

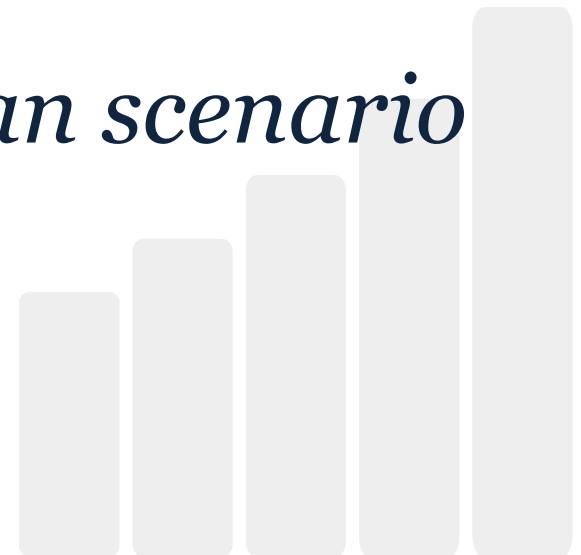


# Mobility and EMF

## *A status update on the Indian scenario*

December 15, 2014

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# INDIAN GOVERNMENT NORMS ON NON-IONIZING EMF EXPOSURE FROM BTSs



1. The Department of Telecommunications (DoT), Government of India adopted **ICNIRP (International Commission on Non-Ionizing Radiation Protection) Guidelines in 2008**
2. In **Sep 2009**, DoT finalized the **Test Procedure for Measurement** of EMF from Base Station Antennas
3. An **Inter-ministerial committee (IMC)** was constituted in **January 2011** to examine the effect of EMF radiation on human health. The **IMC recommended** lowering of emission **norms to 1/10<sup>th</sup> of the existing ICNIRP exposure levels** for “**abundant caution**”. This regulation came into effect on September 1, 2012. The DoT also lowered SAR levels for mobile phones to 1.6 W/kg
4. Consequently, the **TSP license agreements were modified** vide Amendment 1 of 2013 dated **January 10, 2013**
5. Government specifically chose not to accept IMC recommendation to remove/limit the BTSs from schools, hospitals etc. Government represented that revised levels were set at low enough levels to protect all citizens in all locations.

# DOT SAFETY NORMS

<b>November 2008</b>	<b>DoT adopted the world class ICNIRP standards for EMF exposure</b>	<b>Spectrum</b>	<b>ICNIRP Limit</b>
		900 MHz	4.5 W/m <sup>2</sup>
		1800 MHz	9.2 W/m <sup>2</sup>
		2100 MHz & 2300MHz	10 W/m <sup>2</sup>
<b>February 2011</b>	IMC was set up to review EMF standards in India		
<b>September 2012</b>	DoT adopted 1/10 <sup>th</sup> of ICNIRP standards as precautionary measure for all locations and segments of society without exception	<b>Spectrum</b>	<b>India standards</b>
		900 MHz	0.45 W/m <sup>2</sup>
		1800 MHz	0.9 W/m <sup>2</sup>
		2100 MHz & 2300MHz	1 W/m <sup>2</sup>

- The limits for EMF emissions from mobile tower antennas already incorporate a **significant safety margin** for general public **exposure covering all locations and classes of people** including children, pregnant women, etc., as prescribed by WHO and ICNIRP.

## 1. National guidelines for Issue Of Clearance For Installation Of Mobile Towers

**Guidelines were issued by DoT on August 1, 2013.** It is a uniform set of guidelines for grant of permission by States (State Governments) & Union territories for setting up of BTS towers.

## 2. New EMF Penalty Norms by DoT

DoT, on **November 20, 2013**, issued the circular providing clarity on various EMF reporting issues and EMF Penalties. **Penalty for violation of EMF norms from BTS towers by TSPs has been increased from 500,000 to 1,000,000/BTS/incidence/Operator**

## 3. Participation in Regional Workshops for mutual understanding between DoT/ TERM Cells and the industry regarding measurement and compliance by industry.

