

I/30033/2023



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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CEA Case No. : HRA-245		
Induced Voltage (IV) calculation for PTCC proposal of 220 kV D/C line from Abdullapur (PG) – Jagadhari (DFCCIL) (Length: 10.281 km)- regd		
S. No	Reference No.	Dated
(i)	N2ABD/SS/2022/899	23.03.2022
(ii)	N2ABD/TL/220kV/DFCCIL/PTCC/2023/788	07.02.2023
(iii)	BSNL: DET/PTCC/ND/DV-10117/HR-875/2023-2024	29.08.2023
(iv)	Northern Railway: 342-SIG/1/PTCC/2021-22/12/06	21.12.2021
(v)	Defense: B/46937/Sigs7(b)/2608	16.12.2021

The PTCC proposal submitted vide reference (i) and (ii) has been examined. The LF induction on Block and Telecom circuits of BSNL and Northern Railway with respect to details furnished vide above reference (iii) and (iv) respectively have been computed. The voltage likely to be induced on paralleling Block and Telecom circuits of BSNL and Northern Railway under Single Line to Ground fault condition are enclosed at Annexure-I and Annexure-II respectively. The screening factors as applicable have been considered. DG Signals, MoD have 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
220 kV Jagadhari TSS	138.4	23.25	0.184	1239	772	NA	NA

As per the details submitted by BSNL vide reference (iii) above, no telephone exchange is falling in the EPR zone of the proposed substations.

Taking above into consideration, necessary action regarding issuance of PTCC approval for the subject cited transmission line might be taken under intimation to this office.

Encl.: As above

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 Director 1/9/23

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To,

1.	Divisional Engineer (PTCC), Northern Zone	BSNL, O/o GM (North), QA & Inspection Circle D-Tax Building, Eastern Court, Janpath New Delhi-110001
2.	GM (S&T)	Headquarter Office, Baroda House, New Delhi
3.	Senior GM	POWERGRID, Abdullapur

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ANNEXURE-I

CEA Case No.: HRA-245		Map Scale : 1 cm= 500 m			
Name of the Power line: PTCC proposal of 220 kV D/C line from Abdullapur (PG) – Jagadhari (DFCCIL)		Total Length : 10.281 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: DET/PTCC/ND/DV-10117/HR-875/2023-2024 Dated 30.08.2023

Affected Blocks & Telecom Circuits Details

1.	Bambholi Exchange to Ambala Panchkula Highway (2 No. 200 pairs each)	0.6	0.0142	28309	402
2.	Bambholi Exchange to Ambala Panchkula Highway (1 No. 100 pairs)	0.6	0.0142	28309	402
3.	Bambholi Exchange to Bambhol	0.4	0.01216	25411	330
4.	Sudhail Exchange to Gugloo Village	IV less than 430 V			
5.	Sudhail Exchange to Mehrampur Village	0.7	0.02298	14317	329
6.	Kalanpur to Darajpur	Out of parallelism			
7.	Harnaul Exchange to Mansapur Village	0.2	0.0013	16154	21
8.	Harnaul Exchange to Mandebbar Village	1	0.0194	16753	325
9.	Vishnu Nagar Exchange to Jagadhari Workshop ( 1 No. cable 400 pairs)	Out of parallelism			
10.	Vishnu Nagar Exchange to Jagadhari Workshop ( 2 No. cable 200 pairs)	Out of parallelism			
11.	Vishnu Nagar Exchange to Jagadhari Workshop ( 1 No. cable 100 pairs)	Out of parallelism			
12.	Vishnu Nagar Exchange to Jagadhari Workshop ( 1 No. cable 50 pairs)	Out of parallelism			

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13.	Industrial Exchange to Radaur Road Yamuna Nagar ( 1 No. cable 400 pairs)	IV less than 430 V
14.	Industrial Exchange to Radaur Road Yamuna Nagar ( 2 No. cable 200 pairs)	IV less than 430 V
15.	Industrial Exchange to Radaur Road Yamuna Nagar ( 1 No. cable 100 pairs)	IV less than 430 V

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**ANNEXURE-II**

<b>CEA Case No.:</b> HRA-245			<b>Map Scale</b> : 1 cm= 500 m		
<b>Name of the Power line:</b> PTCC proposal of 220 kV D/C line from Abdullapur (PG) – Jagadhari (DFCCIL)			<b>Total Length</b> : 10.281 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>Northern Railway:</b> 342-SIG/1/PTCC/2021-22/12/06 Dated 21.12.2021					
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
1.	Mustafabad R/S to Darazpur R/S	2.8	0.000415	16868	7
2.	Darazpur R/S to Jagadhri Workshop R/S	3.6	0.00678	13422	91
3.	Jagadhri Workshop R/S to Yamuna Nagar Jagadhari R/s	Out of parallelism			
4.	Yamuna Nagar Jagadhari R/s to Kalanaur R/S	Out of parallelism			