

**GOVERNMENT OF INDIA  
MINISTRY OF COMMUNICATIONS  
DEPARTMENT OF TELECOMMUNICATIONS**

**LOK SABHA  
UNSTARRED QUESTION NO.5199  
TO BE ANSWERED ON 5<sup>TH</sup> APRIL, 2017**

**RADIATION FROM MOBILE TOWERS**

5199. SHRI PINAKI MISRA:  
SHRI S.P. MUDDAHANUME GOWDA:

Will the Minister of COMMUNICATIONS be pleased to state:

- (a) whether the Electromagnetic Signals/Radiations received and transmitted through the mobile towers have proved to be harmful to humans and if so, the details thereof including the study, if any, conducted by the Government in this regard;
- (b) the norms and guidelines set up by the Government for installation of towers near public places and the radiation limit fixed for the same;
- (c) whether the cases of violation of the said norms by service providers have come to the notice of the Government and if so, the details thereof including the number of such cases reported during each of the last three years and the current year, State/UT-wise;
- (d) the corrective steps taken and penalty imposed by the Government on the erring service providers, State-wise and company-wise; and
- (e) the steps taken/being taken by the Government to organise awareness programme on radiations from mobile towers across the country?

**ANSWER**

**THE MINISTER OF STATE (IC) OF THE MINISTRY OF COMMUNICATIONS &  
MINISTER OF STATE IN THE MINISTRY OF RAILWAYS  
(SHRI MANOJ SINHA)**

(a) No, Madam. With regard to impact of Electromagnetic Field (EMF) emissions from mobile towers on health, World Health Organization (WHO) has referred to approximately 25,000 articles published around the world over past 30 years, and based on an in-depth review of scientific literature, has stated, "*Despite the feeling of some people that more research needs to be done, scientific knowledge in this area is now more extensive than for most chemicals.*" WHO has concluded - "*current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields*".

An Inter-Ministerial Committee (IMC), setup in 2010 to examine the effect of EMF Radiation from base stations and mobile phones, after examining various national and international studies on the environmental and health related concerns due to EMF, had, inter-alia, indicated that most of the laboratory studies were unable to find a direct link between exposure to radio frequency radiation and health.

Also, a committee comprising of members from Indian Institutes of Technology (IITs) Kharagpur, Kanpur, Delhi, Roorkee, Bombay and from other scientific institutions of the country including Indian Council of Medical Research (ICMR) and All India Institute of Medical Science (AIIMS) Delhi was setup at the behest of Hon'ble High Court Allahabad, Lucknow bench. The Committee in its report, submitted in 2014, has, inter-alia, noted – “...there are no conclusive evidence to establish any causal link between the effect of EMF radiation from BTS with biological effects described in cell models, animals or humans, and any possible resulting health effects.”

(b) Department of Telecommunications (DoT) has issued advisory guidelines to state governments in 2013 for issue of clearance for installation of mobile towers, a copy of the same is provided at **Annexure-I**. These guidelines are applicable to all areas, including public places.

With regard to the EMF emission limits for Base Transceiver Stations (BTSs), main conclusion from the WHO reviews is that EMF exposures below the limits recommended in the International Commission on Non Ionizing Radiation Protection (ICNIRP) international guidelines do not appear to have any known consequence on health. In India norms for exposure limit for the Radio Frequency Field (Base Station Emissions) are already 10 times more stringent than the safe limits prescribed by ICNIRP and recommended by WHO. The present EMF emission limits as laid down for BTSs installed at various mobile towers in India are as follows:

Frequency Range	E-Field Strength (Volt/Meter)	H-Field Strength (Amp/Meter)	Power Density (Watt/Sq.Meter)
400 MHz to 2000 MHz	$0.434 f^{1/2}$	$0.0011 f^{1/2}$	$f / 2000$
2 GHz to 300 GHz	19.29	0.05	1

(f is frequency in MHz)

(c) The Licensed Service Area wise (LSA-wise) details of number of BTSs found exceeding the prescribed EMF radiation limits on actual testing during each of the last three years and the current year is provided at **Annexure - II**.

