

**GOVERNMENT OF INDIA  
MINISTRY OF POWER**

**LOK SABHA  
UNSTARRED QUESTION NO.2217  
TO BE ANSWERED ON 04.07.2019**

**COLLAPSE OF ELECTRICITY TRANSMISSION TOWERS**

**2217. SHRI BIDYUT BARAN MAHATO:**

**SHRI GAJANAN KIRTIKAR:**

**SHRI SUDHEER GUPTA:**

**Will the Minister of POWER  
be pleased to state:**

- (a) whether as per Central Electricity Authority (CEA) latest report, as many as 52 electricity transmission towers have collapsed between October, 2016 to March 2018 due to rampant irregularities on the part of transmission companies;**
- (b) if so, the details thereof, State/ UT-wise;**
- (c) whether most of the dysfunctional towers failed within 5 years of commissioning;**
- (d) if so, the details thereof and the reasons therefor;**
- (e) whether the power companies had been clamping and clipping additional components of towers instead of replacing the damaged parts despite recommendations of Standing Committee of CEA; and**
- (f) if so, the details thereof and the action taken by the Government against such erring power companies?**

**A N S W E R**

**THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR POWER, NEW & RENEWABLE ENERGY AND THE MINISTER OF STATE FOR SKILL DEVELOPMENT & ENTREPRENEURSHIP**

**( SHRI R.K. SINGH)**

**(a) & (b) : Various utilities during the period of October, 2016, to March, 2018 have reported the collapse/failure of total 52 no. towers of 220 kV and above voltage level due to reasons like wind, flood, vehicular impact, etc. Details of these failures are given in Annexure-I.**

**(c) & (d) : More than 75% of total transmission tower failures reported during October, 2016, to March, 2018, failed within 5 years of commissioning of transmission line. The details of the failure are given in Annexure-II.**

**(e) & (f) : The damaged/failed towers are replaced by the utilities with new towers in accordance with Standing Committee recommendations.**

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**ANNEXURE-I**

**ANNEXURE REFERRED TO IN REPLY TO PARTS (a) & (b) OF UNSTARRED QUESTION NO. 2217 TO BE ANSWERED IN THE LOK SABHA ON 04.07.2019.**

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**Details of transmission lines failures reported to CEA between October, 2016 to March, 2018**

Sl. No	Name of Transmission line	Name of utility	Year of Commissioning	No. of towers failed	State /UT
1.	400 kV D/C Dadri - Panipat transmission line	PGCIL	1984	5	Uttar Pradesh
2	400 kV D/C Silchar-PurbaKanchan Bari transmission line	PGCIL	2015	8	Assam
3.	765 kV D/C Wardha -Nizamabad transmission line	PGCIL	2017	1	Maharashtra
4	400 kV D/C Koderma-Bokaro transmission line	PGCIL	2014	3	Jharkhand
5.	400 kV D/C Farakka -Kahalgaon I & II transmission line	PGCIL	1992	4	Jharkhand
6.	765 kV S/C Gaya- Varanasi-I transmission line	PGCIL	2012	5	Bihar
7.	765 kV S/C Bina- Gwalior transmission line	PGCIL	2014	2	Madhya Pradesh
8.	765 kV S/C Bina-Indore transmission line	PGCIL	2012	4	Madhya Pradesh
9.	765 kV S/C Agra- Jatikara transmission line	PGCIL	2013	3	Haryana
10.	400 kV S/C Singrauli-Lucknow transmission line	PGCIL	1986	2	Uttar Pradesh
11.	765 kV S/C Bhiwani-Jhatikra transmission line	PGCIL	2012	1	Delhi/Haryana
12.	400 kV D/C Tikrikalan-Bawana transmission line	Delhi Transco Ltd. (DTL)	2000	1	Delhi
13.	765 kV S/C Jabalpur-Bina transmission line	Sterlite Power	2015	5	Madhya Pradesh
14.	±500 HVDC Mundra - Mohindergarh transmission line	Adani Transmission Ltd. (ATL)	2012	1	Gujarat
15	(i)400kV D/C Barh -Motihari Transmission Line	Darbhanga-Motihari Transmission Company Ltd. (DMTCL)	2017	1	Bihar
	(ii) 400kV D/C Motihari-Gorakhpur Transmission line	(Essel Infra Ltd.)		1	
16	765KV D/C Narendra (New)-Madhugiri (Tumkur) Transmission Line (Hexa Zebra)	L&T	2016	5	Karnataka

