

I/34729/2024



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**

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<b>CEA Case No. : GUJ-864</b>		
<b>Induced Voltage (IV) calculation for PTCC proposal of 400 KV D/C Transmission Line from RIL (Jamnagar Oil Refinery) to Jam Khambhaliya (ISTS) PSS [Length-45.611 km]– Regd.</b>		
<b>S. No</b>	<b>Reference No.</b>	<b>Dated</b>
I.	PGCIL: WRTS-II/PTCC/Jamnagar/334	28.10.2023
II.	Email : For EPR details and soil resistivity	17.03.2024
III.	PGCIL: WRTS-II/PTCC/Jamnagar/CEA/573	05.03.2024
IV.	BSNL: IC/MBI/PTCC/GUJ-WGJ220120245527/WGJ220120245528/ WGJ220120245556/	12.02.2024
V.	Western Railway: SG/158/28/12 (1361)	08.11.2023
VI.	Defence: B/46937/Sigs(7b)/3586	12.03.2024

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

EPR zone for 400 kV proposed S/S is mentioned below:

Name of the proposed Substation	Half diagonal distance , D/2 (mts)	Fault Current I (KA)	Resistance of Earth Mat, R (ohms)	d (mts) at 430 V	d (mts) at 650 V	d (mts) at 7kV	d (mts) at 10kV
400 kV RIL S/s	140.83	46	0.19576	2808	1810	40	NA

As per the Telecom Details submitted by BSNL vide above reference (iv), no telephone exchange of BSNL is falling within the EPR zone of proposed Substations.

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)	'D' Wing, III floor, Administrative Bldg., Telecom Complex, Juhu Tara Road Santa Cruz (West), Mumbai	
2.	General Manager(S&T)	Central Railway HQ, Annex. Building IIIrd Floor, CST, Mumbai	
4.	Chief Manager PGCIL, Jamnagar	Dishant, 4/B, New Aram Colony PGCIL, Jamanagar	Copy for information.

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ANNEXURE-I

CEA Case No.: GUJ-864			Map Scale : 1 cm= 500 m		
Name of the Power line: 400 KV D/C Transmission Line from RIL (Jamnagar Oil Refinery) to Jam Khambhaliya (ISTS) PSS.			Total Length : 45.611 km		
			S.R. Value : 7500 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: IC/MBI/PTCC/GUJ-WGJ220120245527/WGJ220120245528/ WGJ220120245556/ Dated 12.02.2024

Affected Blocks & Telecom Circuits Details

1	<b>Kambhaliya Exchange</b>				
1A	Kambhaliya Exchange: Nagar Gate	Out of Parallelism			
2A	Nagar Gate: GBG High School	Out of Parallelism			
3A	Nagar Gate: Collector Office	Out of Parallelism			
4A	Kambhaliya Exchange: Panchvati	Out of Parallelism			
5A	Kambhaliya Exchange: Bhanvad Patiya	Out of Parallelism			
6A	Kambhaliya Exchange: Federal Bank	Out of Parallelism			
2	<b>Lalpur Exchange</b>				
1A	Lalpur Exchange: Lalpur Village -400 * 1 pair	Out of Parallelism			
2A	Lalpur Exchange: Lalpur Village -200 * 1 pair	Out of Parallelism			
3A	Lalpur Exchange: Lalpur Village -100 * 1 pair	Out of Parallelism			

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ANNEXURE-II

CEA Case No.: GUJ-864			Map Scale : 1 cm= 500 m		
Name of the Power line: 400 KV D/C Transmission Line from RIL (Jamnagar Oil Refinery) to Jam Khambhaliya (ISTS) PSS.			Total Length : 45.611 km		
			S.R. Value : 7500 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.

Western Railway: SG/158/28/12 (1361) Dated 08.11.2023

Affected Blocks & Telecom Circuits Details

1	Lakhabawal R/s to Pipli R/s	Out of Parallelism			
2	Pipli R/s to Kanalaus R/s	6.75	0.0162	24920	404
3	Kanalaus R/s to Modpur R/s	Out of Parallelism			
4	Modpur R/s to Khambhaliya R/s	Out of Parallelism			
5	Khambhaliya R/s to Bhatel R/s	Out of Parallelism			
6	Kanalaus R/s to Moti Khavdi R/s	0.8	0.0001	27400	3
7	Moti Khavdi R/s to Sikka R/s	Out of Parallelism			
8	Kanalaus R/s to Lalpur-Jam R/s	9.55	0.0178	18240	328
9	Lalpur-Jam R/s to Gop-Jam R/s	Out of Parallelism			

B/46937/Sigs 7(b)/3586

Mar 2024

✓ Chief Manager

Power Grid Corporation of India Limited

"Dishant" 4/B, New Aram Colony, 80 feet Road, Khodiyar Colony,

Dist.-Jamnagar (Gujarat)-361001

**PTCC PROPOSAL FOR CONSTRUCTION OF 400KV D/C RIL (OIL REFINERY)  
 (GIS)-JAM-KHAMBALIYA (GIS) TRANSMISSION LINE ASSOCIATED WITH  
 "TRANSMISSION PROJECT-JAMNAGAR OIL REFINERY OF RELIANCE  
 INDUSTRIES LIMITED (RIL) TO CONFIDENTIALITY AND SECURITY OF INFORMATION**  
 File No. CEA-PSM/KH/11/12/33/2024-PCPSD Division

1. Ref your letter No WRTS-II/PTCC/JAMNAGAR/334 dt 28 Oct 2023. (copy att).
2. **No Objection Certificate (NOC) is accorded** based on inputs provided as per Map sheets received vide your letter mentioned above.
3. Documents alongwith map sheets (in original) are returned herewith for your further necessary action.



(Puneet Lakhanpal)  
 Lieutenant Colonel  
 General Staff Officer Grade 1 (Communication)  
 for Additional Director General (Telecommunication)

**Enclosures** : As above

**Copy to :-**

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

- for information

The DET(PTCC), Northern Zone  
 Bharat Sanchar Nigam Limited  
 O/o PGM (North), QA & Inspection Circle,  
 D-Tax Building, Eastern Court, Janpath  
 New Delhi-110001