

TRANSMISSION CORPORATION OF TELANGANA LIMITED

Reply to the comments on TSTRANSCO's filing for determination of ARR and tariff for transmission business for the period 2019-20 to 2023-24.

2. Telangana State transmission licensee TSTRANSCO in its ARR and FPT for the 4th Control Period (2020-24) at several places has mentioned that load forecast and resource plan for 4th control period was already submitted to the Commission and the proposed ARR is based on these load forecast and resource plan. The following extracts are evidence to this claim:

“Resource Plan for the Fourth (4th) Control Period: As per clause 9 of the Regulation No.5 of 2005 (Determination of Transmission Tariff), the Resource Plan for TSTRANSCO was filed before the Hon'ble Commission”. (p.9, para 13)

“The licensee has prepared a detailed investment plan for 4th control period (FY 2019-20 to FY 2023-24) based on Resource Plan submitted to the Hon'ble TSERC by making comprehensive analysis of Transmission Network existing in the state and load conditions/growth in the ensuing five years at 765kV/400kV/220kV and 132kV voltages”.(p.12)

“In compliance with the Clause 9 of APERC Regulations on Terms and Conditions for Determination of Tariff for Transmission of Electricity (Regulation No.5 of 2005) as adopted by TSERC, TSTRANSCO already submitted the Resource Plan comprising of Transmission load forecast and Capital Investment Plan for the 4th and 5th Control Period”. (p.29, para.3)

From the above extracts it is clear that the present ARR proposals are based on the load forecast and resource plan for the 4th control period already submitted to the Commission. It is needless to mention that an examination of the documents related to load forecast and resource plan is very important to assess ARR for the 4th control period. But these load forecast and resource plan are not made available to the public by TSTRANSCO along with its ARR and FPT filings for the 4th control period. We request the Commission to direct the TSTRANSCO to make load forecast and resource plan for the 4th and 5th control periods available to the public immediately.

TSTransco reply: -

Hon'ble Commission may take a view.

3. The past experience shows that the electricity utilities in the state tend to overestimate the electricity loads, particularly peak load in the state. The same applies to the present ARR and FPT filings also. A summary of peak load during each year of the 4th control period is provided through Table 7 (a) on page 30 of the present ARR and FPT filings by TSTRANSCO. According to this Table peak demand for the year 2019-20 (current year) is projected to be 15,240 MW. Newspaper reports mentioned that highest peak demand during this year until now was 11,703 MW recorded on August 30, 2019. On December 27, 2019 peak demand of 11,182 MW was recorded. This demand is expected to reach about 13,000 MW by the end of this year. (The Hindu – 29.12.2019; Andhra Jyothi – 28.12.2019). This shows that peak demands arrived at in the load forecasts of TSTRANSCO are over estimated by about 20%. This past experience demand a thorough examination of load forecast and resource plans of TSTRANSCO for the 4th control period.

TSTransco reply:-

Peak demand is a function of Contracted Capacity, Coincident load, Agriculture load, Seasonal changes, LIS loads etc., Variation of +-5% is expected in the forecast in each parameter. So the cumulative effect on the overall Peak demand can vary according to the dynamics of these parameters.

The Demand pattern of Telangana state varies from Off Peak to Peak in a day from 1500 – 3000 MW depending on Seasonal Loads particularly Agriculture. In the State there are two farming crop seasons i.e., Kharif and Rabi. Further, during Rabi Season, Summer demand also gets added to Agricultural demand.

The objective of Transmission planning was to develop Transmission expansion plan based on the load forecast and generation supply scenario. The Transmission investment plan was prepared based on load flow studies and short circuit studies considering the peak demand.

The Transmission load forecast/Investment requirement depends on the following aspects.

- a) Generation Capacity additions within the state requires Transmission evacuation of power.
- b) Growth in Demand at different load centres of the state during the 4th control period requires expansion of Transmission system in the state.

