भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
विद्युत प्रणाली योजना एवं मूल्यांकन - I प्रभाग
Power System Planning & Appraisal - I Division

सेवा में / To

1.	Chairperson, Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.	2.	Member (Power System), Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.
3.	Member (Economic &Commercial), Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.	4.	Director (Trans) Ministry of Power Shram Shakti Bhawan, New Delhi-110001.
5.	Chief Operating Officer, Central Transmission Utility POWERGRID, Saudamini, Plot No. 2, Sector-29, Gurgaon – 122 001.	6.	Sh. Surinder Singh Sur, Joint Adviser (Energy) NITI Aayog, Parliament Street, New Delhi – 110 001.
7.	Shri P. K. Pahwa, Ex. Member (GO&D), CEA 428 C, Pocket -2, Mayur Vihar, Phase -1, Delhi – 110091.	8.	Shri Prabhakar Singh, Ex. Director (Projects), POWERGRID D 904, Tulip Ivory, Sector-70, Gurgaon – 122 001.

विषय: 1 मार्च 2019 को आयोजित "ट्रांसमिशन पर राष्ट्रीय समिति" (एनसीटी) की तृतीय बैठक - बैठक के कार्यवृत्त

Subject: Minutes of 3rd meeting of "National Committee on Transmission" (NCT) held on 1st March 2019.

Sir/Madam,

Please find enclosed the minutes of 3rd meeting of "National Committee on Transmission" (NCT) held on **1st March 2019 at 1030 hrs** under the chairmanship of Shri P. S. Mhaske, Chairperson, CEA in conference Room of CEA, New Delhi.

Yours faithfully,

रवीन्द्र गुप्ता 14/3/19

Chief Engineer(PSPA-I) & Member Secretary (NCT)

I/4315/2019

Copy to:

(i) Joint Secretary (Trans), Ministry of Power, Shram Shakti Bhawan, New Delhi-110001

(ii) Chief Engineer (PSPA-II), CEA

(iii) CEO, RECTPCL, ECE House, 3rd Floor, Annexe - II, 28A, KG Marg, New Delhi - 110001

(iv) PFC Consulting Ltd, First Floor, "Urjanidhi", 1, Barakhmba Lane, Connaught Place, New Delhi -110001

Minutes of 3rd meeting of National Committee on Transmission (NCT) held on 1st March 2019 at 1030 hrs under the chairmanship of Shri P. S. Mhaske, Chairperson, CEA in conference Room of CEA, New Delhi.

List of participants is enclosed at Annexure-I.

1.1. Chairperson, CEA as Chairman of the National Committee on Transmission(NCT) welcomed the participants to the 3rd meeting of the NCT and stated that MoP vide its letter dated 19.02.2019 had scheduled the 4th meeting of ECT on 07.03.2019 to discuss taking up the implementation of associated transmission schemes for the projects identified as potential RE projects and issues related to LTA. MoP had requested to convene NCT meeting to deliberate on the same in view of MNRE 's order dated 20.02.2019 designating Solar Energy Corporation of India (SECI) as Renewable Energy Implementation Agency so as to facilitate the application of connectivity and LTA in ISTS network. Then he requested Chief Engineer (PSPA-I), CEA to take up the agenda for discussions.

2. Confirmation of the minutes of 2nd meeting of National Committee on Transmission (NCT)

2.1 CEA stated that the minutes of 2nd meeting of the National Committee on Transmission were issued vide CEA letter No. CEA-PS-11-15(11)/3/2018-PSPA-I Division dated 12.12.2018 and following corrigendum is proposed in the minutes:

Item No.	Scheme name	Table location	As recorded in the minutes of the meeting	Corrigendum proposed
5.6	Interconnection of Jam Khambhaliya Pooling Station for providing connectivity to RE projects (1500 MW) in Dwarka (Gujarat)	Sl. No. 2 2nd column	2 nos. of 400kV line bays at Jam Khambhaliya PS for termination of of Jam Khambhaliya PS-Lakadia 400kV D/c (triple) line	2 nos. of 400kV ***GIS*** line bays at Jam Khambhaliya PS for termination of of Jam Khambhaliya PS-Lakadia 400kV D/c (triple) line
6.1	Transmission system associated with LTA applications from Rajasthan SEZ Part-A	Sl. No. 1 3rd column	---- ---- 765kV reactor bay-1 400kV reactor bay-2	---- ---- ***765kV reactor bay-2*** ***400kV reactor bay-1***
		Sl. No. 4 3rd column	---- ---- 765kV reactor bay-1 400kV reactor bay-2	---- ---- ***765kV reactor bay-2*** ***400kV reactor bay-1***
		Sl. No. 4 2nd column	---- ---- Future provisions: 765/400kV ICT along with bays: 1 Nos ----	---- ---- Future provisions: 765/400kV ICT along with bays: ***2 Nos*** ----

