

Annexure-I

InWEA's Comments on the Draft Central Electricity Regulatory Commission (Transmission Planning and other related matters) Regulations, 2017

<u>S.No</u>	<u>Title/ Draft Regulations Reference</u>	<u>InWEA's Comments</u>
1	23 Procedure for Transmission Planning (a).... (b).... . . (p) Transmission Planning for Renewable Energy Sources	Transmission Planning with the changing market scenario and increasing contribution of RE The transmission system forms a vital link in the electricity supply chain. Transmission system provides 'service' of inter-connection between the source (generator) and consumption (load centres) of electricity. With current Power markets which are most preferred for short-term energy procurement along with the envisaged inclusion of 'green power markets', there is a need to design a robust transmission infrastructure to cater to the different markets that are present and envisages to be established in the near future efficiently. In addition to the above, inter-regional corridor capacity needs to be enhanced to permit seamless flow of wind/RE generation across state and regional boundaries. It is submitted that adequate capacity addition should be planned increase inter-regional RE transaction which would enable power to flow from surplus regions to deficit regions. In this context, InWEA would like to submit that relevant provisions should be included in the Regulations that would ensure planning of inter-regional transmission corridor for seamless RE transaction
2	19. Broad Principles of Transmission Planning 19.1. The broad principles of transmission planning shall be as under: (a)...	Reserves requirement in Transmission Infrastructure With the current trend of increasing capacity addition of RE sources, a share of transmission infrastructure should be apportioned as transmission reserves. The transmission infrastructure should be adequate and robust enough for any

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	(b)... . . (l)	capacity that is planned to be injected in the near future. National Electricity Plan already required 5% spinning reserves to be always present in the system. Hence, to utilise the reserves along with the available capacity, there should be adequate transmission reserves in the infrastructure, and the transmission planning framework should ensure development such reserve infrastructure and the same should form part of the planning at the state level and regional level.
3	7. Role and Responsibility of CTU 8. Role and Responsibility of STU	Perspective Transmission Plan by CTU and STUs in Coordination InWEA would like to submit that following aspect should be considered while formulating the regulatory framework for the preparation of transmission plan at various levels: <ul style="list-style-type: none"> a) Short term and long term perspective transmission plan to be prepared in order to meet immediate requirements as well as long term RE capacity addition. b) Consider annual RE capacity addition and prepare evacuation plan accordingly considering short gestation period of RE/wind power plants (gestation period of wind power plants are less than 12 months while setting up transmission infrastructure takes more than 2 years). c) The plan should give priority to setting up of RE evacuation infrastructure over the connectivity for other generators. d) The plan should have clear timelines specified based on the RE capacity addition targets of the central/state policy.

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		e) New infrastructure to be set up as well as strengthening schemes should be considered under the plan so that future capacity addition (owing to re-powering), in the already connected locations, are taken care of.
4	18. Transparency in the planning process	Representation of the Renewable Sector in Transmission Planning Stage Improved coordination among RE generators, Discoms and planning agencies can lead to better planning of evacuation infrastructure for renewable energy evacuation. Therefore, due representations of RE generators in the planning committee or alike bodies formulated at the central level and state level responsible for transmission planning is advocated in the formulation of the central and state level plan. The designated committee should have representatives from varied facets of power sector ranging from conventional, through load dispatchers to renewable project developers. Periodic review of suggestions and a holistic view of the constraints will help to chalk out the constraints associated with evacuation of power from wind sources. Further due representation of this sector and coordinated effort put in by all members of the planning committee will lead to development and adoption of innovative ideas at planning stage itself. While the present draft Regulations (under draft Reg. 18 – “Transparency in planning process”) specifies the need for involvement of various stakeholders, InWEA would like to submit that participation of RE generators should be ensured from the initial stages of transmission planning itself.
5	20. Transmission Planning Criteria: 20.2 While specifying the Planning Criteria, CEA shall also consider the following broad principles	CEA Planning criteria should contain specific provisions for RE projects considering their unique nature and the need for promotion. InWEA requests to add the following new provision:

