

No. 15/3/2018-Trans-Part(1)
Government of India
Ministry of Power
Shram Shakti Bhawan, Rafi Marg, New Delhi-110001

Dated 13th January, 2022

OFFICE MEMORANDUM

Subject: New transmission schemes to be taken up under Regulated Tariff Mechanism (RTM).

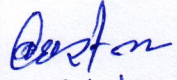
The undersigned is directed to say that the following transmission schemes, which were recommended by 7th meeting of the National Committee on Transmission (NCT), has been approved for implementation under the Regulated Tariff Mechanism (RTM) mode by agencies as indicated in the table below:

Sl. No.	Elements	Agency
1.	Transmission Network Expansion in Gujarat to increase ATC from ISTS: Part B	PGCIL
2.	Transmission system for evacuation of RE power from renewable energy parks in Leh (5 GW Leh - Kaithal transmission corridor)	PGCIL*

* Implementation to be taken up after approval of the Central Government for providing Central Grant for part funding of the project.

2. Detailed scope of works for the above schemes, as recommended by the NCT is at **Annexure**.
3. These schemes are awarded to CTUIL for their implementation under RTM mode. The CTUIL is requested to take necessary action for entering into a concession agreement with agencies as mentioned in table at para 1 above, for implementation of these schemes.
4. This issues with the approval of Competent Authority.

Encl: as stated.


13/1/2022.
(Bihari Lal)
Bihari Lal (Trans)
Tele: 011-23325242

To
COO, CTUIL,
Gurugram.

Copy to:

1. Member (PS), CEA, New Delhi.
2. CMD, PGCIL, Gurugram.

Annexure

1. Transmission Network Expansion in Gujarat to increase ATC from ISTS: Part B

<i>Sl.No.</i>	<i>Scope of the Transmission Scheme</i>	<i>Capacity /km</i>
1.	<p>Establishment of 765/400/220 kV Navsari (new) (South Gujarat) S/s (GIS)</p> <p>Space provisions for Future Scope</p> <p>765/400 kV ICT: 4 nos.</p> <p>400/220 kV ICT: 4 nos.</p> <p>765 kV line bays along with space for switchable line reactor: 8 nos.</p> <p>400 kV line bays along with space for switchable line reactor: 6 nos.</p> <p>220 kV line bays: 16 nos.</p>	<p>765/400 kV, 1500 MVA- 2 nos. (7 X 500 MVA inc 1 spare unit)</p> <p>400/220 kV, 500 MVA- 3 nos.</p> <p>765 kV ICT bays- 2 nos.</p> <p>765 kV GIS line bays -2 (for Phadge line)</p> <p>400 kV ICT bays- 5 nos.</p> <p>400 kV line bays – 4 nos. (for Kala and Magarwada lines)</p> <p>220 kV ICT bays- 3 nos.</p> <p>765 kV, 330 MVar BR – 2 nos. (7 X 110 MVar inc. 1 switchable spare unit)</p> <p>1X 80 MVar single phase switchable spare unit (for Ahmedabad – Navsari (New) (South Gujarat) 765 kV D/c line)</p> <p>765 kV Bus Reactor bays – 2 nos.</p> <p>400 kV, 125 MVar Bus Reactor- 1</p> <p>400 kV Bus Reactor bay- 1 no.</p>
2.	<p>Navsari (new) (South Gujarat) (GIS)- Kala (GIS) 400 kV D/c line (conductor with minimum capacity of 2100 MVA/Ckt at nominal voltage) with 63MVar switchable line reactor on each ckt at Navsari (new) (GIS) end.</p>	<p>110 km</p> <p>400 kV GIS line bays- 2 nos. (at Kala)</p> <p>63 MVar, 400 kV SLR along with switching eqpts.- 2 nos.</p>
3.	<p>Navsari(New) (South Gujarat) (GIS) – Magarwada (GIS) 400 kV D/c line (conductor with minimum capacity of 2100 MVA/Ckt at nominal voltage)</p>	<p>80 km</p> <p>400 kV GIS line bays- 2 nos. (at Magarwada)</p>
4.	<p>Navsari (New) (South Gujarat) (GIS) – Padghe (GIS) 765 kV D/c line with 330 MVar, 765 kV Switchable line reactor on each ckt at Navsari(New) (South Gujarat) end.</p>	<p>200 km</p> <p>765 kV GIS line bays -2 (at Padghe)</p> <p>765 kV, 330 MVar SLR – 2 nos (6 X 110 MVar)</p>
5.	<p>Augmentation of transformation capacity at Padghe (GIS) 765/400 kV substation by 1x1500 MVA ICT.</p>	<p>765/400 kV, 1500 MVA- 1 no</p>

<p>The available spare equipped bays (765kV bay: existing & 400kV bay: under construction under WRSS XIX scheme) at Padghe(GIS) S/s shall be utilised for the subject ICT</p>	
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Note:

