



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/MRA-1104/ 525-527

Date: 15.09.2020

Subject: Induced Voltage calculation in respect of PTCC proposal for 400 kV D/C line from 400 kV Babhaleshwar S/S to proposed 400 kV Kudus S/S, length = 229.13 kms.

Ref: (i) MSETCL letter no. MSETCL/CO/PS/PTCC/CEA/6371 dated 05.06.2018
(ii) BSNL letter no. IC/MBI/PTCC/MRA-2384/04 dated 01.07.2019
(iii) Central Railway letter no. N.153/PTCC/400kV/MAH-585 RC dated 12.07.20
(iv) Defense letter no. B/46937/Sigs 7(b)/1162 dated 08.08.2018

MSETCL submitted the subject proposal vide above cited reference (i). The low frequency induction on BSNL and Railway Telecommunication circuits as per details furnished vide above cited references (ii) and (iii) respectively has been examined. The Soil Resistivity value has been taken as 5,000 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.(iv) for the above line (a copy enclosed at Annex-III).

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

Enclosures.: As above.


15.09.2020

(Upendra Kumar)
Chief Engineer

To,
Divisional Engineer (PTCC), Inspection Circle,
Bharat Sanchar Nigam Limited (BSNL),
3rd Floor, D-Wing, BSNL Admin Building
Juhu Tara Road, Santacruz (West), Mumbai-400054


M/C

Copy to:

1. GM(S&T), Central Railway, CSMT Mumbai, Headquarters Office, S&T Branch, 3rd Floor, Annex Bldg, Mumbai CST, Mumbai-400001 (with Annexure-II).
2. Chief Engineer(Project Schemes), MSETCL, Plot No. C-19, E-Block, Prakashganga, Bandra-Kurla Complex, Bandra (East), Mumbai - 400051.


CEA office case No. 1420-1104	Map scale - 1 cm = 500 meters
DET (FTCC) office case No. 3084-2384	Route length - 2.29 km
Railway office case no.	Soil resistivity - 5000 ohm m
Name of the power line	Proposed distribution route of 400 kv Bakhelantipat - Indore line

Sr No.	Name of the Telecom line / cable	Length of Parallelism in Kms.	Mutual Coupling in Ohms	Fault Current in Amps	Induced Voltage in Volts
1	(A) Rokhadi Exge.				
2	1- Exge to Otur Road 200 Ps	1.5 km.			OUT OF THE CONSIDERATION ZONE
3	2- Exge to Brahmaniwadi				
4	Road - 100 Ps	2.0 km.			
5					
6	(B) Otur Exge.				
7	1- Exge to Kalyan Road				430V
8	200 Ps	1.5 km.			
9	2- Exge to Alephata Road				
10	200 Ps	3.0 km.			
11	3- Exge to Rokadi Road				OUT OF PARALLELISM
12	100 Ps	3.0 km.			
13	(C) Dingore Exge.				
14	1- Exge to Kalyan Rd				OUT OF THE CONSIDERATION ZONE
15	100 Ps	3.0 km.			
16	2- Exge to Otur Road				2430V
17	100 Ps	2.5 km.			
18					
19	(D) Khamundi Exge.				
20	1- Exge to Kalyan Road 200 Ps	2.0 km.			2430V
21	2- Exge to Alephata Rd. 100 Ps	2.5 km.			


 14/07/2020
 फाराज / FARAZ
 उप निदेशक / Deputy Director
 केन्द्रीय विद्युत प्राधिकरण / C.E.A.
 विद्युत मंत्रालय / Min. of Power
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 नई दिल्ली / New Delhi-66


CEA office case No. - 1112-1113	Map scale - 1 cm = 500 meters
DET(PTCC) office case No- MRA-2354	Route length- 229.13 kms
Railway office case no. 2354	Soil resistivity- 1000 ohm-cm
Name of the power line	Proposed diversion route of 600 KV Jabalpur - Katol Line.

Sr. No.	Name of the Telecom line / cable	Length of Parallelism in Kms.	Mutual Coupling in Ohms	Fault Current in Amps	induced Voltage in Volts
(J)	Shivoli Khurd				
2	1- Edge to Aghar Rd.	2.5 km.	-	DOT OF PARALLELISM	
3	200 Ans			1000	2000
4	2- Edge to Lenogni Road.				
5	100 Ans	2.0 km.			2000
6					
(K)	Junnar Edge.				
8	1- Edge to Narayangan Rd.				
9	200 Ans	3.5 km.	-	DOT OF PARALLELISM	
10	2- Edge to Lenadri Redd				
11	200 Ans	3.0 km.	-	< DOT	
12	3- Edge to Aptale Rd.				
13	100 Ans	3.5 km.	-	DOT OF PARALLELISM	
14					
15					
16					
17					
18					
19					
20					
21					