	-	----	----	----
		Sl. No. 8 2nd column	1x330 MVAr Switchable line reactor at Bhadla-2 end for Ajmer-Bhadla-2 765kV line (after LILO)	1x330 MVAr Switchable line reactor at Bhadla-2 end for Ajmer-Bhadla-2 765kV ***D/c*** line (after LILO)
6.1.6		-	As the transmission scheme for evacuation of power from SEZs in Rajasthan was agreed technically in the 1st meeting of NRSCT held on 13.11.2019, therefore, CTU needs to take regulatory approval from CERC for the scheme	As the transmission scheme for evacuation of power from SEZs in Rajasthan was agreed technically in the 1st meeting of NRSCT held on ***13.11.2018***, therefore, CTU needs to take regulatory approval from CERC for the scheme
6.7	ICT Augmentation works at existing Bhiwani (PG) ISTS S/S associated with LTA applications from SEZs in Rajasthan	3rd row 4th column	Total Rs (in Crore): 243	Total Rs (in Crore): ***65***
		2nd row 3rd column	1x1500MVA, 765/400kV ICT	***1x1000MVA***, 765/400kV ICT
6.8	Transmission system for providing connectivity to RE projects in Bhadla-II	Sl.No. 2 2nd column	Creation of 220kV level at Bhadla-II: 10 nos. of 220kV line bays	Creation of 220kV level at Bhadla-II - ***9 nos.*** of 220kV line bays
6.9.2	125 MVAR bus reactor at Kala Amb substation		After deliberations, it was opined that the scheme is basically technical upgradation at existing ISTS (implemented through TBCB route by M/s POWERGRID).	After deliberations, it was opined that the scheme is basically technical upgradation at existing ISTS (implemented through TBCB route by M/s ***POWERGRID Kala Amb Transmission Ltd***).
6.10.1	12ohm series reactor at 400kV Mohindergarh S/s of M/s Adani	-	The scheme to control Fault Level in Northern Region ---------- -- end. Mohindergarh substation is owned by M/s Adani Power limited.	The scheme to control Fault Level in Northern Region ---------- - end. Mohindergarh substation is owned by ***M/s Adani Transmission (India) limited.***
6.10.2		-	After deliberations, ---------- at existing ISTS HVDC station (of M/s Adani Power	After deliberations, ----------at existing ISTS HVDC station (***of M/s Adani***

	-		limited). The above works falls under the category of technical upgradation	***Transmission (India) limited)***. The above works falls under the category of technical upgradation

2.2 CEA further stated that the corrigendum proposed in item no. 6.1, 6.1.6, 6.7 and 6.8 has already incorporated in their respective items in minutes of the 3rd ECT. Other corrigendum in item no. 5.6, 6.8, 6.9.2, 6.10.1 and 6.10.2 also needs to be modified in the ECT minutes.

2.3 After deliberations, minutes of the meeting along with above corrigendum were confirmed by the members of NCT.

3. Implementation of associated transmission schemes for the projects identified as potential RE projects and issues related to LTA

3.1. CEA stated that 2nd meeting of NCT was held on 04.12.2018 and its recommendations were deliberated in the 3rd meeting Empowered Committee on Transmission (ECT)held on 21.12.2018. ECT in its 3rd meeting had concurred with the recommendation of NCT with few modifications. The transmission scheme associated with RE generation projects in WR (10.5 GW) and NR (8.9 GW) was recommended for implementation through Tariff Based Competitive Bidding (TBCB) route (Nine nos.) and balance through RTM route. The RfQ of all the nine transmission scheme to be implemented through TBCB route had already been opened.

The RE potential based transmission schemes were agreed by the ECT. ECT also agreed that as no developer has applied for connectivity/LTA so far, SECI would be requested to apply for connectivity/LTA beforehand in order to utilize the scheme. Subsequently, these schemes would be taken up for implementation.

The transmission scheme associated with potential RE projects along with recommendation of 2nd NCT and 3rd ECT regarding its implementation is as given below:

S.No.	Potential RE project schemes from 3rd ECT	Estimated Cost (Rs.) Cr.	2nd NCT recommendations	3rd ECT recommendation
1	Transmission System for providing connectivity to RE projects in Gujarat [Lakadia (2000MW)]	196	Implementation of the schemes may be taken up only after receipt of connectivity/LTA application/s either from RE generator/s or by SECI on behalf of generators.	Proposed for potential basis based on the LTA applications of SECI
2	Transmission system associated with RE generations from potential wind energy zones in Osmanabad area of Maharashtra	301		
3	Transmission system associated with RE generations from potential Solar Energy Zone in Maharashtra (1000 MW under Ph-I)	220		
4	Transmission system for providing connectivity to RE projects at Bikaner(PG)	93		
5	Transmission system for providing connectivity to RE projects in Fatehgarh-II	298		
6	Transmission system for providing	298		

	connectivity to RE projects in Bhadla-II			
7	Evacuation of power from RE sources in Tirunelveli and Tuticorin Wind Energy Zone (Tamil Nadu) (500MW)	37		
8	Evacuation of power from RE sources in Karur / Tiruppur Wind Energy Zone (Tamil Nadu) (2500MW)	578		
9	Evacuation of power from RE sources in Koppal Wind Energy Zone (Karnataka) (2500MW)	824		
10	Evacuation of power from RE sources in Kurnool Wind Energy Zone (3000MW) /Solar Energy Zone (AP)(1500MW)	2680		
11	Transmission system associated with RE generations at Bhuj –II, Dwarka & Lakadia	1075	Implementation through TBCB by June 2021 or as per the progress of connectivity/LTA applications of RE projects from WEZ in Gujarat.	Concurred the decision of NCT
12	Transmission System for providing connectivity to RE projects at Bhuj-II (2000MW) in Gujarat	645	Implementation through TBCB with commissioning schedule of December 2020 or as per progress of connectivity/LTA applications at Bhuj-II	Concurred the decision of NCT
13	Transmission system associated with LTA applications from Rajasthan SEZ Part-B	676	Implementation through TBCB route. Time frame to be decided based on connectivity/LTA applications at Fatehgarh-II	Concurred the decision of NCT

The bidding process of the schemes listed at s.no. 11 to 13 of the above table had already been started but its implementation time frame is dependent on the connectivity/LTA applications. If there is no connectivity/ LTA application, then its bidding process cannot be completed.

