

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

\*\*\*\*\*



No.: CEA/PCD/ PTCC/PNB-363/413-415

Date: 20.08.2020

**Subject: - Induced voltage calculation in respect of LILO of 400 kV DC line from Talwandi Sabo- Nakodar at proposed 400 kV Switching Substation at village Behman Jassa Singh-Reg.**

**Reference: -**

- |  |                   |
|--|-------------------|
| (i) PSTCL, Patiala Endst. No. 885                            | Dated: 17.10.2019 |
| (ii) BSNL Ref. No. DET/PTCC/ND/DV-9624/PB-918/2019-2020      | Dated: 15.01.2020 |
| (iii) Northern Railway Ref. No. 342-SIG/1/PTCC/2019-20/11/13 | Dated: 03.08.2020 |
| (iv) Defense Ref. No. B/46937/Sigs 7(b)/1880                 | Dated: 17.02.2020 |

The PTCC proposal submitted vide ref. (i) has been examined. The low frequency induction on BSNL Telecom Lines and Railway Block and Communication circuits as per details furnished vide above cited references (ii) and (iii) respectively has been examined. The Average Soil Resistivity value has been taken as 12,000 Ohms-cm, as per data submitted by Power Authority. Voltages likely to be induced on paralleling BSNL Telecom Lines and Northern Railway Block and Communication circuits under single line to ground fault condition are enclosed at Annex-I and Annex-II respectively. The screening factors as applicable have been considered. In addition, Defense has accorded NOC vide above ref. (iv) for this line (a copy enclosed at Annex-III).

Taking above into consideration, kindly take necessary action regarding issue of PTCC route approval.

Encl.: As above.

*Upendra Kumar*  
20.08.2020

(Upendra Kumar)  
Chief Engineer

To,  
The Divisional Engineer (Telecom), BSNL  
PTCC O/o GM (North), Inspection Circle (T & D),  
CTS Compound, Netaji Nagar, Africa Avenue, New Delhi – 110023.

*M/c* Contd.

Case No. : PNB-363

Annexure I

Name of the Power Line: 400 KV Line from Talwandi sabo- nakodar  
LILO at proposed 400 KV Switching  
station at village Behman Jessa Singh

Toposheet Scale : 1cm=500mts  
Total Length : 16.099Kms  
S.R Value : 12,000 Ohm-cm

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

**BSNL**

Reference No. DET/PTCC/ND/DV-9624/PB-918/2019-20  
Date : 15.01.2020

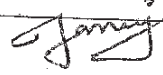
BSNL Details					
1	Gryang TE- Gatwali- Jagiwale Pillar ( 50 Prx2) 5.7 KM	}	IV less than 430V		
2	Teona Punjarian TE- Sangat Khurel Pillar ( 50 Prx2) 1.1 KM				
3	Teona Punjarian TE- Behman Jessa Singh Pillar ( 50 Pr) 2.6 KM				
4	Teona Punjarian TE- Malkana Pillar ( 50 Prx2) 2.7 KM				
5	Teona Punjarian TE- Tarugwali Pillar ( 50 Prx2) 2 KM				
6	Lalian TE- Jajjal Pillar (50 Pr) 3.2 KM	}	Out of parallelism		
7	Singho TE- Bahman koar Singh Pillar ( 50 Pr) 2 KM				
8	Lahri TE- Mennwana Pillar ( 50 Pr) 2.4 KM	}	IV less than 430V		
9	Talwandi sabo TE- Gasusar Jagga Pillar ( 50 Pr) 3.7 KM				
10	Talwandi sabo TE- Nawan Pind Pillar ( 50 Pr) 3.9 KM				
11	Bhainiwala TE- HW to Musa Pillar ( 50 Pr) 1.4 KM				
12	Chahlanwali TE- Bananwala Pillar ( 50 Pr) 1.6 KM				
13	Chahlanwali TE- Bhingar Pillar ( 50 Pr) 1.7 KM	}	Out of parallelism		
14	Rajgarh Khubat TE- kamla sawaich Pillar ( 50 Pr) 5.3 KM				
15	Shikhpura TE- Bhagwanpura- Ramtirath jagga Pillar ( 50 Prx2) 6.7 KM				
16	Kottikalan TE- Kottikhurd Pillar Via Katto Village( 50 Pr) 5.9 KM	}	Out of parallelism		
17	Musa TE - Man Bibrian Pillar ( 50 Pr) 1.8 KM				
18	Musa TE - Gaguwale Pillar ( 50 Pr) 1.4 KM	}	IV less than 430V		
19	Musa TE - Autanwali- Dalianwali Pillar ( 50 Prx 2) 5.2 KM				
20	Raipur TE- Talwandi akia Pillar ( 50 Pr) 4.3 KM				
21	Raipur TE- Makha Pillar ( 50 Pr) 4.4 KM	}	IV less than 430V		
22	Raipur TE- Chhapeyanwali Pillar ( 50 Pr) 3.7 KM				
23	Raipur TE- Peron Pillar ( 50 Pr) 4.1 KM				