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 नई दिल्ली / New Delhi-56

CEA office case No. <i>10/10-11/11</i>	Map scale - 1 cm = 500 meters
DET(PTCC) office case No. <i>MRA-2304</i>	Route length- 229.13 kms.
Railway office case no. <i>2304</i>	Soil resistivity- <i>5000 Ohm-cm</i>
Name of the power line	<i>Proposed direction route of 66KV Farakka- Kunder Line</i>

Sr. No.	Name of the Telecom line / cable	Length of Parallelism in Kms.	Mutual Coupling in Ohms	Fault Current in Amps	Induced Voltage in Volts
1	(H) Umbraj Edge.				
2	1- Edge to Othar Rd.				
3	400 lbs	1.0 km			
4	2- Edge to Kalwadi				
5	100 lbs	2.5 km			
6					
7	(I) Othar Edge.				
8	1- Edge to Othar chowk				
9	300 lbs	0.2 km			
10	2- Edge to Mandir				
11	100 lbs	0.7 km			
12	3- Edge to Hirave village				
13	200 lbs	3.0 km.			
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 14/07/2012
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CEA office case No. 2384-1/2019	Map scale - 1 cm = 500 meters
DET(PTCC) office case No- MRA-2384	Route length- 229.13 kms.
Railway office case no. 2384	Soil resistivity- 5000 ohm.m
Name of the power line	Proposed diversion route of 400 KV Badkhalchwar - Kundwa Line.

Sr. No.	Name of the Telecom line / cable	Length of Parallelism in Kms.	Mutual Coupling in Ohms	Fault Current in Amps	Induced Voltage in Volts
1	(F) Alephata Edge-				
2	1- Edge to other Rd.				
3	400 Pcs	2.5 km.			
4	2- Edge to S.T. stand				
5	800 Pcs	0.3 km.			OUT OF THE CONSIDERATION ZONE
6	3- Edge to Nashik Rd.				
7	100 Pcs	0.5 km.			
8	4- Edge to Nagar Rd.				
9	100 Pcs	0.6 km.			
10					
11	(E) Pimpri Pendar Edge				
12	1- Edge to Gaimukhwadi				
13	50 Pcs	2.0 km.			
14	2- Edge to Vetekar Rd.				
15	Mada 50 Pcs	2.0 km.			450V
16					
17	(G) Pimpalwadi Edge.				
18	1- Edge to MIDC	200 Pcs	2.5 km.		
19	2- Edge to Gaotkan				
20	400 Pcs	0.5 km.			4930V
21					

19/09/2019

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 उप निदेशक / Deputy Director
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 विद्युत मंत्रालय / Min. of Power
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 नई दिल्ली / New Delhi-66

Case No.: MFA-1104
 Name of the Power line: 400 KV D/C line from 400 KV
 Babhaleshwar S/S to proposed 400 KV Madus S/S.

Map Scale : 1cm=500mts
 Total Length : 229.13 km
 S.R. Value : 5,000 Ohm-cm

S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Ampe.	V _f in Volts.
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WESTERN RAILWAY

letter no. N.153/PTCC/400KV/MAH-585 dated 24.06.2015

Affected Blocks & Telcom Circuits Details

S.No.	Block Name	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Ampe.	V _f in Volts.
1.	Titwala - Khardi	7.75	0.00131	12000	15.69

फराज़/FARAZ
 उप निदेशक/Deputy Director
 केन्द्रीय विद्युत प्राधिकरण/C.E.A.
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Directorate General of Signals
Signals - 7
General Staff Branch
Integrated HQ of BCo, BCo (M)
DNG, PO, New Delhi - 110016

B/46937/Sigs 7 (p)/1162

08 Aug 2018

Office of the Chief Engineer,
Projects Schemes Department
Maharashtra State Electricity Transmission Co. Ltd
"Prakashganga", Plot No C-19, 'E' Block,
Bandra - Kurla Complex, Bandra (East),
Mumbai-400051

**REVISED (DUE TO GMRT ROUTE DIVERSION) FTCC PROPOSAL FOR 400 KV D/C
LINE FROM 400 KV BAEHALESHWAR S/S TO PROPOSED 400 KV KUDUS S/S,
LENGTH = 229.13 KMS**

1. Reference your letter No MSETCL/CO/PS/PTCC/CEA/No.6371 dt 05 Jun 2018 (copy att).
2. NOC (No Objection Certificate) is accorded based on inputs provided vide Map sheets received under your above mentioned letter.
3. Documents alongwith Map Sheets in original are returned herewith.

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

Enclosures : (As above)

Copy to :-

Director(PTCC)
Central Electricity Authority
Power Communication Development Division
NRPC Complex, 18-A, Shaheed Jeet Singh S' Marg
Katwaria Sarai, New Delhi - 110016

- For information.

(Signature)
11/8/18

(Signature)
11/8

(Signature) R.P. Singh - P.D.
SPE
11/8