



To,

10th Nov 2014

**Ms. Shubha Sarma,
Secretary, CERC
Chandralok Building
Janpath
New Delhi**

Sub: Comments on the Staff Paper on Transmission Planning, Connectivity, Long Term Access, Medium Term Open Access and other related issues

At the outset, we would like to compliment the Hon'ble Regulatory Commission for coming with a detailed Staff Paper on the subject. Planning of power evacuation infrastructure has always been a complex subject, more so for a country like ours due to the joint responsibilities of States and Centre. With demand and generation being so dynamic, ensuring availability of the transmission system at a reasonable cost is a challenge.

The methodology of planning the system based on the long term needs of generators and customers served well for quite some time. The philosophy of adding assets based on identified users also aided in reducing the requirement of investments. However, with the growth in the Indian Electricity Sector, where demand increased rapidly and generating capacities were also added at an emphatic pace, particularly with the advent of private players, the lack of transmission infrastructure emerged as a strong bottleneck preventing electricity to flow from generating source to demand region, in the most efficient and cost effective manner.

In the staff paper, concerns have been raised with regard to treating Connectivity and Long Term Access (LTA) separately, leading to situations where generators sought Long Term Access for a lower quantum resulting in greater stress on the existing network. This also led to situations where power could not be evacuated due to congestion resulting out of delayed development of the transmission infrastructure.

While, the concerns raised by CTU and POSOCO about the role of some of the Generators need to be looked into, completely attributing the problem to generators alone may not entirely correct. The power market recently has seen many challenges and non availability of bids for long term power procurement by the distribution



licensees is one of the key reasons for generators not to avail LTA for the total installed capacity. With varying demand and prices coupled with the financial situations of discoms, Procurers have increasingly relied on short and medium term purchases for meeting the demand. The present transmission planning considers only long term requirements for adding any new asset. Medium and short term transactions are considered to be tools for meeting unplanned procurement and hence increase in such transactions is bound to put stress on the existing infrastructure.

The staff paper has raised other very pertinent issues and has asked stakeholders to specifically respond to the list of twelve questions. In addition to the twelve questions, we would like to submit following general suggestions for consideration of Hon'ble Commission.

1. System Planning Needs to Create Redundancy

The Hon'ble Commission would appreciate that most of the issues being faced currently could have been avoided if the system had adequate redundancy of around 30-35% over the load being assessed by the beneficiaries at the planning stage. It is believed that the cost for creating transmission assets does not increase linearly with load, for instance investments required for creation of a 1000 MW system will only increase marginally, if the system capacity were to be increased to say around 1300 MW, thus it would be prudent to build a system with enhanced capacity, more so for a growing economy where the demand for electricity is bound to increase. Such redundancy, will not just provide flexibility to the system it would also lend reliability, at a marginal incremental investment.

CTU planning need to consider STU planning also like present case of Raichur solapur lines where even after commissioning both lines. Full capacity of these lines are not fully utilized since STU network is not yet ready. Hence there is need to float a paper on planning methodology of network with commercial aspects. This is the core issue. For example, methodology could take DISCOM growth projections - Generation projections as per 5 year plan - provide for power flow from generation islands to at consumption islands in the proportion of consumption islands growth. There seems to be no understood methodology on macro level.



2. Co-ordinating Agency

In the staff paper, concerns have been raised on the incorrect assessment of load by the beneficiaries, generators failing to commission plant in time etc. We would like to submit that establishing / nominating a coordinating agency may be very useful for mitigating these issues. The same has also been suggested in the staff paper. The agency will have the role to monitor the progress of transmission and generation projects, and in case of a possible mismatch in anticipated CoDs, the agency will intimate both the parties and would also suggest suitable steps to address the mismatch.

