



**Government of Goa**  
**Department of Science, Technology & Environment**  
Opp. Saligao Seminary, Saligao, Bardez – Goa. 403 511  
Phone Nos.: 0832-2407189 / 2407187 / 2407580 Fax No.: 0832-2407176  
e-mail: [dir-ste.goa@nic.in](mailto:dir-ste.goa@nic.in)

No. 69/2/2004/STE-DIR/Part/1091

Dated: 26 /11/2013

## **GUIDELINES FOR INSTALLATION OF MOBILE BASE STATION TOWERS, GOA STATE**

The popularity of cell phone and wireless communication devices has resulted in a proliferation of cell towers across the country. Fixation of standards for exposure limits of radio frequency field emissions from mobile base stations, monitoring their compliance, all radiation related technical issues and issues of Access Service License / Infrastructure Provider registration and SACFA clearance for frequency allocation at any location are dealt with by the Department of Telecommunication (DoT).

Telecom towers have been given infrastructure status by Government of India vide Gazette Notification No. 81 dated 28.03.2012. Accordingly, 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>

Based on the above and as per the compliance with the advisory guidelines issued by the Department of Telecommunications (DoT), Government of India, dated 1<sup>st</sup> August 2013, the Government proposes the following guidelines for installation of site-specific location of Mobile Base Station Tower (MBST) in the State.

- A. Documents to be submitted by Telecom Service Providers (TSPs) / Infrastructure Providers (IPs) for obtaining clearance / NOC / Consent from State Government / local bodies / Authorities concerned for installation of mobile towers:

*Pl. insert address also per fax*

- I. Copy of relevant license / Infrastructure Provider Registration Certificate from Department of Telecommunications (DoT).
- II. Data Sheet
  - a) Name of TSP / IP:
  - 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 towers, structural stability certificate for the building and tower based on written approvals of any authorized Structural Engineer of the State / Local bodies / Central Building Research Institute (CBRI), Roorkee / IITs' / NITs' or any other agency authorized / empanelled by the DoT from time to time.
- 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.
- 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) establishing / certifying that all General Public areas around the tower will be within safe

Electro-magnetic Radiation (EMR) exposure limit as per peak traffic measurement after the antennae starts radiating.

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

- I. Consent fees @ Rs. 25,000/- (*Rupees twenty-five thousand only*) will be levied by the Goa State Pollution Control Board (GSPCB) as fees payable towards consent to establish / operate the MBST including a D.G. set. The consent validity will be for a period of five (05) years from the date of issue of consent.
- II. Any violation w.r.t. exceeding the prescribed EMR exposure limits will attract heavy penalties on Telecom Service Provider(s) which may even lead to shut down of MBST(s) in case the violation persists.
- III. Telecom Service providers (TSPs') will submit periodic (*at least quarterly*) report of self-certification, authenticated by the DoT, Goa to the Local Body concerned (as per the location of the MBST) as well as to the GSPCB w.r.t. existing as well as new MBSTs' in order to ensure that normally all general public areas around the site are within the safe EMR exposure limits.
- IV. State Government along with DoT will organize public awareness programmes involving civil society members.
- V. In order to effectively address **Public Grievances** relating to installation of towers and issues related to telecom infrastructure, State Governments has constituted State-level Telecom Committee (STC) comprising the following Members:

(a) Chief Secretary	<b>Chairman</b>
(b) Chief Electrical Engineer, Electricity Dept.,	Member
(c) Director, Department of Science, Technology & Environment (DST&E)	Member
(d) Director, Directorate of Panchayat	Member
(e) Director, Directorate of Municipal Administration	Member
(f) Chief Town Planner, Town and Country Planning (TCP).	Member
(g) Professor & Head, Department of Electronics and Telecommunication, Goa Engineering College, Ponda	Member
(h) Professor & Head, Department of Civil Engineering, Goa Engineering College, Ponda.	Member

- (i) Professor & Head, Department of Physics, Member  
Goa University.
- (j) General Manager, Dept. of Telecommunication, Goa Member
- (k) Member Secretary, GSPCB Member Secretary

The Chairman of the STC is empowered to invite / co-opt any subject expert / NGO to the meeting. Further, a representative of the Telecom Service Provider (TSP) concerned may be heard / called for prior to take a final decision in the matters.

- VI. In case of both ground-based and roof-top MBST, there shall be no building in front of the antenna (e), of equivalent height taking into account the tilt of the lowest antenna on towers as per details in the table below. Further, the antennae at the same height only will be counted, as the beam width of the mobile antennae, in the vertical direction, is very narrow.

Number of antenna(e) pointed in the same direction	Building/Structure safe distance from the antenna(e) at the same height (in meters)
1	20
2	35
4	45
6	55

*Note : The distance figures in the above table are based on empirical estimation considering that all the antennae are emitting at their maximum RF power of 20 Watts and exactly in the same direction with same height (a worst case scenario). In practice, the values of safe distance of buildings will depend upon actual deployment scenarios and mostly, may be far less than depicted above.*

- VI. Wall Mounted / Pole mounted Antenna - Wherever the antennae are mounted on the wall of building or pole on / along the road, their height should be at least 5 meters above ground level / road level. However, such installations will have to comply with the radiation limits as prescribed earlier.

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

- I. Department of Telecommunications (DoT) will assist the State Government / Local authorities / Authority concerned to conduct and create awareness programme for the benefit of General Public.

- II. For all the existing as well as new MBSTs', Telecom Service Providers (TSPs') are required to submit self-certificates periodically to Local body / GSPCB in order to ensure that normally all general public areas around the site are within the safe EMR exposure limits.
- III. The TERM Cells have been given clear instructions with regard to the technical audit of MBSTs', including 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.

By Order and in the name of the Governor of Goa



(Levinson J. Martins)

Director/ ex-officio, Jt. Secy., (STE)

To,

The Director, Department of Printing and Stationery, Government Printing Press, Goa .....with a request to urgently publish the above guidelines in the Extra-Ordinary Official Gazette. Further, 250 copies of the same may please be sent to this office for records.

*Copy for favour of information to :*

- a. The Secretary to H. E. The Governor of Goa, Raj Bhavan, Dona Paula.
- b. O. S. D. to Hon'ble Chief Minister, Ministerial Block, Secretariat, Alto-Porvorim.
- c. O. S. D. to Hon'ble Minister for Environment, Ministerial Block, Alto-Porvorim.
- d. P. S. to Chief Secretary, Secretariat, Alto-Porvorim.
- e. P. A. to Chairman, Goa State Pollution Control Board (GSPCB), 1<sup>st</sup> Floor, Dempo Towers, Patto, Panaji.
- f. P. A. to Principal Secretary (ST&E), Secretariat, Alto-Porvorim.
- g. All Heads of Department / Offices