

APPENDIX

COMMISSION'S DIRECTIVES AND COMPLIANCE BY THE KPTCL

The Commission has been issuing directives to the KPTCL in its Tariff Orders from time to time. The status of the compliances by KPTCL to the various directives issued and the Commission's observations thereon, are discussed below:

1. Reactive Power compensation and restoration of failed Capacitors

The Commission in its Tariff Order dated 14.05.2018, had directed the KPTCL to take timely action to restore all the failed capacitors and submit monthly status report thereon to the Commission. Further, the Commission in its preliminary observation, had observed that, as per the details of month-wise availability of Capacitor Banks submitted by KPTCL, the availability of working capacitor was 75.21% during the month of April-2018 and 77.09% during March, 2019, indicating that there is only marginal improvement of 1.88% in the percentage availability of Capacitor Banks, during FY19. Hence, the Commission directed KPTCL to furnish the following information:

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

Compliance of Directive by the KPTCL:

KPTCL has submitted that:

- a) The Chief Engineers of each transmission zone are taking timely action to restore the failed capacitors, as and when they fail. The month-wise details of status of capacitor banks are being periodically submitted to the Commission. The same is reviewed by the Commission during quarterly review meetings and observations thereon have also being complied with.
- b) As regards details of reactive energy charges paid to the CTU every month, KPTCL in its reply to preliminary observation, has submitted that KPTCL has paid Rs.6,82,194.00 and has received Rs.2,51,62,639.00 towards reactive energy charges during FY19.

c) As regards, action plan for restoring the remaining failed capacitors, KPTCL has submitted that the Chief Engineer (Electy.) Transmission Zones have initiated steps to keep 5% capacitor cells as spare of each type in terms of physical dimension and rating together with associated equipment/components of capacitor bank like neutral CT, relays, CB spares shall be maintained in the store stock, so that the capacitor banks can be restored as and when they fail. At present 82 Purchase Orders have been placed and 30 enquiries have been floated to procure spares for restoration of failed capacitor banks. Thus, KPTCL has been making continuous efforts for restoration of failed capacitor banks.

Commission's Views

The Commission notes that providing reactive power compensation and restoration of failed capacitors is a continuous task. KPTCL is submitting month-wise details of status of capacitor banks to the Commission. Further, it is observed that KPTCL is taking measures to restore the failed capacitors in its transmission network and is installing additional capacity of capacitor banks into the system to achieve the desired reactive compensation in the transmission network for ensuring efficient grid management. 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 and to save KPTCL from paying reactive energy charges. Further, it would also help KPTCL in achieving improvement in bus voltages, reduction of transmission losses and minimize / avoid payment of reactive energy charges to the CTU.

The Commission, therefore, reiterates that the KPTCL shall:

- a. Restore any failed capacitors timely; and
- b. Regularly submit the monthly status report of capacitor banks duly furnishing the following details:
 - i. Reactive energy charges paid to the CTU every month; and
 - ii. Action plan for restoring the remaining failed capacitors.

2. Transmission System Availability – Monthly Report:

The Commission has directed KPTCL:

- a) To take necessary action to maintain elements of transmission system in a healthy condition by carrying out maintenance work as per schedule and conduct Condition Monitoring of substation equipment and Residual Life Assessment (RLA) tests for old equipment to ensure proper reliability in supply.
- b) To submit the monthly report of transmission system availability duly certified by SLDC, regularly to the Commission.

Further, the Commission in its preliminary observations, had observed that KPTCL did not furnish the details of outages in RE generation for want of network and the resultant loss of RE Generation. Further, the Commission also has observed that during the 58th Advisory Committee Meeting held on 23.09.2019, KPTCL had submitted the details of the regions having transmission network constraints, details of the RE generators affected by it and action taken by KPTCL to resolve the same. As such, KPTCL was directed to submit the expected time frame for completion of each of the projects undertaken by them for resolving the issues on transmission network constraints.

Further, the Commission had also observed that the system outages in different zones were ranging between 121 hours (5 days) to 3077 hours (128 days) affecting the system availability significantly. Hence, KPTCL was directed to submit the action taken report for reducing such outages by taking remedial action.

