

# **Understand the ERC: A Citizen's Guide**

**KARNATAKA**

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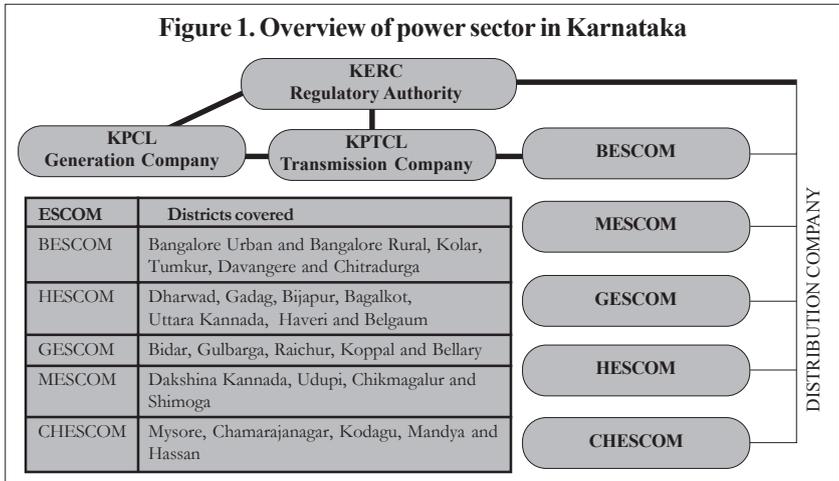
**About this Guide:** *The electricity sector in Karnataka has been undergoing radical changes. Important among these is the setting up of a Regulatory Commission, opening up new opportunities for intervention by members of civil society to shape the electricity sector. However, there has not been a corresponding increase in the ability of civil society to effectively intervene in the regulatory processes. Many civil society organizations are not well informed about the issues involved and possibilities for participation in the sector, let alone the capacity to analyze them in a critical fashion. This guide has been put together with the aim of increasing the awareness among civil society groups about the regulatory processes and how they can participate in it. It tries to provide detailed information about one specific aspect of the process, the filing of the Expected Revenue from Charges (ERC)/Annual Revenue Requirement (ARR) document by the transmission and distribution companies, and offers some examples of interventions made by citizens and civil society groups within this process.*

In the past few years, the electricity sector in Karnataka has seen a major transformation. Restructuring within the sector had been initiated much earlier, with the separation of generation from transmission and distribution in the early 1970's, with the Karnataka Power Corporation Limited (KPCL) managing generation and KPTCL entrusted with transmission and distribution of power. The real leap, however, took place in 1999, with the passing of the Karnataka Electricity Reforms Act.

regions respectively. These companies purchase electricity from different sources of generation and supply this electricity to consumers in their operating area. Transmission of the generated electricity to the distribution companies is handled by the Karnataka Power Transmission Corporation Limited (KPTCL), which levies a transmission charge for each unit of electricity that it delivers to the distribution companies.

The other important change that came about because of the 1999 Act is that the

**Figure 1. Overview of power sector in Karnataka**



One important change is that generation has been opened to the private sector, though the bulk of the electricity still comes from the public sector. Further, the transmission and distribution that was formerly handled by one organisation is now handled by separate distribution and transmission companies.

As shown in Figure 1, five ESCOMs or distribution companies have been set up: in Bangalore, Hubli, Gulbarga, Mangalore and Chamundeshwari

Karnataka Electricity Regulatory Commission (KERC) was set up to regulate all aspects of the electricity sector and balance the interests of the power sector utilities and the consumers. The regulatory arena offers consumers and civil society groups a way to intervene in a sector that they had little voice in earlier. In the next section, we discuss one mode of intervention – responding to the ERC documents filed by the transmission and distribution companies – in some detail.

