

APPENDIX-1

COMMISSION'S DIRECTIVES AND COMPLIANCE BY THE KPTCL

The Commission, in its Tariff Order dated 11th April, 2017 and in the earlier Tariff Orders, under the MYT framework, had issued the following directives for compliance by the KPTCL. The compliance there of is discussed in this section.

1. **Reactive Power compensation and restoration of failed Capacitors:**

The Commission had taken note of the availability of 3,913.61 MVAR capacitors in the KPTCL system against the installed capacity of 5,588.32 MVAR. The Commission therefore had directed the KPTCL to develop immediately an action plan for restoration of failed capacitors and submit monthly status report.

Compliance by the KPTCL:

- a) 738.101 MVAR failed capacitors have been restored by the end of March, 2017.
- b) Action has been taken to install 11 kV class capacitors' banks of about 351 MVAR in Bengaluru transmission network during 2016-17.
- c) The Chief Engineers of the transmission zone are taking timely action to restore the failed capacitors, as and when they fail.

Commission's Views

The Commission notes that the KPTCL has taken timely action to restore the failed capacitors in its transmission network and installed 11 kV class capacitor banks in the substations located in Bengaluru Transmission Zone. 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 capacity 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, to ensure maintaining them in a healthy condition in the transmission system, for effective reactive power management which would help in achieving improvement in bus voltages, reduction of transmission losses and minimize/avoidance of payment of reactive energy charges to the CTU.

The Commission reiterates its directive that the KPTCL shall take timely action to restore all the failed capacitors as and when they fail and submit monthly status reports thereon to the Commission, regularly.

2. Transmission System Availability (TSA) – Monthly Report:

The Commission had directed that the KPTCL shall submit the monthly reports of Transmission System Availability duly certified by the SLDC, with effect from March, 2015.

Compliance by the KPTCL

- a) Maintenance of elements of transmission system is being carried out regularly by the respective Transmission Lines and Substation divisions. Also replacement / augmentation of old / obsolete equipment is being taken up on regular basis.
- b) System availability for the financial year ending 31.03.2017 certified by the SLDC, has been submitted to the Commission vide letter No. KPTCL/B36/21474/2016-17/239-43 dated 31.07.2017. Further, System availability for the months of April to June, 2017 duly certified by the SLDC was submitted to the Commission vide letter No. KPTCL/B36/70603/2017-18/ 305 dated 20.09.2017.

Commission's Views

The Commission notes that the KPTCL is submitting the Zone-wise Transmission System Availability reports. The Commission, after examining such reports would reckon the Transmission System Availability for the KPTCL. As the Transmission System Availability to be reckoned has a bearing on the incentives to be allowed, it is necessary that the KPTCL should carry out proper scrutiny at various levels in the organisation, duly obtaining the

feedback from the ESCOMs also, to ensure that correct Transmission System Availability is reckoned for the State.

The Commission directs the KPTCL to take necessary action to maintain the elements of the transmission system in a healthy condition by carrying out maintenance works as per the schedule, conduct Condition Monitoring of the substation equipment and Residual Life Assessment (RLA) tests for the old equipment in the substations, to ensure reliability in power supply.

The Commission directs that the KPTCL shall submit the monthly reports of Transmission System Availability duly certified by the SLDC, regularly, to the Commission.

3. Directive on MIS & Implementation of Intra-state ABT:

The KPTCL was directed to improve its Management Information System, and in its filing, to give 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, since 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 on time consistent data regarding 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, the KPTCL has reported compliance on implementation of Intra-State ABT during the first and second quarter Review meetings held on 25.10.2017 in the Commission. The Commission was apprised of the progress made so far and difficulties faced by the KPTCL in implementation of the Intra-State ABT.

Commission's Views

During the Review meetings held with KPTCL/ESCOMs in the Commission, it was stressed that the implementation of the Intra-State ABT in the State 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 implementation. In spite of this, there is no further progress in implementation of the Intra-State ABT in the State. In this regard, the KPTCL is directed to follow up with all the participants and stakeholders to expedite implementation of the Intra-State ABT regime fully in the State without any further delay.

