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Annual Report
1999 - 2000

CERC

CENTRAL ELECTRICITY REGULATORY COMMISSION

ANNUAL REPORT
1999-2000

CENTRAL ELECTRICITY REGULATORY COMMISSION

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THE COMMISSION IN BRIEF

The Electricity Regulatory Commissions Act,1998 (14 of 1998) established an independent regulatory commission at the Centre in July, 1998 and enabled the establishment of regulatory commissions in the States, to introduce competition, efficiency and economy in the power sector, to safeguard the consumer interest and improve the quality of supply and service. The full text of the Act is available on the web site of the Commission **www.cercind.org.**

The Commission functions in a quasi-judicial manner. It has the powers of civil courts. It consists of a Chairman, three full time Members and the Chairman of the Central Electricity Authority (CEA) as Ex-officio Member. In recognition of the need for a multi-disciplinary approach while addressing issues related to independent regulation, the Act prescribes that the Chairman and Members shall be persons having adequate knowledge and experience in engineering, law, economics, commerce, finance or management. It also prescribes a broad mix of disciplines to be represented in the Commission. The Chairman and Members are appointed by the President of India on the recommendation of a selection committee constituted by the Central Government as prescribed under the Act. The Act also provides for the appointment of a Secretary, functioning under the control of Chairman, whose powers and duties are defined by the Commission.

THE PROFILE OF THE CHAIRMAN AND MEMBERS OF THE COMMISSION

Prof. S.L. Rao

Chairman

Professor S.L. Rao is an economist by training and a manager by experience. He has spent twenty-eight years as a manager in the private sector, holding positions in marketing, exports and general management in three different companies. He has taught Management in eminent institutions. After two years as a Management Consultant, he was appointed the first Executive Chairman of the National Management Programme. He was Director General of the National Council of Applied Economic Research from 1990-1996. He was a distinguished Visiting Fellow at the Tata Energy Research Institute, Visiting Fellow at the Indian Ocean Centre in Perth, Australia and has been a Director on the Boards of a number of organizations. Prof. S.L. Rao joined as Chairman of the Central Electricity Regulatory Commission in August, 1998.

Shri D. P. Sinha

Member

Shri D.P. Sinha is a Member in the Central Electricity Regulatory Commission since August 1998. He holds a Degree in Engineering (Electronics & Telecom) from BIT Sindri (Ranchi University), 1963. He had also worked in the Central Electricity Authority as Member (G&O) from 1995-1998. He was instrumental in regulating the Technical & Commercial issues relating to inter-state and inter-Regional exchange of power, its trading and banking which laid the foundation of the emerging Indian Electricity Grid at the National Level. Prior to that he was Chief Engineer (Load Despatch & Telecom) and Chairman, Central Power Telecom Coordination Committee (PTCC) from 1990-1995 where he dealt with System Integration, SCADA, Control, Communication, Convergence & Computerization. He prepared the "Master Telecom Plan" for the Indian Power Sector, which is now under implementation by the Power Grid.

He also brings with him substantial international experience in all aspects of Power Engineering because of his earlier deputation to Canada, Zambia, U.K., Germany and U.S.A. He was instrumental in initial Conceptualization/Creation of the Indian Electricity Grid Code and the Draft ABT notification while in CEA (1990-1998) which later went through due process in CERC and approved after certain amendments. It is his varied background and vast experience which is an asset to the Commission in its day-to-day working.

Shri G. S.Rajamani

Member

Shri G.S. Rajamani is a Member in CERC since August 1998. He served in the Indian Defence Accounts Service from 1965 to 1998. He had been Additional Controller General of Defence Accounts and had worked in various Ministries in the Government of India including the Ministries of Communication, Environment, Electronics, Non-Conventional Energy Sources, Welfare and Defence. Prior to joining the Central Electricity Regulatory Commission in August, 1998, Shri Rajamani was Member (Economic & Commercial) in the Central Electricity Authority. He is a Post Graduate in Economics from Madras University and has a Master's Diploma in Public Administration from the Indian Institute of Public Administration.

Shri A.R.Ramanathan

Member

Shri A.R. Ramanathan is a Member in the CERC since August, 1998 and has been a practising Cost Accountant for over twenty years. He joined the Institute of Chartered Accountants of India in their coaching Directorate in 1964 and the Shri Ram College of Commerce, Delhi University in 1967 where he taught Graduate and Post-Graduate courses in Accounting, Company Law and Management Accounting. He has been a Member of the Advisory Committee on Cost Audit Rules set up by the Government of India and a Member of the Central Council of the Institute of Cost & Works Accountants of India. He was selected as a First Professional Member of the Company Law Board by the Government of India in 1991 and presided over the Northern Bench of the Board and was a Member of the Principal Bench of the Board till he joined the Central Electricity Regulatory Commission as a Member in 1998. He has jointly authored a book on Management Accounting and has published extensively. He has also authored a book on "Cost & Management Audit" published by M/s. Tata McGraw Hill.

Shri R. N. Srivastava

Chairman, CEA and
Member Ex-Officio

Shri R.N. Srivastava, Chairman, Central Electricity Authority is Member (Ex-officio), CERC since August 1998. He obtained degrees in B.Sc., B.Tech.(Hons), Electrical Engineering (Power) from IIT Kharagpur and is a F.I.E (India). He joined Central Electricity Authority Group 'A' Service in 1963. Shri R.N. Srivastava has a long professional experience in Power Supply Industry in general, and Power Planning in particular, both in India and abroad. He was head of Planning, Ministry of Water and Electricity, Government of Abhu Dhabi, UAE from 1975 to 1980. Shri Srivastava also worked as Director General, National Power Training Institute from April 1994 to June 1995. He has authored a number of technical papers for international/national conferences and journals.