# ERC filing

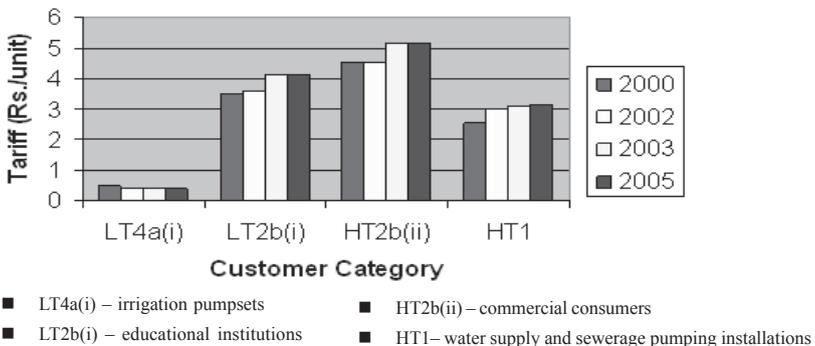
Every year KPTCL and each of the five ESCOMs have to submit a document called the ERC, with projected expenditures and losses, to the KERC. Based on the projected amount of electricity to be sold (or transmitted, in the case of the transmission company), these companies calculate what tariff – the price charged for each unit of electricity supplied – they need to charge in order to meet their projected expenses (power purchase costs, interest on capital, employee costs, depreciation, and T & D losses). ESCOMs charge different tariffs depending on the consumer category, from rural households to large industry. Subsidy allocation by the state government takes care of some gaps between projected expenses and income. Despite this, tariff increases may be required and are requested by filing a tariff proposal along with the ERC. KERC then examines all the documents presented by the utility.

Based on research by its own staff or consumer groups, the Commission may conclude that certain costs are unreasonable and veto them. The tariff is then accordingly determined. An increased tariff basically means higher electricity bills for some or all consumers.

‘Cost plus’ or ‘cost +’ method (profit added to approved costs) is the most common tariff setting method followed. The Regulatory Commission sets standard norms on what the profit can be (through setting the Return on Equity rate) and this profit is added to the approved costs resulting in the Annual Revenue Requirement. The ERC filing guidelines for Transmission/Distribution company(s) is as shown in the next page.

Since 2000, electricity tariffs have gone up for most categories of consumers (see Figure 2). For

**Figure 2. Changes in tariff for different customer categories (2000-2005)**



Bangalore Water Supply and Sewerage Board (BWSSB) and other water suppliers, tariffs increased sharply and consistently whereas for others, such as commercial establishments and academic institutions, tariffs went up slowly. For some categories, like irrigation pumpsets under specific schemes, the tariff remained constant.

While some tariff increases are indeed justified, consumers should not have to bear the burden of unnecessary expenses such as superfluous capital investment or just plain inefficiency at the utility end. So it is imperative for civil society organizations and consumer groups to carefully examine the ERCs filed and object to unjustifiable tariff increases.

### **KERC (Tariff) Regulations, 2000**

#### ***Guidelines for Transmission and Distribution company (s)***

##### **Annual ERC Filing:**

- (1) Not later than 4 months before the commencement of any financial year, every Licensee shall provide to the Commission full details of its calculations for the ensuing financial year of the ERC for that year.
- (2) The details of calculations of ERC and other related information shall be provided in the formats prescribed in Annexe I to these Regulations and shall be provided for each of the financial years as directed by the instructions given in each of these formats.
- (3) Where any entity holds more than one category of Licence, the details in the formats in Annexe I have to be filed separately in respect of each Licence.
- (4) The proposed investment plan for the ensuing financial year shall be submitted by the Licensee along with ERC as per the terms of the Licence for approval by the Commission. The investment plan will include all capital expenditure for the concerned year, whether ongoing projects or new projects.
- (5) The details of calculations of ERC in the formats in Annexe I have to be filed by

the Licensee in 6 sets with each format being signed by an authorized officer of the Licensee who shall be responsible for verifying and certifying the correctness thereof. In addition to the hard copies of the ERC formats, the Licensee has also to furnish the said formats in Electronic forms in diskettes using the MS Excel spread sheet package.

(6) The ERC formats filed by the Licensee will be scrutinized by the Commission and, as a result of such scrutiny, the Commission may, within 15 working days, call for such further information and clarifications as it may deem fit.

(7) The ERC formats filed by the Licensee will be treated as a Petition upon the Commission deciding that all the information and clarifications sought for by it have been produced to the satisfaction of the Commission. The licensee will thereafter be informed of this decision.

(8) The Commission will thereafter follow, as far as may be practicable, the procedure specified in Chapter II of the General Regulations for hearing on the ERC filing and for passing orders thereon.

In case tariff needs to be amended, the tariff proposal is to be filed along with the ERC as per the guidelines mentioned under KERC (Tariff) Regulations, 2000. Please see [www.kerc.org](http://www.kerc.org) for details.