3. Exit Option

We would like to submit that the current exit options/relief available with the generators for unutilized LTA needs to be revisited, particularly under scenarios where such non-usage is due to factors beyond the control of the generators. Currently, the unutilized LTA is used to provide short and medium term accesses. 75% of the charges paid by these users are shared amongst the LTA holders and the remaining 25% is retained by CTU. We would submit that this 25% should be returned to the LTA holder in such situations, for the simple reason that this is an additional revenue for the CTU and under a regulated regime, it may not be permitted, particularly when the CTU does nothing out of the way to generate this additional revenue.

In certain cases, where Generator is paying LTA charges for entire capacity, without full capacity tie ups due to reasons beyond it's control. Then for such generators it is suggested to allow at least one swap of target beneficiary. Though it still may not solve issues faced as for years no power purchase bids may come up. In case of bids generator cannot be sure where to dispatch. Hence if generator declares to become a regulated IPP with fixed returns, the interest on the amount payable shall be charged till LTA becomes operational. It will become like a loan given to the generator by CTU / STU / PGCIL

Presently, in case a LTA holder does not use the system and wishes to exit before 12 years, he has to pay 66% of the estimated transmission charges (Net Present Value) for the stranded transmission capacity for the period falling short of 12 (twelve) years of access rights. We believe, upon relinquishment of such access, it is quite unlikely that the complete transmission system associated to the project would get stranded. In all likelihood, some parts would still get commercially utilized for power evacuation. Thus,



instead of charging for the total transmission line the CTU/transmission licensee should be allowed to recover costs for that segment of line which has become stranded. In any case, in most of the cases, even if the transmission system capacity is not utilized, it still helps providing additional stability and grid reliability, which is equally important. This aspect may also need to be borne in mind while deciding the amount to be recovered from the Generator for the stranded transmission capacity.

4. GNA - way forward

The General Network Access appears to be the right way forward. As already mentioned in the Staff paper, we also agree that the success of GNA mechanism would totally depend upon the seriousness of the beneficiaries (especially procurer of power) who would be declaring their maximum requirement of power in advance. Also, the central grid strengthening needs to be in sync with the state grid system strengthening. We suggest that CEA (Central Electricity Authority) may be given the responsibilities to co-ordinate with the generator / buyer in getting their maximum injection / drawal for future period. In addition, CEA may also be considered to be given the responsibility of network planning and related programme implementation at the National, Regional and State levels.

5. Proposed transmission capacity allocation mechanism for power market-collective transactions:

The proposed methodology on booking of transmission corridor by the clients of PXs in advance and utilizing the same on Day Ahead Market, looks to be creating a bias towards one segment. We believe that as a cardinal principle no planning should be done to create any preferential treatment to any particular market participant. This only leads to greater market distortion and thwarting of competition and level playing field in the market. This further implies that we still are planning for a system which would have congestions. Instead of adopting such proposals, efforts should be made to build a system which can cater to the needs of all the segments in a transparent and equitable manner.

The proposal emphasizes on booking of transmission corridor by the clients of Power Exchange in Advance and utilizing the same on Day Ahead Market. As per the present Regulations the transmission corridor under short term Open Access is booked only after the seller and buyer of the power is finalized. Such a concept of booking



transmission rights, without an identified customers, would create non-discrimination to other licensee, customers etc who are using the same available corridor in short term. The Day Ahead Collective transaction is being designed to cater to the last minute sale / purchase of power and hence, should not be given much emphasis for Advance transactions. While designing the market, the collective transactions were given priority over bilateral transactions on day ahead basis. Due to the advantage given to Power Exchange, the day ahead market has shifted to Exchange. .

We are aware that it has become mandatory for all the Discoms to procure power under short term bilateral through competitive bidding process and the same is being followed as a standard practice by them. In addition, transmission congestion is already being faced in short term bilateral transactions. Such a proposal would strongly affect the bilateral transactions and large quantum of requirement may be scheduled on day ahead basis though Power Exchange. This would result in distortion in market.

Hence, we strongly feel that the market structure should not be altered. Further, in case such type of concept is being considered, then, to maintain a level playing field, the traders may also be allowed to book the transmission corridor without the identified buyer / seller on both sides.

