

APP comments on CEA Draft Paper on Reconductoring of Transmission Lines in ISTS

Sr. No.	Provisions as per the Draft Paper	APP Comments
1.	<p>Clause 5 - Concerns over allotting reconductoring work under RTM</p> <p>Representations have been received from transmission associations as well as industry over allocating reconductoring works under RTM to transmission licensee of original line. Their apprehensions include higher implementation cost and lack of transparency in RTM.</p>	<ul style="list-style-type: none"> • It has been observed that tariff of projects awarded under the TBCB route (under the TBCB guidelines of 2008 and amended guidelines of 2021) have typically been lower than those whose tariff is determined under the RTM mode. • India operates a vast transmission network which is bound to grow even more with increasing demand for power. • The existing transmission network in the country is largely established under the RTM mode. Tariff discovery under RTM mode for the projects identified now may lack transparency and could be un-competitive and consequently may lead to higher tariff burden on the consumers. • Accordingly, there is a strong case for awarding projects for reconductoring on TBCB mode instead of RTM mode to usher in transparency, competition and efficient price discovery in the transmission space which will also be in line with the objectives of the Electricity Act, 2003 as well as Tariff Policy, 2016 of efficiency, competition and consumer interest.

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		<ul style="list-style-type: none"> Further, the transactions can be structured so as to ensure that the incumbent licensee recovers all his investment through recovery of unabsorbed depreciation and the re-conductoring project along with the associated tower and other infrastructure is assigned to a new licensee discovered through competitive bidding, obviating the issue of multiple licensees and at the same time providing benefit of competitive prices to consumers.
2.	<p>Clause 6 – Reconductoring Work under TBCB</p> <p>In case, reconductoring work of a line owned by a transmission licensee is allotted to another transmission licensee, following types of questions may arise:</p> <p>(i) – Whether the proposed reconductoring and bay work will have any implication on Tariff of original owner?</p>	<ul style="list-style-type: none"> Any capital-intensive modification work, post SPV formation will lead to cost impact to existing SPV which will impact Tariff. With RTM mode of execution, this will have a cost disadvantage, whereas with TBCB route this will have optimized cost and more transparency.

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3.	<p>Clause 6 – Reconductoring Work under TBCB</p> <p>(ii) – If yes, what should be the methodology for adjustment (Removal/ replacement of bays and Reconductoring)?</p>	<ul style="list-style-type: none"> • In both TBCB and RTM mode, existing conductor will have to be removed and new conductor needs to be installed. • The existing conductor can be removed by the successful bidder who is successful in the TBCB process. This material can be sold off by the successful bidder, to recover the cost of scrap conductor, which will in turn be paid to the incumbent licensee within a period of 180 days from the award of contract by the successful TBCB bidder. • Deemed system availability needs to be considered for the existing SPV for the entire duration of reconductoring process in order to compensate for reduction in revenue recovery during the reconductoring period.
4.	<p>Clause 6 – Reconductoring Work under TBCB</p> <p>(iii) – As existing assets are licensed assets, whether the modification of same requires approval of CERC?</p>	<ul style="list-style-type: none"> • Under the TBCB mechanism, a fresh license for the project SPV shall be issued by Appropriate Commission to the successful bidder and the CEA may finalize a clear policy for the same.
5.	<p>Clause 6 – Reconductoring Work under TBCB</p>	<ul style="list-style-type: none"> • Joint ownership of assets prevails even now – For instance, the Transmission Line is owned by one entity whereas the OPGW on the same tower is owned by another entity. Similarly, O&M

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	<p>(iv) – Operational aspects in respect of O&M responsibility, as there will be Joint Ownership of transmission line i.e. towers will be owned by one licensee whereas conductor and terminal equipment will be of another licensee. The reconductoring may require upgradation of terminal equipment which may become difficult when terminal station is owned by a different licensee.</p>	<p>is carried out by multiple utilities in the same substation premises.</p> <ul style="list-style-type: none"> • Therefore, it would not be correct to assume that joint ownership of transmission assets poses a problem. At the same time, suitable guidelines need to be issued by CEA for all the bidders which should form part of the TBCB RFP. • In case the existing owner is selected through TBCB mode, O&M after reconductoring should remain under the scope of existing TBCB owner, till its concession period with suitable adjustment towards the delta in O&M expenses. Alternatively, the incumbent licensee could be contracted to undertake maintenance of new conductors, if TBCB developer so desires and is able to enter into an amicable contract. • For Substation O&M, the recent guideline of CEA provides for the existing SPV to carry out the O&M @30% of the norms specified by the CERC Tariff Regulations and it can be followed for transmission lines as well to arrive at an optimized solution under TBCB route.

