

## Consultation on new EMF licence condition - FAQs

### What is Ofcom proposing?

Ofcom has recently published a consultation requiring compliance with international guidelines on electromagnetic field (EMF) emissions. These guidelines have been issued by ICNIRP (the International Commission on Non-Ionizing Radiation Protection) and are known as the ICNIRP Guidelines.

We are proposing to include a specific condition in Wireless Telegraphy Act licences requiring licensees to comply with the ICNIRP Guidelines.

This licence condition would apply to all radio equipment that is authorised to transmit at powers above 10 Watts EIRP. We are proposing to include the new condition in new licences and vary existing licences to include the new condition.

We propose to apply a similar approach for equipment that is currently licence-exempt (or may be exempt in the future).

In addition, we are proposing that spectrum licensees keep records (including the results of any measurements, tests and calculations) that demonstrate how they have complied with the ICNIRP Guidelines.

### Why are you doing this?

We think there is a risk that some spectrum users may not be fully aware of the ICNIRP Guidelines and may not be fully taking EMF emissions into account when installing or modifying radio equipment. We are also concerned that some spectrum users may not have appropriate processes in place to monitor the levels of EMF emissions and ensure compliance with the ICNIRP Guidelines on an ongoing basis.

### Which licences/licensees will be affected?

We are proposing that the new licence condition will apply to all radio equipment that is authorised to transmit at powers above 10 Watts EIRP.

If a licensee does not operate any equipment which is authorised to transmit at powers above 10 Watts EIRP, they would not be affected. We believe that low power equipment has a low risk of breaching the ICNIRP Guidelines.

We would, however, still recommend that **all** licensees familiarise themselves with the ICNIRP Guidelines.

### What will licensees need to do?

We are currently consulting on our proposals. Our [consultation](#) document can be found on the Ofcom website. Please note however that [the consultation deadline has been suspended](#) until further notice. The consultation document includes our proposed draft licence condition, and guidance for licensees on the processes they should have in place to ensure compliance with the ICNIRP Guidelines.

If, following the consultation period, we proceed with implementing our proposals (in their current or an amended form), affected licensees will need to ensure that they comply with the ICNIRP Guidelines and keep records of this compliance.

### When will existing licences be updated?

If we proceed with our proposals (in their current or an amended form), we will outline in our policy statement which licences we will vary first and the planned timeline for doing so.

We plan to write to licensees to vary their licence(s). We will phase this work over a period of time and will start by varying those licences which authorise equipment at relatively high power levels.

### How will you know if licensees are compliant?

As part of our ongoing spectrum assurance work, Ofcom already carries out compliance checks on radio equipment to ensure it complies with licence conditions. If this new condition is included in licences we would expect to additionally check EMF compliance records as part of this work.

We may also, at our discretion, undertake measurements to confirm compliance when we have reasonable grounds to believe that a licensee is operating equipment in a way that may breach the ICNIRP Guidelines.

### What will happen if I do not comply?

Our proposals would ensure Ofcom is in a position to take appropriate enforcement action if licence conditions are breached. This could include engaging with licensees, installers and users to provide information, advice and/or warnings; varying or revoking licences; requiring radio equipment to be temporarily or permanently closed down; and/or taking criminal or regulatory enforcement action. Further details are provided at paragraphs A2.18-A2.35 of our consultation.

### What if my equipment is installed or operated by a third party?

The responsibility for compliance lies with the licensee. Licensees will therefore need to ensure that relevant third parties install and operate radio equipment in a manner which is compliant with the ICNIRP Guidelines and that they have appropriate processes in place to ensure compliance.

### This new condition could involve a lot of extra paperwork

All spectrum users should already be aware of the ICNIRP Guidelines and, where necessary, have processes in place to ensure their radio equipment is compliant with the ICNIRP Guidelines.

In most cases this will not require a lot of paperwork. Licensees will need to record how they ensure that their equipment is not operating in breach of the guidelines and are free to decide on the most appropriate approach based on their individual circumstances.

As indicated in paragraph A2.9 of our consultation, this could be as simple as showing how you have followed manufacturer instructions relating to EMF safety. In other cases, it could involve recording any calculations you have carried out to identify the safe separation distance between the equipment and members of the public, and how this distance is maintained. In some cases, licensees may wish to ask a qualified professional for assistance and/or advice.

**My radio equipment is portable so its location can change. Will I need to complete a new calculation every time?**

You will need to ensure that the radio equipment is always operated in a way that is compliant with the ICNIRP Guidelines. In cases where the equipment is moved but the operating parameters remain the same, demonstrating compliance may not require a new calculation and may simply involve ensuring that a safe separation distance is maintained between the equipment and members of the public. You will however need to consider whether equipment is being moved to a shared site and if so, have processes in place to ensure the shared site remains compliant with the ICNIRP Guidelines.

**We have used this equipment for many years without any problems. Is this really necessary?**

Although we believe the vast majority of licensees do take safety precautions into account, we think that there is still a risk that some spectrum users may not be fully taking account of EMF emissions when installing or modifying radio equipment. We consider that our proposals are the minimum necessary to address these risks and help reassure the public.

