



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

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CEA Case No. : KNK - 1177		
Induced Voltage (IV) calculation for PTCC proposal of 400 kV D/C Transmission Line from Gadag-II PS to Koppal-II PS [Length – 38.671 km]-Regd.		
S. No	Reference No.	Dated
(i)	POWERGRID: SRTS-II/TBCB/PKGTL/400 kV Line-1/GADAG/PTCC/2024-25/	01.03.2025
(ii)	POWERGRID: e-Mail	01.01.2026
(iii)	BSNL: SR-PTCC/PowerGrid/MKTO6082025003/2025-26/3	10.11.2025
(iv)	South Western Railway: SG/SWR/PTCC/Corres/E:2-12	05.11.2025
(v)	Defense: B/46937/Sigs-7(b)/4579	04.09.2025

The PTCC proposal submitted vide reference (i) and (ii) has been examined. As per the Telecom Details submitted by BSNL vide above reference (iii), there are no telecom lines or assets existing within 8 km boundary and hence IV computation is not done. The LF induction on Block and Telecom circuits of South Western 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 South Western Railway under Single Line to Ground fault condition are enclosed at Annexure-I. The screening factors as applicable have been considered. DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (v).

EPR zone for proposed S/s is mentioned below:

Name of the proposed Substation	Half diagonal distance, D/2 (mts)	Fault Current I (A)	Resistance of Earth Mat, R (ohms)	d (mts) at 430 V	d (mts) at 650 V	d (mts) at 7 kV	d (mts) at 10 kV
Gadag-II	197.55	63000	0.025	526.03	281.13	N.A	N.A
Koppal-II	370.47	44100	0.025	579.40	257.90	N.A	N.A

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), Southern Zone	O/o Divisional Engineer Telecom (PTCC) QA & Inspection circle, 2 <sup>nd</sup> Floor, Sanchar Complex, WMS Compound, Jayanagar 5 <sup>th</sup> Block, 9 <sup>th</sup> main, 47 <sup>th</sup> Cross, Bengaluru - 560041	
2.	Principal Chief (S&T) SWR	South Western Railway, Principal Chief Signal & Telecom Engineer, Rail Soudha, Gadag Road, Hubballi-20	Annexure-I
3.	Dy. General Manager, PKGTL	First Floor, Plot No-7&8, Dambal Layout, Mulgund Road, Gadag – 582103, Karnataka	Copy for information.

**ANNEXURE-I**

<b>CEA Case No.: KNK-1177</b>			<b>Map Scale : 1 cm= 500 m</b>		
<b>Name of the Power line: PTCC proposal of 400 kV D/C Transmission Line from Gadag-II PS to Koppal-II PS [Length – 38.671 km]</b>			<b>Total Length : 38.671 km</b>		
			<b>S.R. Value : 10000 Ohm-cm</b>		
<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>

**South Western Railway: SG/SWR/PTCC/Corres/E:2-12 Dated 05.11.2025**

**Affected Blocks & Telecom Circuits Details**

1.	RLP-SOQ	Out Of Parallelism			
2.	RLP-SOQ	5.85	0.00115	26000	30
3.	SOQ-BNA	6	0.01604	21000	337
4.	BNA-TLKL	4.05	0.00202	18800	38
5.	TLKL-BNP	2.8	0.00026	15500	4
6.	TLKL-KANR	4.6	0.00566	15000	85
7.	KANR-SNGL	Out Of Parallelism			