

#### भारत सरकार

#### Government of India विद्यत मंत्रालय

Ministry of Power केन्द्रीय विद्युत प्राधिकरण

## Central Electricity Authority पावर कम्युनिकेशन डवलप्मेंट प्रभाग

Power Communication Development Division

No.: CEA/PCD/PTCC/AND-671/2500- 2501

Date: 29.11.2018

The Divisional Engineer Telecom, PTCC, T&D circle, BSNL, No.26, 1<sup>st</sup> floor, Raj Bhavan Exchange, Sardar Patel Road, Guindy, Chennai-600032

Subject:

Induced Voltage calculation in respect of PTCC proposal for

(1) LILO of 220 kV Bommuru – Rampachodavaram line to proposed 220 kV Switching Station at Bavojipeta (Korukonda) under Purushothapatnam Lift Irrigation Scheme

(2) 220 kV DC line from proposed 220 kV Switching Station Bavojipeta (Korukonda) to proposed 220/11 kV Lift Irrigation Sub-station Purushothapatnam

Reference:

- i) BSNL letter no. SR-PTCC/SAP-1883/04 dated 08.01.2018
- ii) South Central Railway letter no. SG.85/4/3/PTCC/SCR AP 2016 77 RC dated 24.10.2017
- iii) Defense letter no. B/46937/Sigs 7(b)/680 dated 17.11.2017

Sir,

The instant PTCC proposal has been examined. The low frequency induction on telecom cables of BSNL with respect to details furnished vide above reference has been computed. The Soil Resistivity (SR) value has been taken as 2,50,000 Ohm-cm, as intimated by the Power Authority (APTRANSCO). The voltages likely to be induced on paralleling telecom cables of BSNL under Single Line to Ground (SLG) fault condition have been computed and are enclosed at Annex-IA and Annex-IB. The screening factors, as applicable, have been considered. Vide Ref. (ii) above, South Central Railway have issued No Objection Certificate (NOC) (a copy is enclosed at Annex-II). Vide Ref. (iii) above, the Defense authority have issued No Objection Certificate (NOC) (a copy is enclosed at Annex-III).

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

Encl.: As above

m/c

Yours faithfully,

(Naresh Bhandari) Chief Engineer

Copy to:

Chief Engineer, Lift Irrigation, EA & OPN., APTRANSCO, Vidyut Soudha, Vijayawada -520004



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# Government of India

विद्युत मंत्रालय

Ministry of Power केन्द्रीय विद्युत प्राधिकरण

## Central Electricity Authority पावर कम्युनिकेशन डवलप्मेंट प्रभाग

## Power Communication Development Division

सं. के.वि.प्रा. /पीसीडी /पीटीसीसी /एएनडी-671 डिवीजनल इंजीनियर टेलीकॉम (पीटीसीसी), क्यू ए एंड इंस्पेक्शन (टी एंड डी) सर्कल, बीएसएनएल, 1 तल, राज भवन एक्सचेंज, नं 26, सरदार पटेल रोड, गुइंडी, चेन्नई -600032

विषय: पीटीसीसी प्रस्ताव -

- (1) मौजूदा 220 केवी बोम्मुर रम्पाचोदावरम लाइन का 220 केवी बावोजिपेटा (कोरुकोंडा) स्विचिंग स्टेशन पर लीलो लाइन
- (2) प्रस्तावित 220 केवी बावोजिपेटा (कोरुकोंडा) स्विचिंग स्टेशन से प्रस्तावित 220/11 केवी पुरुशोतापत्नम उपकेन्द्र तक 220 केवी डी/सी लाइन
- प्रेरित वोल्टेज गणना

संदर्भ: i)

- i) बीएसएनएल का पत्र संख्या SR-PTCC/SAP-1883/04 दिनांक 08.01.2018
- ii) दक्षिण पश्चिम रेलवे पत्र संख्या/ SG.85/4/3/PTCC/SCR AP 2016 77 RC दिनांक 24.10.2017
- iii) रक्षा पत्र संख्या B/46937/Sigs 7(b)/680 दिनांक 17.11.2017