THE MANDATE OF THE COMMISSION

The Commission has the responsibility to discharge the following functions :-

(a) to regulate the tariff of generating companies owned or controlled by the Central Government;

(b) to regulate the tariff of generating companies other than those owned or controlled by the Central Government specified in clause (a), if such generating companies enter into, or otherwise have a composite scheme for generation and sale of electricity in more than one State;

(c) to regulate the inter-state transmission of energy including tariff of the transmission utilities;

(d) to promote competition, efficiency and economy in the activities of the electricity industry;

(e) to aid and advise the Central Government in the formulation of tariff policy which shall be –

  (i) fair to the consumers; and

  (ii) facilitate mobilization of adequate resources for the power sector.

(f) to associate with the environmental regulatory agencies to develop appropriate policies and procedures for environmental regulation of the power sector;

(g) to frame guidelines in matters relating to electricity tariff;

(h) to attribute or adjudicate upon disputes involving generating companies or transmission utilities in regard to matters connected with (a) to (c) above;

(i) to aid and advise the Central Government on any other matter referred to the Central Commission by that Government; and

(j) to grant licence to any person for the construction, maintenance and operation of an inter-state transmission system.

Given the range of activities within its mandate, it recognizes the need for prioritization of objectives. Towards this end, the Commission has formulated a mission statement, which will guide it in formulating its work plan over the coming years.

MISSION STATEMENT

The Commission intends to promote competition, efficiency and economy in bulk power markets, improve the quality of supply, promote investments and advise government on the removal of institutional barriers to bridge the demand supply gap and thus foster the interests of consumers. In pursuit of these objectives the Commission will -

- Improve the operations and management of the regional transmission systems through the formulation of an Indian Electricity Grid Code and advise on the restructuring of the institutional arrangements thereof.
- Formulate an efficient tariff setting mechanism, which ensures speedy and time bound disposal of tariff petitions, promotes competition, economy and efficiency in the pricing of bulk power and transmission services and ensures least cost investments.
- Improve access to information for all stakeholders.
- Institute mechanisms to ensure that investment decisions for inter-state transmission are taken transparently, in a participative mode and are justifiable on the basis of least cost.

- Facilitate the technological and institutional changes required for the development of competitive markets in bulk power and transmission services.
- Advise on the removal of barriers to entry and exit for capital and management, within the limits of environmental, safety and security concerns and the existing legislative requirements, as the first step to the creation of competitive markets.
- Associate with environmental regulatory agencies for the application of economic principles to the formulation of environmental regulations.

HUMAN RESOURCES OF THE COMMISSION

The effectiveness and efficiency of the Commission in discharging its responsibilities depend upon the quality and functional specialization of its staff with the requisite expertise and experience in engineering system operation, economic and financial analysis, management accounting, information management and other related skills. Accordingly, the Commission has a sanctioned staff strength of 31 professionals in these areas. The Organizational Chart is available at **Annexure - I** and List of Members and Key Staff of the Commission is available at **Annexure - II.** In addition, the Commission intends to utilize the human resources with their wide range of expertise and experience available within the Government, industry and research institutions.

Through intensive efforts of the Chairman, Members and Secretary, the Commission was able to recruit enough staff in the year. Despite the shortage of remaining staff the Commission was well on its way towards dealing with substantive issues within its mandate. Recruitment status during the year 1999-2000 is available in the table given on the next page : -

Table - 1

Recruitment 1999-2000

Sl. No.	Name of Post	Date of Interview	No. of candidates empanelled	No. of candidates actually joined
1.	Assistant	23.4.1999	3	3
2.	PPS	15.9.1999	1	1
3.	PA	15.9.1999	2	1
4.	AC(Env)	07.1.2000	3	1
5.	Chief(Eco)	13.1.2000	Nil	Nil (Only one candidate appeared)
6.	DC(Eco)	14.1.2000	2	1
7.	AC(MIS)	06.1.2000	2	1
8.	AC(Eco)	06.1.2000	2	1
9.	JC(Fin)	01.2.2000	1	1
10.	DC(Fin)	01.2.2000	1	1
11.	AC(Fin)	03.2.2000	2	1
12.	DC(PR)	03.2.2000	Nil	Nil
13.	PPS	07.1.2000	1	1
14.	PS	07.1.2000	3	1
15.	PS	March 1999 (1998-1999)	Interviewed during 1998-1999	1(Joined on 1.10.99)
	Total	-	23	15

The Commission has a very wide mandate under the Act. Its jurisdiction extends to the entire range of activities in the electricity sector either directly or indirectly. The tariff of generating companies owned or controlled by the Central Government, the tariff of other companies with a composite scheme for generation and sale in more than one state, the transmission of energy by Power Grid and the inter-state transmission of energy, including tariff, are some activities in which the Commission can work directly. Indirectly, it aids and advises the Central Government in the formulation of its tariff policy which shall be fair to the consumers and facilitate mobilization of adequate resources for the power sector. Under the provisions of the Electricity Laws (Amendment). Act 1998 (through an amendment of the Indian Electricity Act 1910), the Commission has been empowered to approve license of the transmission utilities for inter-state transmission systems. Through an amendment of the Electricity (Supply) Act 1948, the Commission will now specify the fees and charges to be paid for the Regional Load Despatch Centres. To supplement the in-house skills and experience available to it, the Commission engages consultants and for this purpose it has framed regulations.

THE YEAR IN RETROSPECT

1. ADMINISTRATION

(i) Central Advisory Committee(CAC):

To advise the Central Commission on policy formulation, quality, continuity and extent of service provided by licensees with the license conditions and requirements, protection of consumer interest and energy supply and overall standards of performance by utilities, the Commission established Central Advisory Committee (CAC) with representation from Commerce, Industry, Transport, Agriculture, Labour, Consumers, Non-Governmental Organizations and Academic & Research bodies in the energy sector. The second meeting of CAC was held on July 16, 1999 in which the Draft Consultation Paper was discussed.

