



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/WB-129/385-87

Date: 02.04.2019

DET (PTCC), Eastern Zone,  
Inspection & QA Circle, BSNL  
Q.A. Bhawan, EP-GP Block, Sector-V,  
Salt Lake, Kolkata – 700091

**Subject:** Induced Voltage Calculation in respect of PTCC Route proposal for 400 kV D/C (QUAD) Alipurduar – Siliguri (2<sup>nd</sup>) Transmission Line

**Reference:** (i) BSNL letter no. DE/PTCC/ER/EWB280720182173/01 dated 08.01.2019  
(ii) Northeast Frontier Railway letter no. N/146/2/10 Pt. VI (TC) dated 29.10.2018  
(iii) Defense letter no. B/46937/Sigs 7(b)/1157 dated 15.10.2018

Sir,

The instant PTCC proposal has been examined. Low frequency induction on paralleling cables of BSNL and Block & Telecom Circuits of Northeast Frontier Railway with respect to details furnished vide above references has been computed. The Soil Resistivity (SR) value has been taken as 25,000 ohm-cm. The voltages likely to be induced on paralleling telecom cables of BSNL and Block and Telecom Circuits of Northeast Frontier Railway under single line to ground fault condition have been computed and are enclosed as Annex – I and II respectively. The screening factors, as applicable, have been considered. Vide ref. (iii) above, Defense Authority have issued No Objection Certificate (NOC) (enclosed as Annex – III).

Taking above into consideration, kindly issue PTCC route approval.

**Encl.:** As above

m/c

  
(Naresh Bhandari)  
Chief Engineer

**Copy to:**

- (i) GM (S&T), North East Frontier Railway, Maligaon, Guwahati, Assam - 781011 – (Annex – II only)
- (ii) Assistant General Manager - Projects, Alipurduar Transmission Limited, Flat No. S-2, North View Apartment, Sarbopally Road, Ward No. 42 of SMC, 2½ Mile, Sevoke Road, PO – Salugara, PS – Bhaktinagar, Siliguri, Dist. – Jalpaiguri, West Bengal - 734008

CEA Case No.: WRB-129

Annex-I

ANNEXURE-1

Case No. DE/PTCC/EWB/280720182173 Dated : 29.08.2018

Name of the Power Line: 400KV D/C Quad Allpurdur(PGCIL)-Siliguri(PGCIL) Transmission Line

(2<sup>nd</sup>)

Sheet No. 1 of 31

Map Scale 1 cm=500m  
Total Length 115.485km  
SR Value:

25000 52-cm

SI No.	Telecom Circuits	Marked as	Length of Parallelism in Km	Mutual Coupling in Ohms	Effective Fault current in Amps	L.V in Volts	Safe Separatio n in Yards
1	2	3	4	5	6	7	8
	<b>AMBARI TELEPHONE EXCHANGE</b>	(Ax)					
a	Towards Timmatha more 200pair, U/G Cable distance 500 meters	a	} IV	LESS	THAN	430 V	V
b	Towards Karatowa river Bank pillar U/G Cable 100 pair, distance 500 km	b					
c	Towards Hatmore pillar U/G Cable 100 pair, distance 2.5 km	c					
d	Towards Belakoba pillar U/G Cable 100 pair, distance 1 km	d					
	<b>RAJGANJE TELEPHONE EXCHANGE</b>	(Rx)					
a	Towards Fatapukur U/G Cable 100pair, distance 2.5 km	a	} IV	LESS	THAN	430 V	V
b	Towards Rajganj Bazar U/G Cable (200x3=600) pair, distance 300 meters	b					
c	Towards sundarban Fertilizer U/G Cable 500 pair, distance 2 km	c					
	<b>BELACOBA TELEPHONE EXCHANGE</b>	(Bx)					
a	Towards Belacoba Bazar U/G Cable 200pair, distance 400 meters	a	} IV	LESS	THAN	430 V	V
b	Towards polytechnic U/G Cable (50) pair, distance 150 meters	b					
c	Towards sundarban Hospital para U/G Cable 100 pair, distance 1 km	c					
	<b>RANINAGAR TELEPHONE EXCHANGE</b>	(Rnx)					
a	Towards Fatapukur U/G Cable 100pair, distance 03km	a	} IV	LESS	THAN	430 V	V
b	Towards Mohinagar U/G Cable (100) pair, distance 5km	b					
	<b>JALPAIGURI TELEPHONE EXCHANGE</b>	(Jx)					
a	Towards Paharpurmure U/G Cable 1000 pair, distance 8km	a	6.1	0.0487	11800	575	
b	Towards Assam more 100 pair, distance 7km, [(800x4=3200)pair, (200x4=800)pair, (100x5=500)pair, U/G Cable ] pillar No -42, pillar No -27, Cabnet-181	b	} IV	LESS	THAN	430 V	V
c	4 No. Ghumti, distance, 4km U/G Cable [(200x7=1400) pair, (100x5=500) pair, (50x4=200)pair] pillar No.25, pillar No.40, pillar No.30, cabnet No.163	c					
d	Pandapara, distance 2km U/G Cable [(200x3=600) pair, (100x5=500)pair]cabnet No.12	d					
e	Pikhana, distance, 4km U/G Cable [(12x2=24)pair, (100x2=200)pair, (50x4=200)pair ] pillar No.112, pillar No.151, pillar No.152, cabnet No.11	e					

