



भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

केन्द्रीय विद्युत प्राधिकरण

Central Electricity Authority

पावर कम्युनिकेशन डवलपमेंट प्रभाग

Power Communication Development Division

सं.: के.वि.प्रा./PCD/PTCC/AND-675/2082-84

दिनांक: 06.09.2018

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

Subject: Induced Voltage Calculation in respect of PTCC proposal for 400 kV D/C Chilakaluripeta - Narasaraopeta Transmission Line.

Reference: i) BSNL letter no. SR-PTCC/SAP – 1838/05 dated 21.11.2017
ii) South Central Railway letter no. SG.85/4/3/PTCC/SCR AP 2016 71 RTD dated 16.10.2017
iii) Defense letter no. B/46937/Sigs 7(b)/655 dated 11.10.2017

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 average Soil Resistivity (SR) value has been taken as 10,000 Ohm Cm, as intimated by the Power Authority (PGCIL). 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 have been computed and 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 for PTCC route approval.

Encl.: As above

Yours faithfully,

Naresh Bhandari
(Naresh Bhandari)
Chief Engineer

m/c

Copy to:

- (i) GM(S&T), South Central Railway, Head Quarters Office, Signal & Telecomm Branch, Rail Nilayam, Secunderabad-500025, Telangana (with Annexure II only).
- (ii) Deputy General Manager (TLC), PGCIL, Flat no. 204, Sri Venkateswara Residency, Raghuram Nagar, Behind Bharat Petrol Bunk, Sattenapalli – 522403, Guntur District, Andhra Pradesh



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सं.: के.वि.प्रा./पीसीडी/पीटीसीसी/ए.एन.डी.-675/2082-84

दिनांक: 06.09.2018

डिवीजनल इंजीनियर टेलीकॉम (पीटीसीसी),
क्यू ए एंड इंसपेक्शन (टी एंड डी) सर्कल, बीएसएनएल,
1 तल, राज भवन एक्सचेंज,
नं 26, सरदार पटेल रोड,
गुडंडी, चेन्नई -600032

विषय: 400 केवी डी/सी चिलाकलुरिपेता - नरसारावपेटा ट्रांसमिशन लाइन का पीटीसीसी प्रस्ताव - प्रेरित वोल्टेज गणना के संबंध में।
सन्दर्भ: (i) बी.एस.एन.एल. सन्दर्भ सं. SR-PTCC/SAP - 1838/05 दिनांक 21.11.2017
(ii) दक्षिण मध्य रेलवे सन्दर्भ सं. SG.85/4/3/PTCC/SCR AP 2016 71 RTD दिनांक 16.10.2017
(iii) रक्षा सन्दर्भ सं. B/46937/Signs 7(b)/655/ दिनांक 11.10.2017

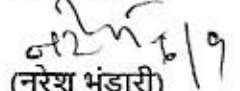
महोदय,

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। विद्युत् प्राधिकरण द्वारा प्राप्त विवरण के अनुसार, औसत मृदा प्रतिरोधकता 10,000 ओम-सेमी ली गयी 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: ऊपरोक्त 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. उप-महाप्रबंधक (टीएलसी), पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड, फ्लैट सं - 204, श्री वेंकटेश्वरा रेजीडेंसी, रघुराम नगर, विनुकोंडा रोड, भारत पेट्रोल बैंक के पीछे, सतेनापल्ली - 522403, गुंटूर जिला, आन्ध्र प्रदेश

ANNEXURE - I

Case No.: AND-675 Name of the Power line: 400 kV D/C Chilakaluripeta - Narasaraopeta Transmission Line.		Map Scale : 1cm=500mts Total Length : 29.728 Km. S.R. Value : 10,000 Ohms-cm			
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.