# Public intervention in the electricity sector

As the regulatory process has slowly taken root, the number of interventions by members of the public has gone up. In 2000, 244 petitions were filed. In just two years, they had gone up to 9312 in 2002. By 2006 this increased to 11,748. Below we look at a few areas that such interventions have focused on.

## a. Tariff

The bulk of public interventions over the years have been about tariff increases. Though there have been tariff increases during this period (2000-2006), they have not usually been as large as they could have been. In 2005, KPTCL sought a raise of 55 paise in the HT1 category (see Figure 3) but KERC allowed only 5 paise. This was mainly due to the sizeable number of objections raised from consumers.

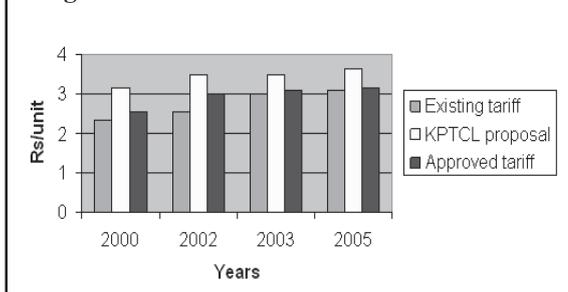
One concrete example is the case of the 2006-2007 ERC filed by KPTCL, which received many objections in response to their proposal to increase

the transmission tariff from 19.42 paise/unit (FY06) to 26.06 paise/unit (FY07). KPTCL cited reasons such as an inability to cover costs, reduced capacity to finance losses, and the need to ensure an assured revenue stream to improve and maintain the transmission network. KPTCL also proposed an investment of Rs.2700 crores on the transmission network for FY06-07. This proposed hike in tariff would have resulted in higher electricity bills for most consumers.

In response, Y.V.Asathanarayana (Coordinator- energy sector), Consumer Care Society (CCS), filed a detailed petition that reflected many concerns of residential consumers. The CCS petition questioned the rationale for the proposed transmission charges and capital expenditure, arguing that that an increase in transmission tariff by 34 percent would adversely affect most consumers, and suggesting that transmission tariff be

retained at 19.42 paise/unit. It also pointed to flaws in the estimation of projected capital outlay. CCS also argued that in view of KPTCL's past expenditure pattern for capital works, an outlay of Rs. 2700 crores would not be utilised in the time

**Figure 3. Tariff increases for HT1 consumers**



period envisioned for the work to be completed.

There is another reason for concern about KPTCL's projection for capital expenditure. In examining the ERCs, one finds that many of the projects undertaken by KPTCL or the ESCOMs have exceeded their date of completion; in some cases their status is unknown.

Thanks in part to such petitions filed by civil society organisations and concerned individuals, KERC asked for a downward revision of the investment outlay from Rs. 2,700 crores to Rs.1, 755 crores. KERC also concluded that the transmission tariff could be retained at 19.42 paise/unit.

KPTCL has responded with plans to legally challenge the KERC order. Consumer groups have come together to legally oppose any tariff increases.

## **b. Generation Planning**

A different kind of petition was filed by D. Narasimha Rao (formerly a Visiting Faculty member at the Indian Institute of Management, Bangalore) in 2006. His petition dealt with capacity addition and observed that in generation planning there was little distinction made between different types of load growths – base, intermediate, and peak load. Planning for different kinds of power plants, better suited for different kinds of loads, would ensure generation of sufficient electricity to meet the whole demand at a lower cost - which in turn would lower tariffs for the average consumer. Similarly a petition by

Shankar Sharma of Mysore in 2006-07 forwarded a strong argument for increased focus on demand side management programmes. More such petitions that address longer term issues could help the development of a more sustainable electricity sector.

## **c. Directives of the Commission**

We now come to an area where there has been some consumer intervention but more is needed. These concern the directives issued by KERC,

As of December 2004, there were 39 non-functional meters. By November 2005, only six were not working.

which are instructions to the transmission/distribution companies essentially with the purpose of making them reduce electricity losses

and to improve their operational efficiency so that the quality of service to the consumers becomes better. Once issued, directives remain until the issue has been adequately addressed. For instance, one directive calls upon KPTCL to meter the flow of electricity at interface points (between different voltage levels). This would enable the undertaking of an energy audit and assess the loss in the system more accurately. As of December 2004 (according to the KPTCL ERC filed in 2005), there were 39 non-functional meters. In contrast, on 31.10.2005, only six were not working. Thus, there has been partial compliance. Other directives have not fared as well. Greater pressure from citizens/groups on utilities to comply with their respective directives would help.

