



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.: GUV-935		
Induced Voltage (IV) calculation for PTCC proposal of 765 kV D/C Vataman to Halvad Transmission Line. (Length- 47.808 km)- regd.		
S. No	Reference No.	Dated
(i)	PGCIL: WRTS#2/PVTL/LILO/PTCC/	03.09.2025
(ii)	PGCIL: e-mail	12.03.2026
(iii)	BSNL: IC/MBI/PTCC/offline/GUV-3095	09.10.2025
(iv)	Western Railway: SG.158/28/12/1523	21.04.2025
(v)	Defense: B/46937/Sigs-7(b)/4507	08.04.2025

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) & (v) 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 NOC vide above 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
765kV Halvad S/s	328	35	0.107	2529	1562	NA	NA
765/400kV Vataman S/s	582	44.1	0.00112	NA	NA	NA	NA

As per the telecom details submitted by DET BSNL, no Telephone Exchanges are lying within the EPR Zone of proposed S/s.

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	
3.	DGM- PGCIL	Powergrid Vataman Transmission Ltd.H.NO 48/1, Gokul Nagar Society Kalikund, Dholka	

ANNEXURE-I

CEA Case No.: GUJ-935 Name of the Power line: 765 kV D/C Vataman to Halvad Transmission Line.			Map Scale : 1 cm= 500 m Total Length : 47.808 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: IC/MBI/PTCC/offline/GUJ-3095			Dated 09.10.2025		
1.	Surendranagar to Lakhtar Armored OFC	-IV less than 430 V-			
2	Surendranagar to Vana Armored OFC	-IV less than 430 V-			
3	400 Pair UG Copper Cable	1.5	0.0075	24000	180
4	200 Pair UG Copper Cable	-IV less than 430 V-			
5	100 Pair UG Copper Cable	-IV less than 430 V-			
6	50 Pair UG Copper Cable	-IV less than 430 V-			
7	20 Pair UG Copper Cable	-IV less than 430 V-			

ANNEXURE-II

CEA Case No.: GUJ-935		Map Scale : 1 cm= 500 m			
Name of the Power line: 765 kV D/C Vataman to Halvad Transmission Line.		Total Length : 47.808 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.158/28/12/1523		Dated 21.04.2025			
1.	Surendranagar Jn to Wadhwan City	-Out of Parallelism-			
2.	Wadhwan City to Limbdi	-Out of Parallelism-			
3	Limbdi to Chuda	-Out of Parallelism-			
4.	Kothgangad to Lothalbhurkhi	-Out of Parallelism-			
5	Lothalbhurkhi to Hadalabhal	2.5	0.0032	26500	85
6	Hadalabhal to rayaka	-Out of Parallelism-			
7	Bajrangpura to Bala Road				
8	Bala Road to Surendranagar Jn	4.0	0.0051	28000	143
9	Surendranagar Jn. to Chamaraj	3.0	0.0027	25000	68
10	Chamaraj to Digsar	-Out of Parallelism-			
11	Surendranagar to Dhrangadhra Jn.	-Out of Parallelism-			