

APPENDIX

COMMISSION'S DIRECTIVES AND COMPLIANCE BY THE KPTCL

The Commission has been issuing Directives to the KPTCL in all its Tariff Orders issued from time to time. In this Order the Commission has reviewed the status of the compliances to the various directives issued and the observations thereon, are discussed as under:

1. Reactive Power compensation and restoration of failed Capacitors

The Commission had directed the KPTCL to immediately develop an action-plan for restoration of failed capacitors and submit monthly status report thereon. The KPTCL has furnished the status of working conditions of 5,011.84 MVAR capacitors in the KPTCL system as against the installed capacity of 6,607.98 MVAR i.e., as per the KPTCL only 75.84% of the installed capacity of capacitors is working as on March 2018.

Compliance of Directive by the KPTCL:

- a) The Transmission Zone Chief Engineers are taking timely action to restore the failed capacitors, as and when they fail.
- b) In the 1st Quarter of FY19, KPTCL has restored 39 numbers (259.82 MVAR) against the 33 numbers failed. In the 2nd Quarter, 35 numbers (148.86 MVAR) are restored against the 35 numbers failed.
- c) KPTCL has added 1,247 numbers of capacitors into the system as at the end of 1st Quarter and added upto 1344 numbers as at the end of November 2018.

Commission's Views

The Commission notes that the KPTCL has taken timely action to restore the failed capacitors in its transmission network and installed additional capacity of capacitor banks into the system. It is necessary that the KPTCL should achieve the desired reactive compensation in the transmission network for ensuring efficient grid management. The Commission is of the view that, if the transmission system is

maintained efficiently by commissioning of adequate capacitors in the transmission system and taking up timely restoration of the failed capacitors, the need for paying reactive energy charges to CTU would not arise. Hence, it is very important to restore the failed capacitors as and when they fail and put them back to service quickly, and also maintaining them in a healthy condition, for effective reactive power management which would help in achieving improvement in bus voltages, reduction of transmission losses and minimize / avoid of payment of reactive energy charges to the CTU.

The Commission reiterates its directive that, the KPTCL shall take timely action to restore any failed capacitors and submit monthly status reports thereon to the Commission, regularly:

- i) **Furnishing the details of reactive energy charges paid to the CTU every month; and**
- ii) **Action plan for restoring the balance failed capacitors.**

2. Transmission System Availability (TSA) – Monthly Report

As per this Directive, the KPTCL is required to submit monthly reports of Transmission System Availability, duly certified by the SLDC, with effect from March, 2015.

Compliance by the KPTCL:

- a) Regular maintenance of elements of transmission system is being carried out regularly by the respective TL & SS Divisions. Also, replacement / augmentation of old / obsolete equipment is being taken up on regular basis. As regards, condition monitoring of substation equipment, the Commission was apprised of the measures taken by KPTCL, during the Advisory Committee meeting held on 16.11.2018.
- b) System availability for the financial year ending 31.03.2018, certified by the SLDC, has been submitted to the Commission, vide letter No. KPTCL/B36/70603/2017-18/1146-49 dated 17.11.2018. Further data of system availability upto 30th September, 2018 has been sent to the Commission, vide letter No KPTCL/B36/70603/2018-19/87666/989 dated 07.11.2018.

Commission's Views:

Though the TSA declared by KPTCL is over 99%, the Commission has noted that, some of the wind generators in Basavanabagewadi and Itagi Taluks have brought to the notice of the Commission that, due to non-availability of the Transmission network, the wind generators were directed to shut down the generation, resulting in huge loss in generation of energy along with financial losses. The Commission directs KPTCL to ensure availability of the transmission network duly augmenting the network wherever necessary and also ensure timely maintenance of the network to enable it to fully absorb the renewable energy generation and avoid shutting down of the generation which would cause losses to the RE generators.

The Commission directs the KPTCL to continue to submit the monthly reports of Transmission System Availability and the details of any outages of generators for want of network, duly certified by the SLDC and the cases of forced, regularly, to the Commission.

3. MIS & Implementation of Intra-state ABT:

The KPTCL was directed to improve its Management Information System and to furnish greater details and explain the basis for all the projections indicating the sources of data and the method of estimating the projected values. The Commission had noted that the KPTCL's approach in having an efficient MIS needs re-examination with a view to improve it, in view of the fact that, in the existing system, the KPTCL has been furnishing inconsistent data, at different points of time.