## 4. Notification by DoT on **February 27, 2014** conveying the decision on the Report of the Committee constituted in compliance to the directions of Hon'ble High Court, Allahabad, Lucknow Bench.

- i. **Government departments like DoT, Health, Environment etc. shall spread public awareness on EMF.**
- ii. **DoT will create National EMF web Portal** to provide public access to the status of Compliance, of the EMF norms, of all BTSs/mobile towers in the country.

# EXPERT GROUP BY DST

**Department of Science and Technology (DST)** to look into the EMF issue and provide recommendations based on India specific research.

The Expert Group arrived through consensus the following recommendations :-

1. India specific studies aimed at generating scientifically credible data and evidence in as short a time as possible should be launched. In such a study, MoST, ICMR, MoEF and DoT may need to collaborate.
2. These studies should focus on hazard risk aspect of radiation taking into account population density; health risk quantification on human and other ecosystems. Such studies should be fully funded by public agencies, but representations from industry would gain access to the emerging evidence.
3. The Expert Group recognises the revision of emission norms by DoT in background of precautionary principle suggested by the Inter-Ministerial Committee.
4. There is a need to undertake R&D on new architecture with energy per bit rate as a criteria. This R&D effort could be lauded on a PPP mode.
5. To constitute a sub-group on technology watch to map technology development at global levels. This group could also undertake technology ranking for helping DST as well as policy bodies.

- i. Joint initiative by Science and Engineering Research Board (SERB), a statutory body under DST and DoT to study EMF exposure.
- ii. 158 applications received from public and private institutions – 79 short listed.
- iii. Studies upto 3 year duration and both cohort and epidemiological studies are supported.
- iv. No international collaboration in this study.

**Recommendation: These studies and research should be subject to peer review and comply with best practices.**

# INDUSTRY INITIATIVES/JOINT EFFORTS WITH GOVT. COAI



1. **A common online portal** has been undertaken by the government and supported by the industry. This portal will help to provide the public with all relevant information on status of each tower's EMF emissions compliance. DoT/TEC Committee has indicated the commencement of Pilot of the portal on April 2, 2014 at **Hyderabad (city), Mumbai, Karnataka and Haryana**
2. The Industry itself has undertaken massive transition in its network infrastructure which was redesigned significantly to meet the revised norms
3. The industry has also organised various **outreach programmes** to sensitize and educate the people. **Use of Social Media** to spread information and counter negative messages.
4. **Lecture tours by eminent experts** on the topic, including members from the medical fraternity have been organised to address the queries and concerns of people
5. **Media workshops** have also been organised and sensitization programmes are held with RWAs and other Citizens' forums
6. **Appeal to India's Supreme Court against adverse State High Court Rulings** filed. Hearing schedule awaited.

# EMF ADVOCACY OUTREACH IN NUMBERS

## (SEP 13-OCT 14)

Location	RWA/NGOs/General citizen groups	Media Outreach	Media Impact	Academia	Doctors	Govt.
National	NA	67	373	NA	NA	NA
Mumbai	10	151	1471	19	10	26
Pune	1	53	57	20	15	21
Delhi	19	78	1146	6	297	8
Hyderabad	5	40	40	10	18	5
Bangalore	0	55	100	1	134	0
Kolkata	0	35	133	6	0	0
Kochi	1	43	52		1	2
Chennai		9	12	5	0	5
Ahmedabad	0	25	25	0	2	17
Pondicherry	0	0	0	0	0	3
Chandigarh	0	9	9	0	0	0
<b>Total</b>	<b>36</b>	<b>565</b>	<b>3418</b>	<b>69</b>	<b>477</b>	<b>87</b>

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RWA/NGOs/General citizen groups	Number of associations and groups met/reached
Media Houses Outreach	Number of media publications/houses met/reached
Media Impact: Positive/ Neutral	Number of positive/ neutral stories which appeared in mainlines and regionals
Academia	Number of people met/reached
Doctors	Number of doctors met and addressed
Government	Number of Govt. representatives met



