



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/MRA-1141/496-98

Date: 16.04.2019

DET (PTCC), Western Zone,  
Bharat Sanchar Nigam Limited (BSNL),  
O/o DET(PTCC), QA & Inspection Circle,  
3<sup>rd</sup> Floor, D-Wing, BSNL Admin Bldg.,  
Juhu Tara Road, Santacruz (West),  
Mumbai – 400054.

**Subject:** Induced Voltage calculation in respect of PTCC proposal of 220 kV D/C Badnera – Ner (Renukapur) Line

**Ref:** (i) BSNL letter no. IC/MBI/PTCC/MRA-2354/06 dated 11.03.2019  
(ii) Central Railway letter no. N.153/PTCC/220kV/MAH-687 dated 28.02.2018  
(iii) Defense letter no. B/46937/Sigs 7(b)980/ dated 14.03.2018

Sir,

The low frequency induction on BSNL and Railway Telecommunication circuits as per details furnished vide above cited references (i) and (ii) respectively has been examined. The Soil Resistivity value has been taken as 15,000 Ohms-cm, as per data submitted by Power Authority. Voltages likely to be induced on paralleling BSNL Telecom Cables and Railway Telecommunication circuits under single line to ground fault condition are enclosed at Annex-I&II respectively. The screening factors as applicable have been considered. Defense has accorded NOC vide above Ref. (iii) for the line (a copy enclosed at Annex-III).

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

**Encl.:** As above

Yours faithfully,

*(Signature)*  
(Naresh Bhandari)  
Chief Engineer

Copy to:

- 1) Office of GM(S&T), Central Railway, Headquarters Office, S&T Branch, 3rd Floor, Annex Bldg, Mumbai CST (Annex – II only)
- 2) Chief Engineer (Projects Schemes), MAHA TRANSCO, "PRAKASHGANGA", Plot no. C-19, 'E' Block, Bandra – Kurla Complex, Bandra (East), Mumbai - 400051

## ANNEXURE-I

Case No.: MRA-1141				Map Scale : 1cm=500mts	
Name of the Power line: 220kV Badnera — Ner (Renukapur) D/C line.				Total Length : 42.0 Km.	
				S.R. Value : 15,000 Ohms-cm	
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.

## BSNL DETAIL

Ref. No: IC/MBI/PTCC/MRA-2354/06 DATED 11-03-2019

## Affected Blocks &amp; Telcom Circuits Details

1	A	NER Exchange	} ← out of 115m →
2	1	Exch to Forest office SOPY	
3	2	Exch to Court SOPY	
4	3	Exch to Pragathi Nagar SOPY	
5	4	Exch to Chhatrapati Nagar 100PY	
6	5	Exch to Balipura 100PY	
7			
8	B	Manikwada Exchange	} ← out of 115m →
9	1	Exch to Braamanwada SOPY	
10	2	Exch to Manikwada village 100PY	
11			
12	C	Magladeri Exchange	} ← out of IV consideration zone →
13	1	Exch to VBC Bank SOPY	
14	2	Exch to Babhulgaon Road SOPY	
15			
16	D	Shirasgaon Pandhari Exch.	} ← out of IV consideration zone →
17	1	Exch to Pandhari SOPY	
18	2	Exch to Mozar SOPY	

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

## ANNEXURE -1

Case No.: MRA-1141 Name of the Power line: 220kV Badnera — Ner (Renukapur) D/C line.		Map Scale : 1cm=500mts Total Length : 42.0 Km. S.R. Value : 15,000 Ohms-cm			
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.

## BSNL DETAIL

Ref. No: IC / MBI / PTCC / MRA -2354 / 06 DATED 11-03-2019

## Affected Blocks &amp; Telcom Circuits Details

1	F) Starting point Telephone Exchange Badnera:-	} ← IV less than 430V →  NA
2	i) Badnera Telephone Exchange to MSETCL Substation Kondeshwar ---- 50Pr U/G cable	
3	ii) Akola Road (Landmark hotel) 6No. NH ---- 50Pr. U/G cable	
4	iii) Dabha Village (Yeotmal Road) ---- 50Pr U/G cable	

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

## ANNEXURE - 1

Case No.: MRA-1141 Name of the Power line: 220kV Badnera — Ner (Renukapur) D/C line.		Map Scale : 1cm=500mts Total Length : 42.0 Km. S.R. Value : 15,000 Ohms-cm			
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.


