

Technical Factors in Telecom Mast Planning Application Adjudication

ACHES (Adult Child Health and Environmental Support) was set up in the UK to raise awareness about potential harms from electromagnetic field radiation emanating from modern technology. ACHES is supportive of technology that is safe and does not harm human health.

1. Telecommunication companies in the UK must apply for planning permission to erect a telecom mast, for which local councils are obliged to adjudicate within the planning system. ACHES wishes to inform councils on recent court decisions and some technical parameters in relation to 5G.
2. Councils seek to ensure telecom apparatus is compliant with ICNIRP safety guidelines, so it is vital for the adjudication that the case officer obtains and makes **publicly** available the technical details of the proposed apparatus in each and every application. This includes the power potentials in dBm (decibel-milliwatts) of the non-isotropic 5G antennae, and the calculated power drop-off over distance in relation to ICNIRP's considered safe guidance metric of $1\text{mW}/\text{cm}^2$.
3. To clarify, power emitted from 4G and the lower Gs drops off in accordance with the inverse square law, which states that the power intensity of the radiation decreases in relation to the square of the distance from the emitting source. This defines isotropic radiation. 5G is entirely different — it is directed energy focused into beams, which is the essence of non-isotropic radiation.
4. In order to comply with ICNIRP, councils need to confirm that the power intensity and power drop-off, which varies for each antenna design, is within the ICNIRP guidance of $1\text{mW}/\text{cm}^2$, including from any other nearby mast(s). This will depend on the specification details of the 5G antennas. Thus, if a local council does not obtain this antenna information, it cannot ascertain whether the applied for antenna array complies with ICNIRP guidance.
5. Exclusion zones refer to the positioning of masts at a safer distance from residents, schools, hospitals etc., which are appropriate for 4G because the energy is isotropic so it drops off in intensity over relatively short distances. This characteristic does not apply to non-isotropic (5G) radiation. Ericsson, which manufactures 5G antennas, has clarified: ***"The size of the exclusion zone makes 5G network roll-out a major problem or impossible."*** (From a presentation "Impact of EMF limits on 5G network roll-out", ITU Workshop on 5G, EMF & Health, Warsaw, December 5 2017.). To create an exclusion zone that is compliant at its border with the ICNIRP guideline of $1\text{mW}/\text{cm}^2$ could require such a huge zone that it could make it impossible to roll-out 5G due to its non-isotropic nature.
6. **An ICNIRP certificate is insufficient to verify whether the power output from any mast is within ICNIRP guidelines**, because such certificates do not provide the antenna design details, the power intensity and power drop-off with distance of the 5G apparatus. In the absence of this information any application should be refused. Otherwise the council will not know whether the radiation at the boundary of the exclusion zone is ICNIRP compliant. **This letter has been sent to all UK local**

planning authorities, demonstrating that they will have full knowledge of circumstance in this critical issue.

7. In a recent judicial review court case, Judge Jarman held that Cheltenham Borough Council (CBC) was in error because the council had not considered people with metal implants (including pacemakers, replacement joints, mesh, dental amalgam fillings, and other implants) who fall outside the ICNIRP purview. The ICNIRP guidance **specifically excludes such individuals from the scope of their guidance**—the very guidance that councils rely on. The Court of Appeal dismissed CBC's attempt to overturn the Jarman ruling.

8. In the light of the Jarman ruling, residents should be able to inform a given council that their safety falls outside the ICNIRP guidance because they have metal devices/implants in their body. Nokia, which is involved in the supply of 5G antennae, stated that a single 5G mast can emit radiation over hundreds of square miles. Owing to the colossal reach of non-isotropic 5G radiated beams, as Ericsson noted, all residents within a council's boundary should be included in the consultation.

9. For every telecom mast application, councils need to conduct such a consultation with all its residents, and the governance for such consultations is the **Gunning Principles**.

10. A further concern for every council is a response given by the **United Kingdom Health Security Agency** to James Leighton, on the 23rd December 2024 under reference 20/10/24/LS/427, which noted the following: **"Consequently members of the public should be protected:**

- if the manufacturer of the AIMD [active implantable medical device] used the designated standard to demonstrate compliance with UK Regulators**
- the manufacturer of the AIMD issued no applicable warnings, and**
- exclusion zones around mobile phone masts based on ICNIRP public exposure guidelines are respected by the AIMD wearer".**

11. Of particular concern is that every wearer of an AIMD needs to be aware of the exclusion zone of every mast in the UK in case he or she wishes to visit a particular place. How else can any such person protect himself or herself, especially as masts are frequently sited in places of heavy footfall, such as high streets, schools, hospitals, and libraries.

12. 4G exclusion zones would need to be indicated in the consultation, under the **Gunning Principles**. Exclusion zones for 5G cannot be ascertained without full knowledge of the antenna designs for the reasons set out above. Castle Point Borough Council has noted the CBC judicial review case (cited above), and also referenced exclusion zones, in their local plan submission.

We hope that councils find this letter useful when adjudicating mast telecom planning applications.

With kind regards,

Nicholas Martin, Ian Jarvis, and Michael Kenton, on behalf of ACHES