

Dear....

ACHES is a non-profit NGO created for Adult Child Health and Environmental Support. We are cognisant of the effects of microwave radiation on the human body and on the environment in general.

Microwave radiation in air includes telecoms masts servicing the range of 2G to 4G and 5G, as acknowledged by the International Commission for Non-Ionising Radiation Protection (ICNIRP).

We are aware that Councils' concerns in this respect are primarily as follows:-

1. **Following ICNIRP guidelines**
2. **Net Zero policies**
3. **Equality legislation**
4. **Digital connectivity**

1. ICNIRP guidelines

As stated in our first letter to you in relation to the National Planning Policy Framework (NPPF), it is apparent that local councils, guided by national government policy, base their approaches to such radiation in the ICNIRP guidelines, as follows:

Para 117: “(b) ... for an addition to an existing mast or base station, a statement that self-certifies that the cumulative exposure, when operational, **will not exceed International Commission guidelines on non-ionising radiation protection; or**

(c) for a new mast or base station, evidence that the applicant has explored the possibility of erecting antennae on an existing building, mast or other structure and a statement **that self-certifies that, when operational, International Commission guidelines will be met.**”

Para 118: “Local planning authorities must determine applications on planning grounds only. They should not seek to prevent competition between different operators, question the need for an electronic communications system, **or set health safeguards different from the International Commission guidelines for public exposure.**”

What concerns us is the question as to which council, having stated reliance in ICNIRP, can verify that the telecom masts in its territory and for which they have granted planning permission, actually comply with ICNIRP guidance?

Next, with regard to 5G masts – 5G is technically different from previous generations, in that it involves collimation of signal, which is beam forming. Beam formed signals can go for miles at a very high-power density. Our concern is that councils may not be aware of this key aspect ie that 5G non isotropic beams do not drop off in power intensity in the way that 2G to 4G beams do.

Furthermore, we have been alerted to a paper, prepared by a ground radar and approach engineer, the relevance being that most radar is microwave radiation, as is 5G. This paper draws on data from the national spectrum regulatory body in France (ANFR), the equivalent to OFCOM in the UK. The paper details a 5G mast array which has a set of antennae

(including certain Nokia equipment) ranging from 2G to 5G. It shows the combined total power output from the mast set of 47,000 watts, which equates to 47,000,000 mW.

<https://www.electromagnetic-expert.com/relay-antennas/puissance-reelle-emission-5g/>

The ICNIRP metric which councils must comply with, is 1mW/cm². Without knowledge or understanding of the specific antennae design details from the Telecom applicant in any typical case, how would a council be able to verify that such an antennae set is compliant with the ICNIRP limit? If your council has done so, we would be obliged if you could provide us with the calculations.

Therefore, without this information or access to an expert capable of making accurate calculations, you as a council might have been granting planning permission for masts in breach of ICNIRP and so in breach of the NPPF.

Only councils have the power to grant such planning permission. No other body carries this responsibility and corresponding liability. It is important to bear in mind that ICNIRP itself disclaims all liability for the adoption of its guidance.

If a person were to be injured as a result of receiving radiation from a non ICNIRP compliant 5G mast which had been given planning permission by your council, where would the council stand in relation to a potential personal injury claim? Wera Hobhouse MP has said in a letter to the Minister at the Dept of Media Culture and Sport, that councils would not be insured. She explains that the main underwriters, Lloyds of London and Swiss Re, are not prepared to cover this risk.

2. Net Zero Policies

Most councils have Climate Emergency Committees based on international Net Zero policies. However, 5G is recognised as a massive energy consumer. It has been projected to “increase power consumption by 61 times from 2020 to 2030, due to its energy demands” as reported in 2020 by the ABI Research Data Center Forum. It is said too that a 5G mast consumes 3 times as much energy as a 4G mast - <https://ehtrust.org/report-5g-to-increase-energy-consumption-by-61-times/>

Similarly, a report published by France's High Council on Climate warned that rolling out 5G technology could lead to a sharp increase in power consumption and greenhouse gas emissions. “The report, published in December 2020, found that 5G networks could be responsible for an extra 3 to 7 billion extra tonnes of CO₂ released into [the] atmosphere [in France].” https://www.hautconseilclimat.fr/wp-content/uploads/2020/12/hcc_rapports_5g-en.pdf

Yet the whole Net Zero Climate Emergency agenda is based on the notion that human activity is already generating too much CO₂, which is heating up the earth. It is important to recognise that the resulting plan to implement Low Traffic Neighbourhoods, Active Travel and 15-minute cities all require the high-energy consuming infrastructure of the 5G network.

