



सत्यमेव जयते

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
विद्युत प्रणाली संचार विकास प्रभाग
Power System Communication Development

CEA Case No. : GUJ-819		
Induced Voltage (IV) calculation for PTCC proposal of 220 kV S/C line from 220kV Wankaner SS to Wankaner Railway TSS Switchyard(0.68 km)- regd.		
S. No	Reference No.	Dated
(i)	GETCO: CE(Project)/SE(Planning)/8634	07.10.2021
(ii)	BSNL: IC/MBI/PTCC/WGJ011120213610	11.05.2022
(iii)	Western Railway: SG.158/28/12/1178	28.10.2021
(iv)	Defense: B/46937/Sigs 7(b)/2616	16.12.2021

The PTCC proposal submitted vide reference (i) has been examined. The LF induction on communication circuits of BSNL and Western Railway with respect to details furnished vide above reference (ii) & (iii) respectively have been computed. The voltage likely to be induced on paralleling communication cables of BSNL and Western Railway under Single Line to Ground fault condition are enclosed at Annexure-I & II respectively. The screening factors as applicable have been considered. Vide reference (iv) above, DG Signals, MoD has issued No Objection Certificate (NOC) (enclosed as Annexure-III).

EPR Zones for proposed substations are mentioned below.

Name of the proposed SS	Half Diagonal Distance, D/2 (mts)	Fault Current, I (kA)	Resistance of earthmat, R (Ohms)	d (mts) at 430 V	d (mts) at 650 V	d (mts) at 7 kV	d (mts) at 10 kV
220 kV Wankaner GIS SS	80.43	28	0.3	1491	959	16	NA
220kV Wankaner Railway TSS	55.9	28	0.4	1400	907	33	7

As per the details submitted by BSNL vide reference (ii) above, no telephone exchanges are falling in the EPR zone of the proposed substation.

Taking above into consideration, necessary action for issuance of PTCC route approval may be taken under intimation to this office.

Encl.: As above

Chief Engineer

To,

1.	Divisional Engineer (PTCC), Western Zone	QA & Inspection circle, 1 st floor, D- wing, BSNL Admin Bldg., Junu Tara Road, Santacruz (West), Mumbai-400054	
2.	GM (S&T)	Western Railway, O/o PCSTE, S&T Dept., 5 th Floor, Station Building, Churchgate, Mumbai - 400020	
3.	Chief Engineer (Project)	GETCO, Sardar Patel Vidyut Bhavan, Race Course, Vadodara - 390007	Copy for information

ANNEXURE-I

CEA Case No.: GUJ-819 Name of the Power line: 220 kV S/C line from 220kV Wankaner SS to Wankaner Railway TSS Switchyard			Map Scale : 1 cm= 500 m Total Length : 0.68 km S.R. Value : 15000 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 IC/MBI/PTCC/WGJ011120213610 Date: 11.05.2022					
1	Wankaner EXCHANGE				
1A	Wankaner Exch. – Roy Side- Local 400P	IV less than 430V			
2A	Wankaner Exch. – Roy Side- Local 800P				
3A	Wankaner Exch. -Local 400P				
4A	Wankaner Exch. – Amarsar Side- Local 300P				
2	Mobile Tower				
T1	Chandrapur Mob Tower	Out of Parallelism			
T2	Bhatiya Mob Tower				
T3	Vishipar Mob Tower				
T4	Shradhha Complex mob Tower				

ANNEXURE-II

CEA Case No.: GUJ-819			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV S/C line from 220kV Wankaner SS to Wankaner Railway TSS Switchyard			Total Length : 0.68 km		
			S.R. Value : 15000 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
WESTERN RAILWAY Letter No.- SG.158/28/12/1178 Date: 28.10.2021					
1	Makansar-Wankaner	0.1	0.00003	3295	0.1
2	Wankaner-Lunsariya	0.4	0.00015	20652	3
3	Wankaner-Amarsar	0.15	0.000015	11530	0.2
4	Amarsar- Sindhavadar	Out of Parallelism			
5	Daladi - Lunsariya	Out of Parallelism			

Annexure III

Tele : 23019746

GUT-819

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


B/46937/Sigs 7(b)/2616/

16 Dec 2021

Chief Engineer (Project)
Gujarat Energy Transmission Corporation Ltd
Sardar Patel Vidyut Bhawan
Race Course, Vadodara – 390 007

**SUBMISSION OF PROPOSALS FOR HV/EHV TRANSMISSION LINES OF
GETCO FOR PTCC APPROVAL OF 220KV LINE FROM 220KV WANKANER
(GIS) S/S TO WANKANER RAILWAY TSS SWITCHYARD WITH 220KV S/C
1CX1200 SQ MM U/G CABLE**

1. Refer your letter No CE(Project)/SE(Planning)/8634 dt 07 Oct 2021 (copy att).
2. No Objection Certificate (NOC) is accorded based on inputs provided as per Map sheets received vide your letter mentioned above.
3. Documents alongwith map sheets (in original) are returned herewith for your further necessary action.


(Rakesh Kumar)
Lt Col
GSO 1 (Comn)
for SO-in-C

Enclosures : As above**Copy to :-**

✓ The Director (PTCC), CEA
Power Communication Development Division
NRPC Complex, 18-A Shaheed Jeet Singh Marg
Katwaria Sarai, New Delhi – 110016

- for information

The DET(PTCC), Northern Zone
O/o PGM (North), QA & Inspection Circle,
D-Tax Building, Eastern Court, Janpath
New Delhi-110001

