



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 Division**  
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<b>CEA Case No. : GUJ-865</b>		
<b>Induced Voltage (IV) Calculation for PTCC proposal of 220 kV (partially M/C, D/C and S/C) line from 220 kV Becharji SS of GETCO to 220/33 kV Pooling SS of M/s Torrent Power Ltd. (Length: 43.23 Kms)</b>		
<b>S. No</b>	<b>Reference No.</b>	<b>Dated</b>
(i)	TPL/2023-24/220kV/PTCC/001/6184 (received on 22.11.2023)	19.10.2023
(ii)	BSNL: NO.IC/MBI/PTCC/GUJ-WGJ100120245487	22.01.2024
(iii)	Western Railway: SG.158/28/12 (1362)	04.12.2023
(iv)	Defense: B/46937/Sigs7(b)/3606	24.05.2024

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 references (ii) and (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 and Annexure-II respectively. The screening factors as applicable have been considered. DG Signals, MoD vide above reference (iv) has issued their No Objection Certificate (NOC) and has advised power utility to work under close coordination with army authority so as to ensure no damage to army communication.

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
220/33 kV Pooling SS of M/s Torrent Power Ltd	134.5	24	0.45	3244	2100	73	11

As per the details submitted by BSNL vide reference (ii) above, no telephone exchange is falling in the EPR zone of the proposed substations.

Taking the 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 <sup>st</sup> floor, D- wing, BSNL Admin Bldg., Junu Tara Road, Santacruz (West), Mumbai-400054	
2.	GM (S&T)	Western Railway, Office of PCSTE, S&T Dept., 5 <sup>th</sup> Floor, Station building, Churchgate, Mumbai – 400 020	
3.	M/s Torrent Saurya Urja 2 Pvt. Ltd.	600, Tapovan, Ambawadi, Ahmedabad – 380 015	Copy for information

**ANNEXURE-I**

<b>CEA Case No.: GUJ-865</b>			<b>Map Scale : 1 cm= 500 m</b>		
<b>Name of the Power line:</b> 220 kV (partially M/C, D/C and S/C) line from 220 kV Becharji SS of GETCO to 220/33 kV Pooling SS of M/s Torrent Power Ltd.			<b>Total Length : 43.23 km</b>		
			<b>S.R. Value : 20000 Ohm-cm</b>		
<b>S.No.</b>	<b>Telecom. Details</b>	<b>Length of Parallelism in Km.</b>	<b>Mutual Coupling in Ohms.</b>	<b>Effective Fault current in Amps.</b>	<b>I.V in Volts.</b>
<b>BSNL Letter No NO.IC/MBI/PTCC/GUJ-WGJ100120245487 Date: 22.01.2024</b>					
<b>I</b>	<b>Sankeshwar Telephone Exchange</b>				
1	Exchange to Local (400*2 P)		Out of parallelism		
2	Exchange to Local (400*2 P)		IV less than 430 V		
3	Exchange to Local (100*1 P)		IV less than 430 V		
4	Exchange to Local (100*1 P)		Out of parallelism		
<b>II</b>	<b>Lodala Telephone Exchange</b>				
1	Exchange to Local (50*1 P)		Out of parallelism		
2	Exchange to Local (50*1 P)		IV less than 430 V		
<b>III</b>	<b>Becharji Telephone Exchange</b>				
1	Exchange to Local (800*1 P)		Out of parallelism		
2	Exchange to Local (400*1 P)				
3	Exchange to Local (200*1 P)				
4	Exchange to Local (100*1 P)				

**ANNEXURE-II**

<b>CEA Case No.: GUJ-865</b>			<b>Map Scale : 1 cm= 500 m</b>		
<b>Name of the Power line:</b> 220 kV (partially M/C, D/C and S/C) line from 220 kV Becharji SS of GETCO to 220/33 kV Pooling SS of M/s Torrent Power Ltd.			<b>Total Length : 43.23 km</b>		
			<b>S.R. Value : 20000 Ohm-cm</b>		
<b>S.No.</b>	<b>Telecom. Details</b>	<b>Length of Parallelism in Km.</b>	<b>Mutual Coupling in Ohms.</b>	<b>Effective Fault current in Amps.</b>	<b>I.V in Volts.</b>
<b>Western Railway: SG.158/28/12 (1362) Date: 04.12.2023</b>					
1	Katosan Road to Becharji	Out of parallelism			
2	Becharji to Chanasma	0.5	0.000286	23168	7