



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-1029		
Induced Voltage (IV) calculation for PTCC proposal of 400 kV D/C Varsana - Halvad transmission line (120.511 km)- regd.		
S.No.	Reference	Dated
(i)	GETCO: CE(Project)/EE(Tr-3)/1918	15.09.2017
(ii)	GETCO: GETCO: Email	24.02.2026
(iii)	BSNL: IC/MBI/PTCC/GUJ-3059	29.04.2025
(iv)	Western Railway: SG.158/28/12/1709	11.12.2025
(v)	Defense: B/46937/Sigs 7(b)/4325	07.02.2025

The PTCC proposal submitted vide above reference(s) (i) and (ii) has been examined. The low frequency induction on Telecom circuits of BSNL and Block & Telecom circuits of Western Railway with respect to details furnished vide above references (iii) and (iv) has been computed. The voltage likely to be induced on paralleling Telecom circuits of BSNL and Block & Telecom circuits of 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.

ADG (Telecommunications) has issued No Objection Certificate (NOC) vide reference (v) above (attached as Annexure III).

Both substations are existing therefore EPR calculations are not warranted.

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

Encl.: As above

Chief Engineer

To,

1.	DET (PTCC), Western Zone	QA & Inspection circle, 1st floor, D- wing, BSNL Admin Bldg., Juhu Tara Road, Santacruz (West), Mumbai-400057	
2.	GM(S&T) (Western Railway)	Western Railway, S&T Dept., 5th Floor, Station Building, Church gate, Mumbai – 400020	
3.	Chief Engineer (Projects)	GETCO, Sardar Patel Vidyut Bhavan, Race Course, Vadodara - 390007	Copy for information

ANNEXURE-I

CEA Case No.: GUJ-1029 Name of the Power line: 400 kV D/C Varsana - Halvad transmission line			Map Scale : 1 cm= 500 m Total Length: 120.511 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.
BSNL Letter No: IC/MBI/PTCC/GUJ-3059 Dated: 29.04.2025					
Bhachau Exchange					
1.	200 Pair x 2				IV less than 430 V
2.	100 Pair x 4				
3.	50 Pair x 10				
4.	20 Pair x 50				
5.	10 Pair x 70				
Samakhiali Exchange					
1.	100 Pair x 1				IV less than 430 V
2.	50 Pair x 2				
3.	20 Pair x 8				
Bhimasar Exchange					
1.	Bhimasar Exg-Sahuru 200x1 p				IV less than 430 V
2.	Bhimasar Exg-Paslank 50x1 p				
3.	Bhimasar Exg – Rly stn 20 x1 p				

ANNEXURE-II

CEA Case No.: GUJ-1029 Name of the Power line: 400 kV D/C Varsana - Halvad transmission line		Map Scale : 1 cm= 500 m Total Length: 120.511 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 Letter No: SG.158/28/12/1709 Dated: 11.12.2025					
1.	MALIYA MIYANA - WAVANIYA	Out of Parallelism			
2.	SUKPUR - HALVAD	Out of Parallelism			
3.	HALVAD - DHNALA	5.1	0.0068	956	7
4.	DHNALA - DEVALIYA	9.4	0.063	2054	129
5.	DEVALIYA - KHKRESCHI	8.8	0.038	7076	269
6.	KHKRESCHI - WDHRVA	9	0.046	6193	285
7.	WADHRVA - MALIYA MIYANA	9.3	0.036	6559	236
8.	MALIYA MIYANA - SURBARI	14.9	0.017	6382	108
9.	SURBRI - KTRIYA	11.1	0.0024	7922	19
10.	KATARIYA - SAMAKHIALI	12.8	0.0012	9801	12
11.	SAMAKHIALI - VONDH	6.3	0.00057	11475	7
12.	VONDH - BHACHAU	6.3	0.00057	12484	7
13.	BHACHAU - CHIRI	8.5	0.0057	13388	76
14.	CHIRAI - BHIMASAR	10.15	0.0048	14873	71
15.	BHIMASAR – GNDHIDHAM CBIN	2.4	0.009	16379	147