Bahrain
Report on EMF Activities
15TH International Advisory Committee Meeting on EMF
May 2010, Bordeaux, France

Introduction

The last 25 years have seen a rapid increase in usage and development of radio technologies. Such technologies are used extensively by both government and private sectors as a result more and more antennas have been deployed. Antennas are now a common sight, particularly in urban areas, and this has resulted in concerns regarding radio frequency signals that they emit. Telecommunications services are a key element in the realisation of the Kingdom's social and economic development as articulated in the 2030 Vision. Telecommunications masts supporting radio transmitters are essential to the provision of telecommunications services. However, in order to deliver modern broadband radio based telecommunications services with sufficient capacity to meet Public demand, it is necessary to install masts and antennas close to residential and commercial areas where the users of the services are located. This, in turn, has given rise to understandable concerns from the public regarding possible exposure to radio signals

General Research Activities

There are around 760 Telecommunication masts in Bahrain
Types of Telecommunications Masts available:

1) Monopole Tower
2) Mast over Building
3) Wall Mounting
4) Indoor Antenna
5) Tower
6) Pole Over Building
7) Spider
8) Tower over Building
9) Pole over Van
10) Palm Tree
11) Camouflage
12) Self Support
13) Guide Tower
14) Lattice Tower
15) Step Tower 18m

In response to the increasing levels of concern regarding radiation from antennas, the Telecommunication Regulatory Authority (TRA) has purchased equipment to measure (and compare with ICNIRP guidelines) the ambient level of radiation produced by the most prevalent broadcasting and communications technologies and services deployed in Bahrain. TRA, working together with the Public Commission for the Protection of Marine Resources,

Environment and Wildlife, to measure the ambient levels of electromagnetic fields produced by broadcasting and communications technologies at different locations to investigate the levels of radiation to which the public is exposed and to compare these with the Ministerial Order.4.2010

Measurement of RF field strengths conducted regularly throughout the Kingdom of Bahrain. According to the results of these measurements there are clear variations in the levels of RF field strengths between different locations and also between different frequency bands. The detailed results collected also illustrate that RF field strengths at a particular location vary over time. The RF field strengths measured in the telecoms bands were all significantly below the ICNIRP guideline.

Over time, TRA and the Commission plan to create a profile of the levels of electromagnetic fields produced by broadcasting and communications technologies throughout the Kingdom of Bahrain. Results will be published on the TRA web site (www.tra.org.bh).

Policies and Legislations

A Ministerial Order number 4 for the year 2009 to establish limits for RF exposure in the Kingdom of Bahrain has been published in the official Gazette in April 2009. The Ministerial Order is the result of cooperation between the Public Commission for the Protection of Marine Resources, Environment and Wildlife, the Telecommunications Regulatory Authority (TRA) and other concerned parties in Bahrain, with inputs from recognized international experts in the field,

Conclusion

In the Kingdom of Bahrain, the international guidelines have been adopted by the Commission for the Protection of Marine Resources, Environment and Wildlife in Ministerial Order No. 4 of 2009. All organizations which transmit radio frequency signals are required by this Order to comply with the international guidelines

The management of TRA ensured an ongoing program to monitor compliance of the telecommunications sector with Ministerial Order No. 4 of 2009 and that the results will shortly be available via a graphical user interface which will enable the public to click on locations on a map of the Kingdom to display radio signal levels measured at that location.

Dr. Maha Al Shehab
Occupational Health Unit,
Ministry of Health Bahrain
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