महोदय,

तत्काल पीटीसीसी प्रस्ताव की जांच की गई है। बीएसएनएल के दूरसंचार केबलों पर कम आवृत्ति प्रेरण; उपरोक्त संदर्भ (i) के अनुसार प्रस्तुत विवरण के संबंध में गणना की गई है। मृदा प्रतिरोधकता (एसआर) 2,50,000 ओम-सेमी लिया गया है, जैसा कि बिजली प्राधिकरण (एपीट्रानस्को) द्वारा सूचित किया गया है। बीएसएनएल के दूरसंचार केबलों पर प्रेरित वोल्टेज की गणना अनुलग्नक- IA एवं IB में संलग्न हैं। संदर्भ (ii) के द्वारा रेलवे ने एनओसी जारी किया है (प्रतिलिपि अनुलग्नक- II में संलग्न है)। संदर्भ (iii) के द्वारा रक्षा प्राधिकरण ने एनओसी जारी किया है (प्रतिलिपि अनुलग्नक- III में संलग्न है)।

यह ध्यान में रखते हुए, पीटीसीसी रूट अनुमोदन के लिए आवश्यक कार्यवाही करें।

संलग्न : ऊपरोक्त अनुसार

आप्का आभारी, (नरेश भंडारी)

दिनांक: 29.11.2018

कॉपी:

मुख्य अभियंता, LIFT IRRIGATION, EA& OPN., एपीट्रानस्को, विद्युत सौधा, विजयवाड़ा -520004

ANNEXURE - IA Case No.: AND-671 Name of the Power line: LILO of 220 kV Bommuru - Rampachodavaram line Map Scale : 1cm=500mts to proposed 220 kV Switching Station at Bavojipeta Total Length: 2.809 Km. (Korukonda) under Purushothapatnam Lift Irrigation S.R. Value : 2,50,000 Ohms-cm Scheme Effective Length of Mutual Fault I.V S.No. Telecom. Details Parallelism Coupling current in in Km. in Ohms. in Amps. Volts. BSNL Ref. No. SR-PTCC/SAP-1883/04 dated 08.01.2018 Affected Telecom Cables Details Purushothapatnam Exchange Exchange to Ramachandrapuram Pillar OUTSIDE IV CALCULATION CONSIDERATION ZONE В Raghudevapuram Exchange Exchange to Vangalapudi Pillar OUTSIDE IV CALCULATION CONSIDERATION ZONE C Kotikesavaram Exchange Exchange to Koti DP 1 OUT OF PARALLELISM D Korukonda Exchange Exchange to Gummalladoddi Pillar IV LESS THAN 430 V 2 Exchange to Srirangapatnam Pillar मुख्य अभियन्ता/Chis केन्द्रीय NEW COVE of India मर्द चिल्ला / New Delhi-66

ANNEXURE - IB

Case No.: AND-671 Name of the Power line:

220 kV DC line from proposed 220 kV Switching Station Bavojipeta (Korukonda) to proposed 220/11 kV Lift Irrigation Sub-station Purushothapatnam Map Scale : 1cm=500mts
Total Length : 21.752 Km.
S.R. Value : 2,50,000 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 Ref. No. SR-PTCC/SAP-1883/04 dated ( Affected Telecom Cables Details	00.01.2010			-		
	mission relieves debics Details						
Α	Purushothapatnam Exchange				-		
1	Exchange to Ramachandrapuram Pillar	2.95	0.1542	10000	1542		
В	Raghudevapuram Exchange						
1	Exchange to Vangalapudi Pillar	IV LESS THAN 430 V					
С	Kotikesavaram Exchange						
1	Exchange to Koti DP	IV LESS THAN 430 V					
D	Korukonda Exchange						
1	Exchange to Gummalladoddi Pillar	IV LESS THAN 430 V					
2	Exchange to Srirangapatnam Pillar						
		- A/		-			
		//	1				
		4 1	many				
		नरेश पंडाधी	VNARESH BH/	INDARG			
		मुख्य अप	वन्ता/आधकरण/	O.E.A.			
		विद्युत यंत्रार	धृत प्राधकरण विश्वभागांदिए प्राध्नर/Govt. of	India			
			新/New Delt				