3.2. CEA further stated that augmentation/ implementation of transmission infrastructure under Inter State Transmission System is taken up in consultation with various stakeholders for the following cases:

i) Transmission System strengthening requirements in view of the operational challenges/constraints envisaged by POSOCO through quarterly operational feedback.

ii) Transmission System requirement if any to meet the load requirement as per the CEA projection for load growth.

iii) Receipt of connectivity application as per CERC (Grant of Connectivity, Long-term Access and Medium-term Open Access) Regulations, 2009 and amendments thereof. The augmentation is in terms common transmission system for providing connectivity to the generators with the ISTS system. This augmentation (common transmission system) is taken up on behalf of the generators for providing connectivity only and does not ensures evacuation of power of power from these generators.

iv) Receipt of LTA application as per CERC (Grant of Connectivity, Long-term Access and Medium-term Open Access) Regulations, 2009 and amendments thereof. The augmentation is taken up to evacuate power from the generators to their identified beneficiaries with reliability.

After finalization of the transmission system based on the deliberations held in Regional Standing Committee on Transmission, implementation of ISTS schemes is taken up through TBCB route except for the exemptions provided in Tariff Policy. The bidding is carried as per the existing Standard Bidding documents for procuring the transmission services. The Bidding documents includes Transmission Service Agreement (TSA) which is required to be executed between the Transmission Service Provider (TSP) and LTTCs, pursuant to which TSP shall build, own, operate and maintain the Project and make available the assets of the Project to Long Term Transmission Customer(s) on a commercial basis. Though the process of revision of SBDs, interalia, to align with CERC Regulation for sharing of ISTS charges is on, the bidding is being done on the basis of existing SBDs, which require the list of LTTCs for signing of TSA.

In case of transmission schemes, whose beneficiaries are identified, the beneficiaries serve as the LTTCs. In case of transmission schemes, whose beneficiaries are not identified, the generators who seeks LTA on target basis serves as LTTCs and is required to execute the TSA. In case of transmission schemes, which has been broadly planned on potential basis, there is no identified generators nor beneficiaries, hence there is no LTTC to the sign the TSA and therefore, the bidding process of such scheme cannot be completed.

3.3. CERC (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters) (Seventh Amendment dated 09.01.2019) Regulations, 2019, to Grant of connectivity, Long-term Access and Medium-term Access Regulations 2009 has enabled the Renewable Implementing Agencies to apply for the Connectivity/LTA.

Subsequently, MNRE, Govt. of India vide its order dated 20.02.2019 has designated Solar Energy Corporation of India (SECI) as Renewable Energy Implementation Agency so as to facilitate the application of connectivity and LTA in ISTS network.

The above provisions have enabled SECI to apply for Connectivity/LTA before taking up the bidding process and sign TSA for facilitating the implementation of transmission system.

3.4. Further, para 16.4 of the detailed procedure for "Grant of Connectivity to Projects Based on Renewable Sources to Inter-State Transmission System" specifies that: *Based on consultation with MNRE, the transmission system so evolved shall be taken up for discussion in Standing Committee for Power System Planning and shall be implemented after regulatory approval.*

Grant of Regulatory Approval for execution of Inter-State Transmission Scheme to Central Transmission Utility) Regulations, 2010 states that these regulations shall apply to:

(i) an ISTS Scheme proposed by Central Transmission Utility, for which generators have sought long-term access as per the Central Electricity Regulatory Commission (Grant of Connectivity, Long-Term Access and Medium-Term Open Access to the Inter-State Transmission and Related Matters) Regulations, 2009, and for which consultation with Central Electricity Authority and beneficiaries if already identified has been held for setting up the ISTS Scheme, but for which Power Purchase Agreements with all the beneficiaries have not been signed on the date of application.

(ii) an ISTS Scheme for system strengthening / up-gradation, identified by Central Transmission Utility to enable reliable, efficient, co-ordinated and economical flow of electricity within and across the region for which consultation with Central Electricity Authority and beneficiaries if identified has been held.

3.5. CTU informed that they had already applied for regulatory approval to CERC for transmission schemes associated with RE generation projects in Northern Region and Western Region. In the hearing held on 27.2.2019 on petition no 23/MP/2019(Transmission system for solar energy zones in Rajasthan, CERC had asked CTU to publish the details of scheme and result of system studies on its website in term of regulation 8.3 of Central Electricity Regulatory Commission (Planning, Coordination and Development of Economic and Efficient Inter-State Transmission System by Central Transmission Utility and other related matters) Regulations, 2018.

3.6. Chief Engineer, PSPA-II, CEA emphasized that the scheme which requires Regulatory approval, their Gazette notification should be published after obtaining the Regulatory approval from CERC.

3.7. SECI informed that bidding of 6000MW of wind capacity has already been done through SECI I- IV bids. Bidding of 1200 MW (1050 Gujarat, 150 MW TN) wind capacity under SECI -V and 1200 MW (650 MW Gujarat, 300 MW Rajgarh, 250 MW TN) wind capacity under SECI –VI has also been completed. In addition to this 10GW of RE capacity is going to be bid out during the year. The details are as given below:

S.No.	RE project to be bid	Capacity in MW
1	Wind Capacity under SECI -VII	1200
2	Hybrid capacity with 75% solar & 25% wind	2040 (as two separate bids of 840 MW & 1200 MW)
3	Hybrid with Peaking power	1200
4	Solar	2400 (SECI-3- 1200 MW awarded. SECI-4- 1200 MW under bidding)
5	Solar Capacity with Manufacturing in India	3000

3.8. CTU stated that they have not received any connectivity/LTA application from the RE generators located in potential zones in NR, WR and SR except for Fatehgarh-II and Bhuj-II. In Sholapur area, St-II connectivity for 300 MW has already been granted to one of the applicant at 400kV level at Sholapur(existing) 400/220kV substation. The dedicated 400kV line (with minimum capacity 900MW) is under the scope of project developer.