# MEDICAL COMMUNITY & ACADEMIA ENGAGED ACROSS INDIA



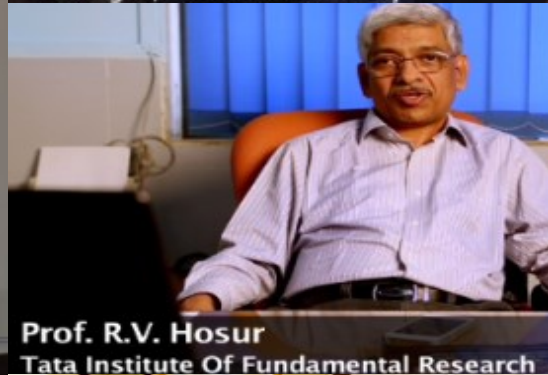
**Dr. Siddhartha Mukherjee**  
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**Dr. Bhavin Jankharia**  
President, Indian Radiology & Imaging Association



**Dr. Robin Bannerman Jeffrey**  
Emeritus Prof. Australia India Institute Author Of Book "Cell Phone Nation"



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**Prof. Mike Repacholi**  
Ex. EMF Project Coordinator, WHO



**Dr. Rajesh Dixit**  
Epidemiology, Urology (DMG), Tata Medical Cent



**Dr. Rakesh Jalali**  
Professor, ROC, Neuro Oncology Group, Tata Medical Centre

# INFLUENCING MULTIPLE STAKE-HOLDERS

1. Multi-Stakeholder engagement workshops were conducted across major cities to influence Media, Govt., Academia, Local Authorities, and the citizens (RWAs) at large
2. These workshops were conducted in Hyderabad, Ahmedabad and Kochi

**\* Engaged over 1000 representatives from Media, Govt., Academia, Local Authorities and the citizens across India**





## POSITIVE DEVELOPMENTS

1. In a recent submission to the Ministry of Communications and Information Technology, **25 leading academicians** from the prestigious IITs and IISc in India, have urged the government to “exercise caution to avoid ad-hoc decisions regarding restrictions of tower locations and avoid unnecessary panic and fear among citizens”
2. Many members of the **Medical fraternity** such as Pulitzer winner Dr. Siddharth Mukherjee, Assistant Professor of Medicine (Division of Medical Oncology), Columbia University, USA; Prof. Vasant Natarajan, IISc (Bangalore); Dr. KS Parthasarathy, former Secretary, AERB; Dr. Bhavin Jhankaria, Radiologist, Mumbai, Dr. Rakesh Jalali and Dr. Rajesh Dixit of Tata Memorial Centre etc. have come up with informative articles to allay the public fear and misconceptions on the topic
3. **Prof. Michael Repacholi, the former EMF project coordinator for the WHO**, conducted a multi city tour of India and highlighted that high quality scientific studies have not established that use of mobile phones or EMF emissions from antenna on mobile towers causes any health risks
4. Innovative use of Social Media to present industry’s views




1. A recent **public perception study** conducted by the industry (in Dec 2013) has observed that:
  - i. High level of awareness on EMF “Radiation” in key cities surveyed
  - ii. **Key influencers** as discovered are **Govt. depts. and medical professionals**
  - iii. Almost **67% of the people surveyed feel that mobile towers are harmful** as they cause severe headache, brain related problems, heart problems and cancer
  - iv. The **negative perception** is **based on** the information published mostly in the **print media** which leads to further word of mouth from friends/family which in turn precipitates the negative sentiments
2. This negative perception is further **fueled by activists with vested/commercial interests**; especially businessmen selling products like radiation shields
3. The **industry is seen by the public as having a vested interest** and as per the survey, the only breakthrough possible would be from Government intervention – which is seen as a credible source.