(d) In case, any BTS site is found to violate the prescribed EMF norms, actions are taken to put a penalty of Rs. 10 lakh per BTS per incidence including closing of BTS site as per the prescribed procedure if the violation persists. Licensed Service Area wise (LSA-wise) and Telecom Service Provider(TSP) wise details of penalty imposed on BTSs found exceeding the prescribed EMF radiation limits as on 31.01.2017 is provided at **Annexure-III & Annexure-IV** respectively.

(e) Department of Telecommunications (DoT) has been carrying out Awareness Programmes on EMF Emissions & Telecom Towers to build a direct bridge of engagement between different stakeholders and to fill the information gap with scientific evidence. The details of places where such programmes have been conducted by DoT and its field units along with its stake holders is attached as **Annexure-V**.

**DEPARTMENT of TELECOMMUNICATIONS**  
**ADVISORY GUIDELINES FOR STATE GOVERNMENTS FOR**  
**ISSUE OF CLEARANCE FOR INSTALLATION OF MOBILE TOWERS**  
**(Effective from 01.08.2013)**

1. The Indian telecom sector has witnessed phenomenal growth and mobile telephony in particular has revolutionized in the country over the past decade. Providing telephone coverage across the country has been one of DoT's top priority areas. Out of 921 million connections, 891 million are wireless, as on May 2013. The popularity of cell phone and wireless communication devices has resulted in a proliferation of cell towers across the country.
2. Fixation of standards for exposure limits of radio frequency field emissions from mobile base stations, monitoring their compliance, all radiation related technical issues, issues of Access Service Licence / Infrastructure Provider registration and SACFA clearance for frequency allocation at any location are dealt with by DoT.
3. India has adopted strict limit for radiation from Base Transceiver Station (BTS), as below, which is 1/10<sup>th</sup> of the International norms (ICNIRP):

Frequency in MHz	Power density limit
900	0.45 watt/m <sup>2</sup>
1800	0.9 watt/m <sup>2</sup>
2100 and above	1 watt/m <sup>2</sup>

4. Broad guidelines for issue of clearance for installation of mobile phone towers were issued on 23.08.2012 and later modified on 26.03.2013. Subsequently, on the basis of feedback received after deliberations made with the state government officials and various stake holders on 16.04.2013 and holding further consultations thereafter, the guidelines have been finalized for the state governments. These are detailed in A and B below. ***These guidelines are issued in supersession of all earlier guidelines on the subject.***

**A. Documents to be submitted by Telecom Service Providers/ Infrastructure Providers for obtaining clearance from local bodies / state governments for installation of mobile towers:**

- I. Copy of relevant license / Infrastructure Provider Registration Certificate from Department of Telecommunications.
- II. Data Sheet
  - a) Name of Service/Infrastructure Provider
  - b) Location
  - c) Tower Reference:
    - i) Height, ii) Weight iii) Ground/Roof Top iv) Pole/wall mounted v) Number of antennae
- III. Copy of SACFA clearance / copy of SACFA application for the said location submitted to WPC wing of DoT with registration number as

WPC acknowledgement along with undertaking that in case of any objection/ rejection, TSPs/ IPs will take corrective actions / remove the tower.

- IV. Copy of structural stability certificate for ground based tower. In case of roof top BTS towers, structural stability certificate for the building and tower based on written approvals of any authorized Structural Engineer of state/local bodies/Central Building Research Institute (CBRI), Roorkee/ IIT/NIT or any other agency authorized by local body.
- V. Copy of the type test certificate issued by Automotive Research Association of India (ARAI) to the manufacturers of the Diesel Generator (DG) Sets.
- VI. Copy of clearance from Fire Safety Department only in case for high rise buildings where Fire Clearance is mandatory.
- VII. For forest protected areas, the copy of clearance from State Environment & Forest Department, if applicable.
- VIII. The local bodies may also seek submission of the copy of No Objection Certificate (NOC) from Building Owner / entities having roof top rights or roof top tenants in case of roof based tower/ land owner in case of ground based tower, as the case may be. As per their rules in force, State Governments, at their discretion, may seek fresh NOC at the time of renewal of site (tenancy) contract for mobile tower.
- IX. Acknowledgement receipt issued by TERM Cells (DoT) of the self-certificate submitted by Telecom Service Provider/ Infrastructure Provider in respect of mobile tower/ BTS (ground based/ roof top/ Pole/ wall mounted) in the format as prescribed by TEC, DoT, establishing / certifying that all General Public areas around the tower will be within safe EMR exposure limit as per peak traffic measurement after the antennae starts radiating.

