No. 15/3/2018-Trans-Part (1)
Government of India
Ministry of Power
Shram Shakti Bhawan, Rafi Marg, New Delhi-110001
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Date: 20th August, 2024

OFFICE MEMORANDUM

Subject: New transmission schemes to be taken up under Regulated Tariff Mechanism (RTM) based on the recommendation of 20th Meeting of National Committee on Transmission (NCT) – reg.

The undersigned is directed to say that the following transmission schemes, which were recommended by 20th 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.	Element	Agency
1.	Transmission System for Offshore Wind Zone Phase-1 (500 MW VGF off the coast of Gujarat for Subzone B3)	PGCIL
2.	Transmission System for Offshore wind farm in Tamil Nadu {500 MW VGF}	PGCIL

2. Detailed scope of works for the above schemes as recommended by the 20th 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 Minister of Power.

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(Naorem Indrakumar Singh)
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To,
COO, CTUIL,
Gurugram.

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

Annex

1. Transmission System for Offshore Wind Zone Phase-1 (500 MW VGF off the coast of Gujarat for Subzone B3)

Sl. No.	*Scope of the Transmission Scheme*	*Capacity /km*
A. Transmission System onwards Onshore Pooling Station		
1.	Establishment of 2x500 MVA, 400/220 kV Mahuva Onshore Pooling Station (GIS) (Mahuva PS) alongwith 1x125 MVAR, 420 kV bus reactor (with space provision for upgradation to 765 kV level to cater to future Offshore Wind Projects adjacent to B3, B4, B5 pockets in future) **Future Space Provisions:** i. 765/400 kV ICT along with bays- 6 Nos. ii. 765 kV line bays along with switchable line reactors – 8 Nos. iii. 765 kV Bus Reactor along with bay: 2 Nos. iv. 765 kV Sectionaliser: 1 -set v. 400 kV line bays along with switchable line reactors– 8 Nos. vi. 400/220 kV ICT along with bays -8 Nos. vii. 400 kV Bus Reactor along with bays: 3 Nos. viii. 400 kV Sectionalization bay: 1- set ix. 220 kV line bays: 16 Nos. x. 220 kV Sectionalization bay: 1 set xi. 220 kV BC and TBC: 1 No. xii. STATCOM (±300 MVAR) alongwith associated bay at 220 kV - 3 Nos. xiii. 220kV Bus Reactor along with bays: 7 Nos. xiv. VSR (420kV, 1x125 MVAR Variable Bus Shunt Reactor with OLTC with control range between 50 – 125 MVAr for each VSR) alongwith associated bay at 400 kV – 3 Nos.	• 400/220kV, 500 MVA, ICTs – 2 nos. • 400kV ICT bays – 2 nos. • 220kV ICT bays – 2 nos. • 1x125 MVAR, 420kV Bus Reactor – 1 no. • 400kV Bus Reactor bay – 1 no. • 400kV line bays – 2 nos. (for termination of Mahuva Onshore PS (GIS) – Vataman 400 kV D/c line) • 220kV line bays – 2 nos. (for termination of B3-OSS-1 – Mahuva Onshore PS 220 kV 2xS/c (3 core) cables) • 220 kV Bus Coupler (BC) Bay – 1 no.
2.	Creation of 400kV switchyard along with Installation of 2x1500 MVA, 765/400 kV ICTs at Vataman (AIS) with 2x125 MVAr (420 kV) Bus Reactors	• 765/400kV, 1500 MVA, ICTs – 2 nos. (7x500MVA incl. spare unit) • 765kV ICT bays – 2 nos. • 400kV ICT bays – 2 nos. • 2x125 MVAR, 420kV Bus Reactor – 1 no. • 400kV Bus Reactor bay – 2 no.
3.	2 nos. 400kV bays at Vataman for termination of Mahuva Onshore PS (GIS) – Vataman 400 kV D/c line	• 400kV line bays – 2 nos.