3.9. SECI clarified that they would apply for connectivity /LTA for the schemes listed at Sl. No. 1,4-10 in the table under item no 3.1(except for scheme no 2 & 3). Scheme no 2 is transmission scheme associated with RE generations from potential wind energy zones in Osmanabad area of Maharashtra and scheme no. 3 is associated with RE generations from potential solar energy zones in Sholapur area in Maharashtra.

It was observed that in case connectivity/LTA is taken by SECI at specific pooling stations on behalf of RE generators then the bidding of RE projects would also needs to be carried out on site specific basis as compared to Pan-India basis. SECI agreed with the same.

3.10. CTU stated that for Stage –I connectivity, applicable application fee is required to be submitted by the applicant. For St-II connectivity, connectivity bank guarantee (CBG) of Rs 5Cr for every 300 MW is required to be submitted along with signing of transmission agreement (TA) within 30days of issue of St-II connectivity. For grant of LTA, applicable application fee, application bank guarantee (ABG) of Rs 10,000 per MW has to be submitted. The applicant has to sign LTA agreement within 30 days of issue of LTA intimation and has to submit construction bank guarantee (CBG) of Rs 5lakh per MW within 90 days of signing of the LTA agreement if augmentation of ISTS is involved. In addition, the applicant/beneficiary has to sign the TSA for the transmission scheme.

3.11. SECI informed that even for taking LTA of 15GW would require submission of construction bank guarantee to the tune of Rs750Cr. SECI would not be able to take this huge financial liability and accordingly they have written to CERC for waiver of the Bank Guarantees (BGs) which are required to be submitted to CTU for grant of connectivity as well as LTA. They would apply for connectivity as well as LTA as soon as the wavier of BGs is granted by CERC.

3.12. CTU stated that after SECI applies for connectivity/LTA, as per the procedure, meetings of Regional Constituents regarding connectivity and LTA applications would require to be done. After that only connectivity/LTA intimation can be issued to SECI.

3.13. CEA stated that the terms of reference of Regional Stranding Committee on Transmission includes examination of the proposals for transmission System for Access/Connectivity Applications. Therefore, meetings of Regional Stranding Committee on Transmission would also be required to be convened to discuss the connectivity/LTA applications.

3.14. Regarding the mode of implementation of the transmission schemes given at item no 3.1 above, it was decided the schemes would generally be implemented through TBCB as per the existing Tariff Policy.

3.15. Expert members opined that provision of additional transformers/bays at existing or under implementation substation/s may be implemented through RTM by the owner of the substation/s. Creation of a new voltage level at existing/under implementation substations along with provision of transformers and associated bays may be implemented through TBCB.

3.16. After deliberations, following was agreed:

1) SECI would apply for connectivity/LTA to CTU on behalf of generators for the transmission projects as given below. The MW quantum and target beneficiaries would be intimated by SECI in their applications.

2) On receipt of application from SECI, meetings of Regional Stranding Committee on Transmission and meetings of Regional Constituents regarding connectivity and LTA applications would be convened to discuss and grant connectivity/LTA to SECI.
3) SECI agreed to carry out location specific bidding of RE generation projects as per their connectivity/LTA applications.
4) The following mode of implementation is recommended for the transmission Schemes after grant of connectivity/LTA to SECI by CTU:

S. No.	Transmission Schemes	Estimated Cost (Rs.) Cr.	Mode of implementation
1	Transmission System for providing connectivity to RE projects in Gujarat [Lakadia (2000MW)]	196	TBCB
2	Transmission system for providing connectivity to RE projects at Bikaner(PG)	93	TBCB
3	**Transmission system for providing connectivity to RE projects in Fatehgarh-II**		
	Creation of 220kV level at Fatehgarh -2 in Jaisalmer Distt (Fatehgarh-2) along with associated bays	211	TBCB
	Provision of 4th 765/400kV transformer at Fatehgarh-II along with associated ICT bays	87	RTM
4	**Transmission system for providing connectivity to RE projects in Bhadla-II**		
	Creation of 220kV level at Bhadla-II along with associated bays	211	TBCB
	Provision of 3rd 765/400kV transformer at Bhadla-II along with associated ICT bays	87	RTM
5	Evacuation of power from RE sources in Karur / Tiruppur Wind Energy Zone (Tamil Nadu) (2500MW)	578	TBCB
6	Evacuation of power from RE sources in Koppal Wind Energy Zone (Karnataka) (2500MW)	824	TBCB
7	Evacuation of power from RE sources in Kurnool Wind Energy Zone (3000MW) /Solar Energy Zone (AP)(1500MW)	2680	TBCB
8	Evacuation of power from RE sources in Tirunelveli and Tuticorin Wind Energy Zone (Tamil Nadu) (500MW) : Addition of 1x500 MVA, 400/230kV ICT (4th) at Tuticorin-II GIS sub-station along with associated ICT bays	37	RTM
9	Transmission system associated with RE generations at Bhuj –II, Dwarka & Lakadia	1075	TBCB, Already recommended by 2nd NCT (held on 4.12.2018) & 3rd ECT (held on 21.12.2018) & bidding under process
10	Transmission System for providing connectivity to RE projects at Bhuj-II (2000MW) in Gujarat	645	
11	Transmission system associated with LTA applications from Rajasthan SEZ Part-B	676	

The detailed scope of works of the transmission schemes recommended for implementation through TBCB & RTM are enclosed at Annexure-IIA &IIB.