Compliance of Directive by the KPTCL:

- a) Regular maintenance of elements of transmission system is being carried out by the respective TL & SS divisions. Also, replacement/augmentation of old/obsolete equipment are being taken up on regular/need basis. As regards Condition Monitoring of substation equipment, the Commission was apprised of the measures taken by KPTCL, during Advisory Committee meeting held on 16.11.2018.

b) System availability for the financial year ending 31.03.2019 certified by SLDC has been submitted to the KERC vide letter No. KPTCL/B36/87666/2018-19/1447 dated 23.10.2019.

c) KPTCL in its reply to the preliminary observation, had submitted the details of area-wise RE Generators affected due to evacuation issues and the remedial action initiated by KPTCL. Further, the Commission in its 59th Advisory Committee Meeting directed KPTCL to submit an Action Plan for reducing system constraints for evacuation of RE Generation in Chitradurga District. As such, KPTCL submitted the following details:

Sl. No.	Project	Status
1	Establishing 2x100 MVA, 220/66 kV sub-station at Hosadurga, Chitradurga District.	Work under progress; Target Date of Commissioning (DoC): March 2020
2	Const. of 220 kV SC line on DC towers for a length of 15.168 Kms from existing 400 kV PGCIL station at Beeranahalli (Hiriyur) to existing 220/66/11 kV KPTCL station at Hiriyur in Chitradurga district in existing corridor of 220 kV SC line from Hoysalakatte to 220/66/11 kV station Hiriyur (partly in new corridor i.e. from PGCIL point to link 220 kV SC line from Hoysalakatte to 220/66/11 kV SRS at Hiriyur) along with const. of 02 nos. of 220 kV TBs at 220/66 kV Hiriyur station.	Work under progress. Target DoC: March 2020
(b)	Const. of 220 kV DC line on DC towers from existing 220/66 kV station Chitradurga to existing 220/66 kV Station Hiriyur in Chitradurga district in existing corridor (partly MC between LILO point of Guttur-Hiriyur line to 220 kV Chitradurga S/s in the existing corridor (5.255 Kms - 03 circuits) for a length of 36.506 Kms and const of 01 no. of 220 kV TB at 220 kV Chitradurga Station (114 DC towers ; 35 MC towers).	Work under progress. Target DoC: March 2020
3	Providing additional 1X100MVA, 220/66kV Power transformer at 220/66kV Thallak substation in Chitradurga District.	Work under progress. Target DoC: June 2020
4	Providing 3rd 100 MVA, 220/66 kV power transformer at 220/66 kV Hiriyur sub-station.	Work under progress. Target DoC: Jan 2020
5	a. Reconstruction of 66kV SC idle line on SC towers having Coyote conductor from 66kV Chitradurga old S/s to 66kV Pandrahalli substation for a distance of 17.5kms by 66kV SC line on DC towers using Drake conductor in the existing corridor. b. Providing additional 66 kV circuit between H.D. Pura tap point and H.D. Pura Substation for a distance of 10kms with Coyote conductor to provide LILO arrangements at 66/11kV H.D. Pura substation along with construction of 1 No of 66kV terminal bay at H.D. Pura substation.	Work short closed. Retendering activities under progress. Target DoC: May 2021

6	Strengthening of 66 kV Holalkere-Pandarahalli SC to DC line.	Work short closed. Retendering activities under progress. Target DoC: Jan 2021
7.	Construction of additional 66kV SC line having Coyote conductor from 66/11kV Hangal substation to 66/11kV Rampura substation with LILO at 66/11 kV Nagasamudra substation for a distance of 28kms approx. along with one number of 66kV terminal bay at 66/11kV Hangal & Rampura substations and two numbers of 66kV terminal bay at 66/11kV Nagasamudra substations.	Survey work under progress. Target date of commissioning: May 2021
8.	a. Stringing of Second circuit with coyote conductor between 66kV P.D.Kote and 66kV Hariyabbe substations on existing D/C towers for a distance of 12.25 Kms along with two nos of new terminal bays, one at P.D.Kote and one at Hariyabbe substation.	DPR under preparation. Target date of commissioning: July 2021
	b. Replacement of existing "66kV S/C coyote line on S/C towers" between 66kV Hariyabbe sub-station and Hariyabbe tap point by "66kV D/C Drake line on D/C towers" for a distance of 10.25 Kms and creation of one terminal bay at Hariyabbe sub-station for providing LILO arrangement.	
	c. Replacement of existing "66kV D/C coyote line on D/C towers" between 220/66kV Hiriur sub-stations and Hariyabbe tap point by "66kV D/C Drake line on D/C towers" for a distance of 18.0 Kms.	
9.	Conversion of 66kV SC line on SC towers to DC line on DC towers from 220kV Chitradurga Station to 66kV Turuvanur Station with coyote conductor in the existing corridor for a distance of 22Kms along with construction of 1 No. of 66kV Terminal Bay at both stations.	Survey under progress. Target date of commissioning: May 2021

