



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

CEA Case No. : GUJ-893		
Induced Voltage (IV) calculation for 765 kV D/C Banaskantha - Ahmedabad Transmission Line [Length- 134.941 km]– Regd.		
S. No	Reference No.	Dated
(i)	PGCIL: WRTS-II/PKRETSL/TLC/PTCC/691	01.05.2024
(ii)	PGCIL: e-Mail	06.12.2024
(iii)	BSNL: IC/MBI/PTCC/GUJ-2974	03.09.2024
(iv)	Western Railway: SG/158/28/12(1389)	13.06.2024
(v)	Defense: B/46937/Sigs7(b)/3910	20.08.2024

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

EPR Zones for proposed substation is 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
765/400kV Ahmedabad S/s	436	44.1	0.0094	NA	NA	NA	NA

As per the details submitted by BSNL vide reference (iii) above, no telephone exchange is 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.

Chief Engineer

To,

1.	Divisional Engineer (PTCC), Western Zone	QA & Inspection circle, 1 st floor, D- wing, BSNL Bldg., Santa Cruz (West), Mumbai-400054	Annexure-I
2.	GM (S&T) Western Railway	O/o PCSTE, S&T Dept. Western Railway Church gate, Mumbai	Annexure-II
3.	GM- PGCIL	400/220 kV S/s, Ganeshpura Village Dehgam, Banaskantha	

ANNEXURE-I

CEA Case No.: GUJ-893 Name of the Power line: 765 kV D/C Banaskantha - Ahmedabad Transmission Line.			Map Scale : 1 cm= 500 m Total Length : 134.941 km S.R. Value : 5000 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: IC/MBI/PTCC/GUJ-2974 Dated 03.09.2024					
<u>Affected Blocks & Telecom Circuits Details</u>					
1.	Kalyanpur & Dharampur TE			IV Less than 430 V	
2.	Kalyanpur Village 200 P, Length-800m				
3.	Bhidli Excg.- Local 800x1 pair				
4.	Bhidli Excg.- Local 400x2 pair				
5.	Bhidli Excg.- Local 100x4 pair				
6.	Bhidli Excg.- Local 50x4 + 20x4 pair				
7.	Bhidli Excg.- Local 200x2 pair				
8.	Ratanpura Excg.- Local 400x2 pair				
9.	Ratanpura Excg.- Local 200x2 pair + 50x2P + 20x2P				
10.	Peplu Excg.- Local 200x2 pair				
11.	Peplu Excg.- Local 100x1 pair + 50x 2P			IV Less than 430 V	
12.	Nesda Juna Local- 100x1 pair				
13.	Nesda Juna Local- 50x2 pair				
14.	Shihori Exchange- 800 P , 200 P, 100 P				
15.	Putan Tele Exchg. 1200 Pr x 2 nos. (Pri)				
16.	Putan Tele Exchg. 800 Pr x 4 nos. (Pri)				
17.	Putan Tele Exchg. 400 Pr x 8 nos. (Pri)				
18.	Putan Tele Exchg. 200 Pr x 8 nos. (Pri)				

19.	Putan Tele Exchg. 400 Pr x 8 nos. (Sec)	
20.	Putan Tele Exchg. 200 Pr x 16 nos. (Sec)	
21.	Putan Tele Exchg. 100 Pr x 30 nos. (Sec)	
22.	Chanasma TE- Cable 400 Pair	

ANNEXURE-II

CEA Case No.: GUJ-893 Name of the Power line: 765 kV D/C Banaskantha - Ahmedabad Transmission Line.			Map Scale : 1 cm= 500 m Total Length : 134.941 km S.R. Value : 5000 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(1389)			Dated 13.06.2024			
Affected Blocks & Telecom Circuits Details						
1.	Jasali R/s to Bhildi R/s	-Out of Parallelism-				
2.	Bhildi R/s to Lorwada R/s	-Out of Parallelism-				
3.	Lorwada R/s to Disa R/s	-Out of Parallelism-				
4	Ranuj R/s to Chanasma R/s	-Out of Parallelism-				
5	Chanasma R/s to Bechraji R/s	-Out of Parallelism-				
6	Bechraji R/s to Kotsan Road R/s	1.5	0.0021	18500	39	
7	Vikaramgam R/s to Jaksi R/s	-Out of Parallelism-				
8	Jaksi R/s to Bhankoda R/s	1.0	0.0023	16400	38	
9	Bhankoda R/s to Detroj R/s	1.5	0.0014	17400	24	
10	Chharodi R/s to Jakhwada R/s	2.5	0.0031	27500	85	
11	Jakhwada R/s to Viramgam R/s	1.0	0.0006	26500	16	
12	Bhildi R/s to Shihori R/s	-Out of Parallelism-				
13	Shihori R/s to Wayad R/s	-Out of Parallelism-				
14	Wayad R/s to Kaansa R/s	-Out of Parallelism-				
15	Kaansa R/s to Khalipur R/s	-Out of Parallelism-				
16	Khalipur R/s to Patan R/s	-Out of Parallelism-				