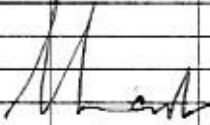
BSNL Ref. No SR-PTCC/SAP – 1838/05 dated 21.11.2017					
Affected Telcom Cables Details					
Guntur SSA					
1	Muppalla Exchange				
1	Exchange to Turakapalem	IV LESS THAN 430 V			
2	Exchange to Gollapadu				
3	Exchange to Kunduruvaripalem				
4	Exchange to Chagantivaripalem				
2	Madala Exchange				
1	Exchange to Rudravaram	IV LESS THAN 430 V			
3	Sattenapalli Exchange				
1	Exchange to Kankanalapalli	IV LESS THAN 430 V			
2	Exchange to Vennadevi	OUT OF PARALLELISM			
3	Exchange to Irukupalem	IV LESS THAN 430 V			
4	Exchange to Beemavaram	OUT OF PARALLELISM			
5	Exchange to Ramakrishnapuram	IV LESS THAN 430 V			
4	Brugubanda Exchange				
1	Exchange to Mokkapadu	IV LESS THAN 430 V			
2	Exchange to Kandulavaripalem	OUT OF PARALLELISM			
5	Ganapavaram Exchange				
1	Exchange to Reddygudem	IV LESS THAN 430 V			
2	Exchange to Baijipalli				
6	Rentapalla Exchange				
1	Exchange to Pakalapadu	OUT OF PARALLELISM			
2	Exchange to Deepaladinnevaripalem				
7	Palapadu Exchange				
1	Exchange to Machavaram	1.75	0.0254	10000	254
2	Exchange to Gariapadu	IV LESS THAN 430 V			
3	Exchange to Paragaticherla				
4	Exchange to Annavaram				
8	Rompicherla Exchange				
1	Exchange to Ramireddy palem	OUT OF PARALLELISM			
2	Exchange to Vadlamudivari palem	IV LESS THAN 430 V			
3	Exchange to Konkanchivari palem				

ANNEXURE – I

Case No.: AND-675 Name of the Power line: 400 kV D/C Chilakaluripeta - Narasaraopeta Transmission Line.	Map Scale : 1cm=500mts Total Length : 29.728 Km. S.R. Value : 10,000 Ohms-cm
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S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
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9	Santhagudipadu Exchange				
1	Exchange to Karlakunta			IV LESS THAN 430 V	
10	Petlurvaripalem Exchange				
1	Exchange to Kakani			IV LESS THAN 430 V	
2	Exchange to Aravapalli				
11	Bechavaram Exchange				
1	Exchange to Cheemalamarri			IV LESS THAN 430 V	
2	Exchange to Kandlakunta				
3	Exchange to Rupenagunta				
4	Exchange to Kammavaripalem			OUT OF PARALLELISM	


 Chief Engineer
 Deptt. of Power Trans. & T.S.A.
 Sawa Bhawan, R.S. Puram,
 New Delhi-65/New Delhi-55

ANNEXURE – II

Case No.: AND-675 Name of the Power line: 400 kV D/C Chilakaluripeta - Narasaraopeta Transmission Line.			Map Scale : 1cm=500mts Total Length : 29.728 Km. S.R. Value : 10,000 Ohms-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.

SOUTH CENTRAL RAILWAY					
Ref. No. SG.85/4/3/PTCC/SCR AP 2016 71 RTD dated 16.10.2017					
Affected Blocks & Telcom Circuits Details					
1.	Satuluru (STUR) – Narasaraopeta (NRT)	OUT OF IV CALCULATION CONSIDERATION ZONE			0
2.	Narasaraopeta (NRT) – Munumaka (MUK)	6.75	0.0007	15000	11
3.	Munumaka (MUK) – Santamagalur (SAB)	OUT OF PARALLELISM			0
4.	Pedakurapadu (PKPU) – Sattenapalli (SAP)				0
5.	Sattenapalli (SAP) – Reddigudem (REM)	3.45	0.0040	15000	60



Senior Assistant Engineer
के.एस. विद्युत प्रभाग, ए.ए.ए.ए.
सेवा भवन, वार्ड. नं. १०५,
Sewa Bhawan, R.C. Puram,
नई दिल्ली-६५/New Delhi-६०

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)/655/

11 Oct 2017

Dy General Manager (TLC)
Power Grid Corporation of India Ltd
Flat No 204, Sri Venkateswara Residency,
Raghuram Nagar, Behind Bharat Petrol Bunk,
Sattenapalli - 522403, Guntur District (AP)

**CONSTRUCTION OF 400KV D/C CHILAKALURIPETA - NARASARAOPETA
TRANSMISSION LINE - PROPOSAL FOR PTCC APPROVAL - REG**

1. Reference your letter No SR-i/PSITSL/TW-04/PTCC/ dated 18 Aug 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.


(AV Umdekar)
Lt Col
GSO 1 (Comn)
for SO-in-C

Copy to :-

✓ Chief Engineer, (PTCC), CEA,
NRPC Complex
18-A, Shaheed Jeet Singh Marg,
Katawaria Sarai, New Delhi - 110016

: for info and necessary action.