(ii) Notifications issued in the Year:

Following are the notifications of the Commission in the year 1999-2000 :-

Table - 2

NOTIFICATIONS - 1999-2000

Sl. No.	Notification No. & Date.	Subject	Date on which sent to MOP
1.	27 dated 26.4.99	CERC (Conduct of Business) Regulations, 1999	26.04.1999
2.	48 dated 31.5.99	CERC (Conduct of Business) Regulations, 1999 (Amendment)	19.07.1999
3.	70 dated 30.8.99	CERC (Miscellaneous Provisions) Order, 1999	09.10.1999
4.	101 dated 26.11.99	CERC (Miscellaneous Provisions) Order, 1999 (Amendment)	05.07.1999
5.	114 dated 31.12.99	CERC (Appointment of Consultants) Regulations, 1999	20.01.2000

(a) CERC (Conduct of Business) Regulations, 1999:

Commission notified its "CERC (Conduct of Business) Regulations", 1999 on April 26,1999, subsequently it was amended on May 31, 1999 prescribing the procedures to be followed in functioning of the Commission. Regulations were prepared after getting public comments and suggestions from members of CAC.

(b) CERC (Miscellaneous Provisions) Order, 1999:

Commission issued "CERC (Miscellaneous Provisions)" Order, 1999 on August 27,1999 prescribing certain miscellaneous procedures to be followed in conducting the Commission's judicial work. The procedures contained in the order relate to presentation of application petitions, authentication of petitioner, authority to represent before the Commission, grant of certified copies, payment of filing fee on petition, Commission's office place & working hours etc.

(c) CERC (Appointment of Consultants) Regulations, 1999:

Commission notified "CERC (Appointment of Consultants) Regulations" 1999 on December 31,1999 which came into force with effect from September 21,1999. Consultants were engaged for executing specialized tasks for which skills were either not available within the staff of the Commission or the nature of jobs and their specific and time bound requirement called for it. The consultant may be any individual, firm, body or association or persons, not in the employment of the Commission who or which possesses or has access to any specialized knowledge skills.

2. ANNUAL STATEMENT OF ACCOUNTS 1999-2000.

(a) Expenditure:

The Commission was allocated a budget of Rs.550 lakhs for the year 1999-2000. As in the earlier year, expenditure in the current year was below the allocation. The expenditure on rent, rates and taxes has taken a major share. The allocations for Office expenses and salaries of officers & staff have taken the next position.

Table - 3

The statement showing the actual expenditure vis-à-vis BE and RE during the financial year 1999-2000.

Major Head: "2801 Power"
Minor Head: 80.800

(Rs.in lakhs)

Unit of Appropriation	BE 1999-2000	RE 1999-2000	Actual Expenditure 1999-2000.
Salary	150.0	70.5	63.46
DTE	20.0	10.0	9.80
FTE	25.0	14.0	13.99
OE	140.0	140.0	124.43
Professional Exp.	40.0	3.5	3.28
RRT	150.0	173.0	172.97
Other Charges	25.0	0	0
Total	**550.0**	**411.0**	**387.93**

(b) Income:

Administration of Corpus Fund:

Apart from the budgetary allocation, the Central Government has allocated a Corpus fund of Rs.200 lakhs to the Commission for setting up of the Commission and to defray the expenses associated with the start up of a new institution. Use of the fund in this account is overseen by the full Commission. Expenditure is sanctioned by the Chairman of the Commission, with the concurrence of the Internal Financial Adviser of the Commission. The Commission has been very selective in the utilization of the interest accruing from this fund. The interest income has been used mainly to meet expenditure on the salary and other incidental expenditure of employees who were employed on contract basis.

During the year 1999-2000 an amount of Rs.11,59,345/- was spent from Corpus fund. Interest earning on the Corpus fund was Rs 18,50,092/- upto checked in 1999-2000.

3. PERFORMANCE DURING 1999-2000.

The year under review has witnessed the Commission taking a step further towards institutionalizing the regulatory process in the power sector. Even though the ERC Act came into effect from April 25, 1998, the Commission got the jurisdiction with regard to generation tariff with effect from May 15, 1999. Prior to this date the generation tariff jurisdiction was exercised by the Central Government by virtue of Sec.43A(2) of Electricity (Supply) Act 1948 which was omitted with effect from May 15, 1999 by the Central Government, in respect of companies, owned or controlled by the Central Government

and other generating companies having composite scheme of generation and sale of electricity in more than one State. The Commission permitted continuation of existing tariff as of May 15, 1999 till the period for which the tariff was approved or till any further order is passed by the Commission, whichever is earlier.

During the period under review the Commission received 47 petitions out of which 7 were finally disposed of and in 39 cases interim orders were passed. Details of the Petitions before the Commission is at **Annexure-III** During the period under review, following general orders were passed by the Commission:

(a) IEGC Order:

Indian Electricity Grid Code: The Indian Power system is demarcated into five regional grids viz. Northern, Western, Southern, Eastern and North-Eastern. In the past, performance of these regional grids has not been satisfactory. The voltage

and frequency, which indicate quality of supply, fluctuate widely from the stipulated range. The main reason for poor quality of supply is acts of grid indiscipline by the utilities including SEBs and generating companies. These acts of grid indiscipline to some extent may be attributed to lack of an operational procedure and the absence of any commercial measures/ penalties. In order to correct the situation, the Commission directed the Central Transmission Utility (CTU) to submit a draft Indian Electricity Grid Code (IEGC). The draft was submitted by the CTU in April, 1999. Hearings on draft IEGC were held in July, 1999 and order for finalization of IEGC was issued in October, 1999. Subsequently, in response to an application by CTU, the Commission granted time extension for compliance with certain directives of its orders on IEGC. Accordingly, final IEGC was issued by CTU in December 1999 and enforced w.e.f. February 1, 2000. The Indian Electricity Grid Code is aimed at improving system operation by incorporating stringent technical rules and appropriate commercial signals for enforcing grid discipline and harmonizing the system.

Main features of Grid Code

- The connection conditions stipulate the rules to be followed by all the generators, transmission companies/SEBs and others connected to the Inter-State Transmission System (ISTS). ISTS consists of transmission lines used for delivery of power from Central Generating Stations to the states, as also transmission lines connecting two states. The Code specifies technical requirements for all equipment connected to ISTS. It also deals with the various aspects of planning relating to ISTS.