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6.	<p>Clause 6 – Reconductoring Work under TBCB</p> <p>(v) - The presence of multiple owners creates challenges in identifying root cause of tripping of lines. The tripping can take place on account of fault in conductor, tower structure or terminal bays/equipment. The root cause analysis for cases of faults at boundary conditions may become difficult. This impacts the down time of the line. Attributing the cause of failure would also be a challenge. As per CERC Standard of performance of inter-state transmission licensees Regulations 2012, transmission licensees need to submit to Grid India about reliability, dependability and security indices, which is further reported by Grid India to CERC. In case of inconclusive analysis of trippings, it would become difficult to compile these indices.</p>	<ul style="list-style-type: none"> • Any tripping on transmission line will depend on the quality of O&M services, which could be with one entity i.e. original SPV to have an optimized life cycle cost. • Force Majeure: In case of occurrence of any Force Majeure event, Deemed Availability shall be granted to new licensee as well as existing licensee. • As there is no change in design (electrical / mechanical) and electrical clearances are retained as per statutory requirements, any tripping will be taken care of by original SPV as was done earlier too. • As reconductoring involves change in conductor, any hot spots on conductors or breakdown of new insulators shall be attributable to new SPV. • In TL, towers are more vulnerable compared to charged conductors, hence the existing SPV will have to continue quality patrolling for the upkeep of assets. Only change is the conductor type does not bear any new challenges to the original SPV. All capital spares related to reconductoring will be supplied by successful TBCB bidder.

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		<ul style="list-style-type: none"> • O&M is part of the original SPV scope, and any fault analysis will be done by original SPV taking DR (Disturbance Reports) inputs from both end substations. • It is submitted that CEA should clearly define the roles and responsibilities of each licensee in the Guidelines for O&M of transmission lines and sub-stations to avoid any issues. Further, regular communication and collaboration between the licensees will overcome any potential difficulties that may arise due to ownership.
7.	<p>Clause 6 – Reconductoring Work under TBCB</p> <p>(vi) – Role and responsibility of declaring availability so as to avoid possible issues and defining the responsibility e.g. in case of conductors snapped or tower collapsed.</p>	<p>The roles and responsibilities shall be contemplated by CEA through stakeholder consultation and suitable guidelines should be drafted so as to unlock the benefits of TBCB mode which will give cost optimization and transparent solution.</p>
8.	<p>Clause 6 – Reconductoring Work under TBCB</p>	<ul style="list-style-type: none"> • The transfer of ownership to CTUIL can be done individually as per license period of respective licensee. Such transfer of asset to CTUIL with individual ownership shall obviate any disputes and re-bidding of the asset can be done accordingly.

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	(vii) - Transfer of assets to CTUIL after 35 years may also be an issue if there is joint ownership.	
9.	<p>Example: In the 3rd meeting of NCT held on 26th & 28th May, 2020, Comprehensive Transmission System for evacuation of 4.5 GW RE Injection at Khavda under Phase-II that was recommended for implementation. MoP vide Gazette dated 23.09.2020 notified the “Transmission scheme for evacuation of 4.5 GW RE injection at Khavda PS under Phase-II – Part D” for implementation through TBCB route. The scope of notified scheme was “LILO of Pirana (PG) – Pirana (T) 400 kV D/c line at Ahmedabad S/s with twin HTLS alongwith reconductoring of Pirana (PG) – Pirana (T) line with twin HTLS conductor with OPGW for both main line and LILO section and Bay upgradation work with requisite FOTE at Pirana (PG) & Pirana (T)”. The scheme went under bidding. The Pirana (PG) – Pirana (T) 400kV D/c line along with</p>	<p>Example where multiple owners are present on a transmission line:</p> <p>A. Presently M/s Western Transco Gujarat Limited, Gujarat, is operating and maintaining following transmission lines –</p> <ol style="list-style-type: none"> 1. 400 kV Vadavi-Kansari line 2. 400 kV Limbdi-Vadavi line 3. 400 kV Rajgarh-Karamsad line <p>On these lines the earthwire replacement to OPGW work is assigned to M/s Sterlite by awarding a license through TBCB. The same is in under execution and near completion by M/s Sterlite. The O&M of the new OPGW laid is managed by M/s WTGL through a transparent O&M agreement. The same model can be applied for future reconductoring works.</p>

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	<p>associated bays at both ends are owned by Torrent Power Grid Limited (TPGEL). TPGEL raised the issue that reconductoring of the Pirana (PG) – Pirana (T) 400 kV D/c line by another transmission licensee will lead to joint ownership of the line with the transmission towers/accessories being owned by TPGEL and the conductors/bay equipment being owned by the new transmission licensee. This would lead to several commercial as well as operational issues such as tariff implications for existing asset owner, responsibility of O&M of towers, line etc. As the issues raised could not be addressed under existing mechanism, NCT recommended for denotification of the scheme from TBCB and allocating the reconductoring work along with bay upgradation work under RTM to the original transmission licensee of the line i.e. TPGEL.</p>	<p>B. Presently M/s Western Transco Power Limited, Maharashtra, is operating and maintaining following transmission lines –</p> <ol style="list-style-type: none"> 1. 400 kV D/C Pune-Aurangabad line 2. 400 kV D/C LILO of Lonikhand-Kalwa line 3. 400 kV D/C Pune-Parli line 4. 400 kV D/C LILO of Solapur-Karad line 5. 400 kV D/C Parli-Solapur line 6. 400 kV D/C Solapur-Kolhapur line <p>On these lines earthwire was replaced and OPGW was laid by M/s PGCIL by awarding a license through TBCB. The line is maintained by M/s WTPL and the OPGW is maintained by M/s PGCIL. The same model can also be applied for future reconductoring works.</p>
10.	<p>Clause 7 – Reconductoring work under RTM vs TBCB</p>	<ul style="list-style-type: none"> • Any potential disputes related to scrap under the TBCB can be avoided by including conditions of removal of material including service and scrap in the scope of bidder in the RFP document.

