

I/33432/2024



सत्यमेव जयते

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
विद्युत प्रणाली संचार विकास प्रभाग
Power System Communication Development
Division

CEA Case No. : KNK-1053		
Induced Voltage (IV) calculation in respect of PTCC proposal for LILO of 220KV Devanahalli Hardware Park – Doddaballapura (NRS) DC line (Ckt-1) at proposed 220/66/11KV KIADB Industrial area Hi-Tech Defense Aerospace Park Phase-II Haraluru Muddenahalli SS, Devanahalli (Length: 15.777 Kms)- regd.		
S. No	Reference No.	Dated
(i)	KPTCL: CEE/SLDC/PTCC/F-3653/6070-79	20.10.2023
(ii)	KPTCL: CEE/SLDC/PTCC/F-3653/7781-83	28.12.2023
(iii)	BSNL: SR-PTCC/SKT5477/02	11.01.2024
(iv)	South Western Railway: SG/SWR/PTCC/F-3653/2615	29.12.2023
(v)	Defense: B/46937/Sigs 7(b)/3573	22.12.2023

The PTCC proposal submitted vide reference (i) has been examined. The LF induction on Block & Telecom details of BSNL and South Western Railway with respect to details furnished vide above reference (ii) & (iii) respectively have been computed. The voltage likely to be induced on paralleling Block & Telecom circuits of BSNL and South Western Railway under Single Line to Ground fault condition are enclosed at Annexure-I and Annexure –II respectively. The screening factors as applicable have been considered. Director General of Signals, MoD have issued NOC vide above reference (iv) (enclosed as Annexure-III).

EPR details for the proposed substation is given below.

Name of the proposed SS	Half Diagonal Distance, D/2 (mts)	Fault Current, I (kA)	Resistance of earthmat, R (Ohms)	d (mts) at 430 V	d (mts) at 650 V	d (mts) at 7 kV	d (mts) at 10 kV
220/66/11 kV KIADB Industrial area, Haraluru Muddenahalli SS	126.79	37.5	0.26	2556	1648	38	NA

As per the details submitted by BSNL, no telecom exchanges are lying in the EPR zone of the proposed substation.

Taking above into consideration, necessary action for issuance of PTCC route approval may be taken under intimation to this office.

Encl.: As above

Chief Engineer

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To,

1.	Divisional Engineer (PTCC), Southern Zone	BSNL, Inspection Circle, 2 nd Floor, Sanchar Complex, WMS Compound, Jayanagar 5 th Block, 9 th Main, 47 th Cross, Bangalore-560041	
2.	PCSTE	South Western Railway, O/o PCSTE, Rail Soudha, Gadag Road, Hubballi- 580020	
3.	Member(Power) SLPTCC	State Load Dispatch Center, KPTCL #28, R.C. Cross Road, Bengaluru-560009	

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ANNEXURE-I

CEA Case No.: KNK-1053		Map Scale : 1 cm= 500 m			
Name of the Power line: LILO of 220KV Devanahalli Hardware Park – Dodbaballapura (NRS) DC line (Ckt-1) at proposed 220/66/11KV KIADB Industrial area Hi-Tech Defense Aerospace Park Phase-II Haraluru Muddenahalli SS, Devanahalli		Total Length : 15.777 km			
		S.R. Value : 30000 Ohm-cm			
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
BSNL Letter No.- SR-PTCC/SKT5477/02 Date: 11.01.2024					
Devanahalli TE(F-3653)					
1	Devanahalli TE to Old Bus Stand	Outside IV consideration zone			
2	Devanahalli TE to Vijayapura Cross	Outside IV consideration zone			
3	Devanahalli TE to Bangalore Bypass	Outside IV consideration zone			
Chennarayapatna TE (F-3653)					
1	Chennarayapatna TE to Dinnur	Out of parallelism			
2	Chennarayapatna TE to Budigere Road	Out of parallelism			
Reddihalli TE (F-3653)					
1	Reddihalli TE to Nallur Village	Out of parallelism			
Vishwanathpura TE (F-3653)					
1	VishwanathpuraTE to Main Road Bus Stand	Outside IV consideration zone			
Budigere TE (F-3653)					
1	Budigere TE to Gram Panchayat Office Budigere	Out of parallelism			

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ANNEXURE-II

CEA Case No.: KNK-1053		Map Scale : 1 cm= 500 m			
Name of the Power line: LILO of 220KV Devanahalli Hardware Park – Doddaballapura (NRS) DC line (Ckt-1) at proposed 220/66/11KV KIADB Industrial area Hi-Tech Defense Aerospace Park Phase-II Haraluru Muddenahalli SS, Devanahalli		Total Length : 15.777 km			
		S.R. Value : 30000 Ohm-cm			
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
South Western Railway Letter No SG/SWR/PTCC/F-3653/2615 Date: 29.12.2023					
1	Yelahanka-Devanahalli	2.3	0.000051	19608	1
2	Devanahalli-Chikkaballapur	Out of parallelism			
3	Yelahanka-Chennasadndra	Outside IV consideration zone			
4	Yelahanka-Lottegolahalli	Outside IV consideration zone			