**Would licensees have to notify Ofcom every time they make a change to their radio equipment?**

No. The licence condition would require licensees to keep their own records and make these available to Ofcom on request, e.g. as part of a routine Ofcom compliance check. Paragraph A2.12 of our consultation provides further information on this point.

**Will your proposed changes also apply to amateur licences?**

Our proposals apply to all licences which authorise the transmission of radio equipment at powers above 10 Watts EIRP. Our current view is that this would include amateur licences.

We note that the current amateur licences already contain a condition requiring safety precautions against radio frequency (RF) radiation to be taken in line with Public Health England (PHE) recommendations and that the radio amateur syllabus covers health aspects of electromagnetic fields and also refers to PHE and the ICNIRP Guidelines. If we decide to go ahead with our proposals (in their current or an amended form), we will consider the current amateur licence condition and how this should be amended to give effect to our proposals.

**I am a radio amateur – this condition should only apply to situations where other people could be exposed to levels higher than the ICNIRP Guidelines, and not to myself**

Our proposals are aimed at protection of the general public from EMF emissions. Licensees will need to ensure that members of the public cannot access any areas where the limits for general public exposure from the ICNIRP Guidelines are exceeded.

**The ICNIRP Guidelines have recently changed. Will you take account of this in your proposals? Does it affect your recently published measurement results?**

ICNIRP published revised guidelines on limiting exposure to electromagnetic fields on 11 March 2020. Ofcom's consultation was published before this date and therefore refers to the previous guidelines, dated April 1998. We noted in our consultation that we would reflect the updated guidelines in our future work (including our proposed licence condition). We will also take into account advice and guidance on the updated guidelines from Public Health England.

The new guidelines can be found here: [ICNIRP Guidelines 2020](#); and a document describing the differences between the 1998 and 2020 guidelines can be found here: [Differences 1998 2020](#).

The measurements in our [EMF test report](#) were carried out based on the levels in the 1998 version of the ICNIRP Guidelines. However, as ICNIRP points out, ‘the basic restriction values themselves have not changed, as research has now shown that they were even more conservative than was originally thought.’ Further, as can be seen from the ‘Differences 1998 2020’ document at the link above, many of the changes in the 2020 version of the Guidelines apply to frequencies above 6 GHz. The measurements in our EMF test report were for frequencies below 6 GHz and therefore most of the changes in the updated Guidelines are not relevant. One change that would be relevant to measurements below 6 GHz is that the updated Guidelines recommend that whole body exposure measurements should now be averaged over 30 minutes rather than 6 minutes. However, as the guideline safety levels in the ICNIRP Guidelines have not changed, we would expect the measurement results to remain well within these levels. Our measurement programme is currently on hold due to the ongoing coronavirus pandemic. When we recommence our measurements, we expect to additionally undertake measurements that will be averaged over 30 minutes. We also expect to conduct some repeat measurements at locations already visited where we can compare the previous measurement results averaged over 6 minutes with the results of measurements averaged over 30 minutes.

## EMF and 5G

### Is there a connection between 5G and Covid-19?

No. There is absolutely no credible evidence of a link between 5G and Covid-19. Public Health England have recently said that there is “no plausible mechanism that would explain any such a relationship” between 5G mobile and coronavirus.

### What is 5G?

5G is the new generation of wireless technology. It follows previous generations of mobile technology such as 3G - which gave us mobile internet access that led to the launch of smartphones - and 4G - which offers much faster browsing and allows us to do things like watching videos on the move.

Some mobile companies have already launched 5G services in the UK, with others set to follow.

### What is different about 5G technology?

There is nothing fundamentally different about the radio signals that will be produced by 5G equipment compared to previous technologies like 3G and 4G.

Further details on the differences between 5G and previous mobile technologies are presented in Annex 3 of our [consultation](#).

### Does 5G result in increased dangers to public health?

In the UK, Public Health England (PHE) takes the lead on public health, including matters associated with EMF, and has a statutory duty to provide advice to Government on the health effects of electromagnetic fields. PHE’s position is that exposure to radio waves should comply with the ICNIRP Guidelines.

PHE's view in relation to 5G is that "the overall exposure is expected to remain low relative to guidelines and, as such, there should be no consequences for public health".

It is possible that there may be an incremental increase in overall exposure to radio waves when 5G is added to an existing mobile network or in a new area. This is true whenever extra frequencies are added to a network and is not specific to 5G.

#### Have you conducted any testing of 5G emissions?

Over the last few months, Ofcom has measured emissions at mobile sites which have deployed 5G technology. In all cases, emission levels are well within the levels published in the ICNIRP Guidelines. Ofcom will continue to monitor 5G signal levels as 5G becomes more widely adopted.

The [results of our measurements](#) are available on the Ofcom website.

#### What else is Ofcom doing about 5G emissions?

Ofcom has published a consultation which proposes to include a new condition in all licences which authorise powers above 10 Watts EIRP. These new conditions will require affected licence holders (including those offering 5G services to consumers) to take account of the ICNIRP Guidelines when installing, modifying or using radio equipment.

The [consultation](#) has been published on Ofcom's website.