The Commission, besides reiterating its earlier directives, had directed the KPTCL to furnish consistent data on time, in respect of the following:

- i) Details of Transmission Losses;
- ii) Voltage-wise Losses;
- iii) Implementation of Intra-State ABT;

The Commission had directed the KPTCL to furnish the status of implementation of the Intra-State ABT. Further, the Commission had directed the KPTCL to furnish the ESCOM-wise UI charges to ensure that the cost of over-drawal of power at frequencies below the permissible band, should be borne by the respective ESCOMs.

Compliance by the KPTCL

As directed, during the Advisory Committee meeting held on 18.07.2018, KPTCL has reported compliance on implementation of Intra-State ABT. In the meeting, the Commission directed KPTCL to issue regular bills without waiting for consent from BESCOM & HESCOM. Accordingly, SLDC commenced issuing regular bills from October 2018 and appraised the same to the Commission during the Advisory Committee meeting held on 16.11.2018.

Commission's Views:

During the Review meetings held with the KPTCL / ESCOMs, the Commission has stressed the need for implementation of the Intra-State ABT, which would lead to efficient management of power generation, supply, distribution and use. In fact, all the ESCOMs and KPTCL have consented, in principle, to implement the Intra-State ABT, duly agreeing to the methodology to be adopted for its implementation. KPTCL, in its compliance, has informed that the Intra-State ABT has been implemented from October 2018. In its replies to the preliminary observations, it has submitted the copies of the "INTRA STATE ABT FOR CGS DEVIATION BILLS" issued by the Chief Engineer (Elecy), SLDC for the week from 03.09.2018 to 09.09.2018 and 10.09.2018 to 16.09.2018 showing the details for UI charges to be shared among the ESCOMs and different entities.

The Commission notes that, though the KPTCL has implemented the Intra-State ABT, it has not submitted the post-implementation analysis indicating the sharing of DSM charges by the individual ESCOMs. The Commission therefore directs KPTCL to submit the impact of the implementation of Intra-State ABT thereon, to the Commission from the date of implementation, every month regularly.

4. Directive on Energy Audit:

The Commission had directed the KPTCL to prepare and submit the metering plan for energy audit of the KPTCL grid system, voltage level-wise such as 400 kV, 220 KV etc., to the Commission. It was also directed that the work of procurement of metering equipment with accessories and their installation shall be completed. It was also directed to ensure that accuracy class of CT / PT shall match with that of meters duly ensuring that combined class of accuracy of the complete metering system shall be within the specified accuracy class, so as to measure the parameters accurately and that the interface metering system shall be in conformity with the CEA (Installation and Operation of Meters) Regulations, 2006, and its amendments from time to time.

The Commission had directed the KPTCL to furnish voltage-wise losses on a monthly basis. Further, the KPTCL was directed to maintain the entire interface metering system in a healthy condition, as accurate readings of the meters are required to be recorded for accurate energy audit / accounting purpose. It was noted that this is also one of the sound practices to be followed by any power transmission utility.

Compliance by the KPTCL:

KPTCL has submitted that the Transmission Loss reduction is a continuous process. System improvement works like link lines, addition of new lines and transformer capacity augmentation apart from establishing new sub-stations closer to the load centres are taken up. These works reduce the transmission losses and also contribute to the reduction of distribution losses.

KPTCL submits that the month-wise, voltage-wise transmission losses for the FY18 is furnished to the Commission vide letter No.KPTCL/B36/70608/2017-18/220 dated 14.06.2018 and for the FY19 up to July 2018 vide letter No KPTCL/B36/87665/2018-19/1112-15 date 13.11.2018.

