

I/30579/2023



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

CEA Case No. : GUJ-846		
Induced Voltage (IV) calculation for PTCC proposal of 220 kV S/C (2-ph) line on D/C tower and partly U/G cable from existing 220 kV Vondh S/S to proposed Bhachau TSS (7.078 km)- regd.		
S. No	Reference No.	Dated
(i)	GETCO: CE(Project)/SE(Planning)/4589 received via GETCO email dated 22.09.2023	22.08.2022
(ii)	BSNL: IC/MBI/PTCC/WGJ290920224256	30.09.2022
(iii)	Western Railway: SG. 158/28/12 (1228)	17.01.2023
(iv)	Defense: B/46937/Sigs 7(b)/3033 received via GETCO email dated 22.09.2023	18.11.2022

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 Bhachau TSS	67.1	12.313	0.058	44.34	6.62	NIL	NIL

As per the details submitted by BSNL vide reference (iii) 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
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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

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ANNEXURE-I

CEA Case No.: GUJ-846		Map Scale : 1 cm= 500 m			
Name of the Power line: 220 kV S/C (2-ph) line on D/C tower and partly U/G cable from existing 220 kV Vondh S/S to proposed Bhachau TSS		Total Length : 7.078 km			
		S.R. Value : 7,500 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/WGJ290920224256 Date: 30.09.2022					
1	BHACHAU EXCHANGE				
1A	Bhachau Exch. – local – 800*1 P	IV less than 430 V			
2A	Bhachau Exch. – local – 800*1 P				
3A	Bhachau Exch. – local – 800*1 P				
2	MOBILE TOWER BTS				
T1	VONDH MOBILE TOWER BTS	IV calculation not required			
T2	BHACHAU FALIYA MOBILE TOWER BTS				
T3	BHACHAU BHAVANIPUR MOBILE TOWER BTS				
T4	BHACHAU EXCH. MOBILE TOWER BTS				

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ANNEXURE-II

CEA Case No.: GUJ-846		Map Scale : 1 cm= 500 m			
Name of the Power line: 220 kV S/C (2-ph) line on D/C tower and partly U/G cable from existing 220 kV Vondh S/S to proposed Bhachau TSS		Total Length : 7.078 km			
		S.R. Value : 7,500 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 (1228) Date: 17.01.2023					
1	Chirai - Bhachau	Out of parallelism			0
2	Bhachau - Vondh	2.65	0.0044	9091	40
3	Vondh – Samakhiali Jn	1.6	0.0001	14058	1

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

Prop. awarded

GUS-846

B/46937/Sigs 7(b)/3033/

18 Nov 2022

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

SUBMISSION OF PROPOSAL FOR HV/EHV TRANSMISSION LINE OF GETCO FOR PTCC APPROVAL OF 220KV S/C (2-PHASE) LINE ON D/C TOWER AND PARTLY ON U/G CABLE FROM EXIST. 220KV VONDH S/S TO PROPOSED BHACHAU TSS

1. Refer your letter No CE(Project)/SE (Planning)/4589 dt 23 Aug 2022 (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.

Samyal
(PS Samyal)
~~Col~~
GSO 1 (Comn)
for Offg ADG T

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
Bharat Sanchar Nigam Limited
O/o PGM (North), QA & Inspection Circle,
D-Tax Building, Eastern Court, Janpath
New Delhi-110001