5) Implementation of the above transmission schemes (1 to 8) would be taken up subsequent to grant of connectivity & LTA to SECI by CTU.

4. Cost estimates for the transmission projects to be implemented through tariff based competitive bidding (TBCB)

4.1. CEA stated that in the 32nd meeting of Empowered Committee on Transmission (ECT) held on 17.01.2014 in CEA, the following was decided for estimation of cost of the transmission projects to be implemented through TBCB:

(i) A committee would be formed with the representatives from CEA, POWERGRID/ CTU and BPCs to work out a matrix for different type of transmission lines, which would consider different type of variables for estimating the project cost (for example, type of the terrains, wind zones, etc.).

(ii) Once the BPC is notified for a particular project, the survey should be carried out within the stipulated period (Survey report is to be provided to the prospective bidders 45 days prior to the issuance of RfP) and cost estimate should be prepared within 7 days based on the pre-defined cost matrix

(iii) Initially, the project cost estimates indicated in the Empowered Committee would be tentative in nature and the cost committee would firm up the estimated cost based on the survey report.

4.2. In line with the decision taken in the 32nd ECT, the cost committee was formed by CEA and intimated to the members in the 33rd meeting of ECT. The composition of the committee is as given below:

1	Chief Engineer (SP&PA), CEA	Chairman
2	Director(SP&PA), CEA	Member
3	Director(SETD), CEA	Member
4	General Manager (Cost Engg), PGCIL	Member
5	AVP, PFCCL	Member
6	ACEO, RECTPCL	Member

4.3. MoP vide their office order no. 15/3/2017– Trans dated 13.04.2018 has reconstituted the Empowered Committee on Transmission and has constituted the "National Committee on Transmission" (NCT). The Terms of Reference (ToR) of ECT is consideration of recommendation of NCT and allotment of BPCs for TBCB projects. The ToR of NCT, inter-alia, includes formulation of transmission schemes and examination of cost of the schemes.

4.4. CEA stated that NCT may constitute a similar cost committee to examine the cost of the schemes, based on the survey report, which are recommended by NCT to ECT for implementation through TBCB route. The suggested composition of the committee is as given below:

1	Chief Engineer (PSPA-I), CEA	Chairman
2	Director(PSPA-1), CEA	Member & convener
3	Director(PSETD), CEA	Member
4	General Manager (Cost Engg), PGCIL	Member
5	PFCCL representative	Member
6	RECTPCL representative	Member

4.5. Sh P. K. Pahwa, expert committee member suggested that representatives from STUs may also be included in the proposed cost committee. CEA stated that the cost is evolved based on the bench mark cost intimated by PGCIL. This cost is based on the

recently awarded cost of ISTS schemes by PGCIL. Accordingly, GM (Cost Engg), PGCIL has been included as the member of Cost Committee.

4.6. After deliberations, the following was agreed:

1. The estimated cost would be worked out by CEA for the transmission schemes that are put up for deliberations to the National Committee on Transmission.
2. After allotment of transmission scheme to BPC by Empowered Committee on Transmission, BPC to carry out the survey within the stipulated period (Survey report is to be provided to the prospective bidders 45 days prior to the issuance of RfP).
3. Based on the survey report, the cost of the transmission scheme would be re-estimated by the following cost committee:

1	Chief Engineer (PSPA-I), CEA	Chairman
2	Director(PSPA-1), CEA	Member
3	Director(PSETD), CEA	Member
4	General Manager (Cost Engg), PGCIL	Member
5	PFCCL representative	Member
6	RECTPCL representative	Member

4. The estimated cost arrived at by the cost committee to be intimated to NCT in the subsequent meeting.

5. Indian portion of Arun-III(Nepal)-Muzzaffarpur 400kV D/c line

5.1. CEA stated that as suggested by Director(Trans), MoP in the 2nd NCT meeting, members may discuss regarding implementation of the Indian portion of Arun-III(Nepal)-Muzzaffarpur 400kV D/c line.

5.2. Regarding implementation of the Indian portion of Arun-III(Nepal)-Muzzaffarpur 400kV D/c line, it was decided that this would be implemented through RTM. Before implementation of this transmission line, Arun –III HEP in Nepal would sign requisite agreements including TSA/BPTA etc.

6. Constitution of the Bid Evaluation Committees (BEC's) for the new transmission schemes -

6.1. CEA stated that in the 3rd meeting of Empowered Committee on Transmission held on 21.12.2018, 9 nos. of transmission schemes have been identified for implementation through tariff based competitive bidding (TBCB).

As per the Tariff based Competitive-bidding Guidelines for Transmission Service notified by Government of India, "The Empowered Committee shall constitute a committee for evaluation of the bids with at least one representative from CEA and not less than two representatives from the concerned Regional Power Committees with at least one representative from every concerned RPC and one independent member. The independent member shall have expertise in financial matter/bid evaluation"

BECs for the nine schemes were constituted with six members in each committee namely two members from the concerned Regional Power Committees, CE(PSETD, CEA), Director(PSPA-I, CEA), BPC representative as convener and Head, SBI Capital Markets, New Delhi as Chairman. The BECs constituted were communicated to the BPCs. For getting nominations from RPC, CEA vide its letters dated 25.01.2019 have already sought nominations from NRPC and WRPC for constituting the scheme specific Bid Evaluation Committee (BEC).

PFCCL stated that out of the 9 notified schemes, 5 nos. of schemes have been allotted to RECTPCL and 4 nos. of schemes have been allotted to PFCCL for carrying out the bidding process. Out of the 6 members, nominations for only 4 members of the committee are available as on date. However, the bidding process is being carried out

with only four members of the BEC. The RfQ stage for the schemes under bidding by RECTPCL has been concluded and for the schemes under bidding by PFCCL, the RfQ is in final stage.

