HEALTH AND MOBILE PHONE BASE STATIONS **March 2010**

We recognise that the growth in mobile technology has led in some cases to public concern about perceived health effects of mobile technology and its deployment, in particular about siting masts close to local communities. Quite naturally, the public seeks reassurance that they are not in any way harmful or dangerous.

We take these public concerns seriously and is committed to providing the latest independent peer-reviewed research findings, information, advice and guidance from national and international agencies on radiofrequency (RF) electromagnetic fields.

Vodafone and O2 ensure that our radio base stations are designed and operated so that the public are not exposed to radio frequency fields above guidelines set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). In fact, radio base stations operate at low power and emit low levels of radiofrequency fields, typically hundreds to thousands of times lower than the ICNIRP general public guidelines.

Research Reviews

There are over 1300 peer-reviewed publications on the biological and health effects of radiofrequency (RF) signals, which are used in mobile communication technology. Over the past 20 years many national and international agencies have collated, summarised and assessed these publications in research reviews. The majority of these reviews conclude that there is no scientific evidence that radiofrequency fields from radio base stations cause adverse health effects. These research reviews are used by Governments to develop policy on exposure to radiofrequency signals.

The World Health Organisation (WHO) concluded in 2006 that ***"considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that weak RF signals from base stations and wireless networks cause adverse health effects"***[fact sheet number 304].

Furthermore, the Mobile Telecommunications Health Research (MTHR) programme report, which described the results of this UK research initiative into mobile phone safety to date, did not find any evidence of adverse health effects from mobile phone use or living near radio base stations. This report published in September 2007 concluded: ***"None of the research supported by the Programme and published so far demonstrates that biological or adverse health effects are produced by radiofrequency exposure from mobile phones."*** The report also noted that measurements of radio signals from base stations show that exposures are well below international guidelines.

The MTHR findings are reassuring and consistent with the conclusion that no adverse health effects from mobile phone use have been established. This is reflected in more than 30 independent scientific reviews published in the UK and around the world during the past nine years. Equally reassuring, the MTHR report recognises that, in certain areas, no further research is required.

Compliance with International Exposure Guidelines

All Vodafone and O2 installations are designed, constructed and operated to comply with the precautionary ICNIRP public exposure guidelines as adopted in EU Council Recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). These guidelines have been set following a thorough review of the science and take into consideration both thermal and non-thermal effects and are there to protect all members of the public 24 hours a day. In addition, precautionary measures have been taken into account when setting relevant guideline limits for the public (i.e. in the UK a safety factor of 50 times is applied to the public exposure guideline).

Furthermore, base stations operate at low power and emit low levels of radiofrequency (RF) fields and when measured, field strengths are typically hundreds to thousands of times lower than the precautionary ICNIRP general public guidelines.

An ICNIRP certificate is provided with every planning application and this certifies that the mobile phone base station, when operational, will meet the precautionary ICNIRP guidelines. We also provide further documentation to clarify that the ICNIRP certificate declares that emissions from all mobile phone network operators' equipment on the site are considered when determining compliance.

ICNIRP Guidelines

The radiofrequency public exposure limits for EMF fields were developed by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) http://www.icnirp.org following reviews of all the peer-reviewed scientific literature, including thermal and non-thermal effects. ICNIRP is a non-governmental organisation formally recognised by WHO. Established biological and health effects have been used as the basis for the ICNIRP exposure restrictions. The ICNIRP guidelines have been adopted for use in the European Union and the UK.

In August 2009, ICNIRP published a review of the guidelines for limiting RF exposure and concluded that *"it is the opinion of ICNIRP that the scientific literature published since the 1998 guidelines has provided no evidence of any adverse effects below the basic restrictions and does not necessitate an immediate revision of its guidance on limiting exposure to high frequency electromagnetic fields."*

Further Information:

Further health and environmental information is also available on the Vodafone website at: www.vodafone.co.uk (see: Network & Health). A downloadable brochure 'Facts about the Network' also provides a more comprehensive review of research on mobile phones, masts and health.

We encourage wider understanding of the science of RF and health.

The external links on this page are some of the key sources of authoritative information.

- **World Health Organisation** - http://www.who.int/peh-emf/en/
  EMF Project, Geneva, Switzerland.

- **ICNIRP** - http://www.icnirp.org/
  International Commission on Non-Ionizing Radiation Protection, Munich, Germany.

- **HPA** - http://www.hpa.org.uk/HPA/Topics/Radiation/UnderstandingRadiation/1158934607698/
  The Health Protection Agency, a special health authority providing an integrated approach to protecting UK public health.

- **UK Mobile Telecommunications and Health Research** - http://www.mthr.org.uk/

- **UK Mobile Operators Association** - http://www.mobilemastinfo.com/
  An association representing all five UK mobile phone operators.

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