# How to intervene: the timeline and process

According to KERC Regulations, the transmission company and the ESCOMs have to file their ARR/ERC booklets and tariff revision applications (if any) with the Commission by November 30 of each year. However, going by past trends, these booklets seem to be available

only towards the end of the year or the early part of the following year. For example, in Fiscal Year 2006-07, KPTCL filed its ERC booklet only in the last week of December 2005. Once the ERC has been filed, the Commission takes fifteen days to review it and may ask for clarifications. Preliminary observations of the Commission on the ERC booklet filed by the transmission company are put up on the KERC

website. Once the Commission approves the format of the ERC and decides that the information furnished is complete, the transmission or distribution company has to advertise in the daily newspapers (two in English

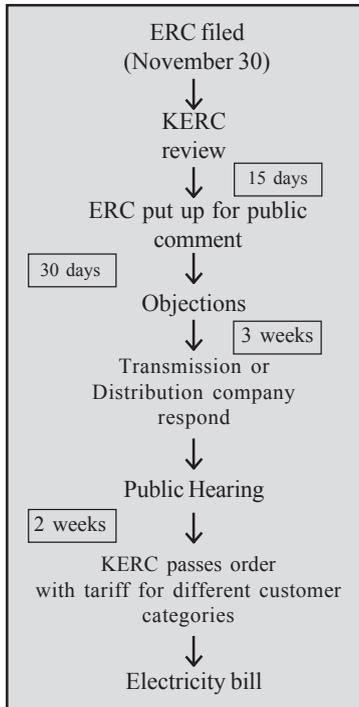
and two in Kannada) inviting objections to the ERC filing. This is when the public can intervene. It can do so in the following ways:

One could start by obtaining a copy of the ERC booklet. This is usually available for a price with the

transmission or distribution company. One can either collect it in person or have it mailed to one's postal address. The FY07 ERC of KPTCL was available at the KPTCL Corporate office for Rs.200/-. A shorter version of the ERC booklet is also accessible on the KERC website but the hard copy provides more detailed information that may be useful while filing a petition.

Objections should be submitted in six copies with an

affidavit, authenticated by a notary. The affidavit is a verification of the statement of objections. There are no charges for filing objections but they have to be handed over or sent by post to the Receiving Officer at the



Commission office. There are fixed hours (11-5pm) between which one can submit the petition with the Receiving Officer. If desired, one could request to be heard in person before the Commission as part of the petition.

Once all the objections have been submitted to the Commission, the transmission or distribution company has about three weeks to review and respond to the objections. There is then a public hearing wherein politicians, consumer groups, chambers of commerce, farmers' representatives, industry associations, the railways, Bangalore Water Supply and Sewerage Board (BWSSB), and

individuals who have filed objections can elaborate or add to their submissions in front of the Commission. Following this hearing, the Commission takes about two weeks to decide on the tariff for the following year. This decision is published in the daily newspapers (English and Kannada) by the utility concerned. In 2006, the last date of filing objections in response to KPTCL's ERC was February 7; the public hearing was held on March 21 to discuss the issues raised by various objectors in response to KPTCL's ERC. KERC's decision about KPTCL's ERC came out in April.

# Framing the petition

Many find the idea of filing an objection somewhat intimidating, especially by what they see as the need for detailed knowledge about the sector before they make an intervention. However, what is really required is to do the necessary groundwork. We offer some tips about how to get help with the petition.

It helps to attend public hearings to develop an understanding of the language and protocol of such gatherings. One can also get in touch with people framing petitions and consumer organisations working on issues related to the power sector. Bangalore has groups such as Consumer Care Society, Electricity Consumers Network (ECON), Consumer Research Education and Trust (CREAT). Apart from residential consumer groupings, there are also groups representing commercial and industrial interests. These include the Federation of Karnataka Chambers of Commerce and Industry, Karnataka Chamber of Commerce and Industry (Hubli), Mysore Chamber of Commerce and Industry and Karnataka Industrial Area Development Board Industrial Area Manufacturer's Association (Mysore).