6.2. CEA stated that nominations from WRPC has already been received. Nominations from NRPC is still awaited.

6.3. NCT members noted the constitution of BECs for the nine transmission schemes enclosed as Annexure –III. NCT advised BPCs to carry on the bidding process with the available nominations of the BEC members. NCT also advised CEA to expedite the nominations from NRPC.

Meeting ended with thanks to the chair.

Annexure-I

Subject: **List of Participants of the 3rd Meeting of NCT held on 1.3.2019**
Dated: **1st March, 2019**

S.No.	Name (Shri/Smt)	Designation
I	**CEA**	
1	P.S. Mhaske	Chairmen (CEA)
2	Somit Dasgupta	Member(E&C)
3	Pardeep Jindal	Chief Engineer(PSPA-II)
4	Ravinder Gupta	Chief Engineer (PSPA-I)
5	Awdhesh Kumar Yadav	Director (PSPA-I)
6	Ishan Sharan	Director (PSPA-II)
7	B.S. Bairwa	Director (PSPA-II)
8	Manjari Chaturvedi	Director (PSPA-I)
II	**Experts**	
9	P.K. Pahwa	Expert Member
10	Prabhakar Singh	Expert Member
III	**NITI AAYOG**	
11	Ranjan Kumar Pardhan	Dy. Advisor
IV	**POWERGRID**	
12	Subir Sen	COO (CTU-Plg.)
13	Mukesh Khanna	CGM (CTU-Plg.)
V	**SECI**	
14	S.K. Mishra	Director (PS)
VI	**RECTPCL**	
15	Bhupender Gupta	ACEO
VII	**PFCCL**	
16	Sanjay Nayak	AVP

Annexure-IIA

Detailed scope of works for the schemes to be taken up through TBCB route

1. Name of Scheme: Transmission System for providing connectivity to RE projects in Gujarat [Lakadia (2000MW)]:

Sl. No.	Scope of the Transmission Scheme	Capacity /ckm	Estimated Cost (Rs.) Cr.
1.	Establishment of 4x500MVA, 400/220kV ICTs at Lakadia PS (GIS)	4x500MVA, 400/220kV 400kV ICT bay-4 220kV ICT bay- 4 220kV line bays -7	196
		Total Rs (in Crore)	**196**

2. Name of Scheme: Transmission system for providing connectivity to RE projects at Bikaner (PG):

Sl. No.	Scope of the Transmission Scheme	Capacity/Ckm	Estimated Cost (Rs.) Cr.
	Creation of 220 kV level at Bikaner (PG) with transformation capacity of 2x500MVA, 400/220kV transformers 4 nos. of 220kV line bays	2x500 MVA, 400/220 kV 400 kV ICT bay-2 220 kV ICT bay-2 220kV line bays-4	93
		Total Rs (in Crore)	**93**

3. Name of Scheme: Transmission system for providing connectivity to RE projects in Fatehgarh-II:

Sl. No.	Scope of the Transmission Scheme	Capacity/Ckm	Estimated Cost (Rs.) Cr.
1	Creation of 220kV level Fatehgarh -2 in Jaisalmer Distt (Fatehgarh-2) 9 nos. of 220 kV line bays	5x500 MVA, 400/220 kV 400 kV ICT bay-5 220 kV ICT bay-5 220kV line bays- 9	211
		Total Rs (in Crore)	**211**

4. Name of Scheme: Transmission system for providing connectivity to RE projects in Bhadla-II:

Sl. No.	Scope of the Transmission Scheme	Capacity/Ckm	Estimated Cost (Rs.) Cr.

I/4315/2019

1	Creation of 220kV level at Bhadla-II 9 nos. of 220 kV line bays	5x500 MVA, 400/220 kV 400 kV ICT bay-5 220 kV ICT bay-5 220kV line bays- 9	211
		Total Rs (in Crore)	**211**

5. Name of Scheme: Evacuation of power from RE sources in Karur / Tiruppur Wind Energy Zone (Tamil Nadu) (2500MW)

Sl. No.	Scope of the Transmission Scheme	Capacity /ckm	Estimated Cost (Rs.) Cr.
1.	Establishment of 5x500 MVA, 400/230 kV Karur Pooling Station (at a location in between Karur Wind zone and Tiruppur wind zone) 9 Nos. of 230kV line bays for interconnection of wind projects	5x500MVA, 400/230kV 400kV ICT bay-5 230kV ICT bay-5 400kV line bay- 4 400kV reactor bay -2 230kV line bays-9	284
2.	LILO of both circuits of Pugalur – Pugalur (HVDC) 400 kV D/c line (with Quad Moose ACSR Conductor) at Karur PS	50km	277
3.	2x125 MVAr,400kV bus reactor at Karur PS	125 MVAr reactor-2	17
	Total Rs (in Crore)		578

6. Name of Scheme: Evacuation of power from RE sources in Koppal Wind Energy Zone (Karnataka) (2500MW)

Sl. No.	Scope of the Transmission Scheme	Capacity /ckm	Estimated Cost (Rs.) Cr.
1.	Establishment of 5x500 MVA, 400/220kV pooling station near Munirabad /suitable location in Koppal distt. 9 Nos of 220kV line bays for interconnection of wind projects Space provision for future expansion.	5x500MVA, 400/220kV 400kV ICT bay-5 220kV ICT bay-5 400kV line bay- 4 400kV reactor bay -2 220kV line bays-9	284
2.	Pooling station (near Munirabad /suitable location in Koppal distt.) - Munirabad 400 kV D/c Line (with Quad Moose ACSR conductor)	50km	138
3.	Pooling station (near Munirabad	125km	346

