



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-908		
Induced Voltage (IV) calculation for 765 kV D/C Lakadia - Ahmedabad Transmission Line [Length- 184.089 km]– Regd.		
S. No	Reference No.	Dated
(i)	PGCIL: WRTS#2/PK2BTL/LATL/PTCC/186	16.07.2024
(ii)	PGCIL: e-Mail	06.12.2024
(iii)	BSNL: IC/MBI/PTCC/GUJ-2982 & 2991	12.12.2024
(iv)	Western Railway: SG/158/28/12(1410)	03.09.2024
(v)	Defense: B/46937/Sigs7(b)/4089	15.10.2024

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

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 for issuance of PTCC route approval (RAC) shall be taken under intimation to this office in the stipulated period as specified in PTCC Manual and subsequent CLPTCC meetings.

As per the decision taken in 111th and 112th CLPTCC meeting, necessary instructions for “Deemed Energization approval” shall be specified while issuing RAC.

Chief Engineer

To,

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

ANNEXURE-I

CEA Case No.: GUJ-908			Map Scale : 1 cm= 500 m		
Name of the Power line: 765 kV D/C Lakadia - Ahmedabad Transmission Line.			Total Length : 184.089 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: SG/158/28/12(1410) Dated 03.09.2024					
<u>Affected Blocks & Telecom Circuits Details</u>					
1.	Samakhiyali R/s to Lakadiya R/s	-Out of Parallelism-			
2.	Lakadiya R/s to Shivilakha R/s	-Out of Parallelism-			
3.	Shivilakha R/s to Chitrod R/s	3.0	0.0057	28200	161
4	Chitrod R/s to Kidyanagar R/s	-Out of Parallelism-			
5	Ghanshayamgarh R/s to Chuli R/s	4.0	0.0042	17600	74
6	Chuli R/s to Sukpur R/s	3.5	0.005	17400	87
7	Sukpur R/s to Halvad R/s	4.5	0.0024	21000	51
8	Halvad R/s to Dhanala R/s	5.0	0.0029	21200	62
9	Dhanala R/s to Devaliya R/s	-Out of Parallelism-			
10	Devaliya R/s to Khakrechi R/s	-Out of Parallelism-			
11	Khakrechi R/s to Wadharva R/s	5.0	0.0049	21800	107
12	Wadharva R/s to Maliya-Miyana R/s	5.5	0.0057	22200	127
13	Maliya-Miyana R/s to Surbari R/s	7.0	0.0092	22750	210
14	Surbari R/s to Katariya R/s	4.5	0.005	22900	115
15	Katariya R/s to Samkhiali R/s	-Out of Parallelism-			

16	Bajana R/s to Sadla R/s	-Out of Parallelism-			
17	Bajana R/s to Jatpipli R/s	-Out of Parallelism-			
18	Jatpipli R/s to Vasadva R/s	5.0	0.0057	19200	110
19	Vasadva R/s to Haripar R/s	3.5	0.005	19000	95
20	Haripar R/s to Dhragandhra R/s	5.0	0.0053	18700	99
21	Dhragandhra R/s to Ghanshaymgarh R/s	3.0	0.0056	18000	101
22	Surendranagar R/s to Dhrangadhara R/s	-Out of Parallelism-			
23	Vani Road R/s to Sabli Road R/s	-Out of Parallelism-			
24	Sabli Road R/s to Bhaskarpara R/s	5.0	0.0069	20100	139
25	Bhaskarpara R/s to Lilapur Road R/s	2.0	0.0045	20200	91
26	Lilapur Road R/s to Kesariya Road R/s	-Out of Parallelism-			
27	Kesariya Road R/s to Lakhtar R/s	-Out of Parallelism-			
28	Maliya Miyana R/s to Wavaniya R/s	-Out of Parallelism-			