As such, TSTransco projected contracted capacity of 15,240 MW for the FY 2019-20 for which TSDiscoms enter into agreements with the Power Generators .The contracted capacity is planned to meet the

peak demand of the state considering the demand and generation variations, RPPO obligation, uncertainty in power generation from hydel sources and unwarranted sudden outages of any units of the power plants and periodical maintenance of power plants to keep ready to meet the demand so as to maintain reliability, grid discipline of the System, sudden high rise in power demand in summer season etc.

The Lift irrigation schemes with huge demand of power are expected to be operational in the coming years. Mission Bhagiratha schemes and other dedicated industrial loads are also being planned.

4. According to TSTRANSCO's ARR for the 4th control period (p.14) transmission contracted capacity is expected to increase from 15,235 MW in the first year of the control period to 21,114 MW in the final/fifth year of the control period. In other words, contracted transmission capacity is expected to increase by 38.59% during the 4th control period. During the same period ARR of transmission business is expected to increase from Rs.2,012.08 crore to Rs.4,274.77 crore, registering an increase of 112.46%. According to this ARR growth in transmission expenditure during 4th control period is three times higher than the growth in transmission capacity proposed to be contracted. From this it is quite evident that aggregate revenue requirement for the 4th control period is over estimated. If we take in to account that peak demand in load forecast of TSTRANSCO is already overestimated the proposed increase in ARR arrears to be inflated beyond imagination. Here it is also important to note that the true up/down of transmission costs for 3rd control period has shown that TSTRANSCO has surplus of more than Rs.1,000 crore. This is nothing but overestimation ARR during the 3rd control period. We request the Commission to see that

this overestimation of transmission ARR is not repeated during the 4th control period.

TSTransco reply:-

Network addition is increased as per the increase in the Contracted Capacity by 38.59% by the end of 4th control period. The cost of Network addition apparently assumed to be increased linearly as per the increase in the contracted capacity which is not true, the cost of network addition depends on the inflation of the Electric equipments in the control period, Technology adopted like many GIS substations and Underground cables CKM are added in this control period whose cost varies 2.5 to 3 times over conventional technology , ever increasing land costs , ROW costs, Employee costs etc.,

Also in the 4th Control period the cost of addition of fixed assets on cumulative basis is expected to increase from 17652.09 Cr to 31,869.75 Cr thereby there is an 80% increase in fixed assets cost wise, pushing the Depreciation to increase by 103%, Cost of servicing debt by 64% and O&M costs by 56%. All the above reasons are reflected in the increase in the ARR from 2019-20 to 2023-2024.

The Aggregate Revenue Requirement (ARR) planned for the 4th control period will vary from year to year depending on the Capital Investments, O&M expenses, Depreciation, Taxes on Income and Return on capital employed.

Capital Investments of transmission schemes are being taken up for evacuation of power from the power projects, system improvement i.e., to meet the additional load demand and for improvement of voltage profile, voltage control and reduction of losses.

Hence the projections in ARR increase due to the corresponding increase in O&M expenses, Depreciation, Taxes on Income, Return on Capital employed year on year for the 4th control period. The increase in contracted capacity is year on year is due to the load forecast prepared as per the Resource Plan.

Regarding Rs.1000 Crs. of surplus from the True up of 3rd control period, TSTransco already passed on Rs.634 Crs. to the consumers as benefit as per the Tariff Order issued by the Hon'ble Commission on 01.05.2017 for the balance period of 3rd control period and the balance Rs.367 Crs. is proposed as benefit to the consumers for the FY 2019-20 (while filing ARR of 4th control period).

The Transmission business includes Power Evacuation, System Improvement and Operation & Maintenance of all EHT lines and sub-stations at 400kV, 220kV and 132kV level. As such, the functions of TSTRANSCO covers Construction, Operation & Maintenance of all EHT lines and sub-stations. Sometimes, the constructions activity may be for extending Power Evacuation facilities and some construction activities may be for Transmission System Improvement/System strengthening.