	/suitable location in Koppal distt.) - Narendra (New) 400 kV D/c Line (with Quad Moose ACSR conductor)		
4.	400kV lines bays at Munirabad (2 nos) and Narendra(new) (2 nos)	400kV line bay- 4	39
5.	2x125 MVAr,400kV bus reactor at Pooling station (near Munirabad /suitable location in Koppal distt.)	125 MVAr reactor-2	17
	Total Rs (in Crore)		824

7. Name of Scheme: Evacuation of power from RE sources in Kurnool Wind Energy Zone (3000MW) /Solar Energy Zone (AP)(1500MW):

Sl. No.	Scope of the Transmission Scheme	Capacity /ckm	Estimated Cost (Rs.) Cr.
1.	Establishment of 765/400/220kV 3x1500 MVA, 9x500 MVA Pooling station at suitable location in Kurnool Distt (Kurnool-III) with 1x330 MVAr (765kV) & 1x125MVAr (400kV) bus reactor 220kV line bays for interconnection of wind projects (15 nos)	3x1500 MVA, 765/400kV 9x500MVA, 400/220kV 765kV ICT bay-3 400kV ICT bay-12 220kV ICT bay-9 400kV reactor bay -1 220kV line bays-15 765kV reactor bay -1	760
2.	Kurnool –III PS - Kurnool(new) 765 kV D/c Line	100km 765kV line bays-2	500
3.	Kurnool –III PS-Maheshwaram(PG) 765 kV D/c Line	250km 765kV line bays-2	1193
4.	765kV lines bays at Kurnool(new) (2 nos) and Maheshwaram(PG) (2 nos)		74
5.	240 MVar Switchable line reactors at both ends of Kurnool-III PS – Maheshwaram(PG) 765 kV D/c Line along with bays	240 MVAr line reactor -4 Reactor bays -4	153
	Total Rs (in Crore)		**2680**

Note: (i) PGCIL to provide space for 2nos. of 765kV bays both at Kurnool(new) and Maheshwaram (PG) S/s

(ii) PGCIL to provide space at Maheshwaram (PG) for 765kV Switchable line reactors at Maheshwram end of Kurnool-III PS –Maheshwaram (PG) 765 kV D/c Line

Annexure-IIB

Detailed scope of works for the schemes to be taken up through RTM route

1. Name of Scheme: Transmission system for providing connectivity to RE projects in Fatehgarh-II:

Scope of the Transmission Scheme	Capacity/Ckm	Estimated Cost (Rs.) Cr.
Additional (4th) 765/400kV transformer at Fatehgarh-II	1x1500MVA, 765/400kV 765 kV ICT bay-1 400 kV ICT bay-1	87
Total Rs (in Crore)		**87**

2. Name of Scheme: Transmission system for providing connectivity to RE projects in Bhadla-II:

Scope of the Transmission Scheme	Capacity/Ckm	Estimated Cost (Rs.) Cr.
Additional (3rd) 765/400kV transformer at Bhadla-II	1x1500MVA, 765/400kV 765 kV ICT bay-1 400 kV ICT bay-1	87
Total Rs (in Crore)		**87**

3. Name of Scheme: Evacuation of power from RE sources in Tirunelveli and Tuticorin Wind Energy Zone (Tamil Nadu) (500MW)

Scope of the Transmission Scheme	Capacity /ckm	Estimated Cost (Rs.) Cr.
Addition of 1x500 MVA, 400/230kV ICT (4th) at Tuticorin-II GIS sub-station.	1x500MVA, 400/230kV 400kV ICT bay-1 230kV ICT bay-1	37
Total Rs (in Crore)		**37**

Note: *Powergrid to provide space for 400/230kV ICT (4th) at Tuticorin-II sub-station.*

Annexure-III

1) **Bid Evaluation Committee (BEC) for "Transmission system associated with LTA applications from Rajasthan SEZ Part-B".**

S. No.	Name	Designation
1.	Ms. Kamlesh Sekhon Head, SBI Capital Markets, 6th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770 Fax: 011 -23418773	Chairman
2.	Nomination to be included as and when received from NRPC	Member
3.	Nomination to be included as and when received from NRPC	Member
4.	Sh. Sanjay Srivastava, Chief Engineer, PSETD Division, CEA	Member
5.	Sh. Awdhesh Kumar Yadav, Director, PSPA-I Division, CEA	Member
6.	Sh. Sanjay Mehrotra, Chairman of SPV constituted by PFC Consulting Limited	Convener - Member

2) **Bid Evaluation Committee (BEC) for "Transmission system associated with LTA applications from Rajasthan SEZ Part-C".**

S. No.	Name	Designation
1.	Ms. Kamlesh Sekhon Head, SBI Capital Markets, 6th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770 Fax: 011 -23418773	Chairman
2.	Nomination to be included as and when received from NRPC	Member
3.	Nomination to be included as and when received from NRPC	Member
4.	Sh. Sanjay Srivastava, Chief Engineer, PSETD Division, CEA	Member
5.	Sh. Awdhesh Kumar Yadav, Director, PSPA-I Division, CEA	Member
6.	Sh. Daljeet Singh Khatri, Chairman of SPV constituted by REC Consulting Limited	Convener - Member

3) **Bid Evaluation Committee (BEC) for "Transmission system associated with LTA applications from Rajasthan SEZ Part-D".**

S. No.	Name	Designation
1.	Ms. Kamlesh Sekhon Head, SBI Capital Markets, 6th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770 Fax: 011 -23418773	Chairman
2.	Nomination to be included as and when received from NRPC	Member
3.	Nomination to be included as and when received from NRPC	Member
4.	Sh. Sanjay Srivastava, Chief Engineer, PSETD Division, CEA	Member
5.	Sh. Awdhesh Kumar Yadav, Director, PSPA-I Division, CEA	Member
6.	Sh. Sanjay Mehrotra, Chairman of SPV constituted by PFC Consulting Limited	Convener - Member

4) Bid Evaluation Committee (BEC) for "Construction of Ajmer (PG)-Phagi 765 kV D/c line along with associated bays for Rajasthan SEZ".

