



भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

केन्द्रीय विद्युत प्राधिकरण

Central Electricity Authority

पावर कम्युनिकेशन डेवलपमेंट प्रभाग

Power Communication Development Division

No.: CEA/PCD/PTCC/AND-663 / 2137-39

Date :26.09.2018

The Divisional Engineer Telecom,
PTCC, Inspection Circle, BSNL,
1st floor, Raj Bhavan Exchange,
No.26, Sardar Vallabhai Patel Road,
Guindy, Chennai-600032

Subject: Induced Voltage Calculation in respect of PTCC proposal for 765 kV D/C (Hexa Zebra) LILO line 2 of 765 kV Kurnool to Thiruvellam at Kadapa GIS (new) substation.

Reference: i) BSNL letter no. SR-PTCC/SAP/1710/04 dated 06.07.2017
ii) South Central Railway letter no. SG.85/4/3/PTCC/SCRAP201813 RTD dated 26.02.2018
iii) Defense letter no. B/46939/Sigs 7(b)/570 dated 22.06.2017

Sir,

The instant PTCC proposal has been examined. The low frequency induction on telecom cables of BSNL and Block & Telecom Circuits of South Central Railway with respect to details furnished vide above reference has been computed. The Soil Resistivity (SR) value has been taken as 15,000 Ohm Cm based on field verification by CEA official.


During site visit, it was observed that Railway Tracks existed only upto Pendlimarri Railway Station, and no Railway tracks were found beyond Pendlimarri Railway Station in the direction of Nandimandalam. Therefore, Induced Voltage has not been calculated for 2 nos. sections ie. Pendlimarri – Nandimandalam and Nandimandalam – Veerannagattupalle. As per PTCC norms, whenever South Central Railway executes Pendlimarri – Nandimandalam and Nandimandalam – Veerannagattupalle sections, then South Central Railway would become later entrant and may apply for PTCC Route Approval.

The voltages likely to be induced on paralleling telecom cables of BSNL and Block & Telecom circuits of South Central Railway under Single Line to Ground fault condition are enclosed at Annex-I & II respectively. The screening factors, as applicable, have been considered. Vide Ref. (iii) above, the Defense authority have issued No Objection Certificate (NOC) (enclosed at Annex-III).

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

Encl.: As above

m/c


(Naresh Bhandari)
Chief Engineer

Copy to:

- (i) GM(S&T), South Central Railway, Head Quarters Office, Signal & Telecomm Branch, Rail Nilayam, Secunderabad, Telangana -500025 (with Annexure II only).
- (ii) Manager, PGCIL, Kadapa CAO, Kadapa 400 kV Substation, Chinnakampali Vill & PO, Kadapa, Andhra Pradesh – 516003



भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

केन्द्रीय विद्युत प्राधिकरण

Central Electricity Authority

पावर कम्युनिकेशन डेवलपमेंट प्रभाग

Power Communication Development Division

सं.: के.वि.प्रा./पीसीडी/पीटीसीसी/ए.एन.डी.-663/2137-39
डिवीजनल इंजीनियर टेलीकॉम (पीटीसीसी),
क्यू ए एंड इन्स्पेक्शन (टी एंड डी) सर्कल, बीएसएनएल,
1 तल, राज भवन एक्सचेंज,
नं 26, सरदार पटेल रोड,
गुंडी, चेन्नई - 600032

दिनांक: 26.09.2018

विषय: मौजूदा 765 केवी डी/सी कुरनूल - तिरुवतेम ट्रांसमिशन लाइन का कडपा (जी.आई.एस.) उपकेन्द्र पर 765 केवी लीलो लाइन - 2 का पीटीसीसी प्रस्ताव - प्रेरित वोल्टेज गणना
सन्दर्भ: (i) बी.एस.एन.एल. सन्दर्भ सं. SR-PTCC/SAP/1710/04 दिनांक 06.07.2017
(ii) दक्षिण मध्य रेलवे सन्दर्भ सं. SG.85/4/3/PTCC/SCRAP201813 RTD दिनांक 26.02.2018
(iii) रक्षा सन्दर्भ सं. B/46939/Sigs 7(b)/570 दिनांक 22.06.2017

