

**KARNATAKA ELECTRICITY REGULATORY COMMISSION**  
**Bangalore-560001**

**Notification No.1/01/2 dated 02.04.2009**

**KERC [Load Forecast] Regulations, 2009**

**Preamble:**

KERC guidelines for preparation of Load Forecast, Power Procurement Plan & Power Procurement procedure, issued under the provisions of KER Act 1999 was gazetted on 23<sup>rd</sup> June 2000. Subsequently, the Electricity Act 2003 was promulgated by the Gol, which came into effect from 10<sup>th</sup> June 2003. Section 3 (4) of the Act envisages that:

“(4) The Authority shall prepare a National Electricity Plan in accordance with the National Electricity Policy and notify such plan once in five years:

Provided that the Authority in preparing the National Electricity Plan shall publish the draft National Electricity Plan and invite suggestions and objections thereon from licensees, generating companies and the public within such time as may be prescribed:

Provided further that the Authority shall -

- (a) notify the plan after obtaining the approval of the Central Government;
- (b) revise the plan incorporating therein the directions, if any, given by the Central Government while granting approval under clause (a).

(5) The Authority may review or revise the National Electricity Plan in accordance with the National Electricity Policy.”

Further, the National Electricity Policy issued under Section 3 (1) of the Act states that:

**“3. NATIONAL ELECTRICITY PLAN**

3.1 Assessment of demand is an important pre-requisite for planning capacity addition. Section 3 (4) of the Act requires the Central Electricity Authority (CEA) to frame a National Electricity Plan once in five years and revise the same from time to time in accordance with the National Electricity Policy. Also, section 73 (a) provides that formulation of short-term and perspective plans for development of the electricity system and coordinating the activities of various planning agencies for the optimal utilization of resources to subserve the interests of the national economy shall be one of the functions of the CEA. The Plan prepared by CEA and approved by the Central Government can be used by prospective generating companies, transmission utilities and transmission/distribution licensees as reference document.

3.2 Accordingly, the CEA shall prepare short-term and perspective plan. The National Electricity Plan would be for a short-term framework of five years while giving a 15 year perspective and would include:

- Short-term and long term demand forecast for different regions;
- Suggested areas/locations for capacity additions in generation and transmission keeping in view the economics of generation and transmission, losses in the system, load centre requirements, grid stability, security of supply, quality of power including voltage profile etc. and environmental considerations including rehabilitation and resettlement;

- Integration of such possible locations with transmission system and development of national grid including type of transmission systems and requirement of redundancies; and
- Different technologies available for efficient generation, transmission and distribution.
- Fuel choices based on economy, energy security and environmental considerations.

3.3 While evolving the National Electricity Plan, CEA will consult all the stakeholders including state governments and the state governments would, at state level, undertake this exercise in coordination with stakeholders including distribution licensees and STUs. While conducting studies periodically to assess short-term and long-term demand, projections made by distribution utilities would be given due weightage. CEA will also interact with institutions and agencies having economic expertise, particularly in the field of demand forecasting. Projected growth rates for different sectors of the economy will also be taken into account in the exercise of demand forecasting.

3.4 The National Electricity Plan for the ongoing 10th Plan period and 11th Plan and perspective Plan for the 10th, 11th & 12th Plan periods would be prepared and notified after reviewing and revising the existing Power Plan prepared by CEA. This will be done within six months.”

The CEA in terms of the above provisions has published the 17<sup>th</sup> EPS indicating the requirements of energy & peak for various states including Karnataka. Further, the CEA has published the Generation & Transmission plan also as required under the Act.

Further, the bidding guidelines issued by Gol, under the Provisions of the Act envisages as under:

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- 2.2 The guidelines shall apply for procurement of base-load, peak-load and seasonal power requirements through competitive bidding, through the following mechanisms:
- (i) Where the location, technology, or fuel is not specified by the procurer (**Case 1**);
  - (ii) For hydro-power projects, load center projects or other location specific projects with specific fuel allocation such as captive mines available, which the procurer intends to set up under tariff based bidding process (**Case 2**).
- 2.3 Unless explicitly specified in these guidelines, the provisions of these guidelines shall be binding on the procurer. The process to be adopted in event of any deviation proposed from these guidelines is specified later in these guidelines under para 5.16.
- 2.4 Procurement by more than one distribution licensee through a combined bid process shall be permitted and in such a case the Procurers shall have the option to conduct the bid process through an authorized representative. The authorized representative may be one of the procurers or for Case 2, a special purpose vehicle (SPV) may be incorporated for such purpose. For such combined procurement, each procurer shall provide the necessary information required as per these guidelines. To ensure standardization in evaluation of bids, the payment security and other commercial terms offered to the bidders by the various procurers shall not vary. The price offered by the bidders shall also be the same for the distribution licensees inviting the bid.

In case of combined procurement where the distribution licensees are located in more than one State, the Appropriate Commission for the purpose of these bidding guidelines,

except for the purpose of para 3.1(iii)(a), shall be the Central Electricity Regulatory Commission. For the purpose of para 3.1(iii)(a), the State Electricity Regulatory Commission shall be the Appropriate Commission.

