

I/9013/2020



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

-As per enclosed list-

विषय: 22nd जनवरी 2020 को आयोजित रेकांस्तितुतेद "ट्रांसमिशन पर राष्ट्रीय समिति" (एनसीटी) की दूसरी बैठक के मिनट्स.

Subject: Minutes of the 2nd meeting of reconstituted "National Committee on Transmission" (NCT) held on 22nd January, 2020

Sir/Madam,

MoP vide its order dated 04.11.2019 has reconstituted the National Committee on Transmission (NCT). The 2nd meeting of the reconstituted "National Committee on Transmission" (NCT) was held on **22nd January, 2020 at 1:00 pm** under the chairmanship of Shri P. S. Mhaske, Chairperson, CEA in conference Room of CEA (Chintan), 2nd Floor, Sewa Bhawan, R.K. Puram, New Delhi.

The Minutes of the meeting are attached herewith.

Yours faithfully,

Encl: As above

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

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List of addressees:

| | | | |
|----|--|----|--|
| 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. | Sh. Dilip Nigam, Scientist ‘G’, Block no. 14, CGO Complex, Lodhi Road, New Delhi - 110003 | 6. | Chief Operating Officer, Central Transmission Utility POWERGRID, Saudamini, Plot No. 2, Sector-29, Gurgaon – 122 001. |
| 7. | Sh. Rajnath Ram, Adviser (Energy), NITI Aayog, Parliament Street, New Delhi – 110 001. | 8. | Sh. P. K. Pahwa, Ex. Member (GO&D), CEA 428 C, Pocket -2, Mayur Vihar, Phase -1, Delhi – 110091. |
| 9. | Shri Prabhakar Singh, Ex. Director (Projects), POWERGRID D 904, Tulip Ivory, Sector-70, Gurgaon – 122 001. | | |

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Minutes of the 2nd meeting of National Committee on Transmission (NCT) (constituted in supersession of the erstwhile NCT) held on 22nd January, 2020 at 1300 hrs under the chairmanship of Shri P. S. Mhaske, Chairperson, CEA in Conference Room of CEA (Chintan), 2nd Floor, Sewa Bhawan, R.K. Puram, New Delhi

List of participants is enclosed at Annexure-I.

Chairperson, CEA as Chairman of the National Committee on Transmission (NCT) welcomed the participants to the 2nd meeting of the NCT. He stated that in the 1st NCT meeting the deliberation on the item no. 4, namely, “*Advice sought by Bid Evaluation Committee for Selection of Successful Bidder based on e-RA for the transmission scheme “Western Region Strengthening Scheme-XIX (WRSS-XIX) and North Eastern Region Strengthening Scheme-IX (NERSS-IX)”*” could not be concluded due to paucity of time. The main agenda of this meeting is to conclude the issue of item 4 of the 1st NCT meeting..

Member (E&C), CEA, stated that in the last meeting of the NCT held on 03/01/2020, other issues beside item no. 4 covered in the agenda were discussed and agreed. Item no.4 was also discussed, however, due to paucity of time, the discussion could not be completed. Accordingly, it was agreed that the item no 4 of the agenda would be taken up separately in the next meeting of the NCT to be called shortly.

The members agreed with the views of Member (E&C), CEA. Accordingly, it was decided that the minutes of the 1st meeting held on 03/01/2020 should be brought out separately and the minutes of this 2nd meeting of NCT, convened to discuss on the *Advice sought by Bid Evaluation Committee for Selection of Successful Bidder based on e-RA for the transmission scheme “Western Region Strengthening Scheme-XIX (WRSS-XIX) and North Eastern Region Strengthening Scheme-IX (NERSS-IX)”* shall be brought out separately.

Chief Engineer (PSPA-1) presented the deliberations already held on the issue in the 1st NCT meeting in brief, to the NCT members. He stated that Ministry of Power vide Gazette Notification dated May 04, 2018 has appointed PFC Consulting Limited (PFCCL) as Bid Process Coordinator (BPC) for selection of Bidder as Transmission Service Provider (TSP) to establish transmission system for “**Western Region Strengthening Scheme-XIX (WRSS-XIX) and North Eastern Region Strengthening Scheme-IX (NERSS-IX)**” through tariff based competitive bidding process. The bidding process of the scheme has not yet been completed as the Bid Evaluation Committee for the scheme in its meeting held on 31.10.2019 has sought advice of National Committee on Transmission/ Empowered Committee on Transmission through the BPC (PFCCL) regarding the reasonableness of the discovered levelised tariff through E-RA for the scheme, in view of the following:

- i) 45.2% higher levelised tariff as compared to levelised tariff calculated as per CERC norms in this project.
- ii) Importance of the scheme and its timely completion as the Scheme would enable utilization of Navi Mumbai 400/220kV Sub Station (ISTS Asset already created) and provide additional ISTS feed to Mumbai region.
- iii) Non-quantification of the escalation in cost due to RoW issues in Mumbai area by the Cost Committee.