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4.	Mahuva Onshore PS (GIS) – Vataman 400 kV D/c line (Quad ACSR/AAAC/AL59 moose equivalent) with 63MVAr & 50 MVAr, 420 kV switchable line reactors on each ckt at Mahuva & Vataman ends respectively.	Line length: 190 km 420 kV, 63 MVAr switchable line reactors at Mahuva S/s end– 2 Nos. Switching equipment for 420 kV, 63 MVAr switchable line reactors at Mahuva S/s end – 2 no 420 kV, 50 MVAr switchable line reactors at Vataman S/s end– 2 Nos. Switching equipment for 420 kV, 50 MVAr switchable line reactors at Vataman S/s end – 2 no
5.	± 300 MVAr STATCOM at 220 kV level of Mahuva PS (GIS) with 1 No. of 220 kV bay	• ± 300 MVAr STATCOM – 1 No. • 220 kV bay – 1 no.
6.	420 kV, 1x125 MVAR Variable Bus Shunt Reactor with OLTC (control range between 50 – 125 MVAr for VSR) with 1 No. of 400 kV bay	• 1x125 MVAR, 420kV Variable Bus Shunt Reactor with OLTC – 1 no. • 400kV Bus Reactor bay – 1 no.
7.	245 kV, 3x50 MVAr Bus Reactors at 220 kV level of Mahuva PS (GIS)	• 50 MVAR, 245kV Bus Reactor– 3 no. • 220kV Bus Reactor bay – 3 no.
B. Transmission System for integration of Offshore Wind Farms with Onshore PS		
	Offshore Substation-1 {500 MW VGF}	
1.	Establishment of 2x315 MVA, 220/66 kV Gujarat Offshore B3 Sub-Station Station-1 (B3-OSS-1) with 66 kV line bays – 10 Nos. for RE Interconnection	• 220/66kV, 315 MVA, ICTs – 2 nos. • 220kV ICT bays – 2 nos. • 66kV ICT bays – 2 nos. • 220kV line bays – 2 nos. (at B3-OSS-1 for termination of B3-OSS-1 – Mahuva Onshore PS (GIS) 220 kV two nos. (3 core) cables) • 66kV line bays – 10 nos.
2.	B3-OSS-1 – Mahuva Onshore PS (GIS) 220 kV two nos. (3 core) cables (45 km- under sea cable of about 35 km & under ground cable of about 10 km) alongwith associated line bays at both ends (with capacity of 300 MVA/ckt at nominal voltage) with 1x50 MVAr switchable line reactors at B3-OSS-1 end on each cable	• Cable length ~45 km • 220 kV, 50MVAr switchable line reactors at OSS-1 end – 2 nos. • Switching equipment for 220 kV, 50 MVAr switchable line reactors at OSS-1 end – 2 nos.

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Note:

- *TSP of Vataman S/s (Vataman Transmission Ltd.) shall provide space for augmentation works at Vataman S/s*

- *Vataman switching S/s has been planned through LILO of Lakadia-Vadodara 765 kV D/c line at Vataman under Khavda Ph-III (7 GW) and is presently under implementation by POWERGRID (under TBCB) with implementation schedule of Dec'25 (SCOD).*
- *Distances indicated above are tentative and may change based on actual survey.*

2. Transmission System for Offshore wind farm in Tamil Nadu {500 MW VGF}

Sl. No.	*Scope of the Transmission Scheme*	*Capacity /km*
A. Transmission System onwards Onshore Pooling Station		
i.	Establishment of 2x500 MVA, 400/230 kV Onshore Pooling Station near Avaraikulam, Tirunelveli District in Tamil Nadu with provision of expansion upto 5 GW **Future Space Provisions:** • 400/230kV, 500 MVA, ICTs – 10 nos. • 400kV ICT bays – 10 nos. • 230kV ICT bays – 10 nos. • 400kV line bays – 12 nos. (with provision for SLR) • 230kV line bays – 18 nos. • 230kV Bus Sectionalizer : 3 sets • 230 kV Bus Coupler (BC) Bay – 3 nos. • 230 kV Transfer Bus Coupler (TBC) Bay – 3 nos.	• 400/230kV, 500 MVA, ICTs – 2 nos. • 400kV ICT bays – 2 nos. • 230kV ICT bays – 2 nos. • 400kV line bays – 2 nos. (at Avaraikulam Onshore PS for termination of Avaraikulam Onshore PS – Tuticorin PS line) • 230kV line bays – 2 nos. • 230 kV Bus Coupler (BC) Bay – 1 no. • 230 kV Transfer Bus Coupler (TBC) Bay – 1 no.
ii.	Avaraikulam Onshore PS – Tuticorin PS 400 kV D/c quad line	• Line length ~100 km • 400kV line bays - 2 (at Tuticorin PS)
ii.	± 300 MVAr STATCOM along with 2x125 MVAr MSR	• 400 kV bay – 1 no.
B. Transmission System for integration of Offshore Wind Farms with Onshore PS		
	Offshore Substation-1 {500 MW VGF}	
1.	Establishment of 2x315 MVA, 230/66kV Off-Shore Substation-1 with 10 nos. of 66kV line bays for RE integration	• 230/66kV, 315 MVA, ICTs – 2 nos. • 230kV ICT bays – 2 nos. • 66kV ICT bays – 2 nos. • 230kV line bays – 2 nos. (at Off-Shore Substation-1 for termination of Offshore substation 1 (OSS-1) – Avaraikulam Onshore PS line) • 66kV line bays – 10 nos.
2.	Offshore substation 1 (OSS-1) – Avaraikulam Onshore PS 2 nos. 230kV	• Cable length ~35 - 40 km • 230 kV, 50MVAr switchable line

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	(atleast 300 MVA capacity) Submarine cables (~35 - 40 km) with 2x50MVAr switchable line reactors at OSS-1 end	reactors at OSS-1 end – 2 nos.

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