## BSNL DETAIL

Ref. No: IC/MBI/PTCC/MRA-2354/06 DATED 11-03-2019

## Affected Blocks &amp; Telcom Circuits Details

1	F Badnera T.E.				
2	(F-E) Badnera Exch - Anjangan Basi	6.0	0.0492	8000	408
3	(CoF 42 F)				
4					
5	G Dhanora Gurav				
6	F-G Badnera - Dhanora Gurav				
7	(CoF 12 F)				
8					
9	H Nandgaon Khandeswar				
10	G-H Nandgaon Khandeswar - Dhanora Gurav				
11	(CoF - 12 F)				
12					
13	I Rajura				
14	H-I Nandgaon Kh. - Rajura				

← IV less than 420V →

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

ANNEXURE - 1


<b>Case No.: MRA-1141</b> <b>Name of the Power line: 220kV Badnera — Ner (Renukapur) D/C line.</b>		<b>Map Scale : 1cm=500mts</b> <b>Total Length : 42.0 Km.</b> <b>S.R. Value : 15,000 Ohms-cm</b>			
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.

<b>BSNL DETAIL</b>					
Ref. No: IC / MBI / PTCC / MRA -2354 / 06 DATED 11-03-2019					

**Affected Blocks & Telcom Circuits Details**

1	J Belost Exchange	} ← IV less than 430V →
2	1. Exch to Dhabha village 50 Pr.	
3	2. Exch to Jaln village 50 Pr	
4		
5	K Dhamasa Gusan Exchange	} ← IV less than 430V →
6	1. Exch to savanga village 20 Pr	
7	2. Exch to Mahuli chervil. 50 Pr	
8		
9	L Manjari Masle Exch	} ← IV less than 430V →
10	1. Exch to Satargaz village 20 Pr	
11		
12	M Nandgam kh Exchange	} ← IV less than 430V →
13	1. Exch to Shimpur phate 50 Pr	
14	2. Exch to Mokhad village 20 Pr	
15		
16	N Washoda Exchange	} ← IV less than 430V →
17	1. Exch to Selu Neta village 20 Pr	
18	2. Exch to Dhanak Belost	
19	O Mangul chowale Exch	} ← IV less than 430V →
20	1. Exch to Salod village 20 Pr	

4.5      0.0695      5300      368

  
**नरेश भंडारी / NARESH 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-86

**ANNEXURE - 11**

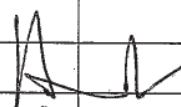
<b>Case No.:</b> MRA-1141					
<b>Name of the Power line:</b> 220kV Badnera — Ner (Renukapur) D/C line.		<b>Map Scale</b> : 1cm=500mts <b>Total Length</b> : 42.0 Km. <b>S.R. Value</b> : 15,000 Ohms-cm			
<b>S.No.</b>	<b>Telecom. Details</b>	<b>Length of Parallelism in Km.</b>	<b>Mutual Coupling in Ohms.</b>	<b>Effective Fault current in Amps.</b>	<b>I.V in Volts.</b>

**CENTRAL RAILWAY**

Ref. no. N. 153 / PTCC /220KV / MAH – 687

Dated 28.02.2018

1	Takli - Badnera	0.5	0.0002	9400	2
2	Badnera - Timtala	5.5	0.0184	8300	153
3	Timtala - Malkhed	3.0	0.0018	8000	14
4	Badnera - Amravati	1.5	0.0011	9500	10

  
 नरेश भंडारी / NARESH BHANU  
 मुख्य अभियंता / Chief Eng.  
 केन्द्रीय विद्युत प्राधिकरण / C.  
 विद्युत विभाग / Ministry of  
 भारत सरकार / Govt. of  
 नई दिल्ली / New De



ANNEX-III

MRA-1141

Tele : 23019746

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

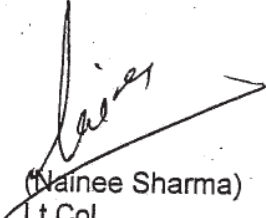
B/46937/Sigs 7(b)980/

14 Mar 2018

Chief Engineer  
Maharashtra State Electricity Tr Co. Ltd  
"Prakashganga" Plot No C- 19,  
'F' Block, Bandra, Kurla Complex,  
Bandra (East), Mumbai - 400051

**PTCC PROPOSAL FOR 220KV BADNERA - NER(RENUKAPUR) DC**  
**LINE LENGTH - 42 Kms**

1. Reference your letter No. MSETCL/CO/Tr.Pr./PTCC/B-5544/No.1520/ dated 07 Feb 2018.
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.

  
(Nainee Sharma)  
Lt Col  
GSO 1 (Comn)  
for SO-in-C

**Copy to :-**

✓ The Director (PTCC), CEA  
LD & T Division, NRPC Complex  
18-A Shaheed Jeet Singh Marg  
Katwaria Sarai, New Delhi - 110016

- For information.