



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-369/811-813

Date: 21.12.2020

Subject: - Induced voltage calculation in respect of 220 kV line for connecting 220 kV PGCIL- Ludhiana-Doraha S/C on D/C line with 220 kV Lalton Kalan- Dhandhari Kalan S/C on DC line-Reg.

Ref.: -

- | | |
|--|-------------------|
| (i) PSTCL, Patiala Ref. No. 1213/TS-II | Dated: 17.01.2020 |
| (ii) BSNL Ref. No. DET/PTCC/ND/DV-9529/PB-912/2019-2020 | Dated: 17.01.2020 |
| (iii) Northern Railway Ref. No. 342-SIG/1/PTCC/2020-21/10/02 | Dated: 21.10.2020 |
| (iv) Defense Ref. No. B/46937/Sigs 7(b)/1676 | Dated: 28.08.2019 |

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.


21.12.20
(Upendra Kumar)
Chief Engineer

To,

- M/c
- (i) The DET (PTCC), BSNL, Northern Zone O/o PGM (N), QA & Inspection Circle, D-Tax Building, Eastern Court, Janpath, New Delhi 110001. (Annex-I & III only)
 - (ii) General Manager (S&T), Northern Railway, Office Headquarters, Baroda House, New Delhi-110001. (Annex-II only)

Copy to: Additional Superintending Engineer/TS-II, PSTCL O/o Engineer-in-Chief/Transmission System, 3rd Floor, Shakti Sadan, Patiala-147001.

Case No. : PNB-369

Annexure I

Name of the Power Line: 220 KV PGCEL Ludhiana- Doraha S/C on D/C Line with 220 KV Lalton Kalan- Dhandhari kalan S/C on D/C Line (LLO Portion only TL-01 to TL-18)

Toposheet Scale : 1cm=500mts
 Total Length : 4.055Kms
 S.R. Value : 12,500 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-9529/PB-912/2019-20
 Date : 17.01.2020

BSNL Details					
1	Alamgir TE - Dule Pillar (300 Pr) 1.2 KM				
2	Alamgir TE - Kaind- Dule Pillar (200 Pr, 100 Pr) 2.3 KM				} IV less than 430 V
3	Alamgir TE - Manji sahib pillar (100 Pr) 0.8 KM				
4	Alamgir TE - Chupki Pillar (50 Pr) 1.5 KM				
5	Alamgir TE - Jassowal- Bilah Pillar (300 Pr, 100 Pr) 3.1 KM				
6	Gujawal TE- Narangwal Pillar (200 Pr) 0.6 KM				
7	Gujawal TE- Asi Khurd- Asi Kalan Pillar (200 Pr, 100 Pr) 2.3 KM				
8	Jodhan TE- Dolan Kalan Pillar (100 Pr) 2 KM				} IV less than 430 V
9	Jodhan TE- Mansman- Shahzad Pillar (100 Pr, 50 Pr) 2.5 KM				
10	Dehlon TE- Raipur Qila Pillar (200 Pr x 2) 2.1 KM				} Out of parallelism
11	Dehlon TE- Saya kalan- saya Khurd Pillar (100 Pr x 2) 1.6 KM				
12	Gill TE - Bulasa- Ranian Pillar (100 Pr x 2) 2.4 KM				IV less than 430V
13	Gill TE - Manakwal- mahmudpur- Dhandran Pillar (200 Pr, 100 Pr x 2) 4.9 KM				} Out of parallelism
14	Lalton Kalan TE- Daad Pillar (200 Pr) 2.5 KM				
15	Lalton Kalan TE- Thakawal Pillar (100 Pr, 50 Pr) 1.9 KM				} Out of parallelism
16	Lalton Kalan TE- Dalon Khurd Pillar (100 Pr) 3.2 KM				
17	Lalton Kalan TE- Jamheri- Kheri- Humayunpur Pillar (200 Pr, 100 Pr) 5.3 KM				} I.V. less than 430V

Jamir

DET/PTCC/ND/DV-9529/PB-912/2019-20
 सहायक निदेशक (विद्युत) / सहायक निदेशक (विद्युत) / सहायक निदेशक (विद्युत) / सहायक निदेशक (विद्युत) / सहायक निदेशक (विद्युत)
 विद्युत विभाग / विद्युत विभाग / विद्युत विभाग / विद्युत विभाग / विद्युत विभाग
 भारत सरकार / Government of India
 नई दिल्ली / New Delhi

ANNEXURE - II

Case No.: PNB-369 Name of the Power line: 220 kV line for connecting 220 kV PGCIL-Ludhiana-Doraha S/C on D/C line with 220 kV Lalton Kalan- Dhandhari Kalan S/C on D/C line.			Map Scale : 1cm=500mts Total Length : 4.055 Km. S.R. Value : 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.

NORTHERN RAILWAY Ref. No: 342-SIG/1/PTCC/2020-21/10/02 DATED: 21-10-2020					
<u>Affected Blocks & Telecom Circuits Details</u>					
	Ludhiana-Dhuri				
(AB)	Ludhiana R/S to Gill R/S		Out of parallelism		00
	Gill R/S to Jassowal R/S	3.4	0.0087	10000	87
	Jassowal R/S to Kila Raipur R/S		Out of parallelism		00
(AC)	Ludhiana-Firozpur Cantt				
	Ludhiana R/S to Modal Gram R/S		Out of parallelism		00
	Modal Gram R/S to Badowal R/S		Out of parallelism		00

Jamun

सहस्र/TANUJ
सहायक निदेशक-II/Asstt. Comr. of P
केन्द्रीय विद्युत प्राधिकरण/C.E.A.
विद्युत विभाग/Ministry of Power
नयाँ दिल्ली/Govt. of India
नई दिल्ली/New Delhi-68

(Anurag - II)

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

B/48937/Sigs 7(b)/1676/

Aug 2019

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

PTCC CASE OF TRANSMISSION LINE OF 220KV PGCIL LUDHIANA-DORAHA S/C ON D/C
LINE WITH 220KV LALTON KALAN-DHANDHARI KALAN S/C ON D/C LINE (LILO PORTION
ONLY TL-01 TO TL-18)

1. Ref your Endst. No 485 dt 30 May 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.

(Anurag Mishra)
Lt Col
GSO 1 (Comm)
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,
New Delhi-110023

for Informa'