- The Operating Code aims to achieve overall operational economy, system security and reliability by laying down certain rules.
- Utilities have to provide automatic under frequency load shedding schemes. This will arrest further frequency drop and prevent collapse of the whole Regional Grid. Except for small generating units, all the generating units shall have their governors free to change their generation level in response to frequency variation.
- All agencies engaged in sub-transmission and distribution have to provide the required reactive compensation in their systems. At present utilities draw heavy reactive power from the Grid itself, which causes low voltage problems. To discourage drawal of reactive power from the Grid, the Code stipulates a penalty/ incentive of 4 paise per unit reactive power (KVARH) depending

on voltage conditions. These measures are intended to ensure satisfactory voltage level at the consumer end.

- The Code provides for the SEBs and concerned utilities to estimate their daily load demands in advance. They can then schedule their energy drawal from central generating stations, through inter-state exchanges of power and by requisite load shedding, to maintain desirable frequency. Thus, the Grid Code is intended to improve the quality and reliability of power supply to the Consumers.

(b) Availability Based Tariff (ABT) Order:

The Commission introduced the concept of Availability Based Tariff (ABT) having fixed element as capacity charge, variable element as Energy charges and Unscheduled Interchange (UI) charges to enforce Grid Discipline. The distinctive features of ABT are:

(i) The fixed charge for a period is to be pro-rated among the beneficiaries in the ratio of their entitlement of power from the concerned station;

(ii) The energy charges proposed to be charged only to the extent of the scheduled drawal by the beneficiary;

(iii) Apart from the above two charges, a third charge contemplated in the ABT is for the unscheduled interchange (UI charge). This element is expected to bring about grid discipline in the system & charges are payable/receivable depending upon deviation from the schedule and also subject to the grid frequency at that point of time;

(iv)It will also entitle the generating station to reimbursement of fixed cost based on the availability or declared capacity of the generating station. It has also the measures to check & penalise excess/under declaration of availability;

(v) It also contemplates maintenance of status-quo with respect to incentives.

The Commission issued another order for the petition on applicability of ABT to the PIPAVAV Mega Power Project during the year on March 9, 2000.

(c) Consultation Paper On Bulk Electricity Tariff :

The Commission also brought out a consultation paper on Bulk Electricity Tariffs on September 15, 1999 to obtain the views of different stakeholders. The paper described the history of bulk power tariffs in India , the policy framework within which the Commission

has to function, what competition & market could mean in the electricity industry and alternative methods for the determination of generation & transmission tariffs.

To enable the stakeholders to exchange the views, conferences were held at the headquarters of Regional Electricity Boards at Banglore, Mumbai, Kolkata, Shillong & New Delhi in October 1999.

(d) Thermal Operational Norms:

The Commission is in the process of prescribing the terms and conditions for determination of tariff of existing as well as new plants of generating companies, owned or controlled by the Government of India and in pursuance of the provisions of Regulation 78 of its Conduct of Business Regulations. The thermal operational norms finalized by CEA in 1997 were published inviting suggestions/ comments from Central Generating Utilities, State Electricity Boards/ State Utilities and eminent experts in the power sector on January 4, 2000. The CERC also held discussions with eminent power experts on February 18, 2000 and came out with the supplementary order on February 28, 2000 in order to take cognizance of the CERC's ABT order dated January 4, 2000. The Commission is being assisted in its task of finalization of the thermal operational norms by the Central Electricity Authority as its consultant.

(e) Cost of Capital and Depreciation Norms For Central Utilities:

The Commission as a part of its function as tariff regulator, initiated the process for conducting the studies in the following areas:

(i) Study on Cost of capital for Central Sector Utilities

The Commission assigned the cost of capital study to M/s. CRISIL Advisory Services on October 11, 1999. Consultant submitted various outputs to the Commission, which were circulated to experts as well as members of Central Advisory Committee to be followed by hearings/discussions. Salient features of the study are:

1. Review of various approaches for assessment of Risk Weighted Cost of Capital based on Indian and International experience.
2. Review of cost of capital allowed so far to electric power utilities, under the jurisdiction of CERC, on the basis of their actual performance.
3. Analysis of Risk Profile of these electric power utilities.
4. Analysis of various approaches for the assessment of Risk Weighted Cost of Capital and suggesting an optimal approach for working out of the same for electric power utilities.
5. Application of suggested approach to cost of capital and its impact on the performance of various regulated entities.

(ii) Study on Depreciation Norms for Central Sector Utilities

In the process of reviewing the financial norms, the Commission assigned the task of review of the depreciation norms for the Central Generating Stations to M/s ICRA Advisory Services on January 21, 2000. The Consultants were asked to review the existing norm of depreciation applicable to Central Sector Utilities in Generation and Transmission of power for tariff and income tax purposes. Reports

on international practices for the same, analysis of the financial impact of existing norms and their efficacy and recommend amendments to the depreciation norm along with their financial implications for Central Sector Utilities in the generation and transmission of power.

M/s ICRA Advisory Services finalized the report on March 29, 2000. The report is to be circulated to various stake holders for arranging the hearing process.

(f) Filing Of Data From Utilities:

In order to streamline the data collection from the utilities, the annual filing requirements for transmission were finalized and released with the assistance from SNC-Lavlin. The annual filing requirements for Thermal and Hydro Generation were under preparation.

(g) Applicability of ABT To Hydro Stations:

The Commission vide its order dated Jan 4, 2000 directed implementation of the ABT order for hydro stations of NHPC located in Northern and Eastern regions of the country with an aggregate capacity of 2044 MW. As regards the North-Eastern region, the Commission thought it may not be possible to implement the ABT in the present form in view of special situation in that region. Therefore, it has directed NEEPCO to come forward with a petition, with all the concerned respondents, on the programme of implementation of the ABT. However, pending technical discussions, the release of a schedule for hydro stations in Northern and Eastern Regions has been deferred for a later date. Meanwhile ABT order has not been

put into operation due to Review Petitions filed by NTPC and NHPC against the order.

