

Submission by RADIATION RESEARCH TRUST

TO

MICHAEL O'BRIEN, MP for NORTH WARWICKSHIRE
Department of Trade & Industry
Department of the Environment

ON

SUBJECT: The increasing incidence of Adverse Health Effects in certain UK areas caused by the proximity of mobile communication base stations and the need to adjust / revise, para 30 PPG 8 (revised) guidance to planning authorities to take into account the higher safety standards being set in Continental Europe as well as recent decisions of Senior UK judiciary.

1. Background

Current UK Government policy concerning human exposure to the electromagnetic fields emitted by mobile telecommunication Base-stations – as contained in PPG8 (Revised) – is based on compliance with the safety levels published [1] by the International Commission for Non-Ionising Radiation Protection (ICNIRP). Para.30 of PPG8 (Revised) states:

'In the Government's view, if a proposed mobile phone base station meets the ICNIRP guidelines for public exposure it should not be necessary for a local planning authority, in processing an application for planning permission or prior approval, to consider further the health aspects and concerns about them.'

The ICNIRP guidelines, however, *only* ensure that exposure to radiation of the kind used in Mobile telephony does not result in an adverse degree of body heating. Since the amount of heating increases with the *intensity* of the radiation, it is *intensity* that the guidelines limit to ensure that the level of heating does not exceed what the body's thermoregulatory mechanism can 'cope with' (See *Appendix A - Hyland*).

Typical outdoor intensities in the vicinity of a Base-station (and, *a fortiori*, those in the *interior* of neighbouring buildings) are, however, so very *far below* (often by factors of many thousands) the ICNIRP thermal guideline values of 4.5W/m² and 9W/m², at 900MHz and 1800MHz, respectively, that the possibility of body overheating can here be *totally ruled out*.

Thus, in the case of Base-stations, the ICNIRP guidelines afford protection against what is *not* actually a hazard. At the same time, however, they leave those exposed vulnerable to health problems that might be provoked by any **non**-thermal influences that the radiation might have on the human body, which 'slip through the net' afforded by these purely thermal guidelines, particularly influences that – *unlike* heating - are *contingent* on aliveness.

The possibility of non-thermal influences of the radiation is acknowledged in Para.6.44 of the Stewart Report [2], which states:

*'Although it seem highly unlikely that the low levels of RF radiation from base stations would have significant, direct adverse effects on health, **the possibility of harm from exposures insufficient to cause important heating of tissues cannot yet be ruled out with confidence.** Furthermore, the anxieties that some people feel when this uncertainty is ignored can in themselves affect well-being possibility.'*

Given that the adverse health effects reported by some exposed people are of a kind that are consistent with these non-thermal influences, it is difficult to continue to dismiss these as psychosomatic. It must thus be concluded that GSM/TETRA telecommunication technology, as currently regulated by the ICNIRP safety guidelines, is less than safe, and constitutes a risk to public health because these guidelines afford **absolutely no protection** against non-thermal biological influences exerted by the kind of radiation emitted by the associated Base-stations. Indeed, such a conclusion is consistent with Para.6.41 of the section of the Stewart Report [2] dealing with the Application of the Precautionary Approach to Mobile Phone Technology, which states:

'On its own, adoption of the ICNIRP exposure guidelines will not allow fully for current gaps in scientific knowledge, and particularly the possibility of, as yet, unrecognised thermal or non-thermal adverse effects at lower levels of exposure.'

Rather than introducing additional (but arbitrary) safety factors into the ICNIRP Guidelines, in attempt to realise at higher degree of safety, the Stewart Report [2] makes the following recommendation in Para.6.61:

'We recommend that in making decisions about the siting of base stations, planning authorities should have power to ensure that the RF fields to which the public will be exposed will be kept to the lowest practical levels that will be commensurate with the telecommunications systems operating effectively.'

This strategy is know as the ALARA Principle (As Low As Reasonably Achievable), and it should be noted that PPG8 assumes that Operators *already* comply with this (See Section A4.3 of Appendix A - Hyland).

Since, at present, the only way to establish *non-thermal* exposure limits is *empirically*, an unavoidable degree of uncertainty currently surrounds any recommended value. The existence of such uncertainty increases the significance of the Precautionary Principle in this field, implementation of which is, according to the Stewart Report, most simply achieved by ensuring that the emissions are maintained as *low as possible*, consistent with operability of the mobile phone network.

In rationalising the introduction of exposure limits significantly lower than those based on thermal heating (such as the Salzburg value) it should be recalled that non-thermal effects themselves are often characterised by a non-zero threshold intensity, which is typically at least *1000 times lower* than that associated with the onset of thermal heating, on which existing safety guidelines are based (*For further details, see Section III, 11.2 - Hyland*).

