



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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<b>CEA Case No. : GUJ-855</b>		
<b>Induced Voltage (IV) calculation for LILO of both circuits of 220 kV Kalavad-Kangashiyali Transmission Line at 220 kV Siddheshwar GIS [Length- 4.910 km(OH), 0.3 km (U/G)]- Regd.</b>		
<b>S. No</b>	<b>Reference No.</b>	<b>Dated</b>
(i)	GETCL: CE(P)/EE(TR-II)/T-5/9924	29.05.2023
(ii)	GETCL: e-Mail	12.08.2024
(iii)	BSNL: IC/MBI/PTCC/GUJ-2958	25.06.2024
(iv)	Western Railway: SG/158/28/12(1330)	20.06.2023
(v)	Defense: B/46937/Sigs7(b)/3398	05.09.2023

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 substations are 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
220kV Siddheshwar S/s	98.6	40	0.3	2653	1722	70	20

As per the details submitted by BSNL vide reference (iii) above, Shapar 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.

Encl.: As above

**Chief Engineer**

**To,**

1.	Divisional Engineer (PTCC), Western Zone	QA & Inspection circle, 1 <sup>st</sup> 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.	Chief Engineer-Projects- GETCL	GETCL, Sardar Patel Vidyut Bhawan Vadodara	

**ANNEXURE-I**

<b>CEA Case No.:</b> GUJ-855			<b>Map Scale</b> : 1 cm= 500 m		
<b>Name of the Power line:</b> LILO of both circuits of 220 kV Kalavad-Kangashiyali Transmission Line at 220 kV Siddheshwar GIS.			<b>Total Length</b> : 5.210 km		
			<b>S.R. Value</b> : 5000 Ohm-cm		
<b>S.No.</b>	<b>Telecom. Details</b>	<b>Length of Parallelism in Km.</b>	<b>Mutual Coupling in Ohms.</b>	<b>Effective Fault current in Amps.</b>	<b>I.V in Volts.</b>

**BSNL:** IC/MBI/PTCC/GUJ-2958      Dated 25.06.2024

**Affected Blocks & Telecom Circuits Details**

1.	Shapar Excg. – Local- 800 * 2 P	IV Less than 430 V
2.	Shapar Excg. – Local- 400 * 2 P	
3.	Shapar Excg. – Local- 200 * 2 P	
4.	Shapar Excg. – Local- 100 * 2 P	
5.	Shapar Excg. – Local- 100 * 2 + 50 * 1 P	

**ANNEXURE-II**

<b>CEA Case No.:</b> GUJ-855			<b>Map Scale</b> : 1 cm= 500 m		
<b>Name of the Power line:</b> LILO of both circuits of 220 kV Kalavad-Kangashiyali Transmission Line at 220 kV Siddheshwar GIS.			<b>Total Length</b> : 5.210 km		
			<b>S.R. Value</b> : 5000 Ohm-cm		
<b>S.No.</b>	<b>Telecom. Details</b>	<b>Length of Parallelism in Km.</b>	<b>Mutual Coupling in Ohms.</b>	<b>Effective Fault current in Amps.</b>	<b>I.V in Volts.</b>

<b>Western Railway: SG/158/28/12(1330)</b>		<b>Dated 20.06.2023</b>			
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
1.	Nathdwara R/s to Chabhuja Road	-Out of Parallelism-			
2.	Kothariya R/s to Ribda R/s	3.0	0.00065	18200	12
3.	Ribda R/s to Gondal R/s	-Out of Parallelism-			