



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. : UP-655		
Induced Voltage (IV) calculation for PTCC proposal of 400 kV D/C Farrukhabad – Maheba Transmission Line [Length- 153.809 km] - Regd.		
S. No	Reference No.	Dated
(i)	UPPTCL: 3288/ETD-(F)	27.06.2024
(ii)	UPPTCL: e-Mail	09.09.2025
(iii)	BSNL: DE/PTCC/NZ/ BSNL-TD/DV-10643/UP-1255/2025-26	20.12.2025
(iv)	North Central Railway: NCR/S&T/2074/Telecom/PTCC (Part-2)	12.11.2025
(v)	Defense: B/46937/Sigs7(b)/4068	12.11.2024

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on block & telecom circuits of North Central Railway with respect to details furnished vide above references (iv) has been computed. The voltages likely to be induced on paralleling block & telecom circuits of North Central Railway under Single Line to Ground fault condition are enclosed at Annexure-I. The screening factors, as applicable, have been considered. DG Signals, MoD have issued No Objection Certificate (NOC) vide reference (v).

EPR zone for 400/220 kV proposed S/S is mentioned below:

Name of the proposed Substation	Half diagonal distance, D/2 (mts)	Fault Current I (KA)	Resistance of Earth Mat, R (ohms)	d (mts) at 430 V	d (mts) at 650 V	d (mts) at 7kV	d (mts) at 10kV
400/220 kV Farrukhabad S/s	190	31.5	0.07	784	301	NA	NA
400/220 kV Maheba S/s	199	37.80	0.08	1200	725	NA	NA

DET-PTCC, NZ BSNL vide reference (iii) has mentioned that only Un-Armored OFC and BTS are present within 8 km boundary and hence, IV computation is not done and no telephone exchange of BSNL is falling within the EPR zone of proposed Substations.

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.

Digitally signed by
Suman Kumar Maharana
Date: 09-01-2026
16:01:46
Engineer

To,

1.	Divisional Engineer (PTCC), Northern Zone	BSNL, O/o PGM(North), QA & Inspection Circle D-Tax Building, Eastern Court, Janpath New Delhi-110001	
2.	GM (S&T)	North Central Railway HQ (S &T) Branch, Prayagraj	
3.	Executive Engineer UPPTCL	ETD - UPPTCL 132 kV S/s Bholepur, Farrukhabad	Copy for information.

ANNEXURE-I

CEA Case No.: UP-655			Map Scale : 1 cm= 500 m		
Name of the Power line: 400 kV D/C Farrukhabad – Maheba Transmission Line.			Total Length : 153.809 km		
			S.R. Value : 50000 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
North Central Railway: NCR/S&T/2074/Telecom/PTCC (Part-2) Dated 12.11.2025					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Nibkarori R/s to Farrukhabad R/s	Out of Parallelism			
2	Nibkarori R/s to Mota R/s	3.0	0.0035	32000	112
3	Jhinhak R/s to Kanchausi R/s	Out of Parallelism			
4	Kanchausi R/s to Phaphund R/s	2.0	0.0028	24000	67
5	Phaphund R/s to Pata R/s	Out of Parallelism			