



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-1156/519-20

Date: 11.09.2020

Subject: Induced Voltage calculation in respect of PTCC proposal for 220 kV D/C line from 400 kV Thaptitanda (MC point onwards) to proposed 220 kV Amrapur S/s length – 57.419 kms.

Ref: (i) MSETCL letter no. MSETCL/CO/PS/S-I/PTCC/B-565/01444 dated 15.02.2019
(ii) BSNL letter no. IC/MBI/PTCC/MRA-2412/05 dated 10.12.2019
(iii) Central Railway letter no. N.153/PTCC/220kV/MAH-726 RC dated 12.07.2020
(iv) Defense letter no. B/46937/Sigs 7(b)/1491 dated 28.03.2019

MSETCL submitted the subject proposal vide above cited reference (i). The low frequency induction on BSNL circuits as per details furnished vide above cited reference (ii) has been examined. The Soil Resistivity value has been taken as 7,500 Ohms-cm, as per data submitted by Power Authority. Voltages likely to be induced on paralleling BSNL Telecom Cables under single line to ground fault condition are enclosed at Annex-I. The screening factors as applicable have been considered. Central Railway and Defense have accorded NOC vide above reference (iii) and (iv) respectively for the above line (Copies enclosed at Annexure – II and Annexure – III respectively).

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

Enclosures.: As above.

Upendra Kumar
11.09.2020

(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

MIC

Copy to:

1. Chief Engineer(Project Schemes), MSETCL, Plot No. C-19, E-Block, Prakashganga, Bandra-Kurla Complex, Bandra (East), Mumbai – 400051.

Office case No. MRA-1156	Map scale - 1 cm = 500 meters
Office case No. MRA-2412	Route length- 57.419 kms.
Office case No. 2412	Soil resistivity- 7500 Ω-cm
Name of the power line	220 KV DC Line, Lilo on 220 KV DC Line from 400 KV Thapildanda (MC Point onward) to proposed 220 KV Amrapur S/S.

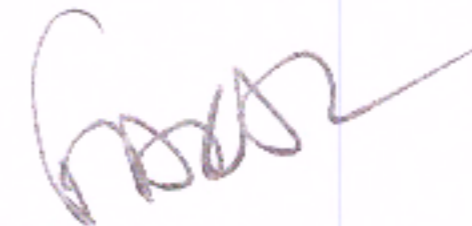
Name of the telecom line / cable	Length of Parallelism in Kms.	Mutual Coupling in Ohms	Fault Current in Amps	Induced Voltage in Volts
(A) Amrapur Exge.				
1. Exge to Amrapur High School 20 Pcs	1.0 km.	}	< 430V	
2. Exge to Awhane 20 Pcs	2.0 km.			
(B) Khairadgaon Exge.				
1. Exge to Akhegaon 50 Pcs	1.5 km.	-	< 430V	
2. Exge to Waruy 50 Pcs	1.5 km.	-	OUT OF PARALLELISM	
(C) Shevgaon Exge.				
1. Exge to Nagar Road 100 Pcs	2.0 km.	}	< 430V	
2. Exge to Ankhegam Road 50 Pcs	2.0 km.			
3. Exge to Gaurai Rd 100 Pcs	2.0 km.			
4. Exge to Pathan Road 50 Pcs	2.0 km.			
5. Exge to Newasta Road 50 Pcs	2.0 km.			

(Signature)

फराज़/FARAZ
 उप निदेशक/Deputy Director
 केन्द्रीय विद्युत प्राधिकरण/C.E.A.
 विद्युत मंत्रालय/Min. of Power
 भारत सरकार/Govt. of India
 नई दिल्ली/New Delhi-66

CEA office case No. MRA-1156	Map scale - 1 cm = 500 meters
DET(PTCC) office case No- MRA-	Route length- 57.419 km.
Railway office case no. 2412	Soil resistivity- 1500 Ω -cm
Name of the power line	Proposed 220 KV DC Line, from 400 KV Thefti danda (MC Point on ward) to proposed 220 KV Amanapur S/S

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	Ghotan Exchange.				
2	Exge to Shevgaon Road		}		
3	50 Pcs	0.5 km.			
4	2- Exge to Khanapur S/S	1.5 km.			
5	3- Exge to Gangamaiyya		}		
6	Sugar Factory 20 Pcs	2.0 km.			
7					
⑧	Chapadgaon Exge.				
9	1- Exge to Shevgaon Road		}		
10	50 Pcs	2.0 km.			
11	2- Exge to Bodhegaon Road		}		< 430V
12	50 Pcs	1.0 km.			
13					
14					
15					
16					
17					
18					
19					
20					
21					



फ़राज़ / FARAZ
 उप निदेशक / Deputy Director
 केन्द्रीय विद्युत प्राधिकरण / C.E.A.
 विद्युत मंत्रालय / Min. of Power
 भारत सरकार / Govt. of India
 नई दिल्ली / New Delhi-66

CEA office case No. MRA-1156	Map scale - 1 cm = 500 meters
DET(PTCC) office case No. MRA	Route length- 57.419 Kms.
Railway office case no. 2412	Soil resistivity- 7500 Ω -cm
Name of the power line	220KV DC Line, Lilo on 220KV DC Line from 400 KV Thaptidanda (MC Point onward) to proposed 220KV Amravapur S/c.

