



Llywodraeth Cymru
Welsh Government

Our ref ATISN 15094

Dear

11 May 2021

Request for Information – ATISN 15094

Your request

Thank you for your request for information sent on 23 April and further email of 30 April providing clarification on the information you have requested regarding 5G transmitters. You asked for the following information:

1. The technical information with regards to the roll out of the new 5G transmitters in Wales, (it has come to my attention that the transmitters have been rolled out in the new LED lighting over the last 12-24 months)
2. The risk assessment conducted on the side effects to the human body of these transmitters and if they meet the current safety standards laid out.

Our response

I can confirm we hold information captured by your request. For question one, the telecommunications policy, including regulatory policy relating to the roll-out of 5G, is not devolved to the Welsh Government, the responsibility rests with the UK Government. Similarly, the roll out of 5G technology, infrastructure and services is industry-led, predominantly by the Mobile Network Operators (MNOs) and private sector; the Welsh Government and Local Authorities are not responsible for the building of 5G networks.

Full 5G coverage across the UK is not expected to be available until 2022/23 at the earliest. The roll out of 5G does not require public consent, although normal planning restrictions might apply for the erection of required infrastructure. For further information please contact the Mobile Network Operators (MNOs) directly to discuss the matter or via Mobile UK, the trade association for the UK's mobile network operators - EE, O2, Three and Vodafone. Information and contact details can be found at www.mobileuk.org

The Welsh Government and its Ministers are responsible for the Motorway and Trunk Road network in Wales and its associated assets including street lighting. In this case the street lighting you refer to is located on the local road network and is therefore the



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MEWN POBL | IN PEOPLE

Llywodraeth Cymru /
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Parc Cathays / Cathays Park
CF10 3NQ

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.

responsibility of your local authority who will hold the relevant information relating to your request.

For question two, overall industrial specifications and health and safety considerations of 5G technology is also not devolved to Wales, again, resting with the UK Government. However, responsibility for the wider public health of the Welsh population is devolved to the Welsh Government.

The Welsh Government is advised by Public Health England's (PHE) Centre for Radiation, Chemicals and Environmental Hazards (PHE-CRCE) in relation to the protection of communities from radiation hazards, which includes 5G, wifi and related technologies. The Welsh Government retains the services of PHE-CRCE in an advisory capacity because of their level of expertise and breadth of remit, and because they give greater weight to documents that use rigorous review processes and base their advice on the entire range of scientific information available.

Officials have requested information from PHE-CRCE in respect of on the health effects of 5G, and they have provided us with the following information:

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.

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. Furthermore WHO is conducting a health risk assessment from exposure to radiofrequencies, covering the entire radiofrequency range, including 5G, to be published by 2022.

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.

In the meantime, if you would like to highlight the issues of concern, I would suggest forwarding these concerns to the Department for Digital, Culture, Media and Sport:

Department for Digital, Culture, Media & Sport
100 Parliament Street
London
SW1A 2BQ
United Kingdom

Email : enquiries@culture.gov.uk

Next steps

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.

Yours sincerely