महोदय,

तत्काल पीटीसीसी प्रस्ताव की जांच की गई है। उपर्युक्त संदर्भों में दिए गए विवरण के अनुसार, दूरसंचार / रेलवे सर्किट पर निम्न आवृत्ति प्रेरण (Low frequency induction) की जांच की गई है। के.वि.प्रा. ऑफिसर द्वारा फील्ड सत्यापन के अनुसार, मृदा प्रतिरोधकता 15,000 ओम-सेमी ली गयी है।

फील्ड सत्यापन के दौरान यह पाया गया कि रेलवे ट्रैक सिर्फ पेंदलिमारी रेलवे स्टेशन तक मौजूद थे, एवं नंदिमदालम की दिशा में आगे रेलवे ट्रैक नहीं पाए गए। अतः पेंदलिमारी - नंदिमदालम एवं नंदिमदालम - वीरत्रागतुपल्ले सेक्शन के लिए प्रेरित वोल्टेज गणना नहीं की गयी है। पीटीसीसी मानदंड के आधार पर, यदि भविष्य में रेलवे लाइन यहाँ से गुजरती है, तो द.म.रे. पीटीसीसी रूट अनुमोदन के लिए आवेदन कर सकता है।

सिंगल लाइन to ग्राउंड फाल्ट अवस्था में समानांतर बीएसएनएल एवं रेलवे सर्किट पर प्रेरित वोल्टेज (Induced Voltage) क्रमशः अनुलग्नक -I एवं II में संलग्न हैं। स्क्रीनिंग कारक (screening factor) का मान यथानुरूप लिया गया है। रक्षा प्राधिकरण ने उपरोक्त सन्दर्भ (iii) के द्वारा अनापत्ति प्रमाण पत्र (No objection certificate) जारी किया है। (अनुलग्नक- III में प्रतिलिपि संलग्न)।

अतः आपसे अनुरोध है कि ट्रांसमिशन लाइन के लिए पीटीसीसी रूट अनुमोदन के संबंध में आगे की आवश्यक कार्रवाई करने की कृपा करें।

संलग्न: उपरोक्त अनुसार

आपका आभारी,

(नरेश भंडारी)

मुख्य अभियन्ता

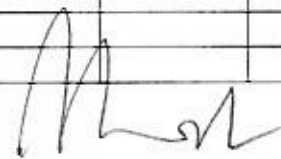
कॉपी:

1. जीएम (एसएंडटी), दक्षिण मध्य रेलवे, मुख्यालय कार्यालय, सिग्नल और टेलीकाम शाखा, रेल निलयम, सिकंदराबाद - 500025 (अनुलग्नक II के साथ)।
2. प्रबंधक, पॉवरग्रिड, कडपा सी.ए.ओ., 400 केवी कडपा सबस्टेशन, गाँव और पोस्ट विन्नाकम्पल्ली, कडपा, आन्ध्र प्रदेश - 516003

ANNEXURE - I

Case No.: AND-663					
Name of the power Line : <u>765 kV D/C (Hexa Zebra) LILO line 2 of 765 kV Kurnool to Thiruvellam at Kadapa GIS (new) substation</u>		Map Scale	: 1 cm = 500 m		
		Route length	: 48.266 km		
		Average SR Value	: 15,000 Ohm-cm		
S.no.	Telecom Details	Length of Parallelism (km)	Mutual Coupling (Ohms)	Fault Current (Amps)	Induced Voltage (Volts)