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### 3. Preparation for inviting bids

3.1 To expedite the bid process, the following conditions shall be met by the procurer:

- i. The bid documentation shall be prepared in accordance with these guidelines and the approval of the appropriate Regulatory Commission shall be obtained unless the bid documents are as per the standard bid documents issued by the Central Government. In such cases, an intimation shall be sent by the procurer to the appropriate Regulatory Commission about initiation of the bidding process.
- ii. Approval of the Appropriate Commission shall be sought in event of the deviations from the bidding conditions contained in these guidelines, following the process described in para 5.16 of these guidelines.
- iii. Approval of the Appropriate Commission shall be sought prior to initiating the bidding process in respect of the following aspects:
  - (a) For the quantum of capacity / energy to be procured, in case the same is exceeding the projected additional demand forecast for next three years following the year of expected commencement of supply proposed to be procured. Such demand forecast shall be based on the latest available (at the time of issue of RFQ) Electric Power Survey published by Central Electricity Authority. (Both for **Case 1** and **Case 2**).
  - (b) For the transfer price of fuel, in case of fuel specific procurement enquiry, if such price has not been determined by government, government approved mechanism or a fuel regulator (under Case 2).”

In order to comply with the provisions of EA2003, National Electricity Policy and the Bidding Guidelines, the Commission had issued a draft of the aforesaid regulations on 18.08.2008, inviting comments/views from Stakeholders. A press note on this behalf was also issued on 19.08.2008 for the information of the public.

In response to the above written submissions were made by 8-stakeholders including the Government of Karnataka.

The Commission held a public hearing in the matter on 29.12.2008, in which 4-stakeholders made their oral submissions before the Commission.

The Commission after duly considering the views/comments of the various stakeholders and the interested persons, hereby frames, the following Regulations:

In exercise of the powers conferred on it by Section 181 of the Electricity Act, 2003 and all other powers enabling in this behalf, the Karnataka Electricity Regulatory Commission, makes the following Regulations:

## **1. Short title, Commencement and Applicability:**

- a. These Regulations shall be called KERC [Load Forecast] Regulations, 2009.
- b. The Regulations will come into effect from the date of its publication in the Official Gazette.
- c. These Regulations shall supersede all other rules, regulations or guidelines issued by the Commission earlier, regarding Load Forecast.
- d. The Regulations shall be applicable to the Generators, Licensees and other stakeholders in the State of Karnataka.

## **2. Load forecasts**

### **I. Short-Term & Long Term Forecast**

#### **i. Procedure for Forecast**

- a. Each of the Distribution Licensees, in respect of his area of supply, shall make a short-term forecast for a period of 5-years and long-term forecast with 15-years perspective for peak load requirements & Energy requirements. The Distribution Licensees shall duly take into account the savings possible due to DSM & Energy conservation measures while making the forecast and also the impact of distributed generation & Stand alone systems. The Distribution Licensees shall follow the Forecast methodology adopted by CEA from time to time, so as to have a consistent methodology.
- b. The Distribution Licensees shall submit the load forecast to the STU/State Government.
- c. The State Government shall get the consolidated load forecast from the STU/Distribution Licensees compiled appropriately to finalize State level forecast and submit it to the CEA. The STU, the distribution Licensees and other stakeholders shall actively interact and coordinate with the State Government in finalizing the Short-Term & Long Term Forecasts. As forecast is a specialized subject, the State Government, if felt desirable, may seek the opinion of a person\* having expertise in forecasting to validate the forecasts obtained from STU/Distribution Licensees to have the finalized version for submission to CEA. As envisaged in National Electricity Policy, the CEA would then finalize the short-term & long-term forecasts duly consulting the State government and other Stakeholders.

**[\*Person' shall have the same connotations as defined in Electricity Act 2003].**

## ii. Applicability of the Load Forecast

- a. The short-term and long-term forecast for Karnataka, as finalized by CEA and published in the form of EPS reports, shall be applicable for the State of Karnataka. The same shall be adopted by Generators, Licensees and other stakeholders for planning & other purposes.

Provided that for the 11<sup>th</sup> Plan period, Forecast as per 17<sup>th</sup> EPS shall be applicable unless it is modified by CEA or a fresh EPS is issued by CEA.

- b. The short-term and long-term forecast as published by the CEA, shall form the basis for Generation, Transmission & Distribution Planning.
- c. For approving the ERCs of Licensees as well Power Purchase Agreements, the forecast as per latest available EPS published by the CEA shall form the basis for the Commission.
- d. The forecast as per the latest available EPS published by the CEA , shall form the basis for procuring power through bidding process.

- e. Long-Term Forecast shall normally be used for:

- i. Long-term planning of generation, transmission and distribution systems and Capital Investments thereon.
- ii. Establishing future fuel linkages.
- iii. Choice of Technology
- iv. Exploring the availability and use of natural fuel and water resources,
- v. Training/Development of human resources.