We request Hon'ble Commission to kindly address the above concerns while framing appropriate guidelines.

Yours faithfully,

A handwritten signature in blue ink that reads "A. Srivastava".

(Arun Srivastava)

Chief –Corporate Regulations

The Tata Power Company Limited



Responses to Queries:

SNo	Description	Response
Question 1	Whether Connectivity should be retained as a separate product:	<ul style="list-style-type: none"> • Yes, in the present scheme. We believe, Connectivity is a facility that helps the generating unit get commissioned and carry out full load test (Commercial Operation Tests). Also, for permitting connectivity to a Generator, no new transmission assets are created calling for additional investments. Thus, it may be a good idea to continue to provide Connectivity without any charge, as is the prevailing practice. However, if GNA concept is introduced we understand that the Connectivity and Access would be a single product and hence this would become a non-issue.
Question 2 (a)	If Yes, what are in your opinion are the advantages of Connectivity as a separate product?	<ul style="list-style-type: none"> • If Connectivity and Access are combined into a single product, the Generator would face challenges in commissioning of the generating unit as there could be situations where submission of request by the Generator for grant of Access may not be advisable due to uncertainties. Keeping Connectivity as a separate product under the current regime is necessary to handle the present situation where the surety of the bids is not there. Further, it allows system to access such generations under various situations, like sudden unplanned demand of some procurers like festive seasons/elections etc. As these are connected, they can participate in meeting such demand. Further, with the current methodology of demand assessment of various procurers not very accurate, such

SNo	Description	Response
		sources are more relevant.
Question 2 (b)	If connectivity is retained as a separate product, then whether it should be free or transmission charges should be borne by generator or drawee entity which is applying for connectivity?	<ul style="list-style-type: none"> If connectivity is retained as a separate product, it should be free and no transmission charges should be borne by generator or drawee entity.
Question 2 (c)	Whether for connectivity, only transmission charges corresponding to connectivity transmission system should be charged or some part of Grid transmission charges (25% as proposed) should also be charged?	<ul style="list-style-type: none"> Same as reply to Question 2 (b) above.
Question No. 3:	If no, what is in your opinion are the disadvantages of Connectivity as a separate product?	The apparent disadvantage is that it could become an impediment in proper development of transmission system. .
Question No. 4:	<p>Bank Guarantee</p> <p>What should be amount of sufficient construction bank guarantee to safe guard against the risk of stranded asset in case generating project fails to get commissioned?</p> <p>a) Is existing construction bank guarantee amount (Rs 5 lakh per MW) sufficient when transmission cost is about Rs 1 cr per MW.?</p> <p>b) Is proposed bank guarantees equivalent to cost of transmission line is sufficient?</p> <p>c) Is proposed bank guarantees</p>	<p>(a) In our opinion, the existing BG @Rs 5 Lakhs/MW is sufficient,. We believe, a majority of power plants are expected to be taken up for construction either close to the energy source or the load centers. In such a situation, even in the worst scenarios, it is quite unlikely that a transmission line taken up for construction will remain completely unutilized in the event the power project does not come up. A significant portion of the line would still be usable for evacuation of power from the area where the power project was coming up. The uncertainties could get further removed through a more robust mechanism for coordination and monitoring of both</p>