Voltage-wise transmission losses furnished by KPTCL in its APR for FY18 is as follows:

400 kV	0.369%
220 kV	1.610%
110 kV	0.336%
66 kV	0.968%

Whereas the trajectory of the transmission losses (%) furnished by KPTCL, in its APR for FY18 is as follows:

	As approved by the Commission in T.O. 30.03.2016	As per actuals
Upper limit	3.57	3.222
Average	3.37	
Lower limit	3.17	

Commission's Views

The Commission notes that the KPTCL has submitted the transmission losses for the FY18. It is noted that the energy loss level at 220 kV level is more compared to the other voltage levels. It is important that the KPTCL on the basis of energy audit conducted, shall analyze the energy losses occurring in the transmission system and take suitable measures to bring down the energy losses further downwards, in order to achieve an efficient power transmission system. The KPTCL needs to furnish the voltage-wise transmission losses **on a monthly basis**, regularly to the Commission.

The Commission reiterates that the KPTCL shall furnish voltage-wise losses on a monthly basis, regularly.

5. Directive on Quality of Service

The Commission had directed that, the KPTCL shall take all measures to improve the Reliability & Quality of Supply i.e., reduction in interruptions and maintenance of good voltage in the transmission system. That the KPTCL shall display on its website the details of interruptions of major substations and lines with maximum and minimum voltage at station bus of each substation on a monthly basis.

The Commission had directed the KPTCL to take note of the permissible frequency band for operation of the grid between 49.95 – 50.05 Hz as per the latest amended IEGC Regulations of the CERC. Also, as per the decision taken in the meeting of the Forum of Regulators (FoR) held during June 11 & 12, 2009, the penal UI charges (DSM Charges) for any over drawal will not be allowed to be passed on to the consumers through tariff. Any such penal charge shall have to be borne by the ESCOMs from their own finances. In the light of this, the KPTCL, through SLDC / ALDCs, shall take necessary steps to avoid over drawal from the Southern Grid when frequency level goes below 49.95 Hz to ensure that payment of additional UI charges is completely avoided.

Compliance by the KPTCL:

The SLDC is updating the details of generation of power, and outages, source-wise and also interruptions occurring in each major sub-station and transmission line in the daily load curve which are also being uploaded in the KPTCL website on a daily basis.

Commission's Views

The KPTCL needs to ensure safe grid management in the State by taking up the protection audit of the transmission system regularly. Further, the SLDC shall ensure that grid frequency as per the IEGC norms, is adhered to, in grid operations.

The Commission opines that the transmission infrastructure needs to be strengthened / upgraded inline with the growing National Grid to improve the quality of supply in the State. It also suggested to fast pace the transmission infrastructure strengthening works so as to remove any limitations in the transmission network for transfer of power.

The KPTCL is directed to display on its website, the details of the interruptions occurring in its transmission system duly indicating the maximum and minimum voltage at station bus of each substation, on a monthly basis regularly and report compliance, to the Commission, regularly, every month.

The Commission reiterates that the KPTCL shall,

- a) **Display on its website, on a daily basis, the details of daily load curve (Maximum and Minimum demand), (source-wise) generation of power and the details of source-wise outages with a view to make the general public aware of the power situation in the State;**
- b) **Submit the details of the penal UI charges for any over drawal of power, month-wise, regularly to the Commission.**

6. Directive on Capital Works Programme:

The KPTCL was directed to

- a) Submit the details of capex actually incurred and capitalization of assets in the formats already prescribed by the Commission to undertake necessary prudence check during Annual Performance Review.
- b) Maintain separate accounts with respect to the costs incurred in respect of lines and bays respectively.

Compliance by KPTCL:

- a) The Commission vide letter No KERC/M/03/2018-19/400 dated 15.06.2018 directed KPTCL to conduct post Commissioning analysis of capital works categorized during FY18 as per the guidelines prescribed thereon. KPTCL has conducted the analysis and has submitted the report to the KERC vide letter No. KPTCL/B36/2018-19/87637/685 dated 01.09.2018.
- b) Costs incurred in respect of lines and bays are furnished based on the Audited Accounts for FY18.
- c) Further, capital works planned for 5th MYT period is prepared and submitted.

Commission's Views:

The Commission has been directing the KPTCL to submit the details of the capex incurred and capitalization of assets as per the prescribed formats and any other details sought relating to capex, within the time prescribed, to enable it to conduct prudence check during the APR of the respective years. The Commission reiterates its directive that the KPTCL shall continue to –

- i) **Submit the details of capex incurred and capitalization of assets, to undertake necessary prudence check during the APR.**
- ii) **Maintain separate accounts with respect to the costs incurred in respect of lines and bays.**

7. Directive on Studies conducted:

The Commission had directed the KPTCL to have a fresh look into its manpower requirements keeping in view the computerization of its operational and financial activities and also keeping in view the technological advancements and the changed organizational set-up.