S. No.	Name	Designation
1.	Ms. Kamlesh Sekhon Head, SBI Capital Markets, 6th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770 Fax: 011 -23418773	Chairman
2.	Nomination to be included as and when received from NRPC	Member
3.	Nomination to be included as and when received from NRPC	Member
4.	Sh. Sanjay Srivastava, Chief Engineer, PSETD Division, CEA	Member
5.	Sh. Awdhesh Kumar Yadav, Director, PSPA-I Division, CEA	Member
6.	Sh. Daljeet Singh Khatri, Chairman of SPV constituted by REC Consulting Limited	Convener - Member

5) Bid Evaluation Committee (BEC) for "WRSS -21 Part-A - Transmission System strengthening for relieving over loadings observed in Gujarat Intra-state system due to RE injections in Bhuj PS".

S. No.	Name	Designation

1.	Ms. Kamlesh Sekhon Head, SBI Capital Markets, 6th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770 Fax: 011 -23418773	Chairman
2.	Shri S. H. Upadhyay, Chief Engineer (Project), GETCO	Member
3.	Shri N. A. Patel, General Manager (F&A), GETCO	Member
4.	Sh. Sanjay Srivastava, Chief Engineer, PSETD Division, CEA	Member
5.	Sh. Awdhesh Kumar Yadav, Director, PSPA-I Division, CEA	Member
6.	Sh. A K Tyagi, Chairman of SPV constituted by REC Consulting Limited	Convener - Member

6) Bid Evaluation Committee (BEC) for "WRSS -21 Part-B- Transmission System strengthening for relieving over loadings observed in Gujarat Intra-state system due to RE injections in Bhuj PS".

S. No.	Name	Designation
1.	Ms. Kamlesh Sekhon Head, SBI Capital Markets, 6th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770 Fax: 011 -23418773	Chairman
2.	Shri N. P. Jadav, Addl. Chief Engineer (R&C), GETCO	Member
3.	Shri Jaynish Modi, Chief Finance Manager, GETCO	Member
4.	Sh. Sanjay Srivastava, Chief Engineer, PSETD Division, CEA	Member
5.	Sh. Awdhesh Kumar Yadav, Director, PSPA-I Division, CEA	Member
6.	Sh. Sanjay Mehrotra, Chairman of SPV constituted by PFC Consulting Limited	Convener - Member

7) Bid Evaluation Committee (BEC) for "Transmission system associated with RE generations at Bhuj –II, Dwarka & Lakadia"

S. No.	Name	Designation
1.	Ms. Kamlesh Sekhon Head, SBI Capital Markets, 6th floor, World Trade Tower,	Chairman

	Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770 Fax: 011 -23418773	
2.	Shri K. H. Rathod, Addl. Chief Engineer (Proc.), GETCO	Member
3.	Shri Gaurang Thakkar, Controller of Accounts, GETCO	Member
4.	Sh. Sanjay Srivastava, Chief Engineer, PSETD Division, CEA	Member
5.	Sh. Awdhesh Kumar Yadav, Director, PSPA-I Division, CEA	Member
6.	Sh. A K Tyagi, Chairman of SPV constituted by REC Consulting Limited	Convener - Member

8) Bid Evaluation Committee (BEC) for "Transmission System for providing connectivity to RE projects at Bhuj-II (2000MW) in Gujarat"

S. No.	Name	Designation
1.	Ms. Kamlesh Sekhon Head, SBI Capital Markets, 6th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770 Fax: 011 -23418773	Chairman
2.	Shri P. K. Shah, Superintending Engineer (Project), GETCO	Member
3.	Shri Jaynish Modi, Chief Finance Manager, GETCO	Member
4.	Sh. Sanjay Srivastava, Chief Engineer, PSETD Division, CEA	Member
5.	Sh. Awdhesh Kumar Yadav, Director, PSPA-I Division, CEA	Member
6.	Sh. Sanjay Mehrotra, Chairman of SPV constituted by PFC Consulting Limited	Convener - Member

9) Bid Evaluation Committee (BEC) for "Jam Khambaliya Pooling Station and Interconnection of Jam Khambaliya Pooling Station for providing connectivity to RE projects (1500 MW) in Dwarka (Gujarat) & Installation of 400/220 kV ICT along with associated bays at M/s CGPL Switchyard"

S. No.	Name	Designation
1.	Ms. Kamlesh Sekhon Head, SBI Capital Markets, 6th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001	Chairman

	Phone No. 011-23418770 Fax: 011 -23418773	
2.	Shri A. K. Shirolawala, Executive Engineer (Project), GETCO	Member
3.	Shri Gaurang Thakkar, Controller of Accounts, GETCO	Member
4.	Sh. Sanjay Srivastava, Chief Engineer, PSETD Division, CEA	Member
5.	Sh. Awdhesh Kumar Yadav, Director, PSPA-I Division, CEA	Member
6.	Sh. Daljeet Singh Khatri, Chairman of SPV constituted by REC Consulting Limited	Convener - Member