

the increasing penetration of electricity across the cited State/UTs and sets a new baseline for future electricity demand.

### Transmission & Distribution Losses

State/UT-wise T&D Losses (in %) as per the Tariff/True-up Orders issued by the Commission:

S.No.	Name of the utilities	FY 2018-19		FY 2019-20		FY 2020-21	
		T&D specified by the Commission	(Actual)	T&D specified by the Commission	(Actual)	T&D specified by the Commission	(Actual)
1.	ED-Goa	10.75%	*	10.75%	*	10.50%	*
2.	ED-Chandigarh	12.25%	13.50%	9.40%	11.91%	9.30%	*
3.	Dadra and Nagar Haveli Power Distribution Corporation Limited	4.70%	3.93%	4.30%	3.47%	4.20%	3.62%
4.	ED-Daman & Diu	8.30%	6.19%	6.70%	4.07%	6.60%	4.48%
5.	ED-Andaman & Nicobar Islands	15.50%	23.33%	14.34%	21.98%	13.84%	28.33%
6.	ED-Puducherry	11.00%	13.27%	12.50%	12.75%	11.75%	12.11%
7.	ED-Lakshadweep	12.25%	13.01%	12.75%	*	12.50%	*

\*Not available as the True-up is not done

The above table depicts the T&D loss levels specified by the Commission in its Tariff/True-up Orders for the respective licensee of the State/UTs vis-à-vis the actual T&D loss achieved by the respective licensees. Since some of the licensees are unable to achieve the T&D target specified by the Commission, thus, the appropriate licensee has been directed that they should prepare a road map to achieve the same so that the T&D loss comes in the range which has been achieved by other States/UTs in India.

Further, it is pertinent to note that high transmission loss levels and low transmission/transformation capacity are indicative of over-load on transmission system and inadequate transmission system. Given the situation of high per capita consumption, and the

electricity demand, the Commission believes that the transmission systems would need to be sufficiently strengthened/augmented entailing significant investment in the transmission network.

## **7.2 Advisory on TBCB by CERC**

The Central Electricity Regulatory Commission (CERC) in its advisory dated 22.06.2020 to the Ministry of Power (MoP) on the Development of transmission capacity in an efficient and economical manner under TBCB route has advised the following:

*“5.1 The Survey Report of the BPC may not form part of the RFP and bidders may submit bid based on their assessment of the possible alignment of the proposed transmission line, considering optimal route between the specified substations/ end coordinates.*

*5.2 (i) In case the proposed transmission line in the bid is to be terminated at an existing substation, the end coordinates may be fixed upfront before award.*

*(ii) In case of new substation where coordinates are not fixed before award, bidding may be made in packages containing both transmission line and sub-station so that mismatching is avoided and both transmission line and sub-station are executed and put to use together.*

*(iii) If from a new substation more than one transmission line is emanating, the land for the sub-station may be identified and finalized before awarding the package.*

*5.3 The nature of the transmission elements i.e. whether purpose of project viz dedicated transmission line or system strengthening line or Associated Transmission System may be clearly specified in the bidding document to avoid litigations at a later stage.*

*5.4 For delay on the part of the transmission licensee in completion of its transmission elements, in addition to compensation to stranded transmission licensee or generating station on account of such delay, penalty may only be limited to Liquidated damages. The transmission licensee may be allowed tariff for the entire contracted period of the transmission project.*

*5.5 In the bidding documents, a provision may be made for foreclosure of the project with appropriate pre-determined compensation formula.*

*5.6 For effective quality verification and inspection of TBCB transmission projects, a Committee of CEA, lead LTTC and CTU may be formed. Further, third party inspection agency may be engaged by BPC or CTU for carrying out quality inspection as per IS/CEA Standards and best practices.*

*5.7 The Committee consisting of representatives of CEA, CTU and lead LTTCs formed for quality verification may also be authorised to certify the completeness of transmission system, where deemed COD has been claimed under provisions of TSA.*

*5.8 A suitable provision in the bidding documents may be incorporated providing for a window of three months for declaration of deemed COD. If the transmission licensee under TBCB route is ready to declare COD but downstream/ upstream assets are not ready for inter-connection, the TBCB transmission licensee would be free to declare the deemed COD after three months as per the provisions of TSA.*

*5.9 Promoter of SPV (transmission licensee) whose performance has been poor, may not be allowed to participate in new bids, till its performance becomes satisfactory. For this purpose, a Quarterly Performance Index for each TBCB project should be specified and if the Quarterly Performance Index in respect of TBCB project of any transmission licensee remains poor for 4 (four) continuous quarters, then the promoter of that SPV may be temporarily debarred from participating from bidding for new transmission projects.*

*5.10 Instead of forming SPV for each project, the option of bidding as a project, as being done for National Highways and also by SECI may be explored, so that formation of separate company for each transmission project is not required and a single company can have multiple transmission projects.*

*5.11 Fees of Bid Process Coordinator may be restricted to 5% of quoted tariff for first year or Rs. 7 Crore, whichever is lower. BPC may not be allowed to claim any incidental expenditure over and above these fees.”*

Hence, it is imperative that for efficient and economical development of transmission capacity in the State under TBCB, the transmission schemes, new and augmentation, be planned/ designed and bid out with corresponding upstream and downstream elements. This would also obviate coordination and interface issues.