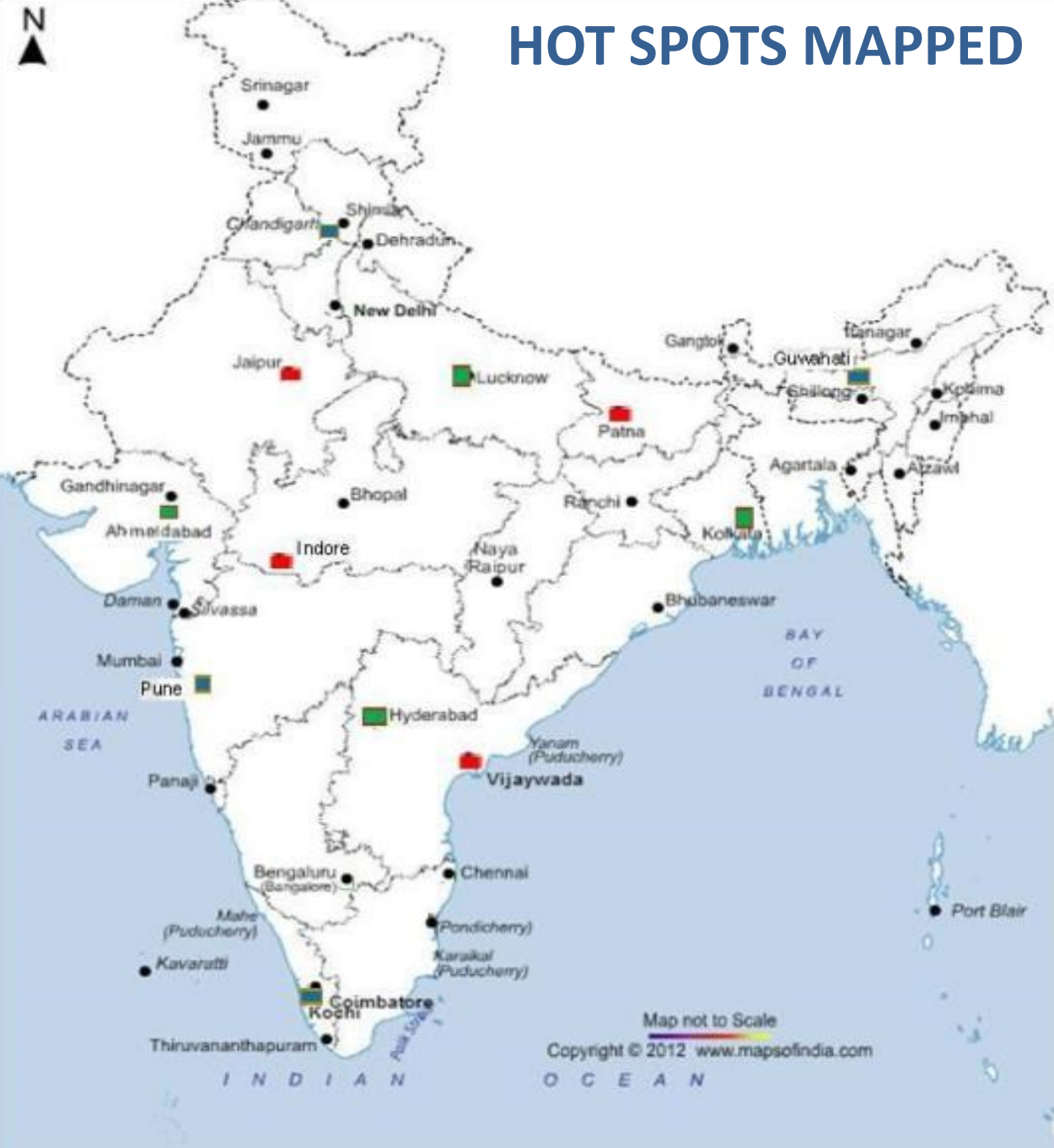


# HOT SPOTS MAPPED

Basis survey conducted across India with criteria of Non acceptability of having a mobile towers erected near residence/workplace and emissions from mobile towers, the areas of concern are as follows:

- North
  - Jaipur
  - Chandigarh
  - Lucknow
- South
  - Vijayawada
  - Kochi
  - Hyderabad
- East
  - Patna
  - Guwahati
  - Kolkata
- West
  - Indore
  - Pune
  - Ahmedabad

-  Areas of high concern
-  Area of lesser concern
-  Areas of least concern



Map not to Scale  
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- 1. Mumbai:** Panic created in public by activist group through media, public meetings and media reports
- 2. Rajasthan (Jaipur):** State High Court Order (27<sup>th</sup> Nov 2012) against Govt. and all operators ordering removal of towers from schools and hospitals. **Stayed by Supreme Court of India until final hearing and disposition**
- 3. Kerala:** Court Case was filed regarding EMF and Tower removal and a favourable judgment by court (9<sup>th</sup> July 2013)
- 4. Chandigarh:** PIL has been filed for removal of towers from residential areas and lower exposure limits. **Supreme Court has stayed the Chandigarh High Court order** and remitted it back to High Court for adjudication on merits
- 5. Maharashtra:** State Government formed guidelines which excluded schools, hospitals and residential areas from cell tower location. Challenged by the industry in Bombay High Court. **Hon'ble court stayed the Guidelines (Aug 2014)**

**6. Uttar Pradesh:** Allahabad High Court ordered formation of a committee to provide conclusions. A 13 member committee constituted under the aegis of Government of India which filed its detailed Report with the Hon'ble High Court on 10th Feb 2014.

**27<sup>th</sup> February 2014:** The report submitted by an Expert Committee\* constituted by the DoT as per the **Allahabad High Court Order** dated January 10, 2012 has observed that –

*There is no cause of alarm with regard to possible ill-effects on human health by electromagnetic field (EMF) emission from cellphone towers and cellphones because the safety limits adopted in India take into account all biological effects of radiation.*

On the actions taken by the DoT in view of the accepted recommendations of the IMC, the committee observed that the *DoT has taken adequate steps to improve stricter precautionary limits for EMF emission from mobile towers as well as from the mobile phones.*

*\*Members of the committee include professors from IIT-Kharagpur, IIT-Kanpur, IIT-Delhi, IIT-Roorkee and experts from ICMR, AIIMS, Department of Science and Technology and Indian Institute of Toxicology Research, besides representatives from DoT.*

## **1. Lowering of Existing ICNIRP limits by 1/10<sup>th</sup>**

The revised Government of India/DoT exposure limits create issues regarding connectivity, coverage, site sharing, and ability to rollout broadband services and 3G services. However, industry has implemented the new norms.

## **2. State-wise activities**

Various State Authorities, due to lack of understanding and information, determine different set of compliances and wish to set their own standards and criteria for EMF exposure and BTS location.

## **3. Limited Role of the Government**

Due to the limited education and PR role taken by the Government of India/DoT, citizen apprehension has grown leading to increased litigation, arbitrary demands to remove towers, difficulty in obtaining new cell sites etc.

## **4. Vested interests misleading Society**

Apprehensions and panic is created in public about EMF exposure by various people who have vested interest of selling measuring devices and RF Shields.



# RECOMMENDED GOVERNMENT ACTIVITIES

1. Government/Ministry should **participate with industry in disseminating information** to the general masses through print media, TV, social media and awareness workshops. Officially invite experts from WHO as speakers and participants via letters from the Govt. of India for the event.
2. Issue **letters to State and Local government health agencies** on EMF Safety norms adopted by government.
3. Ministry should provide information to national authorities, other institutions, the general public and workers, about EMF and government Safety norms through **advertisement or booklets or pamphlets in English and vernacular languages**.
4. There must be a **central repository** of science based reports and studies on the various **Government websites** supporting the government's basis for the Safety norms adopted in India. It will address the lack of information for general public on who to approach on the issue for genuine information.
5. Government should have **representation in the WHO (World Health Organization) EMF working group studying** the aspect of public importance and actively participate in the same to **align ourselves with on-going efforts being undertaken internationally**. Link for the WHO EMF Project: <http://www.who.int/peh-emf/project/en/>

*Thank You*