One could also contact the Office of Consumer Advocacy (OCA). OCA, set up under the KERC ([www.kerc.org](http://www.kerc.org)), is currently headed by Y.G. Muralidharan. Another official who can provide

answers to many questions is the Public Information Officer (under the Right to Information Act, 2005). This post is currently held by S. Chandrashekar. He is also the Receiving Officer at KERC for petitions filed in response to ERC filing both for the transmission licensee and the ESCOMS.

- Attend public hearings
- Contact other organisations working in the power sector
- Get in touch with the Office of Consumer Advocacy and Public Information Officer under KERC – [www.kerc.org](http://www.kerc.org)
- Make petitions brief and to the point.

Petitions should be brief and to the point. Detailed arguments, if any, can be made at the public hearing by the objector. In the public hearing for the KPTCL ERC FY07, one petitioner in fact warned that too much detail provided beforehand in the petitions gave KPTCL a chance to digress from the questions raised by the objector.

# Analysing the ERC

As mentioned earlier, the tariff charged by transmission and distribution companies is based on information filed in the Expected Revenue from Charges (ERC) document. A typical ERC contains many sections some of which are directives of the Commission, ERC filing formats, rationale for tariff filing, transmission/distribution loss estimates, details of capital investment programme, other miscellaneous costs, and the revenue

Look out for:

- Compliance with Commission's Directives and ERC filing formats.
- Projections of Depreciation, Interest and finance charges and Employee costs.
- BESCOM's 2006 power purchase was 89 percent of total expenditure.

requirement. Much of the information needed for analysis is to be found in the many financial tables in the ERC which list out figures for depreciation, interest and finance charges and employee costs. These figures have to be scrutinised carefully as the numbers given are sometimes questionable. Quite often ERCs don't give sufficient

information to understand the basis for various figures. Citizens should, in their petitions, ask for greater clarity and transparency.

Capital investment is often another bone of contention; every year the amount allocated for new projects seems to be rising. Some of these investments are justifiable whereas others may not be so. One way to see whether the level of expenditure proposed for new projects is reasonable is to compare with investment figures provided in earlier ERCs, and the status of those projects for which the investments were made. It is often the case that the investment level claimed is not commensurate with the rate at which the transmission/distribution companies can actually spend it. In case complete information on past projects is not available, citizens should demand it.

The largest part of the retail tariff we pay as consumers to the distribution companies goes towards their costs for purchasing power. For example, in 2006 of BESCOM's total cost, power purchase accounted for 89 percent. The power purchase cost depends on both the price at which power is purchased from generators and on the quantity of electricity purchased. Both of these need to be scrutinized and kept to the minimum so as to reduce consumer tariffs. At the same time, there may be other environmental

costs associated which are not reflected in the cost of power.

Depreciation is another major cost component. Depreciation accounts for the wear and tear of an asset over a period of time. The depreciation is often decided at the time of approving the capital investments required.

$$\text{Depreciation} = \text{Depreciation Rate} \times \text{Original Cost of Asset}$$

The depreciation rate is decided by the Central Electricity Regulatory Commission along with the Forum of Regulators.

In addition to the financial costs mentioned above, consumers also bear the costs resulting from T&D losses. As mentioned earlier, the Commission has issued directives asking transmission and distribution

companies to reduce these. However, the level of losses still remains unacceptably high, especially in comparison with international norms. Citizens should put pressure on the transmission and distribution companies and the Commission to make sure that these losses are sharply reduced in a rapid fashion.

Citizens should also demand greater financial efficiency. One rough index that can be used to measure this efficiency is the average cost of supplying electricity, which can be calculated by dividing the total revenue requirement by the estimate of the number of units of electricity to be supplied. This average cost of supply will vary across distribution companies and suggest which are more efficient than others.

# Documents helpful in writing petitions

A number of documents may be useful in writing petitions. We list some of them below. Good sources of basic information about the electricity sector are information booklets put out by civil society groups (for example, Prayas (Energy Group), *Know Your Power: A Citizens' Primer on the Electricity Sector*, Prayas, Pune, Second Edition, 2006). Similarly, copies of petitions filed in earlier years help orient one in reading and analysing the ERCs, decide on which issues to highlight in one's petition, and what information to look for; these may be obtained from the Public Information Officer at KERC.

