



भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

केन्द्रीय विद्युत प्राधिकरण

Central Electricity Authority

पावर कम्युनिकेशन डवलपमेंट प्रभाग

Power Communication Development Division

No.:CEA/PCD/PTCC/HRA-223/938-940

Date: 02.09.2019

DET (PTCC), Northern Zone,  
Bharat Sanchar Nigam Ltd (BSNL),  
O/o PGM(N), Inspection Circle,  
CTS Compound, Netaji Nagar,  
New Delhi – 110023

**Subject:** Induced Voltage Calculation in respect of PTCC proposal for LILO of one ckt of 220 kV D/C Bastara – Kaul line at 800 kV HVDC Bhadson

**Reference:** (i) BSNL letter no. DET/PTCC/ND/DV-9555/HR-835/2019-2020 dated 28.08.2019  
(ii) Northern Railway letter no. 342-SIG/1/PTCC dated 29.08.2019

Sir,  
The instant PTCC proposal has been examined. Low frequency induction on telecom cables of BSNL and Block & Telecom circuits of Northern Railway with respect to details furnished vide above references has been computed. The Soil Resistivity (SR) value has been taken as 15,000 Ohm-cm. The voltages likely to be induced on paralleling telecom cables of BSNL and Block & Telecom circuits of Northern Railway under Single Line to Ground fault condition have been computed and are enclosed as Annex – I & II respectively. The screening factors, as applicable, have been considered. Telecommunication details from Defense are pending and the power authority has shown urgency for charging the line. In view of this, you are requested to issue provisional PTCC route approval.

**Encl.:** As above

m/c

शशिबन्धु आर्य सिंह  
02.09.19.  
(R. P. Singh)  
Director, PTCC

**Copy to:**

1. GM (S&T), Northern Railway, Headquarter Office, Baroda House, New Delhi – 110001 (Annex II only)
2. Superintending Engineer, Transmission System Circle, Haryana Vidyut Prasaran Nigam Ltd, Karnal, Haryana - 132001

Case No. : HRA-223

**Annexure I**

Name of the Power Line: LILO of 1-Ckt of 220 KV D/C Bastara-Kaul  
Line at 600 KV HVDC Bhadson

Toposheet Scale : 1cm=500mts  
Total Length : 28.735 Kms  
S.R Value : 15000 Ohm-cm

Sl. No.	Name of Telecom Line	LOP in Kms	MC in Ohms	Fault Current (Amps)	IV in Volts
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**BSNL**

Reference No. DET/PTCC/ND/DV-9555/HR-835/2019-20  
Date : 28.08.2019

BSNL Details					
1	Samana bahu to Raipur (100Pr)				
2	Samana bahu to Machuri ( 100 Pr)				
3	Nilokheri to Bhutana ( 200 Pr)				
4	Nilokheri to Anjanthali( 100Pr)				
5	Nilokheri to Barthal (50 Pr.)				
6	Nilokheri to Arjaheri ( 100 Pr)				
7	Nilokheri to Yunuspur ( 100 Pr)				
8	Rarnana Ramani to Sambhi (200Pr)				
9	Rarnana ramani to Bhola Khalsa( 50 Pr)				
10	Rarnana ramani to Golpura (50 Pr)				
11	Jamba to Brahman majra ( 50 Pr)				
12	Nigdu to Kor ( 100 Pr)				
13	Nigdu to Bir Badalwa( 100 Pr)				
14	Bhadson to Bhadson( 100 Pr)				
15	Bhadson to Udana ( 100 Pr)				
16	Bhadson to haibatpur(100Pr)				
17	Bhadson bairsal ( 200 Pr)				
18	Bhadson to Jhivarheri( 70 Pr)				
19	Bhadson to Swarn Majra (70 Pr)				
20	Bhadson to Rampur (40 Pr)				
21	Bhadson to Kheri Jatana ( 40 Pr)				

IV LESS THAN 430V

राघवेंद्र प्रताप सिंह  
02.09.19  
RAGHENDRA PRATAP SINGH  
निदेशक/Director  
केन्द्रीय विद्युत प्राधिकरण/C.E.A.  
विद्युत मंत्रालय/Ministry of Power  
भारत सरकार/Govt. of India  
नई दिल्ली/New Delhi-66

## ANNEXURE – II

Case No.: HRA-223		Map Scale : 1cm=500mts Total Length : 28.735 km Soil Resistivity : 15,000 Ohm-cm			
Name of the Power line: LILO of one ckt of 220 kV D/C Bastara – Kaul line at 800 kV HVDC Bhadson					
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.

<b>Northern Railway</b> letter no. 342-SIG/1/PTCC dated 29.08.2019					
1	Taraori R/S – Nilokheri R/S	OUT OF PARALLELISM			0
2	Nilokheri R/S – Amin R/S	2.6	0.0061	7200	44
3	Amin R/S – Kurukshetra R/S	OUT OF PARALLELISM			0

राघवेंद्र प्रताप सिंह  
 02-09-19  
 राघवेंद्र प्रताप सिंह  
 RAGHVENDRA PRATAP SINGH  
 निदेशक / Director  
 केन्द्रीय विद्युत प्राधिकरण / C.E.A.  
 विद्युत मंत्रालय / Ministry of Power  
 भारत सरकार / Govt. of India  
 नई दिल्ली / New Delhi-66