

**GOVERNMENT OF INDIA
COMMUNICATIONS AND INFORMATION TECHNOLOGY
LOK SABHA**

UNSTARRED QUESTION NO:3577
ANSWERED ON:24.08.2011
TRANSMISSION LEVEL OF MOBILE TOWERS
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Will the Minister of COMMUNICATIONS AND INFORMATION TECHNOLOGY be pleased to state:

- (a) whether any international data is available on the transmission levels of mobile towers;
- (b) if so, the details of such data which are maintained by International Telecom Industry, country-wise;
- (c) whether telecom companies in India are maintaining such data in mobile communication system;
- (d) if so, the details thereof; and
- (e) if not, the action taken by the Government in this regard?

Answer

MINISTER OF THE STATE IN THE MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY (SHRI MILIND DEORA)

(a) Yes Madam. World Health Organization (WHO) has recommended that 'National authorities should adopt international standards to protect their citizens against adverse levels of RF transmission from mobile towers. WHO has referred to the International Exposure Guidelines developed by International Commission on Non-Ionizing Radiation Protection (ICNIRP).

Department of Telecommunications (DoT) has adopted the reference levels of Electromagnetic radiation for Mobile towers, prescribed by ICNIRP, and incorporated the requirement in Access Service Licenses vide amendment dated 4 November 2008, as given below:

| Frequency Range | E-Field Strength (Volt/Meter (V/m)) | H-Field Strength (Amp/Meter (A/m)) | Power Density (Watt/Sq.Meter (W/Sq.m)) |
|-----------------|-------------------------------------|------------------------------------|--|
|-----------------|-------------------------------------|------------------------------------|--|

| | | | |
|-------------------|---------------------------------|----------------------------------|---------|
| 400MHz to 2000MHz | $1.375f \text{ } \hat{A}^{1/2}$ | $0.0037f \text{ } \hat{A}^{1/2}$ | $f/200$ |
|-------------------|---------------------------------|----------------------------------|---------|

| | | | |
|----------------|----|------|----|
| 2GHz to 300GHz | 61 | 0.16 | 10 |
|----------------|----|------|----|

(f is the frequency of operation in MHz)

In India, the cellular Global Services for Mobile Communication (GSM) services are being operated in 900 MHz and 1800 MHz frequency band. For 900 MHz band, Permissible Power Density is 4.6 W/Sqm, whereas for 1800 MHz band, Permissible Power Density is 9.2 W/Sqm.

Further, vide letter dated 8th April 2010, DoT has directed all Cellular Mobile Telephone Service (CMTS)/ Unified Access Service (UAS) licensees for compliance of the reference limits/ levels prescribed by ICNIRP by way of self certification of their Base Transmitting Station (BTS) for meeting the Electro Magnetic Field (EMF) radiations norms.

(b) Most of the countries are following the emission levels of mobile towers prescribed by ICNIRP. However, certain countries in the world have specified their own radiation level keeping in view the environmental and physiological factors. Some of them are given below:

Name of the Country Exposure limits for RF
fields (1800 MHz band)

USA, Canada and Japan 12 W/m²

ICNIRP and EU recommendation 9.2 W/m²
1998 - Adopted in India

Australia 9 W/m²

Belgium 2.4 W/m²

Italy, Israel 1.0 W/m²

Auckland, New Zealand 0.5 W/m²

Luxembourg 0.45 W/m²

China 0.4 W/m²

Russia (since 1970), Bulgaria 0.2 W/m²

Poland, Paris, Hungary 0.1 W/m²

(c) to (e) All the mobile operators in India are following the ICNIRP norms and submitting the self certification for each tower for compliance of radiation norms. All new BTS sites start radiating only after self certificate has been submitted to relevant Telecom Enforcement, Resource & Monitoring (TERM) Cells of DoT.

The TERM Cell tests up to 10% of new BTS sites randomly at its discretion. Additionally, the BTS sites against which there are public complaints, are also being tested by TERM Cell. If a site fails to meet the Electro Magnetic Radiation criterion, there is a provision of levy of a penalty of Rs. 5 lakh per BTS. Service providers must meet the criterion within one month of the report of TERM cell in such cases, after which the site is to be shut down. The self-certifications have been submitted by the telecom service providers for more than 6,50,400 BTSs certifying that the radiation levels are within the prescribed norms. TERM Cells have already started the testing of BTS radiation and so far more than 4100 BTSs have been checked and found to be radiating within the prescribed levels.