(h) Environment Regulation:

According to section 13(f) of the ERC Act 1998, the Commission has the responsibility to discharge the function of environmental protection by associating with environmental regulatory agencies to develop appropriate policies and procedures for the environmental regulation of the power sector. In this regard, the Commission has initiated the task of preparing a basic document called Environmental Agenda for CERC.

Environmental Agenda for CERC during 1999-2000 :

The Tata Energy Research Institute (TERI), a pioneering research institute in the field of energy and environment were appointed consultants to prepare the environmental agenda on January 24, 2000. The document includes existing environmental legislation

pertaining to the power sector and environmental guidelines & norms for the sector. It also includes the necessary action that Commission intends to take for the sustainable development of the power sector in association with environmental regulatory agencies.

AGENDA FOR 2000-2001

Hydro Power:

The Commission proposes to address following aspects of hydro generation during the year 2000-2001:

(i) Finalization of schedule of hydro plants required for implementation of the ABT order dated 4.1.2000 of the Commission.

(ii) Review of design energy of all central generating hydro stations under the jurisdiction of the Commission.

(iii) Norms as applicable to various hydro plants were formulated about a decade ago. The Commission propose to review the operational as well as O&M cost norms of hydro power plants under its jurisdiction.

(iv) Commission propose to bring out a concept paper for future hydro tariff options which shall address issues such as payments for extraordinary items such as security/ social factors, plants specific application versus a common tariff, siltation problems in hydro plants, pre versus post construction issues, peak and off-peak pricing etc.

(v) Annual filing requirements: The Commission expects to finalize and notify its Annual Filing Requirements (containing various formats on technical and financial parameters) for collection of information/ data from NHPC and NEEPCO and create a data base for various hydro stations under its jurisdiction.

Thermal Power:

(i) Order on Thermal Operational Norms for the Central Generating Utilities;

(ii) Order on O&M cost norms including escalation for thermal generation;

(iii) Notify tariff filing formats

(iv) Monitoring of performance standards and price regulations.

Transmission:

(i) Finalization of modalities for private sector participation in the power transmission;

(ii) Order on Operational Norms including O&M cost for determination of transmission tariff;

(iii) Rationalization of incentives, Income tax allocation to beneficiaries, elimination of retrospective adjustments by prior estimation, Automatic adjustments for pass through costs also.

(iv) Finalization of procedure for regulation of power supply to beneficiaries on commercial / technical grounds;

(v) Review of Indian Electricity Grid Code (IEGC).

Finance:

(i) To formulate the bulk tariff setting mechanism including norms for Cost of capital, Depreciation, O&M expenses for generation tariff of CSUs and Mega Power Projects;

(ii) Formulation of transmission pricing mechanism including efficient utilization of reactive energy charges;

(iii) Rationalization of incentives, Income tax allocation to beneficiaries, elimination of retrospective adjustments by prior estimation, Automatic adjustments for pass through costs etc.

(iv) To review/implement the ABT;

(v) To finalize the filing requirements for Thermal & Hydro Generation utilities;

(vi) Formulation of tariff filing formats/financial models;

(vii) To formulate regulations for competitively bid Mega Power Projects;

(viii) To issue final tariff orders consequent to finalization of various norms and take a view on all interim orders.

Economics:

(i) Consultancy on Regulations for Competitive Bidding:

With a gradual shift from the MoU route to the competitive bidding route for attracting private investment, there is need to frame regulations to ensure effective implementation of the competitive bidding process. The proposed consultancy will deal with framing regulations for competitive bidding, both in generation and transmission. The consultancy will:

- Review international practices in competitive bidding, evaluate current procedures in India and recommend procedures to be followed within the existing legal and administrative framework;
- Specify the safeguards, tests and their timing within the bidding process to ensure the integrity of the bidding process;
- Prescribe criteria for evaluating bid documents.

(ii) Monitoring inflation in sectors relevant for power utilities:

The Commission proposes to construct a specific price index relevant for the power sector and track it on a regular basis. This index will consist of those components of WPI that are related to the activities of power utilities. This along with CPI will help in monitoring the operation and maintenance expenses of power utilities.

(iii) Staff discussion Papers:

Staff discussion papers on annual escalation characteristics of O&M expenses of thermal and hydro stations and ISTS.

Environment:

(i) A consultative paper on the application of economic principles for environmental regulations in the power sector will be made. This may be helpful in identifying relevant policy options, finding some common ground for approaching the difficult trade-offs involved in the sector, and informing decision makers (environmental regulatory agencies like MOE&F/CPCB/SPCB) about the need for policy changes to use Market Based Instruments (MBI) in the power sector;

(ii) To know/review the existing arrangements for environmental protection in the utilities, recording and furnishing of data on investment on environment protection measures at installation and expenditure incurred in operation have to be done. For that, a suitable framework will be formulated. Exercise of calculating environmental cost on a regular basis

may be helpful in determining the allowable cost/ benchmark cost when they come for tariff application;

(iii) To identify a broad policy framework that would mitigate the environmental impacts from the power sector, a basic study/case study considering the following measures in the regulated entities will be carried out.