d) As regards outages, KPTCL submitted that those are specific to certain works where maintenance of Transmission lines inclusive of replacement of insulators were taken up. These works require line clear for substantial period and as per Clause 3.2 of KERC (Terms and conditions of determination of Transmission Tariff) Regulation 2006, the transmission elements are deemed to be available in case the outages are on account of maintenance works.

Commission's Views:

The Commission notes that the KPTCL is submitting the Zone-wise Transmission System Availability reports every month duly certified by the Chief Engineer (EI), SLDC. The Commission, after examining such reports would consider the Transmission System Availability for the KPTCL. Since 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 regular inspections and maintain the transmission system availability at the percentage levels as specified by the Commission from time to time.

The Commission had forwarded the TSA as submitted by KPTCL to the ESCOMs to obtain their feedback and also to ensure that correct Transmission System Availability is reckoned for the State. The Commission has received response from HESCOM and GESCOM in the matter. BESCOM and HESCOM has concurred with the TSA as submitted by KPTCL for Bengaluru Zone and Bagalkot zone respectively for FY19.

The Commission reiterates that KPTCL should 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. Further, KPTCL should expedite the ongoing project execution work to reduce system constraints, for evacuation of RE Generation and to avoid time and cost over-run.

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

3. Implementation of Intra State ABT:

KPTCL was directed to follow up the matter of implementation of Intra-State ABT with all participants and stakeholders to expedite implementation of the intrastate ABT regime fully in the State.

KPTCL and ESCOMS shall take necessary measures to achieve full implementation of Intra-State ABT and report compliance thereon.

Compliance of Directive by the KPTCL:

As directed, KPTCL in its Application has submitted that it has reported compliance on implementation of Intra-State ABT during Advisory Committee

meeting held by KERC periodically. In the meetings, the Commission has been directed KPTCL to issue regular bills without waiting for consent from BESCOM & HESCOM. Accordingly, SLDC commenced issuing regular bills from October 2018 and the same was appraised to the Hon'ble Commission during the Advisory Committee meeting held on 16.11.2018. At present, regular bills are being issued to ESCOMs on weekly basis.

Commission's Views:

During 59th Advisory Committee Meeting held on 13.01. 2020, KPTCL submitted that it has started issuing the bills from the 1st Week of September, 2018 onwards. Weekly bills up to the end of May 2019 have been issued to all the ESCOMs, but none of the ESCOMs have paid the bills till date, due to the issues pertaining to energy allocation and difference in the readings in energy meters and SCADA.

The Commission reiterates that the KPTCL and ESCOMs shall take necessary measures to achieve full implementation of the Intra-State ABT by sorting the issues among KPTCL and the ESCOMs and report compliance thereon to the Commission.

4. 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 had opined that there is a need to streamline the personnel deployment and career growth to achieve higher employee productivity, accrual of greater benefits to the organisation that would result in reduction of tariff burden on the consumers and that any delay in implementation of the study report by KPTCL would lead to inadequate and inefficient utilization of its human resources. Therefore, the Commission in its earlier Tariff Orders also had directed the KPTCL to complete the manpower studies at the earliest and

submit the report to the Commission. Also, KPTCL was directed to 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 thereon to the Commission, within three months from the date of the Tariff Order dated 30.05.2019.

Compliance by KPTCL:

KPTCL has submitted the compliance report on Man Power Study to the Commission, vide Letter No KPTCL/B36/2019-20/1483/1689-92 dated 25.11.2019.

Commission's views:

The commission notes that the KPTCL has submitted the report on Man Power Study taken up in KPTCL. It is reported that, the statistics of the sanctioned post and the staff as reported by the committee are irrelevant. In this regard, the comparison of data of the sanctioned post and the staff as on 31.03.2019 has been done with the data as reported by the committee and the action to be taken is under contemplation. However, the Commission has noted the submission made by KPTCL that, while sanctioning new posts approval of Director (Transmission) is taken as per the recommendation of the committee.