#### **B. Action by State government/Local body**

- I. Nominal one time Administrative Fee as may be decided by the State Government to recover its costs on the issue of permission for installation of Tower.
- II. Single Window Clearance may be provided in a time bound manner to telecom service provider / infrastructure provider by the local body / State Government. This will ensure issuance of faster clearances.
- III. Telecom towers have been given infrastructure status by Government of India vide gazette notification no 81 dated 28.03.2012. All benefits, as applicable to infrastructure industry, should be extended. **Electricity connection may be provided to BTS site on priority.**
- IV. Telecom installations are lifeline installations and a critical infrastructure in mobile communication. In order to avoid disruption in mobile communication, an essential service, sealing of BTS

towers / disconnection of electricity may not be resorted to without the consent of the respective TERM Cell of DoT in respect of the EMF related issues.

- V. State Governments along with DoT may organise public awareness programmes involving civil society members.
- VI. In order to effectively address **Public Grievances** relating to installation of towers and issues related to telecom infrastructure, State Governments may setup:
  - State Level Telecom Committee (STC) consisting of officers from TERM Cells, State Administration, representative(s) of concerned Telecom Service Provider(s) and eminent public persons etc.
  - District Level Telecom Committee (DTC) consisting of officers from District Administration, representative(s) of concerned Telecom Service Provider(s) and eminent public persons etc.

### **C. Action by DoT/ TERM Cells**

- I. Public awareness programme (Through DoT web portal / Govt. Publication).
- II. a) For all the existing as well as new BTSs / Towers, Telecom Service Providers are required to submit self-certificates periodically in the format as prescribed by TEC, DoT, in order to ensure that normally all general public areas around the site are within the safe EMR exposure limits. Any violation noticed attracts heavy penalties on Telecom Service Provider(s) and may also lead to shut down of BTS in case the violation persists.  
  
b) The TERM Cells have been given clear instructions with regard to the technical audit of BTS, including for radiation from towers within safe limits. These include roof top/ ground based/ pole mounted/ wall mounted towers. They will also verify antenna orientation, safe distance from the tower (exclusion zone) etc. Installation and augmentation of BTS and antenna is a continuous process. DoT is organizing frequent workshops for these officers to ensure observance of the latest guidelines issued by DoT on the subject of EMF radiation and public safety. Additional Guidelines for TERM Cells as follows:

**The Licensed Service Area wise (LSA-wise) details of number of BTSs found exceeding the prescribed EMF radiation limits on actual testing during each of the last three years and the current year**

