भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

केन्द्रीय विद्युत प्राधिकरण

Central Electricity Authority

पावर कम्युनिकेशन डवलप्मेंट प्रभाग

Power Communication Development Division

No.:CEA/PCD/PTCC/KNK-893/243-45 Date:26.02.2019

DET (PTCC),
QA & Inspection (T&D) Circle, BSNL
1 Floor, Raj Bhavan Exchange,
No. 26, Sardar Patel Road,
Guindy, Chennai – 600032

Subject: **Induced Voltage Calculation in respect of PTCC proposal for 400 kV DC line from existing 400 kV Ballari Pooling Station to proposed 400/220 kV GIS at Hiremallanahole**

Reference:
(i) BSNL letter no. SR-PTCC/SKT-2005/10 dated 28.09.2018
(ii) South Western Railway letter no. SG/SWR/PTCC/F-2712/1728 dated 01.03.2018
(iii) Defense letter no. B/46937/Sigs 7(b)/966 dated 14.03.2018

Sir,

The instant PTCC proposal has been examined. Low frequency induction on telecom cables of BSNL and Block & Telecom circuits of South Western Railway with respect to details furnished vide above references has been computed. The Average Soil Resistivity (SR) value has been taken as 25,000 Ohm-cm, as intimated by the Power Authority (KPTCL). The voltages likely to be induced on paralleling telecom cables of BSNL and Block & Telecom circuits of South Western Railway under Single Line to Ground fault condition have been computed and are enclosed as Annex – I & II respectively. The screening factors, as applicable, have been considered. Vide ref. (iii) above, Defense Authority have issued No Objection Certificate (NOC) (enclosed as Annex – III).

Taking above into consideration, kindly take necessary action for PTCC route approval.

Encl.: As above

M/C

(Naresh Bhandari)
Chief Engineer

Copy to:

1) PCSTE, South Western Railway, Office of the Principal Chief Signal & Telecom Engineer, 1st Floor, West Block, Rail Soudha, Gadag Road, Hubli – 580020 (Annex – II only)
2) Chief Engineer Electricity, KPTCL, State Load Despatch Centre, No. 28, R.C. Cross Road, Bengaluru - 560009

एन आर पी सी परिसर, कटवारिया सराय, नई दिल्ली-110016 टेलीफैक्स: 011-26565214 ईमेल: nbnareshbhandari@gmail.com
NRPC Building, Katwaria Sarai, New Delhi-110016 Telefax: 011-26565214 Email: nbnareshbhandari@gmail.com Website: www.cea.nic.in

ANNEXURE – I

Case No.: KNK-893 **Name of the Power line: 400 kV DC line from existing 400 kV Ballari Pooling Station to proposed 400/220 kV GIS at Hiremallanahole**	**Map Scale** : 1cm=500mts **Total Length** : 107.770 km **Average S.R.** : 25,000 Ohm-cm

S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
	BSNL letter no. – SR-PTCC/SKT-2005/10 dated 28.09.2018				
	Davanagere SSA Topo map details				
I A	**KAMANDALAGUNDI Exge UG cables**				
1	Exge to Dibbadahalli Cross A-A1	OUT OF PARALLELISM			
2	Exge to CM hole A-A2	IV LESS THAN 430 V			
3	Exge to Thaitoni A-A3				
4	Exge to Mallapura A-A4				
	Ananthapur SSA Topo map details				
II B	**D Herihal Exge UG cables**				
1	Exge to DP 2	IV LESS THAN 430 V			
2	Exge to DP3-DP4	2.25	0.0477	11000	525
3	Exge to DP1-DP 5	1.9	0.0367	11000	404
	Bellary SSA Topo map details				
III A	**Gudekote Exge UG cables**				
1	Exge to townlimit location A1 A-A1	OUT OF PARALLELISM			
2	Exge to townlimit location A2 A-A2				
3	Exge to townlimit location A3 A-A3				
IV B	**Huralihalli Exge UG cables**				
1	Exge to townlimit location B1 B-B1	OUT OF PARALLELISM			
2	Exge to townlimit location B2 B-B2	IV LESS THAN 430 V			
3	Exge to townlimit location B3 B-B3				
V C	**Chikka Jogihalli Exge UG cables**				
1	Exge to townlimit location C1 C-C1	OUTSIDE IV CALCULATION CONSIDERATION ZONE			
2	Exge to townlimit location C2 C-C2				
3	Exge to townlimit location C3 C-C3				
VI D	**Hosalli Exge UG cables**				
1	Exge to townlimit location D1 D-D1	OUTSIDE IV CALCULATION CONSIDERATION ZONE			
2	Exge to townlimit location D2 D-D2				
3	Exge to townlimit location D3 D-D3				