The Commission reiterates that the KPTCL and ESCOMs shall take necessary measures to achieve full implementation of the Intra-State ABT and report compliance thereon to the Commission within one month from the date of this Order and thereafter report the status/progress 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 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

The month-wise voltage-wise transmission losses for the year 2016-17 has already been furnished to the KERC vide letter dated 30.05.2017 and details up to September 2017 were submitted vide letter dated 27.11.2017.

Commission's Views

The Commission notes that the KPTCL has submitted the transmission losses for the FY17. It is important that the KPTCL on the basis of energy audit conducted needs to analyse the energy losses occurring in the transmission system and take suitable measures to ensure bringing 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 IEGC (latest amendment) 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 for any over drawal will not be allowed to be passed on to the consumers through tariff. Any such penal charges 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 source-wise 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 during the Public Hearing on the tariff proposals of KPTCL, held on 20.2.2018 has opined that the transmission infrastructure needs to be strengthened/upgraded in line with the growing National Grid to improve the quality of supply in the State. It also suggested to fast pace strengthening of transmission infrastructure works so as to remove any limitations in the transmission network for transfer of power.

Further, the Commission notes that the KPTCL is not displaying on its website the details of interruptions occurring in its transmission system duly indicating the maximum and minimum voltage at station bus of each substation, on a monthly basis regularly. The KPTCL is therefore, directed to display on its

website the details of the same and report compliance, to the Commission, regularly, every month.

The Commission reiterates that the KPTCL shall display on its website, on a daily basis, the details of daily load curve (Maximum and Minimum demand), generation of power source-wise and the details of source-wise outages with a view to make the general public aware of the power situation in the State.

6. Directive on Capital Works Programme:

The KPTCL was directed to:

- a) Submit the details of capex actually incurred and capitalisation 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 the KPTCL:

- (i) The Commission vide its letter dated 4.10.2017 had directed the KPTCL to conduct post commissioning analysis of capital works categorized during FY17 as per the guidelines prescribed thereon. The KPTCL has conducted the analysis and has submitted the report to the Commission vide letter dated 27.11.2017.
- (ii) Costs incurred in respect of lines and bays are furnished based on the Audited Accounts for FY17 and enclosed as **Annexure 1**.

Commission's Views

The Commission has been directing the KPTCL to submit the details of the capex incurred and capitalisation 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 capitalisation 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 computerisation of its operational and financial activities and also keeping in view the technological advancements and the changed organisational 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 of ASCI.

Compliance by the KPTCL

The recommendations of the internal committee are being reviewed by the functional directors for taking a decision on the possibilities of the implementation of the study report.

Commission's Views

The Commission notes that KPTCL is yet to take a decision on implementing the recommendations of the Committee constituted by it. The KPTCL shall expedite action to finalise its views on the manpower study recommendations and implement the same for ensuring optimum utilisation of its manpower and to minimise the operational costs, in the organisation.

Further, the Commission during the Public Hearing on the tariff proposals of KPTCL held on 20.2.2018 has observed that there is a need to streamline the staff pattern by clearly linking it to the productivity of employees in order to achieve greater benefits to the organisation as well as to reduce the burden to the consumers. Also, the Commission observed that any further delay in implementation of the study report by the KPTCL would only lead to inefficiency in utilising its human resources. In response, the KPTCL during that Public Hearing has agreed to redo the study keeping in view the suggestions made and finalise the same by March, 2018.

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 minimise 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 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 the works and Zone-wise Annual Action Plan for prevention of electrical accidents was furnished to the Commission vide letter dated 30.10.2017.

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 602 identified number of hazardous works requiring rectifications, at different locations in its transmission network, only 154 works are completed, 70 works are in progress and 378 works are yet to be taken up. This indicates that rectification work being taken up by the KPTCL is 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 to human beings and to livestock.

Further, KPTCL shall take necessary measures aimed at prevention of electrical accidents in its transmission system by conducting regular review of such works.

Also, the KPTCL shall take necessary action for continuous awareness campaign on electrical safety aspects including sensitising of its field staff so as to sustain the campaign on safety aspects.

The Commission reiterates its directive to the KPTCL to regularly submit its action plan for prevention of electrical accidents in transmission lines and substations.