



सत्यमेव जयते

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

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CEA Case No. : GUJ-835		
Induced Voltage (IV) calculation for PTCC proposal of 220 kV S/C transmission line from existing 400 kV GETCO Charanka SS to M/s Torrent Solar Power Pvt Ltd 220/33 kV Jakhotra PSS (20.26 km)		
S. No	Reference No.	Dated
(i)	M/s Torrent Solar Power Pvt Ltd: Torrent/PTCC/001	01.09.2022
(ii)	M/s Torrent Solar Power Pvt Ltd: TPL/JS/PTCC/2023/5898	03.05.2023
(iii)	BSNL: IC/MBI/PTCC/WGJ-130820235166-020620234977-010920224216-090820235178-190920235180-190920235179-130820235165-010920235208-130820235167-190920235290	19.09.2023
(iv)	Western Railway: SG.158/28/12/1340	21.07.2023
(v)	Defense: B/46937/Sigs 7(b)/3456	25.09.2023

The PTCC proposal submitted vide reference (i) and (ii) has been examined. The LF induction on communication circuits of BSNL and Western Railway with respect to details furnished vide above reference (iii) and (iv) respectively have been computed. The voltage likely to be induced on paralleling communication circuits 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 (v) has issued their No Objection certificate (NOC) for charging of the line.

EPR zone for the proposed substation is mentioned below:

Name of the proposed Substation	Half diagonal distance, D/2 (mts)	Fault Current I (KA)	Resistance of Earth Mat, R (ohms)	d (mts) at 430 V	d (mts) at 650 V	d (mts) at 7kV	d (mts) at 10kV
220/33 kV Torrent Solar Power Pvt. Ltd. Jakhotra PSS	53.85	24	0.6	1749	1139	57	24

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 regarding issuance of PTCC approval for the subject cited transmission line may be taken under intimation to this office.

Encl.: As above

emt  
20.10.2023  
(मन. ज. वी.)  
Director

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 Solar Power Pvt Ltd	Samanvay”, 600, Tapovan, Ambawadi, Ahmedabad - 380015	Copy for information

ANNEXURE-I

CEA Case No.: GUJ-835

Name of the Power line: 220 kV S/C transmission line from existing 400 kV GETCO Charanka SS to M/s Torrent Solar Power Pvt Ltd 220/33 kV Jakhotra PSS

Map Scale : 1 cm= 500 m

Total Length : 20.26 km

S.R. Value : 10000 Ohm-cm

S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
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BSNL: IC/MBI/PTCC/WGJ-130820235166-020620234977-010920224216-090820235178-190920235180-190920235179-130820235165-010920235208-130820235167-190920235290 Dated: 19.09.2023

**(I) Santalpur Exchange**

1	Exchange to Railway station	Out of parallelism
2	Exchange to Pillar	
3	Pillar to Santalpur Village	
4	Pillar to Primary School	

**(II) Mobile Tower BTS**

1	Charanka Mobile Tower BTS	IV Calculation not required
2	Sidhada Mobile Tower BTS	

ANNEXURE-II

CEA Case No.: GUJ-835

Name of the Power line: 220 kV S/C transmission line from existing 400 kV GETCO Charanka SS to M/s Torrent Solar Power Pvt Ltd 220/33 kV Jakhotra PSS

Map Scale : 1 cm= 500 m

Total Length : 20.26 km

S.R. Value : 10000 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: SG.158/28/12/1340 Dated: 21.07.2023					
1	Chhansara to Santalpur				Out of IV consideration zone
2	Santalpur to Garmadi				Out of IV consideration zone