



proceeding is initiated regarding short term, medium term and long term plan for meeting power requirements in the State of Tamil Nadu and not restricted to grant of time until June 2012 for restriction and control measures. The TANGEDCO was advised to amend the petition to incorporate-

i) the details of associated transmission system for each of the generating stations duly taking into account their commissioning schedule ; and

ii) Effective linkages between transmission system and load centres through proper distribution system with a view to provide quality service as envisaged in various Regulations of the Commission.

2. The matter was again taken up on 12-8-2011. The TANGEDCO filed the revised petition on 12<sup>th</sup> August 2011. This petition also talks of projections upto March 2012 only. The intent and purpose of this petition is, consequent to the directions of the Hon'ble Appellate Tribunal for Electricity, to work out a detailed plan for long, medium and short term so that the restriction and control measures do not become a permanent feature in Tamil Nadu. The revised petition submitted on 12<sup>th</sup> August 2011 also do not meet these requirements. The Commission desired to hear the Chairman and Managing Director, TANGEDCO and Chairman, TANTRANSCO in person in this matter in the FN of 17<sup>th</sup> or 18<sup>th</sup> or 19<sup>th</sup> August 2011 so that the issues are crystallized for further action. The learned counsel for TANGEDCO was directed to confirm the exact date for this hearing.

3. The Commission heard the Chairman, TANGEDCO, Managing Director, TANTRANSCO and Director (Transmission Projects), TANTRANSCO at length on 19-8-2011. A note was submitted by TANGEDCO / TANTRANSCO with regard to the capacity addition of about 4,640 MW by the end of 2012. A presentation was also made by the Director (Transmission Projects), TANTRANSCO. It was explained that during the next five years about 55 Nos. of 230 KV sub-stations will be set up. Two Transmission Corridors at 400 KV level for evacuation of wind power, one from South to North and another from South to West is being planned. One of the Wind Transmission Corridors is proposed to be taken up under the Public-Private partnership route while the other one is proposed to be funded through REC funding. Additional fund requirement for this line is under discussions with REC. They also explained about setting up of 5 Nos. 400 KV sub-station in and around Chennai to increase the power delivery mechanism for Chennai Metropolitan and surrounding areas. It was also explained that this 400 KV Ring Main around Chennai is proposed for funding by Japanese International Co-operation Agency (JAICA).

4. In the medium term, additional power projects to be taken up amounting to about 5000 MW were listed out. These projects are North Chennai Stage III, North Chennai Stage IV, Udangudi, Ennore Annexe and Kundah Pumped Storage. Another list of four projects aggregating to 3,800 MW was also furnished. However, the list of projects did not include projects like Cuddalore Power Project and SPIC Electric Power Project at Tuticorin which were being

pursued by TANGEDCO before the Commission. This needs to be looked into by TANGEDCO.

5. It was further clarified during the presentation that one of the Wind Corridors is proposed to be completed within a period of two years. This clarification was in response to the Commission's query about the evacuation of wind power once Koodangulam Nuclear Power Project is commissioned. It was further explained that in the interim period some local arrangements will have to be made for evacuation of wind power. As regards distribution system upgrades, it was explained that circle-wise schemes are aimed for improvement either through RAPDRP or through other means.

6. The Commission referred to the daily operation report released by Southern Region Load Dispatch Centre for 16<sup>th</sup> August 2011 from which it was inferred that firm power available in Andhra Pradesh was much higher for meeting the specific demand comprising of thermal, hydro and gas/naphtha whereas the Tamil Nadu system was comparatively lower in all these generation at the present stage and is having large quantum of infirm power in the nature of wind energy. Such large quantum of infirm power needs to be properly balanced with support from pumped storage power station or storage of energy in any other cost effective form or TANGEDCO should trade additional power with other States so that the burden of surplus power during certain time periods do not fall on the consumers within the State. The Commission understands that about 100

numbers, 33 / 110 KV sub-stations aggregating to over 10,000 MVA are being planned for evacuation of wind power. The Commission suggested that the STU shall review whether it is optimal to have 100 numbers of 33 / 110 KV sub-station or it can be further optimized. A standardized approach with regard to the sub-stations will also be advantageous from the point of view of maintenance, spares etc.

7. The Commission directs that an amended petition be filed by TANGEDCO taking into account the following aspects:-

- (1) Load forecast for five years and 10 years to address the medium and long term requirements.
- (2) Demand Side Management to forecast the load reduction that can be achieved by DSM measures which should be factored as a reduction in the load forecast referred in item (1) above.
- (3) Generation Planning – Additional capacity requirement:-
  - (i) To be met by conventional power such as thermal, hydro and nuclear. This needs to be further divided into own generation, share from Central Sector Generating Stations, UMPPs, IPPs and power procurement through Case 1 / Case 2 bidding under Section 63 of Electricity Act 2003.
  - (ii) Renewables, such as wind, biomass, bagasse and solar. It is also necessary to forecast the power generation from wind. Wind

Energy being infirm in nature will require certain balancing efforts in the form of pumped storage power station or any other form of cost effective energy storage. In the absence of credible cost effective storage of wind energy, trading of surplus energy seems to be an option which should be explored by TANGEDCO.

(iii) Power available through Renewable Energy Certificate route should also be factored in this analysis.

(4) Transmission Planning:-

This should include the associated transmission system with generation projects and sub-transmission system leading upto the distribution network. The basic idea is to ensure that all the additional generation will ultimately reach the load centres thereby extending the supply to every consumer. In the absence of development of transmission and distribution system for meeting the loads, any additional capacity may not reach the consumer.

(5) Distribution Planning:-

Expansion of distribution system for meeting new loads, upgrading the existing distribution system for improving reliability, upgrading of the existing distribution transformers, introduction of HVDS and LT aerial bunched conductors wherever deemed appropriate, metering for the

- purpose of energy audit and consumer metering, AT&C loss reductions in both technical and commercial respects which may involve technical upgrading and administrative measures are to be taken up.
- (6) All the above planning aspects will have to be correlated with the corresponding investment planning and its source of funding and the timeframe in which the works will be completed.
- (7) TANGEDCO / TANTRANSCO is at liberty to improve the petition over and above what is stated above, for making the petition a comprehensive one.
- (8) The amended petition shall be filed by 20<sup>th</sup> September 2011.

Pronounced in the open court by the Commission on 19<sup>th</sup> August 2011.

**(Sd.....)**  
**(S.Nagalsamy)**  
**Member**

**(Sd.....)**  
**(K.Venugopal)**  
**Member**

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**Secretary**  
**Tamil Nadu Electricity**  
**Regulatory Commission**