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
(F)	Pagori Pimpalgam				
2	Exge				
3	1- Exge to Susare 20 Pcs	7.0 km	}		< 430 V
4	2- Exge to Lokhandwadi				
5	10 Pcs	4.0 km			
6					
(G)	Sakegaon Exge.				
8	1- Exge to Padili		}		OUT OF PARALLELS
9	100 Pcs	4.5 km			
10	2- Exge to chitalli				
11	50 Pcs	5.0 km			
12	3- Exge to S.T. stand 20 Pcs	0.5 km			
13					
14					
15					
16					
17					
18					
19					
20					
21					

FARAZ

फ़राज़ / FARAZ
 उप निदेशक / Deputy Director
 केन्द्रीय विद्युत प्राधिकरण / C.E.A.
 विद्युत मंत्रालय / Min. of Power
 भारत सरकार / Govt. of India
 नई दिल्ली / New Delhi-66

No	Name of the Telecom line / cable	Length of Parallelism in Kms.	Mutual Coupling in Ohms	Fault Current in Amps	Induced Voltage in Volts
	CEA office case No. MRA-1150 Map scale - 1cm = 500 meter				
	DEI/PTCC office case No - MRA- Route length- 57.419 kms				
	Railway office case no 2412 Soil resistivity- 7500 Ω -cm				
	Name of the power line 220 KV DC Line, 4/6 on 220 KV DC Line from 400 KV Thapt/Kande to propose 220 KV Ammanapur S/S.				
H	Paithan Exge				
	1- Exge to Civil court	200 Pairs cable			} OUT OF PARALLELISM
	2- Exge to Math High School	400 Pairs cable			
	3- Exge to Shivaji chawk	400 Pairs cable			
					- OUT OF IV CONSIDERATION ZONE
I	Dawarwadi				< 430V
	- BTS (Mobile)				
J	Pachod Budruk Exge				
	1- Exge to Police str.	400 Pairs cable			- OUT OF PARALLELISM
	2- Exge to Pachod village	200 Pairs cable			< 430V
K	Kadethan				< 430V
	Mobile (BTS)				
L	Nargan Exge				
	1- Exge to Main Road	200 Pairs cable			} OUT OF IV CONSIDERATION ZONE
	2- Exge to Nargan village (R)	100 Pairs cable			
	3- Exge to Nargan village (L)	100 Pairs cable			
M	Changtpuri				< 430V
	Mobile (BTS)				

फ़राज़ / FARAZ

उप निदेशक / Deputy Director
 केन्द्रीय विद्युत प्राधिकरण / C.E.A.
 विद्युत मंत्रालय / Min. of Power
 भारत सरकार / Govt. of India
 नई दिल्ली / New Delhi-66

Annex - II

MIRA-1156



CENTRAL RAILWAY

Headquarters Office
S&T Branch,
3rd Floor, Annex Bldg,
Mumbai CSMT.

No:- N.153/PTCC/220kV/MAH-726

Date: 26th February 2019

DET (PTCC),
3rd Floor, "D" Wing,
Admin Bldg., BSNL Complex
Santacruz(W),
Mumbai - 400 054.

Sub: PTCC proposal for 220kV DC line from 400kV Thaptitanda (MC point onwards) to proposed 220kV Amrapur SS.

Ref: MSETCL office L. No. MSETCL/CO/PS/S-I/PTCC/B-565/01444 dated 15.02.2019.

Based on the letter under reference and the route map, there is no Railway Track within the proximity of 8kms from the proposed power line.

Hence, this office hereby issues NOC subject to the condition that any adverse effect observed on Signal & Telecom Circuits of Central Railway after charging the proposed power line & substation, the power authority will bear the cost of damages to Central Railway assets.

(Vijay S Mohad)

ESTE / Network / HQ

For GM (S&T)

Central Railway, CST Mumbai

Copy to: Chief Engineer (Projects Schemes),
MSETCL, Prakashganga,
Plot No. C-19, 'E' Block, BKC,
Bandra (East),
Mumbai - 400 051.

Annex-III
MRA-1156

Tele : 23019746

B-565

CEIP- 371
Date 11-4-19

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

B/46937/Sigs 7(b)/1491/

28 Mar 2019

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

PTCC PROPOSAL FOR 220KV DC LINE FROM 400KV THAPTITANDA (MC POINT ONWARDS) TO PROPOSED 220KV AMRAPUR S/S, LENGTH=57.419KMS

1. Ref your letter No MSETCL/CO/PS/S-I/PTCC/B-565/No 01444 dt 15 Feb 2019 (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 forwarded herewith for your further action.

MSETCL
12-4-19

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

Enclosures : As above

Copy to :-

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

for information.

SE shankar p/

EE (MERC)
ND

(Signature)
11/4/19