The environmental mitigation measures to be considered in the study are:

- Demand side management (DSM);
- Renovation and Modernization (R&M) of existing power plants;
- Transmission & distribution (T&D) and rehabilitation;
- Renewable energy technologies;

- Coal beneficiation, clean - coal technologies
- Ash utilization
- Establishment of advanced -technology power generation projects

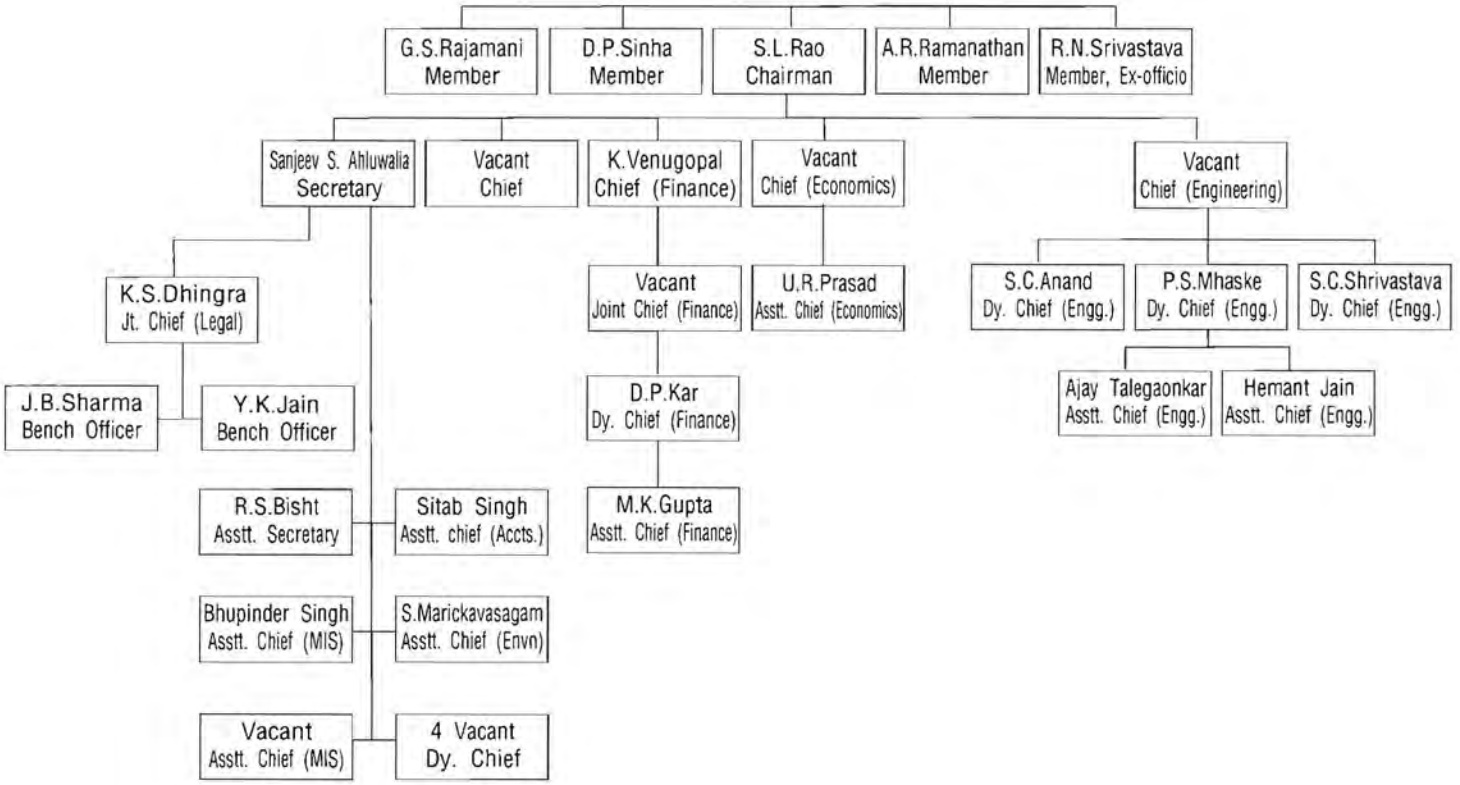
PROFILE OF SELECTED REGULATED ENTITIES

The profiles of regulated entities of the Commission is at **Annnexure -IV.**

Annexure - I

Central Electricity Regulatory Commission

Organisation Chart (Professional Staff as on 31st March, 2000)



Annexure -

LIST OF MEMBERS AND KEY STAFF OF THE COMMISSION
(AS ON 31.3.2000)

Designation	Name	Phone No.	E-mail
Chairman	S.L.Rao	91-11-4360004	raosl@hotmail.com
Member	D.P.Sinha	91-114361259	Dps42a@hotmail.com
Member	G.S.Rajamani	91-114361235	gsr23@hotmail.com
Member	A.R.Ramanathan	91-114361280	arr18@hotmail.com
Member	R.N.Srivastava	91-116109212	
Secretary	Sanjeev S.Ahluwalia	91-11-4361259	Ahlus@hotmail.com
Chief (Finance)	K.Venugopal	91-11-4364898	venu_k_gopal@hotmail.cor
Chief	Vacant (3 posts)		
Joint Chief (Legal)	K.S.Dhingra	91-11-4364911 91-11-4363174	ks_dhingra@hotmail.com
Joint Chief (Finance)	Vacant		
Deputy Chief (Engineering)	P.S.Mhaske	91-11-4364826	Pmhaske@yahoo.com
Deputy Chief (Engineering)	S.C.Anand	91-11-4364826	Anandsca@hotmail.com
Deputy Chief (Engineering)	S.C.Shrivastava	91-11-4364826	Scschandra@hotmail.com

Designation	Name	Phone No.	E-mail
Deputy Chief (Finance)	D.P.Kar	91-11-4364895	dpkar@hotmail.com
Deputy Chief	Vacant (4 posts)		
Assistant Secretary	R.S.Bisht	91-11-4361145	bisht7@hotmail.com
Assistant Chief (Engineering)	Ajay Talegaonkar	91-11-4364826	ajay_tal@hotmail.com
Assistant Chief (Engineering)	Hemant Jain	91-11-4364826	hem_jain@hotmail.com
Assistant Chief (Finance)	M.K.Gupta	91-11-4364895	mkgca@hotmail.com
Assistant Chief (Economics)	U.R. Prasad	91-11-4363338	u_rcp@hotmail.com
Assistant Chief (Environment)	S.Manickavasagam	91-11-4361145	s_vasagam@yahoo.com
Assistant Chief (MIS)	Bhupinder Singh	91-11-4364895	Vilkhu@hotmail.com
Bench Officer	J.B. Sharma	91-11-4364911	
Bench Officer	Y.K.Jain	91-11-4364911	Ykjain_cerc@hotmail.com
Assistant Chief (Accounts)	Sitab Singh	91-11-4361145	
Assistant Chief	Vacant (1 post)		

Annexure - III

DETAILS OF PETITIONS BEFORE THE COMMISSION DURING THE YEAR 1999-2000.