S.No	LSA	Year 2013-14		Year 2014-15		Year 2015-16		Year 2016-17	
		Number of BTSs tested	Number of BTSs found exceeding EMF radiation limits	Number of BTSs tested	Number of BTSs found exceeding EMF radiation limits	Number of BTSs tested	Number of BTSs found exceeding EMF radiation limits	Number of BTSs tested	Number of BTSs found exceeding EMF radiation limits
1	Andhra Pradesh	6,102	0	6,663	0	7,123	0	8,885	0
2	Assam	1,501	0	1,612	2	1,989	0	2,166	0
3	Bihar	3,384	0	4,596	0	5,583	0	5,369	0
4	Delhi	3,187	0	3,733	0	4,395	0	4,376	0
5	Gujarat	4,724	0	4,819	0	4,843	0	6,267	0
6	Haryana	1,749	0	1,933	0	2,258	0	2,670	0
7	Himanchal Pradesh	763	0	817	0	1,101	0	1,245	0
8	Jammu and Kashmir	642	1	670	0	858	0	984	0
9	Karnataka	5,681	10	6,137	0	7,216	6	7,440	29
10	Kerala	3,329	0	3,494	0	3,996	0	4,565	0
11	Kolkata	1,407	0	1,951	0	2,554	0	3,189	0
12	Maharashtra	6,294	4	5,345	0	7,211	0	9,965	0
13	Madhya Pradesh	5,508	14	4,288	0	5,579	0	6,942	0
14	Mumbai	2,303	36	2,013	0	1,742	0	3,551	0
15	North East	1,263	0	1,049	0	1,338	0	1,185	0
16	Odisha	2,251	0	1,262	0	1,311	0	2,113	0
17	Punjab	2,686	0	2,703	0	3,287	0	4,246	0
18	Rajasthan	3,403	0	3,604	0	3,457	0	5,053	0
19	Tamil Nadu	9,135	0	7,560	0	8,368	0	10,040	0
20	Uttar Pradesh (East)	5,060	10	2,862	0	5,198	0	5,209	0
21	Uttar Pradesh (West)	3,799	0	3,544	0	4,541	0	4,340	0
22	West Bengal	2,144	0	3,030	0	2,720	6	2,934	0
	<b>Total</b>	<b>76,315</b>	<b>75</b>	<b>73,685</b>	<b>2</b>	<b>86,668</b>	<b>12</b>	<b>1,02,734</b>	<b>29</b>

**Licensed Service Area wise (LSA-wise) details of penalty imposed on BTSs found exceeding the prescribed EMF radiation limits on actual testing as on 31.01.2017**

Sl. No.	LSA	Total number of BTSs tested as on 31.01.2017	No. of BTS found exceeding prescribed Emf radiation limits (as on 31.01.2017)	Amount of penalty imposed on account of violation of radiation norms (as on 31.01.2017)
1	Andhra Pradesh	37,155	0	0
2	Assam	8,126	2	20,00,000
3	Bihar	20,814	0	0
4	Delhi	15,869	0	0
5	Gujarat	24,039	0	0
6	Haryana	10,850	1	5,00,000
7	Himachal Pradesh	5,067	6	30,00,000
8	Jammu and Kashmir	2,635	0	0
9	Karnataka	37,270	50	1,15,34,274
10	Kerala	19,146	0	0
11	Kolkata	9,728	0	0
12	Maharashtra	30,763	4	20,00,000
13	Mumbai	10,482	127	6,35,00,000
14	North East	5,394	0	0
15	Odisha	11,712	0	0
16	Punjab	13,721	0	0
17	Rajasthan	17,914	1	5,00,000
18	West Bengal	11,063	6	60,00,000
19	Madhya Pradesh	24,567	14	1,40,00,000
20	Tamilnadu	38,292	0	0
21	Uttar Pradesh (East)	19,902	10	50,00,000
22	Uttar Pradesh (West)	17,856	0	0
	<b>Grand Total</b>	<b>3,92,365</b>	<b>221</b>	<b>10,80,34,274</b>

**Telecom Service Provider(TSP) wise details of penalty imposed on BTSs found exceeding the prescribed EMF radiation limits on actual testing as on 31.01.2017**

Sl. No.	TSP	Total number of BTSs tested as on 31.01.2017	No. of BTS found exceeding prescribed Emf radiation limits (as on 31.01.2017)	Amount of penalty imposed on account of violation of radiation norms (as on 31.01.2017)
1	Aircel/Dishnet	27,551	15	90,00,000
2	Airtel/BHL	86,982	52	2,15,06,855
3	BSNL	32,130	8	70,00,000
4	Etisalat/Allianz	48	0	0
5	IDEA/ABTL	64,918	17	95,06,855
6	Loop	375	11	55,00,000
7	MTNL	969	3	15,00,000
8	QTL/HFCL	913	0	0
9	Reliance	35,030	30	1,65,00,000
10	Reliance Jio	21,781	2	0
11	SSTL (MTS)	4,971	1	5,00,000
12	STEL	251	0	0
13	Tikona	40	0	0
14	TTSL/TTML/Tata	36,284	30	1,45,13,709
15	Videocon	2,667	2	10,00,000
16	Vodafone	65,481	43	1,80,06,855
17	Telenor/Telewings/Uninor	11,949	7	35,00,000
18	Augere	25	0	0
	<b>Grand Total</b>	<b>3,92,365</b>	<b>221</b>	<b>10,80,34,274</b>