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	<p>1. Cost Implications</p> <p>Reconductoring under TBCB by other transmission licensee:</p> <p>Joint ownership.</p> <p>May be at competitive cost. However, disputes on scrap value of old conductor may arise.</p>	<ul style="list-style-type: none"> Scrap value of conductor to be displaced will be included in the bid and suitably factored by TBCB bidder while submitting the quote. Displaced conductor will be made available to selected bidder for disposal and payment of sale proceeds to the incumbent licensee within 180 days.
11.	<p>Clause 7 – Reconductoring work under RTM vs TBCB</p> <p>2. Tariff</p> <p>Reconductoring under TBCB by other transmission licensee:</p> <p>Disputes may arise on sharing of tariff as towers are owned by one licensee and conductor by another licensee.</p>	<ul style="list-style-type: none"> The original owner’s tariff can be continued after factoring the deduction due to the cost of removed material on cutoff date. The tariff of new owner shall be as per TBCB.

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12.	<p>Clause 7 – Reconductoring work under RTM vs TBCB</p> <p>3. Availability of Transmission element</p> <p>Reconductoring under TBCB by other transmission licensee:</p> <p>Blame game on forced outage may happen.</p>	<p>Any ambiguity can be avoided by issuing clear guidelines of O&M and boundary conditions.</p>
13.	<p>Clause 7 – Reconductoring work under RTM vs TBCB</p> <p>4. Ownership</p> <p>Reconductoring under TBCB by other transmission licensee:</p> <p>Shared ownership may introduce challenges in operation of the line.</p>	<ul style="list-style-type: none"> • CEA to clearly define the roles and responsibilities of each licensee in the Guidelines for O&M of transmission lines and sub-stations. • Further, regular communication and collaboration between the licensees will overcome any potential difficulties that may arise due to ownership. • By clear guidelines of O&M and boundary conditions, no ambiguity shall arise.

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14.	<p>Clause 7 – Reconductoring work under RTM vs TBCB</p> <p>5. Execution Time (reconductoring generally carried out for heavily loaded lines and involves continuous shutdown of the lines)</p> <p>Reconductoring under TBCB by other transmission licensee:</p> <p>Multiple entities.</p> <p>Disagreements between multiple owners E.g. Time & duration of shutdown may impact timely completion of the work.</p>	<ul style="list-style-type: none"> • Project shall be awarded through TBCB after approval of NCT and under CTU recommendation. • Necessary shutdown/ outage shall be required in both the cases i.e., RTM and TBCB and all outages are approved by OCC/ grid. • Both owners must adhere to the approved timeline. • Bidder shall be responsible for completion of work within the RFP timeline. • Specific outage timeline shall also be defined in the RFP.
15.	<p>Clause 8 - Conclusion and way forward</p> <p>(i) In the period of useful life of transmission system, to avoid technical, commercial and operational issues in reconductoring of transmission line, it would be</p>	<ul style="list-style-type: none"> • Considering the quantum of future reconductoring projects and the existing limited number of players having ownership under RTM route, it will be prudent to allocate the scheme through TBCB route to encourage the cost effective and transparent competition.

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	<p>prudent to allocate the scheme to existing owner (TSP) through RTM route.</p>	<ul style="list-style-type: none"> • It is further submitted that the RTM mode is costlier, un-competitive and non-transparent and also ridden with cost escalation of projects as compared to the TBCB mode, which if continued shall ultimately be loss to the nation. • Moreover, execution time will also increase under the RTM mode as limited number of players will be executing the projects in the same time frame. • Moreover, empirical evidence till now suggests that the TBCB mode has played a major role in price competitiveness.
16.	<p>Clause 8 - Conclusion and way forward</p> <p>(iv) In case the project is already implemented under RTM mechanism then it's technical upgradation within/ after useful life to be done under RTM mode.</p>	<p>After useful life of project under RTM, it is much easier to allot the entire asset with upgradation in TBCB mode and the same will even resolve the multiple ownership issues.</p> <p>Even at the fag end of the useful life of the asset, it will be beneficial to opt for TBCB mode for the existing RTM projects. New bidder may quote the tariff including dismantling and duly factoring the scrap value of the old conductor.</p>
17.	<p>Clause 8 - Conclusion and way forward</p>	

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	(v) Reconductoring of line and upgradation of bay equipment to be carried out by concerned licensee simultaneously.	Reconductoring of line and upgradation of bay equipment may be carried out through TBCB mode only under single RFP/ project as this will give cost optimization and transparent solution.