(A) No. of Petitions Received	Disposed of	Pending as on 31.3.2000
47	7	40

Details of Petitions Disposed of

Sl. No.	Petition No.	Filed by	Subject	Date of receipt	Date of Disposal	Approx. time taken
1	01/99	PGCIL	Indian Electricity Grid Code (IEGC)	9.4.99	30.10.99	7 months
2	02/99	GOI	Availability Based Tariff (ABT)	11.6.99	4.1.2000	6 months
3.	15/99	PTC	Approval of Tariff for trading	21.10.99	28.10.99	One week
4	17/99	PTC	Approval of Tariff for trading	4.11.99	16.12.99	2 months
5	18/99	NHPC	Generation Tariff - Bairasul	31.8.99	29.11.99	3 months
6	19/99	NHPC	Generation Tariff - Loktak	30.11.99	29.2.2000	3 months
7	11/2000	PTC	Applicability of ABT - Mega Project	14.2.2000	9.3.2000	1 month

Average time taken for disposal of petition is 3 ½ months.

(Contd...)

(B)	No. of Interlocutory Applications Received	Disposed of	Pending as on 31.3.2000
	41	39	2

(C) No. of cases in which provisional tariff granted : 16

(D) No. of Hearings held by the Commission : 97

In addition to the above, the following orders were notified in the Gazette of India:-

1. CERC (Conduct of Business) Regulations, 1999 : Dated 26th April, 1999
2. CERC (Conduct of Business) (Amendment) Regulation,1999) : Dated 31st May, 1999
3. CERC (Misc. Provisions) Order, 1999 : Dated 30th August, 1999
4. CERC (Misc. Provisions) (Amendment) Order, 1999 : Dated 26th November, 1999
5. CERC (Appointments of Consultants) Regulations 1999 : Dated 31st December, 1999

THERMAL POWER STATIONS : NEYVELI LIGNITE CORPORATION

DETAILS OF EXISTING GENERATING STATIONS

Sl. No.	Name of Station	Location		Installed Capacity (No of Units x MW)	Fuel
		Region	State / District		
1	Thermal Power Station-I	Southern	Tamil Nadu / Neyveli Cuddalore	Unit - I to VI (6x 50 MW) Unit - VII to IX (3x 100 MW)	Lignite
				STATION - 600 MW	
2	Thermal Power Station-II Stage-I & Stage-II	Southern	Tamil Nadu / Neyveli Cuddalore	Unit - 1 to 3 (3x 210MW) Unit - 4 to 7 (4x 210MW)	Lignite
				STATION- 1470MW	

(Contd...)

NEYVELI LIGNITE CORPORATION

DETAILS OF GENERATING STATIONS UNDER CONSTRUCTION

Sl. No.	Name of Station	Location		Installed Capacity (No. of units x MW)	Fuel	Target date of commissioning
		Region	State / District			
1	Thermal Station-I Extension	Southern	Tamil Nadu Cuddalore	Unit -1(210 MW) Unit -2(210 MW)	Lignite	11.01.2001 05.02.2001

NATIONAL THERMAL POWER CORPORATION
DETAILS OF EXISTING GENERATING STATIONS

A. COAL BASED PROJECTS

Sl. No.	Name of Station	Location		Installed Capacity (No of Units x MW)	Fuel
		Region	State / District		
1.	Singrauli STPS	Northern	UP / Sonebadhra	Unit I to V - (5X200 MW) Unit VI & VII -(2X500 MW) Station - 2000 MW	Coal
2.	Rihand STPS	Northern	UP / Sonebadhra	Unit I & II - (2X500 MW) Station 1000 MW	Coal
3.	Dadri (Coal)	Northern	UP / Gautam Budh Nagar	Unit I to IV - (4X210 MW) Station - 840 MW	Coal
4.	Unchahar STPS	Northern	UP / Rai Bareilly	Unit I to III - (3X210 MW) Station 630 MW	Coal
5.	Korba STPS	Western	MP / Jamnipali	Unit I to III- (3X200 MW) Unit IV to VI- (3X500 MW) Station - 2100 MW	Coal

(Contd...)

6.	Vindhyachal STPS	Western	MP / Sidhi	Unit I& VI- (6X210 MW) Station - 1260 MW	Coal
7.	Ramagundam STPS	Southern	AP / Karimnagar	Unit I to III- (3X200 MW) Unit IV to VI- (3X500 MW) Station - 2100 MW	Coal
8.	Farakka STPS	Eastern	West Bengal / Mushirabad	Unit I to III - (3X200 MW) Unit IV & V- (2X500 MW) Station - 1600 MW	Coal
9.	Kahalgaon STPS	Eastern	Bihar / Bhagalpur	Unit I to IV- (4X210 MW) Station - 840 MW	Coal
10.	Talcher STPS	Eastern	Orissa / Angul	Unit I & II- (2X500 MW) Station - 1000 MW	Coal
11.	Talcher TPS (Old)	Eastern	Orissa / Angul	Unit I to IV- (4X60 MW) Unit V & VI- (2X110 MW) Station - 460 MW	Coal

NATIONAL THERMAL POWER CORPORATION
DETAILS OF EXISTING GENERATING STATIONS

B. GAS/NAPTHA BASED PROJECTS

Sl. No.	Name of Station	Location		Installed Capacity (No of Units x MW)	Fuel
		Region	State / District		
1.	Anta GPP	Northern	Rajasthan / Baran	GT I to III –(3X88 MW) ST I – 149 MW Station – 419 MW	Gas
2	Auraiya GPP	Northern	UP / Auraiya	GT I to IV- (4X110 MW) ST I & II- (2X106MW) Station – 652 MW	Gas
3	Dadri (Gas)	Northern	UP / Gautam Budh Nagar	GT I to IV – (4X131 MW) ST I & II – (2X146.5 MW) Station – 817 MW	Gas
4.	Faridabad CPP	Northern	Haryana	GT I & II- (2X143 MW) Station - 286MW	Gas
5	Kawas GPP	Western	Gujarat / Surat	GT I to IV-(4X106 MW) ST I & II- (2X110.5 MW) Station - 645 MW	Gas
6	Jhanor-Gandhar GPP	Western	Gujarat / Bharuch	GT I to III –(3X131 MW) ST I - 255 MW Station - 648 MW	Gas
7	Kayamkulam GPP	Southern	Kerala / Allepey	GT I & II- (2X115 MW) Station - 230 MW	Naptha

(Contd...)