### दक्षिण मध्य रेलवे

## South Central Railway

मुख्यालय कार्यालय, सिगनल एवं दूरसंचार शाखा, रेल निलयम, सिकंदराबाद – 500025 Head Quarters Office, Signal & Telecomm Branch, Rail Nilayam, Secunderabad -500025 No. SG.85/4/3/PTCC/SCR AP 2016 77 RC Date: 24.10.2017

Divisional Engineer Telecom, PTCC, T&D Circle, Southern Region, Bharat Sanchar Nigam Limited, 1<sup>st</sup> Floor, Rajbhavan Telephone Exchange, No.26, Sardar Patel Road, Guindy, Chennai- 600 032.

Sub: Erection of (i) 220kV LILO to Bavojipeta (Korukonda) 220kV Switching Station from Bommur-Rampachodavaram 220kV Line and (ii) 220kV DC Line from proposed Bavojipeta (Korukonda) 220kV Switching Station to proposed Purushthapatnam 220/11kV substation -PTCC Proposal -Railway Clearance- Reg.

Ref: CE/Lift Irrigation/APTRANSCO Ir No: CE/LI/SE (LIS)/PTCC/ Purushothapatnam/D.No.320/2017 dated 13.10.2017.

उक्त संदर्भाधीन पत्न के अनुसार चूँकि, अधीक्षक इंजीनियर, ओ एम सी सर्कल, एपी ट्रास्को, राजमहेंद्रवरम ने यह प्रमाणित किया है कि , प्रस्तावित लाइन के 8 किमी के आसपास के क्षेत्र में नहीं है अतः उक्त पीटीसीसी प्रस्ताव को निपटाने में इस रेलवे को कोई आपित्त नहीं है.

With reference to the above cited letter, since it is certified by Superintending Engineer, OMC circle, APTRANSCO, Rajamahendravaram that the Railway line does not exists within 8 kms vicinity of the proposed power line, this Railway has **NO OBJECTION** in clearing the above said PTCC proposal.

(पी.किशोरकुमार) P.Kishore Kumar वसिदूइंजी/टेली/प्रका SSTE/TELE/HQ कृते महाप्रबंधक/सिवदू FOR GENERAL MANAGER / S & T

## Copy to:

1. The Director (PTCC),
Central Electricity Authority,
Load Despatch & Telecom Division,
NRPC Complex, 18-A
Shaheed jeet singh S.Marg
Katwaria Sarai, New Delhi- 110015.

Chief Engineer,
 Lift Irrigation, EA&Opn,
 APTRANSCO, Vidyuth Soudha,
 Vijayawada – 520 004.

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)/680/

\ Nov 2017

Chief Engineer/ Lift Irrigation, EA & Opn Transmission Corporation of Andhra Pradesh Ltd APTRANSCO, Vidyut Soudha Vijayawada - 5200004

# ERECTION OF (I) 220 KV LILO TO BAVOJIPETA (KORUKONDA) 220 KV SWITCHING STATION FROM BOMMUR – RAMPACHODAVARAM 220 KV LINE AND (II) 220 KV DCLINE FROM PROPOSED BAVOJIPETA (KORUKONDA) 220 KV SWITCHING STATION TO PROPOSED PURUSHOTHAPATNAM 220/11KV SUBSTATION

- 1. Reference your letter No CE/LI/SE(LIS)/PTCC/Purushothapatnam/D.No.320/2017 dt 13 Oct 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.

(A V Umdekar) Lt Col

GSO 1 (Comn) for SO-in-C

Copy to :-

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

For information