Official documents about the ERC and the power sector are useful in understanding the requirements, constraints and more importantly the guidelines within which transmission and distribution companies have to function. The best source of such information is the KERC website ([www.kerc.org](http://www.kerc.org)). Specific documents to look for here are the KERC Guidelines for Preparation of Load Forecast, Power Procurement Plan and Power Procurement Procedure, Codes and Standards document for the Transmission and Distribution licensee, and Metering Code. Despite some technical jargon, most of the language in these documents is easy

to read and comprehend. A careful reading of such documents may point to some discrepancies in the ERC filing. For example, the claim made in the KPTCL ERC filing (2006-07) was that Administration and General Expenses were to be retained at the same level as the previous financial years. But the filing shows that the amount Rs. 41.86 crores (2005-06) has been increased to Rs. 42.05 crores in 2006-07.

And finally, official documents from the generation, transmission, and distribution companies. ERC booklets from previous years provide several insights into the costs and revenue estimation of the transmission and distribution companies. Referring to these documents could help determine if the expenses provided are exaggerated figures or are acceptable. If one or more of the documents put out by government bodies are not available, then the Right to Information Act may be used to obtain them.

- Information booklets by civil society groups
- Copies of petitions filed in previous years
- Official documents from the Regulatory Commission
- Official documents from Generation, Transmission and Distribution companies

# Appendix

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## **Official sources of Information**

Karnataka Electricity Regulatory Commission- [www.kerc.org](http://www.kerc.org)

- Office of Consumer Advocacy
- Public Information Officer/ (Assistant Secretary), KERC

Karnataka Power Corporation Limited- [www.kpcl.com](http://www.kpcl.com)

Karnataka Power Transmission Corporation Limited- [www.kptcl.com](http://www.kptcl.com)

The five ESCOMS:

- Bangalore Electricity Supply Company- [www.bescom.org](http://www.bescom.org)
- Mangalore Electricity Supply Company- phone number: (0824)-2446132
- Hubli Electricity Supply Company- [www.hescom.org](http://www.hescom.org)
- Gulbarga Electricity Supply Company- [www.gescom.org](http://www.gescom.org)
- Chamundeshwari Electricity Supply Corporation- phone number: (0821)-2417101

Southern Regional Load Dispatch Center, Bangalore, Karnataka- [www.srldc.org](http://www.srldc.org)

Central Electricity Authority, India- [www.cea.nic.in](http://www.cea.nic.in)

Central Electricity Regulatory Commission, India- [www.cercind.org](http://www.cercind.org)

Ministry of Power, India- [www.powermin.nic.in](http://www.powermin.nic.in)- this site has many relevant downloadable reports and links to many other power utilities and organizations

## ***Civil Society Groups***

- Consumer Research Education and Trust (CREAT), 239, 5<sup>th</sup> 'C' Main, Remco Layout, Vijayanagar, Bangalore-560 040
- Consumer Care Society, No.1939, 9<sup>th</sup> Main, 27<sup>th</sup> Cross, Banashankari II Stage, Bangalore-560 070
- Electricity Consumers Network (ECON), 6<sup>th</sup> Floor Mahalakshmi Chambers, 9/2 M.G. Road, Bangalore-560 001
- IEI: International Energy Initiative, 25/5 Borebank Road, Benson Town, Bangalore-560 046
- Citizen Consumer and Civic Action Group, 9/5, II Street Padmanabha Nagar, Adyar, Chennai-600020
- Prayas, Athawale Corner, Karve Road, Deccan Gymkhana, Pune-411004

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## **Glossary**

ERC: Expected Revenue from Charges or ARR: Annual Revenue Requirement

KERC: Karnataka Electricity Regulatory Commission

KPCL: Karnataka Power Corporation Limited

KPTCL: Karnataka Power Transmission Corporation Limited

ESCOM: Electricity Supply Company

OCA: Office of Consumer Advocacy

BESCOM: Bangalore Electricity Supply Company

HESCOM: Hubli Electricity Supply Company

GESCOM: Gulbarga Electricity Supply Company

MESCOM: Mangalore Electricity Supply Company

CHESCOM: Chamundeshwari Electricity Supply Corporation

BWSSB: Bangalore Water Supply and Sewerage Board

ROE: Return on Equity

PBR: Performance Based Regulation

T & D: Transmission & Distribution

DSM: Demand Side Management

MIS: Management Information System

FY: Fiscal Year

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