Pg(1/3)

नरेश शर्मा/MARESH BHANDARI  
मुख्य अभियंता/Chief Engineer  
केन्द्रीय विद्युत प्राधिकरण/C.E.A.  
विद्युत मंत्रालय/Ministry of Power  
भारत सरकार/Govt of India  
नई दिल्ली/New Delhi-66



CEA Case No. - WB-129

Annex-I

ANNEXURE-1

Sheet No. 3 of 31

Case No. DE/PTCC/EWB 280720182173 Dated : 29.08.2018

Name of the Power Line: 400KV D/C Quad Alipurdwar(PGCIL)-Siliguri(PGCIL) Transmission Line  
(2<sup>nd</sup>)

Map Scale : 1 cm=500m  
Total Length 115.485 km

SR Value : ZS000 52-CM

Sl No.	Telecom Circuits	Marked as	Length of Parallelism in KM	Mutual Coupling in Ohms	Effective Fault current in Amps	L.V in Volts	Sepert Year
1	2	3	4	5	6	7	
<b>PALASHBARI TELEPHONE EXCHANGE</b>							
12		(Px)	IV	LESS	THAN	430 V	
a	Palashbari U/G Cable100pair, distance 1km	a	IV	LESS	THAN	430 V	
b	Nisbil U/G Cable100pair, distance 2km	b	IV	LESS	THAN	430 V	
<b>PANCHKAGURI TELEPHONE EXCHANGE</b>							
13		(PGx)	IV	LESS	THAN	430 V	
a	Sonarapur Bazar U/G Cable100pair, distance 4 km	a	IV	LESS	THAN	430 V	
b	Alipurdwar Road U/G Cable200pair, distance 4km	b	2.8	0.0394	15000	587 V	
c	Towards Baburhat Hospital U/G Cable100pair, distance 1 km	c	IV	LESS	THAN	430 V	
<b>DURGABARI TELEPHONE EXCHANGE (ALIPURDUAR)</b>							
14		(DGx)	IV	LESS	THAN	430 V	
a	Tapskatha Bazar U/G Cable100pair, distance 6km	a	IV	LESS	THAN	430 V	

नरेश भंडारी / NARESH BHANDARI,  
मुख्य अभियन्ता / Chief Engineer,  
केंद्रीय विद्युत प्राधिकरण / C.E.A.  
विद्युत मंत्रालय / Ministry of Power  
भारत सरकार / Govt. of India  
नई दिल्ली / New Delhi-66

Pg (3/3)



Annex III

Tele : 23019746

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

B/46937/Sigs 7(b)/1157/

15 Oct 2018

Asstt. General Manager-Projects  
Alipurduar Transmission Limited  
Flat No. S-2, North View Apartment, Sarbopally Road  
Ward No. 42 of SMC, 2 1/2 Mile, Sevoke Road  
P.O.-Salugara, P.S.-Bhaktinagar, Siliguri  
Dist.-Jalpaiguri, West Bengal, Pin-734008

**CONSTRUCTION OF 400 KV D/C (QUAD) ALIPURDUAR-SILIGURI TRANSMISSION  
LINE- SUBMISSION OF PROPOSAL FOR PTCC CLEARANCE**

1. Ref your letter No ATL/SLG/292WB/247/2018-19 dt 16 May 2018 (copy att).
2. No Objection Certificate (NOC) is accorded based on inputs provided vide Map sheets 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

for information.