SNo	Description	Response
	are very high?	<p>transmission and generation projects.</p> <p>(b) In case of hydel projects, since the energy source is location specific, it is unlikely that a potential project site would be allowed to go waste forever. To avoid stranded investments, coordination between the project developers of generation and transmission schemes could be critical.</p> <p>(c) Proposed BG is excessively high almost making the transmission project a Deposit Work. It will also over expose the generator which may get loaded on to the power tariff, at bus-bar. This will severely impact the investments in power sector which is contrary to the spirit of National Tariff Policy. To explain, let us consider an UMPP of 4,000 MW. The cost of doing the project along with the mine development would be about Rs. 25,000 crores. In addition, the UMPP developer would be required to provide a BG for Rs. 4,000 crores. Such robust financial back-up provided by the BG, if accepted, should result in a far superior financing structure for the transmission line. The benefit should be passed on through the transmission tariff.</p> <p>(d) Yes, proposed BG is very high which is to the extent of 100% of the Cost of Transmission Assets.</p>
Question No. 5:	Bank Guarantee What should be amount of sufficient construction bank guarantee to safe	<ul style="list-style-type: none"> As stated earlier, upon relinquishment of LTA, charges on the LTA holder should be proportionate to that segment of line/capacity which likely to get stranded.

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	<p>guard against the risk of stranded asset or transfer of liability to other consumer in case generating project wants to exit/downscale LTA after commissioning (Please give justification for your views)</p> <p>(a) NPV equivalent to 12 year transmission charges</p> <p>(b) NPV equivalent to 7 year transmission charges</p> <p>(c) X Rs per MW of installed capacity –One time charge</p> <p>(d) Five years Average Injection and withdrawal charges</p> <p>(e) Five years Average injection charges only</p>	<ul style="list-style-type: none"> • The present scheme is that the LTA holder is exiting before 12 years he has to pay the NPV for a period falling short of 12 years. We suggest the following: <ul style="list-style-type: none"> (a) If exit is sought after 0-3 years of use, exit charges could be NPV equivalent to 7 years transmission charges (GNA for injection end only) (b) If exit is sought after 3-6 years of use, exit charges could be NPV equivalent to 5 years transmission charges (GNA for injection end only) (c) If exit is sought after 6-9 years of use, exit charges could be NPV equivalent to 3 years transmission charges (GNA for injection end only) (d) If exit is sought after 9-11 years of use, exit charges could be NPV equivalent to 1 years transmission charges (GNA for injection end only) (e) If exit is sought after 11 years of use, exit charges could be nil • The NPV method can be continued as the transmission licensee would also want a mechanism which secures the investments made. • We would also suggest giving an option to generators for one time change in target region post commissioning of the generating units, due to circumstances beyond its control, subject to technical feasibility and if exercised no payments should be levied on the generator.
Question	Delay in Commissioning	<ul style="list-style-type: none"> • As suggested above, this issue can be

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No. 6:	<p>In case of delay in generating unit(s) /project:</p> <p>(a) Date of LTA should be firm and no relaxation should be provided</p> <p>(b) If information of delay is provided sufficiently in advance some staggered relief can be granted</p> <p>(c) Issue should be decided mutually between generating company and transmission licensee subject to condition that no burden is transferred to other users</p>	<p>addressed by establishing a coordinating agency to monitor such uncertainties in project completion. However, from the given options, option b is most appropriate, provided complete relief is given to generators. The reasons are presented below:</p> <ul style="list-style-type: none"> • (a) The firm date of LTA and denial of any relaxation will discourage the Generators for making investments. There are many Uncontrollable factors such as Land Acquisition, Fuel Linkage etc. which impact the commissioning schedule of the Generation Project and such factors are beyond the control of project developer. Hence, relaxation should be provided if the delay is reasonable and beyond the control of Generator. The Regulatory Commission may approve the same subject to prudence check and scrutiny. • (b) In case the Generator anticipates delay in commissioning schedule due to uncontrollable factors and shares the information with the concerned agency, including the Transmission Licensee well in advance, relief should be granted to safeguard the interest of generator. We are of the opinion that complete relief should be provided to the Generator on payment of Transmission Charges applicable under deep connection.
Question No. 7:	<p>Shallow Connection vs. Deep Connection:</p> <p>(a) What is your view on shallow connection vs. deep connection?</p> <p>(b) Shallow connection should be</p>	<p>(a) Views on Shallow and Deep Connection are as follows:</p> <ul style="list-style-type: none"> • The shallow method of connection charging minimizes the costs for producers, and allows the expected cost of their projects to be estimated at an