The Commission noted that, KPTCL has annulled totally 291 posts as per the recommendations of the committee and reduced the employee cost and submission of KPTCL on implementation of Man Power study report as per the internal committee report and the recommendation of Director (Transmission) based on the requirement in reality.

Commission notes that, vide order number KPTCL/B5A/84263/2018-19 Bengaluru dated 27.04.2019, KPTCL has informed that 291 post in KPTCL and 521 posts in various ESCOMs are annulled. KPTCL has submitted the details of annulled posts in KPTCL vide Annexure-1 but did not submit the details of cancelled posts in ESCOMs.

The Commission, in its preliminary observations, directed KPTCL to furnish the details of posts annulled in various ESCOMs along with the details of savings in cost due to annulment of total posts in KPTCL and ESCOMs. Whereas, KPTCL submitted the details of posts annulled in ESCOMs and saving in cost due to annulment of posts only in KPTCL. It has not submitted the details savings in costs due to cancellation posts in ESCOMs.

The Commission hereby directs that the report submitted by the internal committee may be circulated among all the ESCOMs and similar action be taken in all the ESCOMs for streamlining the deployment and career growth 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.

The Commission reiterates that the KPTCL shall ensure proper implementation of the Man Power planning strategy with a view to ensure optimum use of human resources to minimise the operational costs. KPTCL shall submit the savings in cost achieved due to annulment of posts in ESCOMs.

KPTCL shall submit a compliance report thereon to the Commission, within three months from the date of this Order.

5. Directive on prevention of electrical accidents

The Commission had directed the KPTCL to prepare a stringent action plan to effect improvements in transmission network and also implement safety measures to prevent electrical accidents. The detailed Division-wise Transmission Line and Sub-Station-wise action plans were to be submitted to the Commission.

Compliance by KPTCL

KPTCL has submitted that 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/B36/2018-19/87676/263-66 dated 13.05.2019.

Commission's views:

The Commission notes that, as per the data submitted by KPTCL vide letter No. KPTCL/ B36/ 2018-19/ 87676/263-66 dated 13.05.2019 and letter No. KPTCL/B36/ 2019-20/1495/1220 dated 13.09.2019, KPTCL has rectified only 51 hazardous locations as against 369 identified locations as at the end of 1st Quarter of FY20 i.e., only 13.82% of the identified hazardous locations have been rectified.

Looking into the very slow pace of progress in respect of the rectification of hazardous locations, which is required to prevent electrical accident in future, the Commission, in its preliminary observations had directed KPTCL to provide suitable reasons for not formulating any strategic action plan to rectify all the hazardous locations, within a definite timeframe, in order to avoid electrical accidents.

The Commission notes with displeasure the casual reply by KPTCL that the identification and rectification of hazardous locations is a continuous process involving survey, estimation, approval, inviting tenders, awarding works etc., instead of initiating strategic, stringent action plan to identify and set right the already acknowledged hazardous locations. If KPTCL doesn't initiate stringent action plan to set right the already identified hazardous locations and do not take aggressive steps to identify the hazardous locations, electrical accidents are likely to occur causing loss of life of human beings and livestock.

Further, KPTCL has not submitted any details of action taken to conduct awareness campaign on electrical safety aspects, including sensitising its field staff so as to sustain its efforts to prevent and minimise accidents.

Therefore, the Commission reiterates directive to the KPTCL to speed up the work of rectification of hazardous locations and also to submit the stringent, strategic action plan for prevention of electrical accidents in transmission lines

and substations quarterly to the Commission along with the number of locations already set right.

6. Directive on Energy Audit

The Commission, in its earlier Orders, had directed KPTCL to furnish the voltage wise losses on a monthly basis.

Compliance by the KPTCL:

The details of month-wise, voltage-wise transmission losses for the year 2018-19 have been furnished to the Commission vide letter No. KPTCL / B36/87665/2018-19/667 dated 24.06.2019.

Commission's Views:

The Commission notes that the KPTCL has submitted the consolidated figures of transmission losses for the FY19. Further, the KPTCL is directed to continue to analyse the losses occurring in the transmission system and identify high loss making transmission lines and on the basis such analysis, take suitable measures to ensure bringing down the losses with a view to achieving an efficient transmission system.

The Commission reiterates that the KPTCL shall furnish voltage-wise losses on a monthly basis after reconciliation statement of the energy supplied to the ESCOMs at interface points.