- i. Navsari (New) (South Gujarat) S/s shall be established as GIS substation to reduce the land requirement as there may be issues in getting contiguous land in this area which is industrial in nature as well as densely populated.
- ii. Augmentation of transformation capacity at Navsari(new) (GIS) 765/400 kV substation by 1x1500 MVA ICT (3rd) along with its associated bays to be implemented in matching time frame of Khavda Phase-A (Ph-II) (5GW) scheme as a part of the scheme "Transmission Network Expansion in Gujarat associated with integration of RE projects from Khavda potential RE zone".
- iii. As Kala and Magarwada are located close to each other, majority of common stretch of Kosamba – Kala and Kosamba – Magarwada 400 kV D/c line may be constructed using Multi-circuit towers in order to save RoW.
- iv. **Implementation Time-frame:** June 2023
- v. GETCO shall implement the following downstream system in matching time-frame of Navsari(New) (South Gujarat) S/s:

220kV Interconnections Navsari(New) (South Gujarat) S/s) [Under Intra-state]

- a. LILO of both circuits of 220 KV D/C Navsari – Chikhli line at Navsari(New) (South Gujarat) (GIS) substation along with associated line bays
- b. LILO of both circuits of 220 KV D/C Navsari – Nasik line at Navsari(New) (South Gujarat) (GIS) substation along with associated line bays

2. Transmission system for evacuation of RE power from renewable energy parks in Leh
(5 GW Leh - Kaithal transmission corridor)

Sl.No.	Scope of the Transmission Scheme	Capacity /km
1.	ISTS system for RE interconnection at Pang:	i. 400kV PS-1 - Pang D/C (quad moose) line - 7 km ii. 400kV PS-2 - Pang D/C (quad moose) line - 27 km iii. 400kV PS-3 - Pang D/C (quad moose) line - 41 km <i>Note: 400kV GIS line bays (2 nos) each at PS-1, PS-2 & PS-3 is under RE developer scope</i>
2.	Battery Energy Storage System (1 GWh: 250MW x 4 hr) at Pang	i. BESS of suitable size (1 GWh: 250MW x 4 hr) ii. 220 kV line bay (1 no.) for BESS (ISTS) interconnection at Pang
3.	HVDC System:	i. Pooling point in Pang (Leh) : ± 350 kV, 2 nos. of 2500 MW HVDC terminal <i>Future provision: Space for</i> <ul style="list-style-type: none"> 400 kV line bays : 6 nos. 400/220 kV ICTs along with bays : 2 nos. 220 kV line bays : 4 nos ii. Pooling point in Kaithal (Haryana): ± 350 kV, 2 nos. of 2500 MW HVDC terminal <i>Future provision: Space for</i> <ul style="list-style-type: none"> 765/400kV ICTs along with bays : 1 no. 765kV line bays along with switchable line reactor: 2 nos. 400kV line bays along with switchable line reactor: 4 nos. 400/220 kV ICTs along with bays: 2 nos. 220 kV line bay : 4 nos iii. 4 Nos. of 400 kV converter (VSC) bays at Pang iv. 4 Nos. of 400 kV converter (VSC) bays at Kaithal v. 2 Nos. of 400/220/33 kV, 315 MVA Transformers along with associated Bays at Pang

		vi. 3 Nos. of 765/400/33 kV, 1500 MVA Transformers along with associated bays at Kaithal vii. 2 nos. of 400 kV line bays at Kaithal viii. 2 nos. of 765 kV line bays at Kaithal ix. 6 nos. of 400 kV line bays at Pang for termination of lines from RE parks DC GIS/ AIS i. DC GIS / AIS at Pang and DC AIS at Kaithal ii. 4 nos. of transition stations with DC GIS/ AIS HVDC Line (OHL and UG Cable) i. HVDC Line (OHL and UG Cable): 480 kms of ± 350 kV HVDC line between Pang & Kaithal PS (combination of 465 km overhead line (Quad) and 15 km underground cable)
4.	EHVAC System beyond Kaithal:	i. Kaithal - Bahadurgarh (PG) 400 kV D/C Line (Twin HTLS*) - 170 km ii. Kaithal - Modipuram (Meerut) (UPPTCL) 765 kV D/C Line along with 1x240MVAR switchable line reactor on each ckt at Kaithal end (along with 2 nos. switching equipment for 765kV, 240 MVAR Switchable line reactor)- 210 km iii. Augmentation of 765/400 kV, 1500 MVA transformer of Bhiwani S/s (one section has 2x1000 MVA ICT wherein 1500 MVA augmentation will take place, whereas other has 1x1000 MVA ICT through series reactor) along with associated bays incl. 500 MVA spare transformer unit (1- Phase) iv. 2 nos. of 400 kV line bays at Bahadurgarh (PG) v. 2 nos. of 765 kV line bays at Modipuram (Meerut) (UPPTCL)
5.	ISTS system to provide reliable power supply to Ladakh:	i. 220kV Pang – Leh (Phyang) (PG) S/c line (Deer conductor) (S/c line on D/c tower) along with 220kV line bay each at Pang & Leh (Phyang) for line termination- 151 km + 7 km underground cable

*with minimum capacity of 2100 MVA on each circuit at nominal voltage

- i. UPPTCL to provide space for 2nos. of 765kV bays at Modipuram (Meerut) S/s
- ii. POWERGRID to provide space for 2nos. of 400V bays at Bahadurgarh S/s
- iii. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
- iv. **Implementation Time-frame:** 5 years from approval