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	<p>permitted to only renewable generation or to both Renewable and conventional generators.</p> <p>(c) Under shallow connection system how transmission planning will be done and who shall bear the Grid level transmission charges</p>	<p>early stage. This type of connection as also mentioned in the Staff Paper, is appropriate for Renewable Sources</p> <ul style="list-style-type: none"> • In Deep Connection method Power Producers will pay for the costs of the equipment needed to connect their plant physically to the nearest point of the electricity distribution grid and further expansion from grid to customer point will be done by Distribution Company. • Shallow connection should not draw any charge, as it is similar to Connectivity. Only upon Accessing the system, charges should be levied. Considering the inherent properties of renewable energy, a concessional Access Charge (may be 50% of that applicable to conventional sources) can be considered. <p>(b) Shallow connection can be implemented for both renewable and conventional Generators without any cost implication as explained earlier in our submission.</p> <p>(c) Planning of a transmission system has to be based upon the capacity and not on shallow connection. Charges for utilization of grid has to be paid by all the users. As mentioned earlier, for renewable sources, concessional rates for Access may be considered.</p>
Question No. 8:	a. Whether you are an injecting entity or Drawee entity or both?	<ul style="list-style-type: none"> • Both.

SNo	Description	Response
Question No. 9:	<p>GNA</p> <p>a. What is your opinion on General Network Access (GNA) proposed by CEA?</p> <p>b. Whether it should be adopted for transmission access and transmission charges?</p> <p>c. What should be bank guarantees and Exit Charges under GNA mechanism?</p> <p>d. Whether it would be possible to plan transmission system to give assured access in all directions?</p>	<p>In addition to the submission made earlier, we would like to state:</p> <p>a)</p> <ul style="list-style-type: none"> • General Network Access (GNA) as proposed by CEA is more appropriate approach for planning, particularly in view of following advantages: <ul style="list-style-type: none"> ○ New transmission corridors could be planned based on GNA requirement, which would help in removal of congestion in transmission corridors. ○ Drawee Utilities shall also have access to ISTS to the extent of their GNA and get the system created for accessing power over ISTS from any source of generation feeding in the grid. ○ Generators shall have access to ISTS grid with flexibility for point of drawal • As an alternative Transmission System Structure in the country, we may consider establishing two-tiered transmission Ring-Mains (each ring main in effect will be equivalent to a bus bar having infinite tap off and injection point possibilities), namely <ul style="list-style-type: none"> i. UHV National level ring main connecting the power Regions in the country; and ii. EHV State level ring mains connecting various Districts in

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		<p style="text-align: center;">the State</p> <p>State level ring mains need to connect to the National level ring main through UHV Transmission links and to the Generators/ Drawing Entities/ ISTS through EHV links. Each new Generator can be connected to the overall transmission system through a Tie-line of appropriate capacity. On account of a new Generator arriving on the scene, construction of a relatively smaller Tie-line (say around 50 Kms) will be the only additional requirement for connecting the Generator to the National Transmission System. This will not just reduce the time and costs involved or construction of transmission system significantly but also remove most of the uncertainties as the Tie-line can be taken up much later in the generation project schedule, when things are well settled and far more predictable. Similarly, for additional procurement of power, the State level Ring Main can be tapped by the Drawing entity through a Tie-line of appropriate capacity at an appropriate point.</p> <p>b) Yes c) Please refer to the comments above. d) Yes, it would be possible to plan transmission system to give assured access in all directions provided transmission planning is not guided strictly by the projected demands and builds in adequate redundancies.</p>
Question	Transmission Planning:	a) As stated earlier, creating redundancy in