Reported adverse health effects near Base-stations

Adverse health effects include increased incidences of:

- Sleeping disorders.
- Memory / concentration problems.
- Headaches.
- Anxiety.
- Seizures in people (particularly, pre-adolescent children) who already suffer from epilepsy.
- Nose bleeds, especially amongst young children attending a school where there is a Base-station.
- Unexplained clusters of human cancers in the vicinity of certain GSM Base-stations [7], whose **non**-involvement remains to be established.
- Much reduced neutrophil counts, which **reverse** in the **absence** of exposure. (A *neutrophil* is a kind of white blood cell, important to the immune system, which engulfs bacteria.)

*The last mentioned effect is particularly important in that it is an **objective quantifier** of an adverse effect - in particular, on the immune system - of exposure to GSM radiation from a Base-station, and thus cannot (possibly unlike some of the other effects) be dismissed as psychosomatic.* Indeed, an extensive programme of blood testing is now underway in Germany, as part of the 'Human Ecological Social Economical (HESE) Project' [8].

Health Risks and the inadequacy of the ICNIRP Guidelines have been fully challenged in the extensive critique presented by Dr Neil Cherry, Lincoln University to the New Zealand Government on 25th April 2000 and to the Italian, Australian, Irish and European Parliaments. June 2000 (Appendix C).

The Frieburger Appeal, 9th October 2002 addresses German Medical Concern (24) and nearer home the statement by a body of doctors on the placement of an O2 mobile phone mast at Cambridge Road, Crosby (Appendix D). See also the Catania Resolution (25) and the Salzburg Resolution (26).

Reference is made throughout this submission to the accompanying December 2003 paper "*The Inadequacy of the ICNIRP Guidelines governing human exposure to the microwave emissions of GSM/TETRA Base-Stations*", with its relevant Appendixes A and B and statement of authorities [1-71] prepared by Dr G J Hyland, Associate Fellow Department of Physics, University of Warwick and Executive Member International Institute of Biophysics Neuss-Holzheim, Germany.

2. The Radiation Research Trust (www.radiationresearch.org) Objectives & Trustees

The Radiation Research Trust is a charitable trust to inform and educate the public about the potential dangers of electromagnetic radiation from mobile telephones and the proliferation of associated GSM, Tetra and other masts. It was established at an inaugural meeting at Westminster Hall on 21st October 2003.

Trustee Members of Parliament are Mark Oaten, Liberal Democrat, Winchester, Andrew Mitchell, Conservative, Sutton Coldfield and Dr Ian Gibson, Labour, Norwich. Other members are leading Biophysicist, Dr Gerard Hyland, an Associate Fellow at the University of Warwick, Eileen O'Connor, an active campaigner of Wishaw, near Sutton Goldfield and the Trust is Chaired by Devon based Scots Lawyer and environmentalist, Michael Bell.

3. Current Mast Numbers and Opposition The Courts

According to the Daily Mail (October 2nd 2003) there are currently 27,000 masts in the UK with a projected 40,000 due by 2007 primarily to meet the needs of 3G for new handsets. 335 Tetra base stations are due for installation on masts and buildings by March 2005 for the MM02 airwave network.

70% of UK population are thought to be in range of the new systems and 25% of masts are currently shared. Already there is significant widely spread opposition to the proliferation of masts, including Tetra, across the whole of the UK and an increasing resort to the courts. Local Planning Committees from large Authorities in Birmingham, to smaller ones in North East Fife and East Devon are all conscious however of the cost implications of refusing permission in the event of a subsequent enquiry ruling against them. The mobile phone operators are perceived as having deep pockets and short time scales. It was confirmed to us by Vodafone at a meeting of The All Party Mobile Group, 30th October 2003 that local health, even in areas with cancer clusters in the light of current World Health guidelines was not perceived as a valid reason for mast re-siting or realignment - mast visibility being regarded as a primary concern.

Two recent decisions in the High Court in England confirm the need for Planning Authorities to take into account health reasons in considering mast applications, these are:-

- On 26 September 2003 in the High Court case before Mr Justice Moses of *Yasmin Skelt v First Secretary of State and Orange PCS Limited*, the Treasury Solicitor on behalf of HM Government conceded with costs the High Court Appeal against the Planning Inspector's decision letter in favour of Orange on the ground stated in the Consent order that "*The Inspector failed to adequately consider the weight to be given to the health concerns*". *Russell Primary School was nearby.*

In his decision letter the Inspector had written "*Because the mast conformed to ICNIRP guidelines there was no need to consider health concerns*".

