



सत्यमेव जयते

CENTRAL PUBLIC WORKS DEPARTMENT

GUIDELINES
For
**MITIGATION OF THE EFFECTS OF
ELECTRO MAGNETIC RADIATIONS**
In
BUILT SPACES



MARCH 2014

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महानिदेशक

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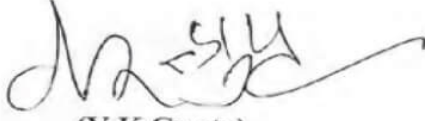
FOREWORD

There are both good and bad sides of the technology, but often we ignore the bad side while reaping the advantages of good side which proves fatal in the long run. The Electro Magnetic Radiations (EMR) are our natural ally in today's technological era but simultaneously hidden enemy too, as too much dependence on wireless technology for communication has made us vulnerable to the health risks as said to be. Studies suggest correlation between exposure of EMR to living cells and damage of biological system. While we are trying to reduce the energy consumption of our habitat to make it sustainable yet ingress of negative energy in the form of Electromagnetic radiations from wireless equipments etc. into the built spaces is on the constant rise which is a cause of great concern.

Some guidelines are therefore essential so that harmful effects of EMR could be minimized if not eliminated totally as no Guidelines/ Specifications regarding the Electro-Magnetic radiations in the built environment are available presently for planning the placement of the electrical equipments/ fittings/ fixtures and appliances in a building or planning the location of services or people in a building. Although the subject matter is highly technical and lies within the purview of communication experts, the Committee constituted for this purpose has however, brought out various aspects of the dangers of EMR quite reasonably. I acknowledge the efforts made by Sh. C. K. Varma, CE CSQ (E), Sh. R. Srinivas, Town & Country Planner, T.C.P.O, New Delhi and Sh. S.S. Garg, SE (E) TAS Member Secretary under the overall guidance of Sh. R. K. Singhal, Spl. DG (NR) in framing the present guidelines & making them user friendly.

Suggestions for modifications as well as errors and omissions may be sent to SE (E) TAS, O/o CE (E) CSQ, CPWD, New Delhi.

Place: New Delhi
Dated: 27.03.2014


(V.K.Gupta)
Director General
CPWD, New Delhi



PREFACE

We all use electric and electronic equipments in our work place as well as houses. Though, these equipments make our life much easier but put us on high risk of exposure to electromagnetic radiations which may better be called electromagnetic pollution. Electromagnetic Radiations or EMR, in short, carry energy through space from Radio Frequency emitting sources like TV, mobile towers etc. and though make our life faster, yet are a great health hazard. The effects of EMR upon biological systems depend both upon the radiation's power and frequency. Thus, for lower frequencies of EMR up to those of visible light (i.e. radio, microwave & infrared), the damage done to living cells is determined largely by heating effects, and thus, by the radiation power. In contrast, for higher frequency radiations the damage to living cells by EMR is far larger than that done by simple heating.

Through these guidelines, we aim to bring awareness among all practicing engineers about precautions to be taken while deciding the placement of various Electro-Mechanical/Electronic equipments in built environment. Although, more research needs to be done in this direction, however, I hope that these Guidelines will be of some help in mitigating the ill effects of EMR on the occupants.

I acknowledge the valuable inputs given by Shri C.K. Varma, CE CSQ(E), CPWD, Shri R. Srinivas, TCP in the Town & Country Planning Organization, MoUD, New Delhi, Shri Ajay Poddar of M/s Synergy Environics Ltd. and other members of the committee in the development of these Guidelines.

Place: New Delhi
Dated: 27.03.2014


(R.K. SINGHAL)
Spl. Director General(NR)
CPWD, New Delhi

COMMITTEE DETAILS

An inter departmental committee consisting of officers from CPWD, Town and Planning Organisation, RML Hospital, NBCC and BIS vide CPWD OM No. F. No. 18/36/2012-W.1 (DG)/2066 dated 12th Dec, 2012 was constituted to formulate guidelines regarding the locational distribution of appliances/equipment which emit electro-magnetic radiation.

The Committee consisted of :

1. Chief Engineer CSQ(E), CPWD, New Delhi
2. Town & Country Planner, New Delhi
3. Assistant Director, BIS, New Delhi
4. General Manager, NBCC, New Delhi
5. Sh. Ajay Poddar, M/s Synergy Environics Ltd., New Delhi
6. Dr. Umesh Chandra Garga, RML Hospital, New Delhi
7. SE(E) TAS, CPWD, New Delhi

CHAPTER - 4

Other Suggestions and Measures : **Geopathic stress radiations**

Geopathic stress Radiations emanate from the Magnetic Core of the earth, Underground water streams which produce current forming a magnetic field, minerals deposit underneath the Earth's surface and Geological faults. Magnetic Grid lines, called Hartmann Lines, rise vertically above the earth surface and are repeated at every 5- 20 meters in N-S and E-W directions.

Underground Water Streams are cavities under the Earth which disturb the natural flow of Magnetic Energies above them as they flow to the surface of the Earth and above and cause stress in the cells. Some of the health problems caused by Geopathic Stress are resistance to treatment, feeling run down and exhausted, depression, nervousness, variations in blood pressure and heart rate, insomnia, restless sleep, feeling cold, headaches, and cancer in some cases. Geopathic stress can also prevent human body properly absorbing vitamins, minerals, trace elements etc. from food & supplements and often making allergic to food, drinks and environmental pollution^{5,6,7}.

Research on Geopathic Stress Radiations was initiated by Baron Gustav von Pohl of Germany, in 1930s who did research on relation of Geopathic stress radiation on cancer. He also determined that 95% of all cancer cases had connections to Geopathic Stress Radiations. After that many Research Papers were published, which pointed towards the seriousness of the Universal problem of the Geopathic Stress Radiations. Ernst Hartmann. Germany (1940's-60) was the first to describe the global geomagnetic grids and their influence on Geostress. After extensive testing that spanned over 30 years of research, he concluded that cancer is a disease of location.

This being a natural phenomenon occurring in the underground geo-formations, it is worthwhile to make provisions for Mapping the underground strata by GPR or other ground penetrating mechanisms before the commencement of Design and such maps may be submitted with applications for Building approvals. Activity and use locations within such plans should be scrutinized based on stress lines and their influence zones.

- **New Buildings**

New buildings should also be surveyed for Geopathic Stress radiations and locations of people and services should be planned in a manner that these are not located on them.

- **Occupied buildings**

Occupied buildings should be surveyed (mapped) for Geopathic stress and Electromagnetic radiations. 20% of the built spaces in a building gets

affected by these radiations. If these are impacting a lot of people, they should either be corrected by expert agencies or the people should be relocated.

How to reduce impact of Geopathic Stress Radiations on human health

Survey of entire area should be done to check the presence of Geopathic stress radiations (Magnetic gridline or underground water stream) by a trained Engineer. It can be done by scanning the area with an instrument called the Lecher Antenna. This instrument is based on the principles of resonance. The Lecher Antenna detects and measures a wide range of radiations existing around us.

Areas affected by Geopathic stress radiations can be avoided at the time of construction or can be corrected before or after construction of the building. In an already constructed building, it is not necessary to make structural changes, shift the positions of people or utilities within the building. Corrections, wherever required, can be done by specialized agencies in this field.