SNo	Description	Response
No. 10:	a. How Transmission planning in the country needs to be reviewed under present condition to take care of future need of robust transmission system?	<p>the system is essential for creating a futuristic transmission system for longer horizon. Currently, planning of a system is slightly myopic possibly due to the cost considerations and the shared responsibilities between the State and Centre.</p> <p>We would also suggest that the planning activity shall not be the responsibility of the CTU. CEA may be bestowed with the responsibility of planning the system and if necessary, necessary capabilities may be augmented in CEA for this purpose.</p> <p>Transmission Expansion Planning plays a vital role in electrical power systems. As electrical load grows unboundedly, it causes electrical generation to rise in accordance with load and simultaneously leads to enhance the facilities of transmission system. To enhance the facilities of Transmission system, one must have to assess load forecasting, generation growth, social economic constraints and environmental impacts. Currently Transmission planning is done based on the application of generator for LTA and certain margin is kept in view of peak load and for traders to buy power under Short-term transactions. As suggested in the Staff Paper, a co-ordinated approach by CEA, CTU, STU and other players is required to forecast long term may be for next 25 years load and generation under different region. Inputs from RLDC/SLDC can be sought to get the seasonal trend of load pattern and peak scenario. These inputs along with LTA application can form the base of planning to take care of future need of robust transmission system.</p>

SNo	Description	Response
	<p>b. Whether there is need for a separate Regulation for transmission planning to make it more participative?</p> <p>c. Whether transmission planning should mandatorily make margins available for short term power market?</p> <p>d. Whether transmission system planned by CEA/CTU need to be adequately explained from cost benefit point of view?</p> <p>e. Is there requirement of making submission of information related to transmission planning legally binding?</p>	<p>b) Once a clear responsibility is assigned, we believe it will also come with a clear mechanism for reporting, review and finalization of transmission plan, on the lines of national resource planning and thus a separate Regulation may not be needed.</p> <p>c) As suggested earlier, if the system is being developed with a redundancy of 30-35%, requirement for such additional margins for specific nature of transactions may not be there. Further, when transmission system is developed based on the concept of GNA such constraints may not occur.</p> <p>d) Yes, the Transmission System planned by CEA/CTU need to be adequately explained from cost benefit point of view. This will enhance the transparency and increase the confidence of the constituents. This is important particularly in light of the fact that when enhanced capacities would be created, the constituents should have required confidence in the planning agencies. This will also help in identifying any gaps while planning and take corrective actions.</p> <p>e) A detailed information exchange is necessary between planning agencies and various participants of the power system. This will assist planning agencies to anticipate fair load, generation and usage of ISTS in large time horizon.</p>
Question	Utilization of Congestion charges	

SNo	Description	Response
No. 11 :	<p>a) Whether proposal of using congestion charges to reduce the long term ISTS transmission charges acceptable ?Or</p> <p>b) Whether Congestion charges are to be utilized for creation of specific transmission assets for relieving the congestion? How should this be treated - as equity, loan or grant?</p>	<p>a It is suggested that the charges connected should be used for lowering of charges. However, if the same can't be considered then these should be utilized for creation of specific transmission assets for relieving the congestion instead of relieving the long term ISTS charges.</p> <p>Further, it would be tempting to suggest this money to be treated as grant and reduce the line cost, we are of the view that this should be treated as loan. The interest may be charged at a concessional rate, may be 2-3% lower than SBI PLR. This is suggested to avoid any possible misuse of such money when treated as grant besides making available such funds on a regular basis for developmental works.</p>
Question No. 12	<p>Transmission corridor allocation for Power market:</p> <p>a. Whether participants of Power exchanges should be allowed to participate in e-bidding for transmission corridor?</p> <p style="text-align: center;">Or</p> <p>b. For power market development, certain quantum of corridor may be reserved for power market with all participant of Power Exchange sharing the transmission charges of reserved corridor.</p>	<ul style="list-style-type: none"> Participants of Power exchanges should not be allowed to participate in e-bidding for transmission corridor and even reserved corridor for Power Exchange should not be permitted to maintain level playing field to all the market participants. We suggest that the current methodology should be followed.