## Annexure-V

**Details of EMF Awareness Programmes carried out by DoT along with its Stakeholders**

SN	Name of TERM Cell	Locations at which EMF awareness workshops have been conducted	District at which EMF awareness workshops have been conducted	State at which EMF awareness workshops have been conducted	Date/Month on which these workshops have been conducted
1	Hyderabad	ITC Kakatiya, Begumpet, Hyderabad	Hyderabad	Telangana	13-07-2016
		Kukatpally, Hyderabad	Rangareddy	Telangana	18-02-2017
2	Maharashtra	At 18 Grampanchayats in the state of Goa	North Goa & South Goa	Goa	11-09-2016 & 22-09-2016 to 25-09-2016
3	North East-1	The Shillong Club Ltd., Shillong	East Khasi Hills District	Meghalaya	23-02-2017
4	Rajasthan	Hotel Golden Tulip	Udaipur	Rajasthan	17-02-2017
5	Assam	Guwahati	Kamrup (Metro)	Assam	24-01-2017
		Jorhat	Jorhat	Assam	20-02-2017
6	Mumbai	Nariman Point, Mumbai	Mumbai	Maharashtra	23-08-2016
		1) Chikalim Panchayat 2) Vetim Panchayat 3) Nagova panchayat	Goa	Goa	11-09-2016
		1) Chikalim Panchayat 2) Vetim Panchayat 3)Verkha panchayat	Goa	Goa	23-09-2016 & 24-09-2016
7	DELHI	ASSOCHAM	Delhi	Delhi	17-11-2014
		Dwarka	Delhi	Delhi	04-09-2015
		R K Puram	Delhi	Delhi	31-10-2015
		IMA Delhi	Delhi	Delhi	Nov/Dec-2015
8	Punjab	Hotel Lalit, Chandigarh	Chandigarh	Punjab	21-10-2016
		Sector 34, Chandigarh	Chandigarh	Punjab	Nov-16
		BSNL office, Patiala	Patiala	Punjab	Dec-16
		U.I.E.T., Sector 25, Chandigarh	Chandigarh	Punjab	30-01-2017

		Jandiala Guru, Amritsar	Amritsar	Punjab	31-01-2017
		T.E. Building, Raiya	Amritsar	Punjab	31-01-2017
		Panjab University, Chandigarh	Chandigarh	Punjab	31-01-2017
		Landran, Mohali	Mohali	Punjab	13-02-2017
		Baba Banda Singh Bahadur College, Fatehgarh Sahib, Punjab	Fatehgarh Sahib	Punjab	23-02-2017
		Sector 19, Chandigarh	Chandigarh	Punjab	24-02-2017
9	Jaipur	OTS, JLN Marg, Jaipur	Jaipur	Rajasthan	26-05-2012
		Rambagh, Jaipur	Jaipur	Rajasthan	30-07-2012
		Deptt of Health and Medical Services, Govt of Rajasthan	Jaipur	Rajasthan	11-09-2015
		ITC Rajputana, Railway Station, Jaipur	Jaipur	Rajasthan	17-12-2016
10	Andhra Pradesh	Vijayawada (Locations : Centrel Excise colony, Ranigarithota, Krishnalanka, Governerpet & Bhavanipuram)	Krishna	Andhra Pradesh	10-11-14 to 12-11-14
		Kakinada	East Godavari	Andhra Pradesh	22-11-2014
		Nalgonda	Nalgonda	Telangana	25-11-2014
		Vijayawada	Krishna	Andhra Pradesh	20-02-2015
11	Kerala	Ernakulam District Collectorate	Ernakulam District	Kerala	28-02-2017
12	Uttaranchal	Hotel Madhuban , Rajpur Road, Dehradun	Dehradun	Uttarakhand	30-06-2016

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