The Commission in its earlier Tariff Orders had directed the KPTCL to complete the manpower studies at the earliest and submit the interim report to the Commission.

Compliance by KPTCL:

- a) The recommendations of the Internal Committee were reviewed by the functional directors and they have submitted their opinion. Based on this opinion, an implementation committee is being constituted to look into modalities of implementation during 2019-20.
- b) KPTCL has reviewed the recommendations made by the Internal Committee and is in the process of finalizing the same. KPTCL will be implementing the recommendations as per the report by 31st March, 2019.

Commission's Views:

The Commission notes that:

- a. KPTCL is yet to take a decision on implementing the recommendations of the Committee constituted by it.

- b. KPTCL has been furnishing the same status to the Commission since last couple of years.

The Commission also notes with displeasure that, the compliance submitted by the KPTCL is not satisfactory. The KPTCL has to submit a time-bound action plan for implementation of the recommendations made by the Internal Committee as claimed it. The Commission directs KPTCL to submit a copy of the report of Internal Committee / recommendations of the internal committee and the reviews made by the functional directors of KPTCL, along with the time-bound action plan to the Commission.

The KPTCL shall, strictly expedite action to finalize its views on the manpower study recommendations and implement the same for ensuring optimum utilization of its manpower and to minimize the operational costs, in the organization.

The Commission opines that there is a need to streamline the personnel deployment and career growth and in order to achieve higher employee productivity and accrual of greater benefits to the organization which would also reduce the tariff burden on the consumers. Further, the Commission observes that any further delay in implementation of the study report by the KPTCL would only lead to inefficient utilization of its human resources.

The KPTCL during that Public Hearing held on 20.02.2018 had agreed to redo the study keeping in view the suggestions made and finalize the same by March, 2018. Whereas, in its reply to the preliminary observations, the KPTCL has stated that it will submit the recommendations of the Internal Committee by 31st March 2019.

The Commission reiterates that the KPTCL shall ensure implementation of a proper manpower planning strategy with a view to ensure optimum use of human resources and to minimize the operational costs and submit a compliance report thereon to the Commission, within three months from the date of issue of this Order.

8. Directive on prevention of electrical accidents:

The Commission had directed the KPTCL to, prepare an action-plan to effect improvements in the transmission network and also implement safety measures to prevent electrical accidents. The detailed Transmission Line and Sub-Station division-wise action plans were to be submitted to the Commission within two months of the date of the Tariff Order.

Compliance by the KPTCL:

The Zonal Chief Engineers are regularly monitoring works related to rectification of hazardous locations. Zone-wise action plan for prevention of electrical accidents was furnished to the Commission vide letter No. KPTCL/B36/2018-19/87676/965-69 dated 02.11.2018.

Commission's Views:

The Commission notes that the KPTCL has submitted a detailed action-plan for implementing safety measures to prevent electrical accidents occurring in the transmission network in its jurisdiction. It is observed that out of the total 779 identified number of hazardous works requiring rectifications, at different locations in its transmission network, only 164 works are completed, 352 works are in progress and 281 works are yet to be rectified / taken up. As per the data furnished in its tariff filing for FY18, the total number of hazardous locations rectified was 154, out of the identified number of 602.

These statistics indicate that, the rectification work taken up by the KPTCL is progressing at a very slow pace. The works of rectifying the identified hazardous installations / locations need to be expedited and completed in the transmission network within the targeted time, to prevent possible accidents involving human and livestock.

KPTCL shall initiate necessary measures aimed at prevention of electrical accidents in its transmission system by conducting regular review of such works. The KPTCL shall also take necessary action for conducting continuous awareness campaign on electrical safety aspects, including sensitising its field staff so as to sustain its efforts to prevent and minimise accidents.

The Commission reiterates its directive to the KPTCL to speed up the work of rectification of hazardous locations and also to regularly submit its action-plan for prevention of electrical accidents in transmission lines and substations.