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**ANNEXURE-II**

**ANNEXURE REFERRED TO IN REPLY TO PARTS (c) & (d) OF UNSTARRED QUESTION NO. 2217 TO BE ANSWERED IN THE LOK SABHA ON 04.07.2019.**

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**Details of transmission lines failures reported to CEA between October, 2016 to March, 2018 which failed within 5 years of line commissioning.**

Sl. No.	Name of Transmission line	Name of utility	Year of Commissioning	No. of towers failed	State /UT	Reason of Failure
1	400 kV D/C Silchar-PurbaKanchan Bari transmission line	PGCIL	2015	8	Assam	Erection deficiencies such as missing cover plates, missing bolts in butt joints of leg member, unplugged holes, rusted stubs due to water logging etc. might have resulted in reduced strength of tower and combined with localized wind storm might have caused the failure of towers.
2.	765 kV D/C Wardha – Nizamabad transmission line	PGCIL	2017	1	Maharashtra	The structural integrity of transmission towers depends on many factors including quality of material grade used in tower body, Construction methodology, workmanship and erection practices, member theft, O&M of the transmission utilities etc. High speed of wind in conjunction with gaps in one or more of the above mentioned aspects might have caused the failure of transmission tower.
3.	400 kV D/C Koderma-Bokaro transmission line	PGCIL	2014	3	Jharkhand	---do---
4.	765 kV S/C Bina-Gwalior transmission line	PGCIL	2014	2	Madhya Pradesh	----do---
5.	765 kV S/C Agra-Jatikara transmission line	PGCIL	2013	3	Haryana	---do---
6.	765 kV S/C Jabalpur-Bina transmission line	Sterlite Power	2015	5	Madhya Pradesh	The structural integrity of transmission towers depends on many factors including quality of material grade used in tower body, Construction methodology, workmanship and erection practices, Operations & Maintenance practices of the transmission

						utilities etc. High speed of wind in conjunction with gaps in one or more of the above mentioned aspects appears to be the cause of transmission tower failure.
7.	(i) 400 kV D/C Barh - Motihari Transmission Line  (ii) 400 kV D/C Motihari-Gorakhpur Transmission line	Darbhanga Motihari Transmission Company Ltd. (DMTCL)  (Essel Infra Ltd.)	2017	1  1	Bihar	Water level of Gandak river was 600 mm above HFL and 2000 mm above danger level. Towers were located near river bank. Due to the sudden release of water from the barrage, the velocity of the water might have been very high and some rock might have hit the foundation of tower in Gandak river, causing damage to the tower foundations
8.	765KV D/C Narendra (New)- Madhugiri (Tumkur) Transmission Line (Hexa Zebra)	L&T	2016	5	Karnataka	Wind speed data provided by the utility indicates that the wind speed was 16 m/s at 22:10 hrs. i.e. at the time of failure of towers. The maximum wind speed measured was 29.37m/s at around 21:20 hrs on 24.05.2017 which is below the design wind speed of 33 m/s considered for Wind Zone-1. The high wind velocity might have induced the failure of towers but it may not be the sole reason for the occurrence of the incident. The structural integrity of transmission towers depends on many factors including quality of material grade used in tower body, Construction methodology, workmanship and erection practices, members theft, Operation & Maintenance practices of the transmission utilities, etc. High speed of wind in conjunction with gaps in one or more of the above mentioned aspects appears to be the cause of transmission tower failure.

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