*(Signature)*  
TANUJ  
तलायक विभाग-II/Assit. Director-II  
केन्द्रीय विद्युत प्राधिकरण/C.E.A.  
विद्युत मंत्रालय/Ministry of Power  
भारत सरकार/Govt. of India  
नई दिल्ली/New Delhi-65

## ANNEXURE - II

<b>Case No.: PNB-363</b>					
<b>Name of the Power line:</b> LILO of 400 kV DC line from Talwandi Sabo- Nakoder at proposed 400 kV Switching Substation at village Behman Jassa Singh.		<b>Map Scale</b> : 1cm=500mts <b>Total Length</b> : 16.099 Km. <b>S.R. Value</b> : 12,000 Ohms-cm			
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>					
Ref. No: 342-SIG/1/PTCC/2019-20/11/13 DATED: 26-11-2019					
<b>Affected Blocks &amp; Telecom Circuits Details</b>					
1	Maiser Khana R/S to Maur R/S	} Outside IV consideration zone			00
2	Maur R/S to Kotli Kalan R/S				00
3	Kotli Kalan R/S to Saddasingh Wala R/S				00
4	Saddasingh Wala R/S to Mansa R/S				00

  
 TAMILU  
 सहायक निदेशक-II/Asstt. Director-II  
 केन्द्रीय विद्युत प्राधिकरण/C.E.A.  
 विद्युत मंत्रालय/Ministry of Power  
 भारत सरकार/Govt. of India  
 नई दिल्ली/New Delhi-60

Tele : 23019746

PNB-363  
(Annex-TII)

Directorate General of Signals  
Signals 7  
General Staff Branch  
Integrated HQ of MoD, (Army)  
DHQ PO, New Delhi - 110011


B/46937/Sigs 7(b)/1880/

17 Feb 2020

Office of Engineer-in-Chief/Transmission System  
Punjab State Transmission Corporation Limited  
3<sup>rd</sup> Floor, Shakti Sadan, Patiala-147001

**PTCC CASE FOR 400KV LINE FROM TALWANDI SABO-NAKODAR LILO AT PROPOSED  
400KV SWITCHING STATION AT VILLAGE BEHMAN JASSA SINGH**

1. Ref your Endst. No 884 dt 17 Oct 2019 (copy att).
2. No Objection Certificate (NOC) is accorded based on inputs provided vide Map sheet received under your letter mentioned above.
3. Documents alongwith map sheets (in original) are returned herewith for your further necessary action.

  
(A Rawat)  
Maj  
GSO 1 (Comn)  
for SO-in-C

**Enclosures** : As above

**Copy to** :-

The Director (PTCC), CEA  
Power Communication Development Division  
NRPC Complex, 18-A Shaheed Jeet Singh Marg  
Katwaria Sarai, New Delhi - 110016

Divisional Engineer Telegraph (PTCC)  
O/o GM (North); BSNL, QA & Inspection Circle,  
CTS Compound, Africa Avenue Road,  
Netaji Nagar, New Delhi-110023

for information