- On 22 October 2003 Mr Justice Richards in his High Court Judgment in the case of *Mrs Jodie Phillips and Hutchinson 3G* ruled that not only people's health fears have to be taken into account but also in addition concerning the location for the Mast and Base Station selected by the Network Operator that the Question is not just "*Is this an acceptable location but is this the best location?*" The Judge then stated "*and for*

the purpose of answering that question, one can and should look at whatever alternative possibilities there may be. Copy Law Report, The Times (Appendix E).

Currently there are over 100 groups in the UK with strong objections to mast sitings and some of these have implications for local employment. In the light of current PPG Guidance there seems little enthusiasm on the part of the operators to look fully at all available viable alternatives many of which are researched by the Local Action Groups.

4. Continental Concerns and Revised Limits

In continental Europe (and also elsewhere), in an attempt to ensure a higher degree of safety in the case of GSM installations, a number of countries (and even *regions* within certain countries), such as;

- Salzburg [3], in Austria
- Paris [4], in France
- Castilla-La Mancha [5], in Spain

have opted to adopt exposure limits that are significantly more stringent than those of ICNIRP. See Appendix B for a comprehensive list of exposure limits for different countries.

In Italy the national public limit for people exposed for more than 4 hours daily is **90 times lower** than the ICNIRP value (for 1800MHz). Case Studies of adverse health impacts on people actually living near to GSM *Base-stations* [6], have led to *Land Salzburg* to propose a new value (0.01mW/m²) that is 100 times lower than the original Salzburg value.

In Greece on Distances of Masts in November 2003, The Hellenic Ministry of Transport is currently consulting on a minimum distance of 300 metres of Base Station Antennae from hospitals and schools / colleges (similar to Paris Saint-Cyr-L'Ecole's 300 metre prohibition). The Greek Ombudsman is currently looking at a 500 metre distance of Base Station from 'Sensitive Buildings'.

The Dutch Economic Ministry on 30th September in the latest research conducted by the respected TNO Physics and Electronics Laboratory on 3G masts has confirmed there was a significant impact on the test group exposed to its signals. The group felt tingling sensations, got headaches and felt nauseous. The apparent absence of adverse health effects under GSM exposure should not be taken as evidence of safety of GSM signals as those in the test were significantly different from real commercial GSM signals.

The Dutch Research Institute – now has raised these results with the European Commission.

Indeed the Commission has agreed a new Directive designed to protect the Health & Safety of Workers exposed to Electromagnetic fields and waves.

As a contrast in the UK the Mobile Telephone Health Research (MTHR) Initiative funded jointly by the Department of Health and the telecommunications industry is not due to be completed until March 2005 at the earliest.

5. Mast Distances & Guidelines for Exposure Levels From Habitation & Sensitive Sites

The Coghill Research Laboratories Investigation and Report (Appendix F) of April 2003 narrates some of the various clusters in the UK of ill-health round masts erected from 1995 onwards with Wishaw near Sutton Coldfield and Tolworth having the highest incidence level. Mast distances from habitation are all less than 400 metres.

The survey graph on Report 2217, by Alastair Philips at The Wishaw Site (Appendix G) shows the diminishing levels of signal at 600 metres – one half of the 300 metre signal.

The Santini Report (22) extract by Dr J C Walker July 2003 (Appendix H) shows similarly the drop off in the incidence of health problem claims at distances beyond 300 metres.

The following countries or regional exposure limits are below the factor 9 – espoused by the ICNIRP Guidelines:-

Greece
Italy
Belgium
Luxembourg
France (Paris)
Austria – Salzburg
Spain (Regional Castilla-La Mancha)
Switzerland (Prolonged Exposure)
Russian Federation
Australia

6. Submission to Michael O'Brien MP Following Wishaw Site Visit 29th November 2003

The Radiation Research Trust respectfully submits that in the light of the foregoing evidence from other significant countries and cities, the precautionary approach advocated by the Stewart Committee and recognised by Keith Hill MP, Minister for Planning on 30th October 2003 in his address to the All Party Mobile Group as still being the overriding factor, requires, as an interim measure pending full independent research on the adverse health effects, to be updated to give planning authorities the following advice in a further revised PPG 8 Guidance Note.

- Following decisions of the High Court on 26th September and 22nd October both 2003, health is a material consideration for Planning Authorities to take into account when considering an application for a new mast (including additions or extensions to an existing mast) for all mobile phone and terrestrial trunked radio (Tetra) masts where such a new mast is to be sited less than 600 metres from defined sensitive buildings including schools, children's nurseries, hospitals, old people's homes or residential property and that exposure limits should comply with the original Salzburg Resolution limit of 1 m w/m².