1.1 He further stated that the the transmission scheme “**Western Region Strengthening Scheme-XIX (WRSS-XIX) and North Eastern Region Strengthening Scheme-IX (NERSS-IX)**” comprises of four parts namely Part A, Part B, Part C and Part D. The bid process for the project was initiated with the issuance of RfQ notification on August 14,

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2018. The RfP documents were issued on November 13, 2018 with January 14, 2019 as last date for submission. During the RfP submission stage of the bids, bidders have raised concerns regarding the severe RoW issues associated with Part C of the scheme and had requested for time extension for RfP submission date.

Considering the bidders' concerns, a team comprising of officials from CEA, CTU and PFCCCL visited Kharghar and Navi Mumbai S/stn on 14.12.2018 followed by a meeting with MSETCL on 15.12.2018. In the meeting, it was agreed that the bidder may be given option to consider suitable technological options like cable of equivalent rating of the line/Multi circuit line/Monopoles/Gas Insulated Line etc instead of conventional (lattice tower) 400 kV D/c line with Quad Moose conductor, to mitigate the RoW issues in the 400 kV lines in Part C of the Scheme. The same was also intimated to the bidders before RfP submission.

- 1.2 COO, CTU stated that the scheme was required to meet the growing demand in Mumbai area. This scheme provides direct ISTS feed to Kharghar (Intra-state) and Navi Mumbai (Inter-State) existing 400/220 kV S/stns and also to the proposed Vikhroli 400/220 kV S/st. These infeeds are very much essential to increase the import capacity of Mumbai area as some of the embedded generations in Mumbai would be retiring in the near future. Due to severe RoW constraints, LILO section (LILO of Kharghar-Padghe 400 kV line at Navi Mumbai) of about 1.5 km near Navi Mumbai S/stn has been implemented by laying underground cable by POWERGRID . While implementing underground cable section there were many hurdles due to RoW. He further stated that the 220 kV outlets from Navi Mumbai 400/220 kV S/stn which could not be implemented by MSETCL due to RoW issues, has been included as a part of this current ISTS scheme as an exception. COO, CTU further informed the members that due to non-availability of the 220 kV line outlets, the 400/220 kV Navi Mumbai S/S remains unutilized for the last few years. The 220 kV outlets from Navi Mumbai are required to meet Navi Mumbai loads and for utilization of Navi Mumbai 400/220 kV ISTS substation.
- 1.3 Director (PSPA-1), CEA highlighting the requirement of Part C of the ISTS scheme **(WRSS-XIX & NERSS-IX)** stated that, to increase the import capacity of Mumbai Area, MSETCL has taken up the implementation of an intra-state transmission scheme "**400 KV Vikhroli Receiving Station and Associated Incoming Transmission Lines for Strengthening of Mumbai Transmission System**" in Mumbai area with March'2022 as completion schedule. The Transmission Service Provider (TSP) for the scheme has been selected by them (LoI issued in December 2019) through tariff based competitive bidding route. This scheme includes establishment of Vikhroli 400/220 kV S/stn along with Kharghar- Vikroli 400 kV D/C & M/C line (24 km) and LILO of 400 kV Talegaon-Kalwa line at 400 kV Vikhroli (12 km). Part C of the ISTS scheme would wheel additional power at Kharghar (MSETCL) 400/220 kV S/stn from Padghe 765/400 kV S/s (ISTS source), therefore its completion in the matching time frame of March'2022 is required. Accordingly, MSETCL vide its letter dated 19.12.2019 has requested CEA to furnish the present status of the transmission scheme "Additional ISTS feed to Navi Mumbai 400/220 kV substation of POWERGRID" covered under Part C of the scheme.