- f. Short- term forecasts shall normally be used for determining yearly or monthly peak, minimum load and energy requirements for one to five years for the purpose of:

- i. Short-term planning of generation, transmission and distribution systems including Resource assesment
- ii. Maintenance scheduling of generation and transmission equipment,

- iii. Scheduling of captive power plants,
- iv. Scheduling of multi-purpose hydroelectric power plants for irrigation, flood control, cooling water requirements etc., apart from generation,
- v. Power exchange contracts with neighboring utilities /traders/power exchange and interchange schedules,
- vi. Annual planning and budgeting for fuel requirements and other operational requirements.

iii. Deviation from EPS published by CEA

- a. In case the quantum of capacity/energy to be procured by the Licensee exceeds the projected additional requirement [as per latest available EPS published by CEA], the same shall be with the prior approval of the State Commission. Before approving the revised forecast, the Commission shall consult the various stakeholders and pass suitable orders accepting or modifying or rejecting the proposals of the Licensee/s for such additional requirements.

Provided that, if the deviation is within +5% no approval of the Commission is required.

The above proviso shall also be applicable to clause 2 (I) (ii)(a) to (d) of these Regulations

- b. The Commission shall normally adopt the forecast as per EPS. Subject to the margin specified above, it can deviate from the EPS while approving ERCs or PPAs. In such cases the Commission shall pass orders modifying the EPS forecast after duly giving opportunity to the stakeholders. Further, in case the levels of losses estimated by CEA are different from that approved by the Commission for a particular year, the Commission shall adopt the target losses approved by it for arriving at energy requirements for that year. The Commission shall arrive at energy requirements at generator bus by adding approved T & D losses to the projected sales.

iv. Allocation to ESCOMs

The forecast finalized by the CEA at the State level shall be apportioned to the Distribution Licensees by the State Government. While doing so the State Government shall give due weightage to the share of the Distribution Licensees in the total requirement in the past 3-years.

v. Periodicity of Forecast:

The forecast shall be prepared as per the schedule furnished by CEA while preparing the EPS. However, the distribution licensees shall update the forecast on an annual basis with the latest information available. Such updated forecast shall be kept ready by the end of November each year. In case the updated forecast [sum total of ESCOMs' Forecast] differs from the relevant EPS, the same shall be placed before the Commission for approval. If the difference is within +5% of EPS forecast, no approval of the Commission would be necessary.

II. Monthly, weekly and daily forecast

a. Monthly Forecast:

Each of the Distribution Licensees shall make a monthly forecast of Peak & energy requirement for their area of Supply using scientific methodology. To have consistency in approach a uniform methodology shall be adopted by all the Distribution Licensees in the State. The methodology adopted shall be informed to the Commission. Monthly forecast shall be done with due consideration to seasonal variations.

Provided the sum total of monthly forecast for a particular year shall not exceed the annual forecast for that year for a Distribution Licensees as apportioned to it as per Clause 2 (I) (iv) above by the State Government.

b. Weekly & Daily Forecast

Each of the Distribution Licensees shall make a weekly & daily forecast of Peak & energy requirement for their area of Supply using scientific methodology. To have consistency in approach a uniform methodology shall be adopted by all the Distribution Licensees in the State. The methodology adopted shall be informed to the Commission. While making daily forecast, due weightage shall be given to weather variations. The Distribution Licensees shall adopt weather sensitive forecast models while making day ahead forecast.

c. Purpose of daily, weekly and monthly Forecast

Forecasts on daily, weekly and monthly basis are normally required for the following purposes:

- i. Unit commitment and economic despatch calculations,
- ii. Maintenance scheduling updates,
- iii. Assessing load flows,
- iv. Spinning reserve calculations,

- v. Short-term interchange schedules with neighbouring systems/traders/power exchange,
- vi. System security analysis
- vii. Load management ,scheduling and dispatch,
- viii. Optimization of fuel storage.

III. Dissemination of Forecast Information:

- a. The Distribution Licensee shall host the information regarding Load Forecast [daily, weekly, Monthly, Short-term & Long-term] for their area of supply on their websites. STU shall host the consolidated forecast for the State on its website.
  
- b. The Licensees shall submit a copy of the Short-term, Long-term & Monthly forecast to the State Government & the Commission.

**3. Issue of orders and practice directions**

Subject to the provisions of the Electricity Act, 2003 and these regulations, the Commission may, from time to time, issue orders and practice directions with regard to the implementation of the regulations and procedures in the matter of load forecast.

**4. Power to remove difficulties**

- (i) In case of any difficulty in giving effect to any of the provisions of these regulations, the Commission may by general or special order, direct the generators, the licensees and other Stakeholders to take suitable action, not being inconsistent with the provisions of Electricity Act, 2003.
  
- (ii) The generators, the licensees and other Stakeholders, may make an application to the Commission and seek suitable orders to remove any difficulties that may arise in implementation of these regulations.



**5. Power to amend:**

The Commission may from time to time alter, modify or amend any provisions of these regulations in accordance with the provisions of the Electricity Act 2003.

Approved by the Commission

Secretary