## **8. Specifying Threshold Limit**

### **Best Practices Followed in Other States:**

States such as Assam, Haryana, Punjab, Rajasthan and Uttar Pradesh have introduced TBCB mechanism for their Intra-State Transmission System.

### TBCB mechanism adopted by Other States

State Commission	Date of Order/ Notification	Threshold limit	Remarks
AERC	Notification dated 14/01/2019	225 Cr. and above for transmission line and 160 Cr. for Substations	Notified TBCB implementation for Intra STS for projects costing 225 Cr. and above for transmission line and 160 Cr. for Sub-stations vide AERC Notification dated 14/01/2019
HERC	Order dated 26/04/2021	100 Cr. and above	Issued TBCB Order dated 26/04/2021 for Intra STS for projects costing above 100 Cr. and above
PSERC	Notification dated 05/11/2018	50 Cr. and above	Notified TBCB implementation for Intra STS for projects costing 50 Cr. and above vide PSERC Notification dated 05/11/2018
RERC	Notification dated 28/08/2018	100 Cr. and above	TBCB for Intra STS projects costing 100 Cr. and above Vide RERC Notification dated 28/08/2018
UPERC	Order dated 18/01/2021	-	Adoption of Transmission Charges for Transmission System being implemented by Rampur Sambhal Transco Ltd. vide Order dated 18/01/2021
BERC	Notification dated 23/12/2019	100 Cr. and above	-

Further, MERC implemented TBCB for single Intra State Transmission project located at Vikroli vide its Order dated 21/03/2021.

Defining a threshold limit is the first step towards enabling competition in the intra-state transmission projects in the State/UTs under the jurisdiction of JERC, in accordance with the provisions of Tariff Policy, 2016. The threshold limit should be decided in such a way that it should not only encourage serious, and genuine competition to bring in efficiencies in capital investment in the intrastate transmission system, but also ensure that small and urgent capital works are not hindered for need of the bidding process every time and can be undertaken under cost plus mode.

The broad principles that need to be kept in mind for specifying the threshold limit, while implementing tariff policy are:

*a) Considering planning and development of end-to-end transmission schemes with upstream and downstream elements which can be put to use without depending upon other elements;*

- b) Achieving efficient and economic procurement of equipment and economies of scale in development;
- c) O&M expenses over the life cycle of projects directly dependent on the size of the Scheme;
- d) Conducive to incite interest of players participating in competitive bidding; and
- e) Interface and coordination issues to be minimised.

For determining the threshold limit for transmission projects for the State/UTs under the jurisdiction of JERC, the Commission has come across the details of the transmission schemes/works submitted by the respective licensees during tariff approval process till FY 2022-23.

A broad categorization of schemes with the respective project cost for following UTs/State are demonstrated below:

**(i) Electricity Department, Goa**

Scheme Type	Name of Scheme/work	Capex (Rs.Cr.)	No of Schemes with Project Cost				Value of Schemes			
			<=25Cr .	25 to 50Cr.	50 to 100 Cr	>100 Cr.	<=25Cr .	25 to 50Cr.	50 to 100Cr	>100Cr.
220KV S/s &Lines	Work of erection of 220/33 KV, 3x63 MVA Gas Insulated Sub-Station (GIS) at Saligao alongwith the 220 KV D/C line connectivity to 400kV/220kV Colvale substation.	325				1				325
	Work of Design, Supply, Erection, Testing and Commissioning of 1 x 63MVA, 220/33KV power transformer at Tivim Substation.	14.05	1				14.05			
	<b>Total</b>	<b>339.05</b>	<b>1</b>			<b>1</b>	<b>14.05</b>			<b>325</b>
132/110/100KV S/s &Lines	Work of replacement of existing ACSR conductor with ACCC, HTLS conductor for 110KV circuits from Ponda to Verna and Augumentation of 110KV Bus bar at Verna, Ponda and Xeldem sub station.	57.7			1				57.7	
	work of replacement of 40 MVA power transformer with 50 MVA transformer at Tivim 110/33 KV Sub-Station.	5.84	1				5.84			
	work of supply,erection,testing & commissioning of 50MVA power transformer at Verna 110/33 KV Sub-Station.	10.50	1				10.50			
	work of Erection of 63 MVA power transformer at Ponda 110/33 KV Sub-Station	49.02			1			49.02		
	<b>Total</b>	<b>123.06</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>16.34</b>	<b>49.02</b>	<b>57.7</b>	<b>0</b>

