



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**

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<b>CEA Case No. : MRA-1291</b>		
<b>Induced Voltage (IV) calculation in respect of PTCC proposal for LILO of 220 kV DC IPCL – SPCL line at 220/33 kV Usar S/s (GAIL) (27.5 km)- regd.</b>		
<b>S. No</b>	<b>Reference No.</b>	<b>Dated</b>
(i)	MSETCL: MSETCL/CO/PS/PTCC/In/B-611/00168	08.01.2025
(ii)	MSETCL : Email_ Emd Parameters	13.08.2025
(iii)	BSNL: IC/MBI/PTCC/MRA-2698/03	19.06.2025
(iv)	Central Railway: N.705/T/PTCC/220kV/MAH-935	27.03.2025
(v)	Defense: B/46937/Sigs 7(b)/4397	04.04.2025

The PTCC proposal submitted vide above references (i) and (ii) has been examined. The LF induction on Block and Telecom circuits of Central 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 Central Railway under Single Line to Ground fault condition are enclosed at Annexure-I. The screening factors as applicable have been considered. DET (PTCC), WZ, Mumbai has issued NOC vide reference (iii) above.

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

EPR Zones for proposed substation 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
220/33 kV Usar (GAIL) SS	48.3	50	0.43	2367	1549	100	56

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

Encl.: As above

**Chief Engineer,**

**To,**

1.	Divisional Engineer (PTCC), Western Zone	QA & Inspection circle, 1 <sup>st</sup> floor, D- wing, BSNL Admin Bldg., Junu Tara Road, Santacruz (West), Mumbai-400054	
2.	SSTE/TELE/HQ	O/o Principal Chief Signal & Telecom Engineer, 7 <sup>th</sup> Floor, Rail Nilayam, Secunderabad-500025	
3.	Chief Engineer (Projects Schemes)	MahaTransco C.O., ‘Prakashganga’ Plot No C-19, E- Block, BKC, Bandra(E) , Mumbai-400051	Copy for information

<b>CEA Case No.:</b> MRA-1291 Name of the Power line: LILO of 220 kV DC IPCL – SPCL line at 220 kV Usar (GAIL)		<b>Map Scale</b> : 1 cm= 500 m <b>Total Length</b> : 27.5 km <b>S.R. Value</b> : 10000 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>Central Railway Letter No: N.705/T/PTCC/220kV/MAH-935 Dated 27.03.2025</b>					
1.	Kasu - Nogothane	8.89	0.0019	16195	31
2.	Nogothane - Roha	1.83	0.00025	21136	5