The objective of most councils is to conserve energy. For example, councils throughout the country have installed LED street lighting on the basis of such energy conservation. We may write to you about this separately in the future.

The approach of local councils' mast planning approvals, guided by national government policy, is based on the assumption that they are ICNIRP compliant. ICNIRP guidelines recognise that microwave radiation in air increases temperature, based on the Specific

Absorption Rate thermal approach (SAR), which is a heating metric. Indeed, ICNIRP compliance sets out limits to temperature increases. If you as a council have granted planning permission for any 5G telecom masts in your territory that might be in breach of ICNIRP metrics, that would mean that these masts could be heating up the atmosphere by more than the specified maximums.

In addition, it's worth noting that simply powering a 5G mast consumes the equivalent of 48 homes' worth of electricity use, according to Ofgem for 2020 and a report from Huawei. Taking into account the huge numbers of transmitters required and the Massive Multiple Input and Multiple Output (Massive MIMO) technology that 5G uses to allow for beam-forming capabilities, the calculations in the report show that 5G would consume 3 - 3.5 times the power of a 4G per base station, which is the equivalent of 73 homes in the UK. <https://carrier.huawei.com/~media/CNBG/Downloads/Spotlight/5g/5G-Power-White-Paper-en.pdf>

In summary, bearing in mind all of the above, the rolling out of the 5G network would seem to run counter to the attempt of councils to reduce the identified climate emergency. What sense is the electorate supposed to make of this anomaly?

3. Equality legislation

In their 2020 Statement of Principles, ICNIRP states:

“Indirect effects Most health effects considered in non-ionizing radiation protection are direct effects. However, health effects can also arise from indirect pathways. For instance they may occur from an electric discharge arising from metallic objects charged by exposure to some types of non-ionizing radiation; these types of indirect effects are considered by ICNIRP. Other types are not, for example, heating of metallic objects in the body, such as prostheses, or an influence on the operation of medical devices such as pacemakers. The latter electromagnetic interference effects are of a technical nature and do not fall within the remit of ICNIRP.”

<https://www.icnirp.org/cms/upload/publications/ICNIRPprinciples2020.pdf>

Given the above, clearly councils should be taking steps to protect such vulnerable groups. If not, then such a council would obviously fail to be in compliance with ICNIRP guidance.

We are given to understand that a Letter Before Claim has recently been served on a UK council relating to this exact issue.

4. Digital connectivity

We are aware that national government's levelling up policy includes the aim for the UK to have “nationwide gigabit-capable broadband and 4G coverage, with 5G coverage for the majority of the population” (from the White Paper ‘Levelling Up the United Kingdom’). However, as we have shown, wireless technology results in higher greenhouse gas emissions, compared to safer, faster, and more secure corded/wired fibre-optic connections. In addition, increased connectivity can be achieved by fibre. It provides disadvantaged communities with more reliable access to medical and other services for the elderly and disabled during emergencies or severe weather, when wireless service is more likely to be interrupted.

Former FCC Chair Tom Wheeler, in his testimony to US Congress in March 2021, said that *“Fiber provides symmetrical speeds of anywhere from a hundred megabits per second to ten gigabytes. Huge capacity of data transfer and it has a lifespan of 25 to 50 years. Wireless only provides asymmetrical speeds maybe of up to 25 and a hundred megabits per second with a lifespan of five years before they need to be upgraded.”*

Conclusion

In conclusion, we are highlighting grave concerns. Nobody wants to see people harmed and nobody wants to see their council facing unlimited liability claims which could drive them into insolvency.

If it can be proved that such masts are not ICNIRP compliant, councils would have to serve planning enforcement notices for such masts to be taken down.

It is surely incumbent upon any council to demonstrate that they have not sanctioned equipment that is in contravention of the NPPF, which states that they must not set health standards which differ from ICNIRP.

In this regard ACHES will be writing to councils to ascertain ICNIRP compliance relating to masts for which planning permission has been given in the relevant territories.

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