DETAILS OF GENERATING STATIONS UNDER CONSTRUCTION

Sl. No.	Name of Station	Location		Installed Capacity (No. of Units x MW)	Fuel	Target Date of Commissioning	Remarks
		Region	State/District				
1.	Vindhyachal Stage-II	Western	MP / Sidhi	2 x 500	Coal	Feb. '2001	- Unit-VII commissioned in March, 1999. - Unit-VIII commissioned in Feb.,2000. - Units under stabilisation.
2.	Unchahar Stage II	Northern	UP /Rai Bareilly	2 x 210	Coal	July '2000	- Unit-III commissioned in Jan.,1999. Presently under repair. - Unit-IV commissioned on 22.10.1999.
3.	Faridabad CCPP	Northern	Haryana / Faridabad	GT 2 x 143 + 1x144 ST	Gas	Jan. '2001	- GT-I commissioned on 24.6.1999. - GT-II commissioned on 22.10.1999. - ST-I is expected to be commissioned by Oct., 2000.
4.	Simhadri, TPP	Southern	AP/Visha-khapatnam	2 x 500	Coal	Dec. '2002	
5.	Talcher Stage-II	Eastern	Orissa/ Angul	4x 500	Coal	Feb. '2006	

NATIONAL HYDROELECTRIC POWER CORPORATION LTD.
DETAILS OF EXISTING GENERATING STATIONS

Sl.No.	Name of Station & Type of Scheme	Location		Installed Capacity (No.of units x MW)
		Region	State / District / River	
1	Baira Siul HEP Run-of-River With Pondage	Northern	HP/Chamba/Ravi	3 x 60 =180 MW
2	Salal HEP Run-of-River	Northern	J&K/Udhampur/Chenab	6 x 115 = 690MW
3	Tanakpur HEP # Run-of-River	Northern	UP/Udhamsingh Nagar/Sharda	3 x 40 =120 MW #
4	Chamera HEP Run-of-River With Pondage	Northern	HP/Chamba/Ravi	3 x 180 =540 MW
5	Uri HEP Run-of-River	Northern	J&K/Baramulla/Jhelum	4 x 120 = 480 MW
6	Rangit HEP Run-of-River With Pondage	Eastern	Sikkim/South Sikkim/Rangit	3 x 20 = 60 MW
7	Loktak HEP Storage	North Eastern	Manipur/Bishanpur & Chura Chandpur/Loktak Lake	3 x 35 = 105MW

Installed capacity of the project is 120 MW. However, generating capacity has been derated to 94.2 MW due to change in pond level of the barrage from EL 248 m to EL 246.7m for avoiding submergence of areas in Nepal. Design energy has also been reduced from 525 Mus to 460 Mus

(Contd...)

NATIONAL HYDROELECTRIC POWER CORPORATION LTD.
DETAILS OF GENERATING STATIONS UNDER CONSTRUCTION

S. No.	Name of Station	Location		Installed Capacity (No of Units x MW)	Target date of Commissioning
		Region	State		
1	Dulhasti	Northern	J&K	3x130	March, 2002
2	Dhauliganga	Northern	UP	4x70	March, 2005
3	Chamera -II	Northern	HP	3x100	May, 2004
4	Koel Karo	Eastern	Bihar	1x20+4x172.5	8 Years
5	Teesta-V	Eastern	Sikkkim	3x170	Feb, 2007
6	Loktak D/S	N.Eastern	Manipur	3x30	June, 2006
7	Kalpong	Eastern	Andaman & Nicobar	5.25 MW	Oct, 2002
8	Kurichu	Bhutan	Bhutan	60 MW	Sept, 2001

Note : Schemes at Sl. Nos. 1 to 6 are owned and executed by NHPC. Schemes at Sl. Nos 7 & 8 are being executed by NHPC but not owned by the Corporation.

Annexure - IV
(Contd...)

NORTH EASTERN ELECTRIC POWER CORPORATION
DETAILS OF EXISTING GENERATING STATIONS (HYDRO)

Sl.No.	Name of Station & Type of Scheme	Location		Installed Capacity (No.of units x Capacity MW)
		Region	State / District/River	
1	Kopili HE Project	North Eastern	Assam/Hills/Kopili	
(a)	Khandong PH Storage			2 x 25
(b)	Kopili PH Storage			2 x 25
2	KHEP Stage -I Extn Storage	North Eastern	Assam/Hills/Kopili	2 x 25

(Contd...)

NORTH EASTERN ELECTRIC POWER CORPORATION
DETAILS OF ONGOING GENERATING STATIONS (HYDRO)

Sl. No.	Name of Station & Type of Scheme	Location		Installed Capacity No of Units x Capacity (MW)	Target date of Commissioning
		Region	State/District		
1	Doyang HEP Storage	North Eastern	Nagaland/Wokha	3x25 = 75 MW	Mar, 2000
2	Ranganadi HEP ROR	North Eastern	Ar.Pradesh/ Lower Subansiri	3x135 = 405 MW	Mar, 2001
3	Tuirial HEP Storage	North Eastern	Mizoram/Aizwal	2x30 = 60 MW	Xth Plan
4	Kopili 2nd Stage Storage	North Eastern	Assam/North Cachar Hills	1x25 = 25 MW	Jul, 2003