



Department of Health

Directorate: Radiation Control
Private Bag X62
BELLVILLE
7535

☎: 021 957 7483
Fax: 021 946 1589
E-mail: Dutoil@health.gov.za

Web: <http://www.doh.gov.za/department/radiation/01.html>

Enquiries: LL du Toit
Date: 14 October 2011

To whom it may concern

HEALTH EFFECTS OF CELLULAR BASE STATIONS

The Directorate: Radiation Control is the section within the National Department of Health that is responsible, from the viewpoint of human health, for regulating electronic products producing non-ionising electromagnetic fields (EMF), i.e. EMF operating at any frequency less than 300 GHz. In carrying out this responsibility, the Directorate has been utilising the World Health Organization's (WHO) International EMF Project (www.who.int/emf) as its primary source of information and guidance with respect to the health effects of EMF. The International EMF Project was established by the WHO in 1996 to (i) assess the scientific evidence for possible adverse health effects of non-ionising electromagnetic fields on an on-going basis, (ii) initiate and coordinate new research in this regard, and (iii) compile health risk assessments for different parts of the electromagnetic spectrum. The Department of Health has been a member of the International Advisory Committee of the International EMF Project since 1998.

In June 2005 the EMF Project hosted a workshop that was specifically aimed at considering the possible health consequences of the emissions from cellular base stations and wireless networks. The findings of this workshop were published by the WHO as both a full report and a 2-page Fact Sheet (www.who.int/mediacentre/factsheets/fs193/en/index.html). The following extract from this Fact Sheet provides a clear-cut summary of the findings to date, i.e. ***“Considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects.”***

The WHO endorses the set of exposure guidelines published in 1998 by the International Commission on Non-Ionizing Radiation Protection (ICNIRP), and consequently, the Department of Health also endorses these ICNIRP guidelines. The ICNIRP states

categorically that exposure to any EMF at a level below that of the applicable ICNIRP exposure guideline will protect people against the known adverse health effects of EMF.

Measurement surveys conducted in South Africa and around the world have shown that the actual levels of public exposure, as a result of base station emissions, invariably are only a fraction of the ICNIRP guidelines, even in instances where members of the public have been really concerned about their exposure to these emissions. At present there is **no** confirmed scientific evidence that points to any health hazard associated with the very low levels of exposure that the general public would typically experience in the vicinity of a cellular base station. The Department is therefore satisfied that the health of the general public is not being compromised by their exposure to the microwave emissions of cellular base stations. This also means that local and other authorities, in considering the environmental impact of any particular base station, do not need to and should not attempt, from a public health point of view, to set any restrictions with respect to parameters such as height of the mast, distance to the mast, and duration of exposure. In all of this, it is implicitly assumed that the normal engineering and security measures, which are routinely implemented by cellular network providers at base stations, will effectively prevent responsible members of the public from gaining close access to the actual antennas situated on any mast structure.

Although the Department of Health currently neither prescribes nor enforces any compulsory exposure limits for electromagnetic fields, the Department does advise all concerned (whether they be a government department, the industry or the public) that voluntary compliance with the afore-mentioned ICNIRP exposure guidelines is the recommended and science-based way to deal with any situation involving human exposure to non-ionising electromagnetic fields.

The Department of Health is obviously not able to make any pronouncements about the specific levels of EMF that a member of the public would experience at any particular base station site when it is in operation. However, generally-speaking unless a person would climb to the top of a mast (or other structure supporting an antenna) and position him/herself not more than 2 m away and right in front of the active antenna, such a person would have no real possibility of being exposed to anywhere near the afore-mentioned ICNIRP guideline limits. Performing such an action would in all probability not constitute responsible behaviour, because these base stations, as a rule, are cordoned off with barbed wire fencing and locked gates to protect the sensitive and expensive technology involved. The experience globally and locally, based on the results of numerous measurement and calculation surveys, has been that the exposure to base station EMF at ground level is typically in the range of between 0.001 – 1% of the afore-mentioned ICNIRP guideline limits. Given this type of

scenario, there would be no scientific basis for any allegation of adverse health effects due to the EMF emitted by a particular base station.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'LL du Toit', written in a cursive style.

LL du Toit
DEPUTY DIRECTOR: RADIATION CONTROL