नरेश भंडारी/NARESH BHANDARI
मुख्य अभियन्ता/Chief Engineer
केन्द्रीय विद्युत प्राधिकरण/C.E.A.
विद्युत मंत्रालय/Ministry of Power
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-66

ANNEXURE – II

Case No.: KNK-893 **Name of the Power line: 400 kV DC line from existing 400 kV Ballari Pooling Station to proposed 400/220 kV GIS at Hiremallanahole**	**Map Scale** : 1cm=500mts **Total Length** : 107.770 km **Average S.R.** : 25,000 Ohm-cm

S.No	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
	SOUTH WESTERN RAILWAY letter no. – SG/SWR/PTCC/F-2712/1728 dated 01.03.2018				
1	Challakere (CHKE)–Talaku (THKU)	OUTSIDE IV CALCULATION CONSIDERATION ZONE			0
2	Talaku (THKU)–Bommagondanakere (BOMN)				0
3	Bommagondanakere(BOMN)–Molakalmuru(MOMU)	3.95	0.0006	10000	6
4	Molakalmuru(MOMU)-Rayadurg(RDG)	OUTSIDE IV CALCULATION CONSIDERATION ZONE			0

नरेश भंडारी/NARESH BHANDARI
मुख्य अभियन्ता/Chief Engineer
केन्द्रीय विद्युत प्राधिकरण/C.E.A.
विद्युत मंत्रालय/Ministry of Power
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-66

Annex - III

Tele : **23019746**

Directorate General of Signals
Signals 7
General Staff Branch
Integrated HQ of MoD, (Army)
DHQ PO, New Delhi – 110011

B/46937/Sigs 7(b)/966/

14 Mar 2018

Chief Engineer Electricity
State Load Despatch Centre
28, R. C. Cross Road
Bengaluru - 560009

PROPOSED 400KV QUAD MOOSE DC LINE FROM EXISTING 400KV STATION OF BALLARI POOLING STATION TO PROPOSED 400/220KV GAS INSULATED STATION AT HIREMALLANAHOLE ON THE EXISTING CORRIDOR OF 400KV DC LINE ON MC TOWERS FROM BALLARI POOLING STATION TO LOCATION NO. 34/7 OF BPS TO VASANTHANARASAPURA 400KV DC LINE ON MC TOWERS & 400KV DC LINE ON DC TOWERS FROM LOCATION NO. 34/7 TO PROPOSED 400/220 KV GIS IN JAGALUR TALUK

1. Reference your letter No. CEE/LDC/PTCC/F.2712/21960-71/ dated 27 Jan 2018.

2. No Objection Certificate (NOC) is accorded based on inputs provided vide Map sheets received under your letter mentioned above.

3. Documents alongwith map sheets (in original) are returned herewith for your further necessary action.

(Nainee Sharma)
Lt Col
GSO 1 (Comn)
for SO-in-C

Copy to :-

The Director (PTCC), CEA
LD & T Division, NREB Complex
18-A Shaheed Jeet Singh Marg
Katwaria Sarai, New Delhi – 110016 - For information.