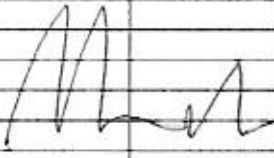
BSNL DETAIL					
Ref. No. SRPTCC/SAP/1710/04 Date : 06-07-2017					
1	C.K.Dinne Exchange				
1	Exchange to Buggaletipalli				IV LESS THAN 430 V
2	Exchange to Moolavanka				
3	Exchange to C.K.Dinne Village				
2	PowerGrid Exchange				
1	Exchange to PowerGrid Quarters				IV LESS THAN 430 V
3	Yellatur Telephone Exchange				
1	Exchange to Pendlimarry				IV LESS THAN 430 V
2	Exchange to BOI				
3	Exchange to Yellatur Village				
4	Nandimandalam Exchange				
1	Exchange to High School	1.2	0.0156	10000	156
2	Exchange to SBI				IV LESS THAN 430 V
5	Vempalli Exchange				
1	Exchange to Police Station P 21				IV LESS THAN 430 V
2	Exchange to Market P24				
3	Exchange to ZP High School P25				
4	Exchange to Vrushabhachala P27				
5	Exchange to Nagulakunta P 30				
6	Exchange to Sivalayam P 31				
7	Exchange to Garugu Street P 32				
8	Exchange to Kata Street P33				
9	Exchange to 4 Roads P22				
10	Exchange to Raghavendra School P23				
11	Exchange to Bodduchavidi P 26				
12	Exchange to YSR Guest House P 28				
13	Exchange to Pulivendula Road P 40				



मुख्य अभियन्ता/Chief Engineer
केन्द्रीय विद्युत प्राधिकरण/C.E.A.
सेवा भवन, आर.के. पुरम,
Sewa Bhawan, R.K. Puram,
नई दिल्ली-110066/New Delhi-66

ANNEXURE – II

Case No.: AND-663					
Name of the power Line : <u>765 kV D/C (Hexa Zebra) LILO line 2 of 765 kV Kurnool to Thiruvelam at Kadapa GIS (new) substation</u>		Map Scale : 1 cm = 500 m			
		Route Length : 48.266 km			
		Average SR Value : 15,000 ohm-cm			
S no.	Telecom Details	Length of Parallelism (km)	Mutual Coupling (Ohm)	Fault Current (Amp)	Induced Voltage (Volt)

<u>SOUTH CENTRAL RAILWAY</u>					
Ref. No. SG.85/4/3/PTCC/SCRAP201813 RTD Dt: 26.02.2018					
<u>AFFECTED BLOCK & TELECOM CIRCUITS DETAIL</u>					
1	Kanamalopalle(KNLP)-Kadapa(HX)	OUTSIDE IV CALCULATION CONSIDERATION ZONE			0
2	Kadapa(HX)-Krishnapuram(KPU)	1.8	0.0002	18000	4
3	Kadapa(HX)-Pendlimarri(PDMI)	15.4	0.0113	17000	192
4	Pendlimarri-Nandimandalam	\$			
5	Nandimandalam-Veerannagattupalle				
<p>\$: During site visit, it was found that these sections do not exist and may come in future. Hence, IV has not been calculated. South Central Railway may apply for PTCC Route Approval whenever these sections are executed as it will become the later entrant.</p>					
					
मुख्य अभियंता/Chief Engineer क्षेत्रीय विद्युत प्राधिकरण/C. E. A. सेवा भवन, आर.के. पुरम, New Delhi-66					

Tele : 23019746

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

B/46939/Sigs 7(b)/570/

22 Jun 2017

Mr E.R.Rao
 Manager -TLC
 Kadapa CAO, 400 KV Kadapa Sub Station
 Chinnakampalli Vill & PO
 Kadapa-516001 (Andhra Pradesh)

SUBMISSION OF PROPOSAL FOR PTCC APPROVAL FOR 765KV LILO LINE-2 D/C (HEXA ZABRA)
 LILO OF KURNOOL-THIRUVELAM TRANSMISSION LINE UNDER SRSS-XXIV

1. Ref your letter No.SRI/KDP/KTTL-LILO-2/PTCC/2017/139/ on line request No.102705/943 dtd.19 Apr 2017.
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.

Bikram
 (Bikram Kunwar)
 Lt Col
 GSO I (Comm)
 for SO-in-C

Encls: (As above)

Copy to:-

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

- for information