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	a) b) c) d) e) f) (New Provision to be added)	<p><i>“(f) Criteria for transmission planning in terms of RE evacuation should have relaxed technical norms considering specifics of the RE project and location (for instance higher thermal loading capacity in high windy zones, N-1 criteria to be relaxed for remotely located wind and solar project evacuation, etc)”</i></p>
6	<p>7.2 In the context of implementation of these regulations, CTU shall perform the following functions</p> <p>(a)....</p> <p>(b) To seek status of generation projects from the project developers and CEA on quarterly basis.</p>	<p>In order to bring all renewable energy projects at the stage as specified in the central repository of generators, the provision 7.2 (b) need to be changed as below. The same is considering the fact that SNA's are key agencies in procession of upcoming RE projects in the Country.</p> <p>b) To seek status of generation projects from the project developers, State Nodal Agencies (SNA) and CEA on quarterly basis</p>
7	<p>Concentration of Wind farms in few states</p>	<p>The installation of wind generators is concentrated in a few wind-rich states of India usually the coastal states in Southern and Western parts of India. It is worthwhile to note that the recently evolved target of 60 GW of wind capacity addition has been allocated again to these key wind-rich states in the country. In the case of limited capacity for inter-state and inter-regional evacuation infrastructure, it is difficult to evacuate wind power from wind-rich states to energy-deficient states of India. This poses obstacles for utilising the clean energy across states.</p>

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		<p>The National Transmission perspective plan and the Green Energy Corridor reports envisages the role of CTU in developing the infrastructure for High capacity hybrid UHV/EHV AC and HVDC transmission system in transfer of power from renewable-rich states to other deficit states and strengthening of the transmission system to be part of the plan and facilitating the evacuation of clean energy through strengthening of Intra as well as interstate transmission systems.</p> <p>The concentration of the wind installed capacity and the target to be achieved in a few states is depicted in the graph below:</p>

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		<p data-bbox="1055 248 1984 325"><i>Figure 1 Statistics- Wind Generation Installed Capacity Vs Target to be achieved</i></p> <table border="1" data-bbox="1039 338 2018 917"> <caption>Wind Installed Capacity Vs Target by 2022</caption> <thead> <tr> <th>State</th> <th>March, 2017</th> <th>Target 2022</th> </tr> </thead> <tbody> <tr> <td>Tamil Nadu</td> <td>~8,500</td> <td>~12,000</td> </tr> <tr> <td>Karnataka</td> <td>~4,500</td> <td>~7,000</td> </tr> <tr> <td>Andhra Pradesh</td> <td>~4,000</td> <td>~8,500</td> </tr> <tr> <td>Telangana</td> <td>~1,000</td> <td>~2,500</td> </tr> <tr> <td>Madhya Pradesh</td> <td>~3,000</td> <td>~7,000</td> </tr> <tr> <td>Gujarat</td> <td>~6,000</td> <td>~9,500</td> </tr> <tr> <td>Maharashtra</td> <td>~5,500</td> <td>~8,000</td> </tr> <tr> <td>Rajasthan</td> <td>~4,500</td> <td>~9,000</td> </tr> <tr> <td>Others</td> <td>~1,000</td> <td>~1,500</td> </tr> </tbody> </table> <p data-bbox="1039 932 2036 1158">Hence, the InWEA suggests that the regulations drafted should have provisions to give priority for setting up transmission lines to evacuate power generated from these wind-rich states, which is also in line with the National Transmission Perspective Plan and the Green Energy Corridor reports.</p>	State	March, 2017	Target 2022	Tamil Nadu	~8,500	~12,000	Karnataka	~4,500	~7,000	Andhra Pradesh	~4,000	~8,500	Telangana	~1,000	~2,500	Madhya Pradesh	~3,000	~7,000	Gujarat	~6,000	~9,500	Maharashtra	~5,500	~8,000	Rajasthan	~4,500	~9,000	Others	~1,000	~1,500
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