**(ii) Electricity Department, Puducherry**

Scheme Type	Name of Scheme/work	Year	Capex (Rs. Cr.)	No. of Schemes with Project Cost				Value of Schemes			
				≤25 Cr.	25 to 50 Cr.	50 to 100 Cr.	>100 Cr.	≤25 Cr.	25 to 50 Cr.	50 to 100 Cr.	>100 Cr.
230kV	Renovation and modernization of Grid connected Substations under PSSDF	2022-23	8.11#	1				8.11#			
110kV	Establishment of 110KV switchyard with EHT metering arrangement with LILO arrangements at Polagam, Karaikal	2020-21	2.52*	1				2.52*			
	Laying of 110KV UG cable from 110/11KV Pillaitheeruvasal SS to Railway Traction SS at Karaikal	2021-22	15.4*	1				15.4*			
	Laying of 110KV UG cable from 110/22KV Kurumbapet SS to JIPMER GIS SS	2021-22	20.87*	1				20.87*			
	Laying of 110KV UG cable from 110/22kV Eripakkam SS to M/s Pushpit Steel Pvt. Ltd.	2021-22	4.19*	1				4.19*			
	<b>Total</b>		<b>51.09</b>	<b>5</b>				<b>51.09</b>			

\*Deposit Works not Capitalised in the Department's Book of Accounts  
 #PSSDF Work-Rs. 7.03 Cr. GOI Grant / Rs. 1.08 Cr. State Share

(iii) **Electricity Department, Chandigarh**

Scheme Type	Name of Scheme/Work	Capex (Rs.Cr.)	No. of Schemes with Project Cost				Value of Schemes			
			≤25 Cr.	25 to 50 Cr.	50 to 100 Cr.	>100 Cr.	≤25 Cr.	25 to 50 Cr.	50 to 100 Cr.	>100 Cr.
<b>66 kV S/s &amp; Lines</b>	Replacement of obsolete and old 66 KV isolator 66 KV SF-6 breaker, 11 KV VCB and allied items at 66 KV Grid Substation I/A Ph-I & Ph-II and 33 KV Grid Substation I/A Ph-I, UT Chandigarh IBM NO. W1/2017/15850	4.65	1				4.99			
	Prov. Double Circuit 66KV U/G Transmission Line by laying Single Core 1000Sq.mm XLPE Cable from existing 66KV Tower near Govt. School (New), Sector-12 to the 66KV G/S/Sn. Sarangpur (New), Chandigarh alongwith Const. of 2Nos. Lineassociated Bays at 66/11KV G/S/Stn, Village - Sarangpur, Chandigarh.	6.34	1				6.44			
	Trunkey Execution of 66/11KV 2x20MVA S/Stn, Institution Area, Village - Sarangpure, Chandigarh.Up gradation of existing 33 KV sub station to 66 KV Voltage	10.33	1				9.89			
	Up gradation of existing 33 KV sub station to 66 KV Voltage level by providing 1x30MVA, 66/11 KV Power Transformer alongwith Associated Transmission line in Sector 34-C,	7.99	1				14.35			
<b>Total</b>		29.31	4				35.67			

(iv) **Dadra & Nagar Haveli (DNH) and Daman & Diu (DD)**

Transmission Project executed in the last 3 years/under proposal stage in the UT of DNH & DD

Scheme Type	No. of Scheme	Capex (Rs. Cr.)	No. of Schemes with Project Cost*				Value of Schemes			
			≤25 Cr.	25 to 50 Cr.	50 to 100 Cr.	>100 Cr.	≤25 Cr.	25 to 50 Cr.	50 to 100 Cr.	>100 Cr.
220 kV S/s & Lines	1* 1#	71.25* 95#			2			2		
66 kV S/s & Lines	1 (GIS)* 4(GIS)#	35 * 100#	4#	1*			4#	1*		
Total	7	301.25	4	1	2		100	35	166.25	

\*Executed in the last 3 years

#Under proposal stage

From the above demonstration of various schemes, it may be concluded that out of the 22 schemes shared by the licensees, 16 schemes are up to Rs. 25 Crores, 2 schemes between Rs. 25-50 Crores, 3 schemes between Rs. 50-100 Crores and 1 scheme (i.e., only about 5%) above Rs. 100 Crores.

Further, it may also be seen from the above that around 73% of the projects are less than Rs 25 Cr. and thus would take care of all critical and immediate projects of the State.

**Based on the above analysis, the Commission hereby specifies the ‘threshold limit’ at Rs. 25 Crore above which all new and augmentation schemes for transmission shall be developed under TBCB route.**

The threshold limit shall be reviewed at the end of the MYT Control Period ending 2024-25. The Commission believes that the threshold limit shall not only trigger efficiencies of competition in the transmission sector by right size projects for competitive bidding but also would leave sufficient scope for the relevant licensees to carry out any emergent & critical projects.