



Llywodraeth Cymru
Welsh Government

Ein cyf/Our ref ATISN 14430

15 October 2020

Dear

Request for Information – ATISN 14430

Thank you for your request for information dated 9 October. My understanding of what you have asked for is:

- **In view of the steps taken by the U.S. Defense Advanced Research Projects Agency on electromagnetic field exposure, will any part of the Welsh Government be keeping a watching brief on this subject and if not, why?**

The information held by the Welsh Government in relation to your request is provided below.

Mobile telecommunications technology has developed through several generations and there are now many 2G, 3G and 4G base stations installed throughout the environment providing services to users of mobile phones and other devices. Over the decades since the networks were first introduced there has been a general trend towards increasing numbers of smaller transmitters that individually provide services to smaller geographical areas and which have reducing radiated powers. Against this background, many measurements have been made and these continue to show that exposures of the general public to radio waves are well within the international health-related guideline levels that are used in the UK. These guidelines are from the International Commission on Non-Ionizing Radiation Protection (ICNIRP) and underpin health protection policies at UK and European levels.

In relation to the implementation of 5G user devices and networks, the roll out of this technology is at an early stage and reflects the latest evolution in mobile communications technology. Current technical standards that draw on the ICNIRP guidelines will apply to the products that are developed and the UK network operators are already committed to complying with the ICNIRP guidelines.



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Rydym yn croesawu derbyn gohebiaeth yn Gymraeg. Byddwn yn ateb gohebiaeth a dderbynnir yn Gymraeg yn Gymraeg ac ni fydd gohebu yn Gymraeg yn arwain at oedi.

We welcome receiving correspondence in Welsh. Any correspondence received in Welsh will be answered in Welsh and corresponding in Welsh will not lead to a delay in responding .

With the increase in the volume of information being transferred, more spectrum is being made available and the highest frequencies being discussed for future use by 5G are around ten times higher than those used by current network technologies, up to a few tens of GHz. Their use is not new, and they have been used for point-to-point microwave links and some other types of transmitters that have been present in the environment for many years. ICNIRP guidelines apply up to 300 GHz, well beyond the maximum (few tens of GHz) frequencies under discussion for 5G.

ICNIRP restated the radiofrequency (RF) parts of its 1998 exposure guidelines in 2009 based on its own comprehensive review of the scientific evidence published at that time. Evidence reviews from independent expert groups, the Advisory Group on Non-Ionising Radiation (AGNIR) in 2012 and the Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) in 2015, support the view that adverse health effects are unlikely to occur if exposures are below international guideline levels. This is explained here:

<https://www.gov.uk/government/publications/mobile-phone-base-stations-radio-waves-and-health/mobile-phone-base-stations-radio-waves-and-health>

ICNIRP published draft updated radiofrequency guidelines in 2018 and is presently finalising these new guidelines. Public Health England (PHE) will consider the new guidelines when they are published.

PHE is a collaborating body in the World Health Organization's (WHO) International EMF Project, which brings together organisations from around the world to share information on this topic. An overview of the radio wave exposure restrictions applied in a range of countries has been provided by WHO at the following link:
<http://apps.who.int/gho/data/node.main.EMFLIMITSPUBLICRADIOFREQUENCY?lang=en>

This shows that the majority of countries are following the ICNIRP guidelines (41 volts per meter at 900 MHz and 58 volts per meter at 1800 MHz).

Exposure to radio waves is not new and health-related research has been conducted on this topic over several decades. In particular, a large amount of new scientific evidence has emerged over the past few years through dedicated national and international research programmes that have addressed concerns about rapidly proliferating wireless technologies.

The main focus of recent research studies has been on exposure to the types of radio signals used by current communications technologies and at the frequencies they use, up to a few GHz. Fewer studies have been carried out at higher frequencies but the biophysical mechanisms that govern the interaction between radio waves and body tissues are well understood at higher frequencies and are the basis of the present ICNIRP restrictions. The main change in using higher frequencies is that there is less penetration of radio waves into body tissues and absorption of the radio energy, and any consequent heating, becomes more confined to the body surface.

It is possible that there may be a small increase in overall exposure to radio waves when 5G is added to an existing network or in a new area; however, the overall

exposure is expected to remain low relative to guidelines and as such there should be no consequences for public health.

PHE is aware that different countries have responded to concerns about electromagnetic fields in different ways and measures adopted and the reasons behind them vary from country to country. Where countries have taken certain policy initiatives or introduced alternative limits, these do not appear to have a scientific rationale based on health effects in the same way as the ICNIRP guidelines. PHE is not aware, therefore, that these initiatives are driven by any scientific evidence that has been overlooked in its own advice.

PHE-CRCE keeps emerging worldwide scientific studies under review. PHE-CRCE publishes comprehensive reviews of the scientific evidence relevant to radio wave exposures and health from time to time and it is committed to keeping its advice under review and to updating its advice should new evidence dictate that as necessary, which at present it does not.

Whilst fully appreciating concerns surrounding the potential health effects of increased exposure to electromagnetic fields associated with digital devices and infrastructure, it is clear that there should be no current cause for concern in relation to the ever growing development and implementation of enabling infrastructure and devices.

If you are dissatisfied with the Welsh Government's handling of your request, you can ask for an internal review within 40 working days of the date of this response. Requests for an internal review should be addressed to the Welsh Government's Freedom of Information Officer at: Information Rights Unit, Welsh Government, Cathays Park, Cardiff, CF10 3NQ or Email: Freedom.ofinformation@gov.wales. Please remember to quote the ATISN reference number above.

You also have the right to complain to the Information Commissioner. The Information Commissioner can be contacted at: Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF. However, please note that the Commissioner will not normally investigate a complaint until it has been through our own internal review process.

The request you sent me contains personal information about you - for example, your name and address. The Welsh Government will be the data processor for this information and, in accordance with the General Data Protection Regulation, it will be processed in order to fulfil our public task and meet our legal obligations under the Act to provide you with a response. We will only use this personal information to deal with your request and any matters which arise as a result of it. We will keep your personal information and all other information relating to your request for three years from the date on which your request is finally closed. Your personal information will then be disposed of securely.

Under data protection legislation, you have the right:

- to be informed of the personal data we hold about you and to access it
- require us to rectify inaccuracies in that data

- to (in certain circumstances) object to or restrict processing
- for (in certain circumstances) your data to be 'erased'
- to (in certain circumstances) data portability
- to lodge a complaint with the Information Commissioner's Office (ICO) who is our independent regulator for data protection

For further information about the information which the Welsh Government holds and its use, or if you wish to exercise your rights under the GDPR, please contact: Data Protection Officer, Welsh Government, Cathays Park, CARDIFF, CF10 3NQ or e-mail DataProtectionOfficer@gov.wales.

The address for the Information Commissioner's Office is: Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF. Phone numbers are 01625 545 745 or 0303 123 1113. Electronic contact details are at <https://ico.org.uk/global/contact-us/email/>.

Any information released under the Freedom of Information Act 2000 or Environmental Information Regulations 2004 will be listed in the Welsh Government's Disclosure Log (at <https://gov.wales/about/open-government/freedom-of-information/responses/?lang=en>).

Yours sincerely