The main elements of ARR of TSTRANSCO are O&M Expenses, Depreciation, Return on Capital Employed and Taxes. However, while fixing the transmission tariff the Contracted Capacity (Generation capacity) is being considered.

$$\text{Transmission Tariff (Monthly)} = \text{Net ARR}/12 * \text{Contracted Capacity}$$

Hence, all expenses of the company may not be correlated with the increase in the generation capacity. For example certain expenditure needs to be incurred for Transmission System Improvement,

Strengthening of lines and sub-stations, Renovation, Modernisation & Improvement of existing network etc., which may not result to increase in the generation capacity.

5. TSTRANSCO proposed transmission losses in the range of 3.21% to 3.25% during the 4th control period (p.9, Para 13 b) even when transmission losses reached 2.85% in 2018-19 (3rd control period). TSERC in its transmission tariff order dated 01.05.2017 stipulated transmission loss of 3.10% during the year 2017-18 and 3.09% during the year 2018-19. Adopting high transmission losses range as proposed by TSTRANSCO, for the 4th control period would lead to higher expenditure/ARR that can be avoided. We request the Commission to adopt 2.85% as transmission losses during the 4th control period.

TSTransco reply:-

TSDISCOMs projected Transmission loss considering the base year (FY 2016-17) transmission loss of 3.37% and projected the transmission losses for the FYs from FY 2017-18 to FY 2028-29. The same was included in the Resource Plan.

Based on the Resource Plan the Transmission losses projected for the FY 2019-20 to FY 2023-24 are included in the ARR filings of TSTRANSCO for the 4th MYT control period.

The projections given in Resource Plan are as per the practices prevailing i.e., data given by estimated values of DISCOMs.

In practice the losses are less than the Projected Losses.

The losses are reduced inspite of network being expanded to cater the loads of 24 Hrs Agriculture supply and Industrial Loads.

This could be possible due to the following measures taken by TSTRANSCO.

- 1) The new Sub-stations are constructed in such a way that the long idle transmission lines were effectively loaded thereby increasing the load factor of transmission lines.
- 2) Many EHT transmission lines made LILO to the nearest available substations for effecting the transmission of power at higher voltages.
- 3) The scheduling of power was effectively managed by SLDC thereby reducing the length for which the power is transmitted.
- 4) SLDC of TSTRANSCO has been awarded for the best Grid Management by CEA.

With all the above practices adopted by TSTRANSCO the transmission losses were maintained below the projected values.

Continuing good practices as mentioned above and also with adoption of new technology the losses will be maintained below the projected values of losses.

The revised Resource Plan is also being prepared by TSTRANSCO as per the TSERC instructions.

6. Non-transparent erection of substations, high voltage transmission towers and drawing of high voltage transmission lines is leading to consternation among farmers from whom huge chunks of land is being acquired for these installations. Farmers are not being compensated adequately, as allowed under the existing rules and regulations. Farmers are being made to run from pillar to post to claim their legitimate compensation. The central government rules have

empowered the Commission to see that farmers get adequate compensation with in time. The Commission is requested to see that farmers are not harassed and that they get their compensation at the earliest.

TSTRansco reply:-

TSTRANSCO is paying crop compensation towards damaged crop to the farmers during erection of High Voltage Transmission Towers in their agricultural land. The payments towards crop compensation are made as per the assessment made by Revenue/Horticulture departments against damaged crops as per the procedures in vogue.

With respect to HMDA/GHMC areas of Ranga Reddy District, compensation amounts covering all the damages to the affected farmers in laying of 400kV transmission lines & towers is being paid by TSTRANSCO as per the proceedings of Collector and District Magistrate, Ranga Reddy District dt.08.08.2014.

Ministry of Power vide letter dt.15.10.2015 has issued certain guidelines for payment of compensation towards damages in regard to Right of Way for transmission lines and requested State Governments to take suitable decision regarding adoption of guidelines. In this regard, TSTRANSCO requested Govt., of Telangana for issuing guidelines on the compensation in a rational way. The guidelines from the Telangana Government is still awaited.

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