Director, CEA further stated that Part A of the scheme is required to avoid overloading of Banaskantha-Sankhari 400 kV D/C line under N-1 contingency (After commissioning of 700 MW Radhaneshda Ultra Mega Solar Park in Gujarat). The solar park is now anticipated to be commissioned in July 2020. Part B of the scheme includes **Establishment of new substation at Vapi/Ambethi area and its associated transmission lines**. At the new Vapi 400/220 kV substation, 4 nos. of 220 kV bays has been allotted to GETCO for

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development of their downstream network to feed their loads. GETCO vide their letter dated 24.12.2019 has requested for the exact location of the proposed Vapi substation as well as the tentative completion schedule of the project.

- 1.4 In view of the position explained above, the NCT members agreed regarding the requirement of the transmission schemes on urgent basis. Members enquired about the discovered tariff and the estimated cost thereof of the intra-state scheme being implemented by MSETCL in Mumbai area vis-a-vis the estimated cost of the Part-C of inter-state scheme.
- 1.5 Director, CEA informed that the estimated cost of the recently bid, intra-state transmission scheme of MSETCL (**400 KV Vikhroli Receiving Station and Associated Incoming Transmission Lines for Strengthening of Mumbai Transmission System**) in Mumbai Area awarded through tariff based competitive bidding was Rs.1542 crores. The LoI for this transmission scheme has been issued by MSETCL in December' 2019. It includes establishment of the following transmission elements:
 - i) Vikhroli 400/220 kV S/stn along with its 220 kV interconnection
 - ii) Kharghar- Vikroli 400 kV D/C & M/C line (twin HTLS) - 24 km
 - iii) LILO of 400 kV Talegaon-Kalwa line at 400/220 kV Vikhroli (12 km).
- 1.6 Out of the total estimated cost of Rs 1542 Crore of the above MSETCL scheme, about Rs 756 Crore was the estimated cost of 400 kV line works (494 Cr : Kharghar- Vikhroli line of 24 kms + 262 Cr: LILO of Talegaon-Kalwa line at Vikhroli of 12 km). The per km cost of Kharghar- Vikroli 400 kV D/C & M/C line (twin HTLS) works out to be about Rs 20.5 Crore per km.
- 1.7 The Part C of the ISTS Scheme includes Establishment of 400 kV lines (about 87 kms of 400 kV D/c Quad line) in and around Mumbai area with an estimated cost of Rs 796 Crore. As compared to the cost estimation of Rs 20.5 Cr/km for establishment of a twin HTLS/Quad Moose line done by MSETCL, cost estimation of the 400 kV quad D/C line done by Cost committee was only about Rs. 9.1 Cr per km.
- 1.8 Member (E&C), CEA stated that from the per km cost difference it is observed that the Cost Committee has not considered ground realities regarding ROW in Mumbai while estimating the cost of Part C of the transmission scheme.
- 1.9 Director, CEA informed that Cost Committee has estimated the Cost for Western Region Strengthening Scheme-XIX (WRSS-XIX) and North Eastern Region Strengthening Scheme-IX (NERSS-IX) by multiplying the total length of the line with per km cost furnished by PGCIL for June' 2018 Price Level. Additional cost on account of different terrain and wind zones, Crop and Tree compensation, RoW Compensation and time of completion is also factored into while deriving the final estimated cost.
- 1.10 MSETCL has estimated the cost of their Mumbai Transmission System Strengthening Scheme on Block Estimate basis. The rates/quantities used in the block estimate for the transmission lines is of earlier Mumbai Strengthening Scheme (220 kV lines on M/Ckt towers). The quantities have been escalated to arrive at the estimate for the 400 kV lines of the current intra-state scheme, which would be passing through similar terrain. As such the methodology adopted for estimating the cost of both the system are different.

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- 1.11 Expert Member Shri P.K. Pahwa enquired about planning of 400 kV D/c line with Quad Moose Conductor instead of with HTLS Conductor in Mumbai Area, as line with HTLS conductor would have resulted in lighter towers in RoW constraint areas.
- 1.12 Director, CEA clarified that Padghe-Khargar 400 kV D/c line was planned as Quad Moose conductor. However, bidders were given choice to implement the line using various technological options to overcome the RoW constraints during RfP stage.
- 1.13 NCT member from NITI Aayog opined that even though the levelised tariff discovered through the bidding process is high as compared to the levelised tariff calculated by BPC as per CERC norms, based on the cost estimated by the Cost Committee, but the same has been discovered through a transparent bidding process involving e-Reverse Auction. Therefore, it can be taken to reflect the prevailing market price. BPC informed that the reverse auction for the project was held on 21st June, 2019 which involved 86 rounds of bidding and lasted for about 22 hours.
- 1.14 NCT members suggested that since the cost of ROW based on the market price in Mumbai area has not been factored, the reasonableness of the discovered levelised tariff of Part-C of ISTS scheme could be assessed by reworking the project cost after applying the indicative per km cost of the 400kV lines of the intra-state project in Mumbai area bid out by MSETCL in Dec' 2019, followed by calculation of levelized tariff based on the recalculated cost, as per CERC norms.

