOSS ACCOUNT

For the year ended 31st March, 1997

(Rs. in Lakhs)

	<b>For the year ended 31st March, 1997</b>	<b>For the year ended 31st March, 1996</b>
Profit before Interest and Finance charges and taxation (On Historical Cost basis)	50543	47416
Less : Depreciation Adjustment	<u>30728</u>	29818
Current cost operating profit	19815	17598
Add : Gearing Adjustment	<u>8972</u>	7745
	28787	25343
Less : Interest and Finance Charges	19967	19821
Provision for Taxation	<u>-</u>	-
	19967	19821
Current Cost profit Attributable to Shareholders	<u>8820</u>	<u>5522</u>



# CASH FLOW STATEMENT



(PURSUANT TO CLAUSE 32 OF THE LISTING AGREEMENT WITH STOCK EXCHANGE)

(Rs. in Lacs)

	For the year ended 31st March, 1997	For the year ended 31st March, 1996
<b>A. CASH FLOW OPERATING ACTIVITIES</b>		
Net profit before tax and extraordinary items	30576	27596
<b>Adjustment for:</b>		
Depreciation	33119	32049
Amortised Expenditure	181	159
Provisions	1169	61
Interest	19967	19821
Operating Profit before Working Capital Changes	85012	79686
<b>Adjustment for:</b>		
Trade and other Receivables	-1321	-10978
Inventories	-103	-3584
Trade payable and other liabilities	-222	14258
Other Current assets	-1086	-58
Deferred Revenue Expenditure	-151	-84
Cash generated from operations	82129	79240
Interest paid	-19967	-19821
Direct taxes paid	-1	-
Net Cash from operating Activities	62161	59419
<b>B. CASH FLOW FROM INVESTING ACTIVITIES</b>		
Purchase of fixed assets	-980	-3389
Capital work-in-progress	-126724	-154217
Advance for Capital Goods	-24950	4871
Loans and Advances	5445	7521
Refund of Excise Duty credited to Capital Reserve	200	-
Net cash used in investing Activities	-147009	-145214
<b>C. CASH FLOW FROM FINANCING ACTIVITIES</b>		
Proceeds from issue of Share Capital	2780	2000
Proceeds from Long term borrowings	87209	78075
Proceeds from Grants in Aid	3793	13723
Dividend paid	-1000	-500
Net cash from Financing Activities	92782	93298
<b>D. OTHERS</b>		
Net Increase/Decrease in Cash and Cash equivalents	7934	7503
Cash and cash equivalents (Opening balance)	24901	17398
Cash and cash equivalents (Closing balance)	32835	24901

- Note : 1 Cash and Cash Equivalents consist of Cash in hand and balance with banks.  
 2. Proceeds from long term borrowings include Rs. 13,000 lacs of unutilized bonds issue money kept in Public Deposit account with Govt. of India.



## AUDITORS' CERTIFICATE

To

The Board of Directors  
Powergrid Corporation of India Limited,  
New Delhi.

We have examined the attached Cash Flow Statement of Powergrid Corporation of India Limited, for the period ended March 31, 1997. The statement has been prepared by the Company in accordance with the requirements of listing agreement Clause-32 with Stock Exchanges and based on and is in agreement with the corresponding Profit & Loss Account and Balance Sheet of the Company covered by our report of 26th June, 1997 to the Members of the Company.

For and on behalf of the Board

**P.D. TUTEJA**  
Secretary

**V.B. SAXENA**  
ED (Finance)

**R.K. MADAN**  
Director (Projects)

**R.P. SINGH**  
Chairman & Managing Director

For Rasool Singhal & Co.  
Chartered Accountants

For Umamaheswara Rao & Co.  
Chartered Accountants

For B.M. Chatrath & Co.  
Chartered Accountants

**M. H. Singhal**  
Partner

**L. Shyama Prasad**  
Partner

**P.R. Paul**  
Partner

Place : New Delhi

Date : 26th June, 1997