Director, CEA informed that the total cost estimated by the Cost Committee for the scheme, **(WRSS-XIX & NERSS-IX)** is Rs. 1223 crore (403 Cr: Part A,B,D + 820 Cr : Part C). Part C of the Scheme amounting to Rs. 820 Cr, involves laying of appx. 87 km, 400 kV transmission lines in Mumbai area alongwith downstream 220 kV network (appx 1 km) at Navi Mumbai (PG). Out of the total length of 87 km, 400 kV lines in Part C of the ISTS scheme, about 43.5 km of the line is passing through forest and open land, therefore its costing can be done as per Cost Committee rate (Rs. 9.11 Cr/km). For the balance portion of about 43.5 km of 400 kV line, MSETCL indicative rate of Rs. 20.5 Cr/km can be applied. Accordingly, the re-estimated cost of Part C of the scheme would work out to be about Rs 1312 crore (1288 Cr - 400 kV lines + 24 Cr -220 kV downstream lines) and the total cost of the ISTS scheme (Part A,B,C &D) works out to be Rs.1715 crore (403 Cr: Part A,B,D + 1312 Cr : Part C). The calculated levelised tariff as per CERC norms would work out to about Rs 244 Crore as against the discovered levelised tariff of Rs 256 crores.

1.15 After further deliberations, NCT opined as under:

- (i) In view of the urgent requirement of the various elements of the ISTS transmission scheme **(WRSS-XIX & NERSS-IX)** and to facilitate utilization of the Navi Mumbai 400/220 kV S/stn which is lying stranded, the implementation of the WRSS-XIX & NERSS-IX scheme need to be taken up on priority basis.
- (ii) The levelised tariff discovered for the transmission scheme **“Western Region Strengthening Scheme-XIX (WRSS-XIX) and North Eastern Region Strengthening Scheme-IX (NERSS-IX)”** is comparable with the levelised tariff discovered for the intra-state transmission scheme **400 KV Vikhroli Receiving Station and Associated Incoming Transmission Lines for Strengthening of Mumbai Transmission System** bid out by MSETCL in December 2019.

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- (iii) The levelised tariff for the ISTS transmission scheme (**WRSS-XIX & NERSS-IX**) has been discovered through a transparent bidding process involving e-Reverse Auction. Therefore, it can be taken to reflect the prevailing market price.

Accordingly, BPC may go ahead for the completion of the bidding process.

Meeting ended with thanks to the chair.

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Annexure-I

List of Participants of 2nd meeting of reconstituted 'National Committee on Transmission' held on 22nd January, 2020 at 1:00 pm in CEA, Sewa Bhawan, R.K. Puram, New Delhi.

| S.No. | Name (S/Shri) | Designation | Mb. No. | Email |
|-----------------------------|----------------------|-----------------------------------|------------|--|
| I CEA | | | | |
| 1 | P.S.Maske | Chairperson | | |
| 2 | Sandesh Kumar Sharma | Member (E&C) | | |
| 3 | Goutam Roy | Chief Engineer & Member Secretary | 8376817933 | goutamroy.715@gmail.com |
| 4 | Awdhesh Yadav | Director | 0986864087 | awd.cea@gmail.com |
| II MNRE | | | | |
| 4 | Dilip Nigam | Adviser | 9891184867 | dilipnigam@nic.in |
| 5 | Girish Kumar | Director | 9717493267 | gkumar.mnre@nic.in |
| III Technical Expert | | | | |
| 6 | Prabhakar Singh | Technical Expert | 9873174448 | prabhakar.s@rediffmail.com |
| 7 | P.K.Pahwa | Technical Expert | 9818243524 | pkpahwa2000@yahoo.com |
| IV NITI Ayog | | | | |
| 8 | Rajnath Ram | Adviser (E) | 9899425318 | rajnath-pc@nic.in |
| V POWERGRID | | | | |
| 9 | Subir Sen | COO (CTU-Plg) | 9650293185 | subir@powergridindia.com |
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