

# EMF licence condition

## Sites which are not shared with another licensee

1. The Licensee shall only establish, install, modify or use Relevant Radio Equipment if the total electromagnetic field exposure levels produced by the Licensee's On-Site Radio Equipment do not exceed the basic restrictions<sup>1</sup> in the relevant tables for general public exposure identified in the ICNIRP Guidelines<sup>2</sup> in any area where a member of the general public is or can be expected to be present when transmissions are taking place.

## Sites which are shared with another licensee

2. In the case of a shared site where the Shared Site Exemption applies to the Licensee, the Licensee shall comply with paragraph 1 above.
3. In the case of a shared site where the Shared Site Exemption does not apply to the Licensee, the Licensee shall only establish, install, modify or use the Relevant Radio Equipment if:
  - a) the total electromagnetic field exposure levels produced by the Licensee's On-Site Radio Equipment, together with
  - b) the total electromagnetic field exposure levels produced by all other wireless telegraphy stations and wireless telegraphy apparatus operated by another licensee on the same site for which the Licensee can reasonably assume that a Shared Site Exemption does not apply,

do not exceed the basic restrictions<sup>3</sup> in the relevant tables for general public exposure identified in the ICNIRP Guidelines<sup>4</sup> in any area where a member of the general public is or can be expected to be present when transmissions are taking place.

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1 Compliance with the reference levels for general public exposure identified in the ICNIRP Guidelines will ensure compliance with the basic restrictions.  
2 The relevant tables for general public exposure are identified in Ofcom's "Guidance on EMF Compliance and Enforcement".  
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## **Emergency Situations**

4. The obligations in paragraphs 1, 2 and 3 above will not apply if the Relevant Radio Equipment is being used for the purpose of seeking emergency assistance or reporting and responding to an emergency situation (in the vicinity of that situation) including for search and rescue activities and maritime emergency communications.<sup>5</sup>

## **Relationship with authorised transmission levels**

5. The Licensee shall comply with paragraphs 1, 2 and 3 above notwithstanding the maximum transmission levels authorised in the Licence.

## **Records**

6. The Licensee shall keep, or shall procure that a third party shall keep, and shall make available to Ofcom on request, records (including the type of records identified in Ofcom's "Guidance on EMF Compliance and Enforcement") that demonstrate how it has complied with paragraphs 1, 2 and 3 above when Relevant Radio Equipment is established, installed, modified or used.

## **Ofcom's "Guidance on EMF Compliance and Enforcement"**

7. When evaluating its compliance with paragraphs 1, 2 and 3 above, the Licensee shall take into account Ofcom's "Guidance on EMF Compliance and Enforcement" that is in force at the relevant time.

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<sup>5</sup> Further information on emergency situations is set out in Ofcom's "Guidance on EMF Compliance and Enforcement".

## Interpretaton

8. In this schedule:

- (a) **“dBi”** means the ratio in dB (decibel) when comparing the gain of the antenna to the gain of an isotropic antenna. An isotropic antenna is a theoretical antenna which radiates power uniformly in all directions.
- (b) **“EIRP”** means equivalent isotropically radiated power which is the product of the power supplied to an antenna and the absolute or isotropic antenna gain in a given direction relative to an isotropic antenna.
- (c) **“ERP”** means effective radiated power which is the product of the power supplied to an antenna and its gain in a given direction relative to a half-wave dipole.
- (d) **“general public”** means any person who is not: (a) the Licensee, owner, operator or installer of the Relevant Radio Equipment; or (b) acting under a contract of employment or otherwise acting for purposes connected with their trade, business or profession or the performance by them of a public function.<sup>6</sup>
- (e) **“ICNIRP Guidelines”** means the version of the Guidelines published by the International Commission on Non-Ionizing Radiation Protection for limiting exposure to electromagnetic fields which are identified in Ofcom’s “Guidance on EMF Compliance and Enforcement” that is in force at the relevant time.<sup>7</sup>
- (f) **“Licensee’s On-Site Radio Equipment”** means the Relevant Radio Equipment and any other wireless telegraphy station(s) and wireless telegraphy apparatus on the same site which transmits at powers higher than 10 Watts EIRP or 6.1 Watts ERP.<sup>8</sup>

<sup>6</sup> There is pre-existing health and safety legislation which already requires employers to protect workers from exposure to electromagnetic fields (“EMF”) including the following legislation specifically relating to EMF (as amended from time to time): [The Control of Electromagnetic Fields at Work Regulations 2016](https://www.legislation.gov.uk/ukxi/2016/588/pdfs/ukxi_20160588_en.pdf) <[https://www.legislation.gov.uk/ukxi/2016/588/pdfs/ukxi\\_20160588\\_en.pdf](https://www.legislation.gov.uk/ukxi/2016/588/pdfs/ukxi_20160588_en.pdf)>, [The Control of Electromagnetic Fields at Work Regulations \(Northern Ireland\) 2016](https://www.legislation.gov.uk/nisr/2016/266/contents/made) <<https://www.legislation.gov.uk/nisr/2016/266/contents/made>> and [The Merchant Shipping and Fishing Vessels \(Health and Safety at Work\) \(Electromagnetic Fields\) Regulations 2016](https://www.legislation.gov.uk/ukxi/2016/1026/contents/made) <<https://www.legislation.gov.uk/ukxi/2016/1026/contents/made>>.

<sup>7</sup> Ofcom’s “Guidance on EMF Compliance and Enforcement” will initially require the Licensee to comply with the ICNIRP Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300 GHz), published in: Health Physics 74(4):494-522, dated April 1998 and available at: <<https://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf>> (“1998 Guidelines”) or the ICNIRP Guidelines for limiting exposure to electromagnetic fields (100 KHz to 300 GHz), published in: Health Physics 118(5): 483-524; 2020 and available at: <<https://www.icnirp.org/cms/upload/publications/ICNIRPrfgdl2020.pdf>> (“2020 Guidelines”). However, once work on the relevant standards explaining the methodology for assessing compliance with the 2020 Guidelines has progressed sufficiently, Ofcom will publish a public consultation on updating its “Guidance on EMF Compliance and Enforcement” to explain that going forward Ofcom will be requiring the Licensee to comply with the 2020 Guidelines only. Following this public consultation, Ofcom will publish an updated version of Ofcom’s “Guidance on EMF Compliance and Enforcement” on its website. Ofcom will follow the same process for any subsequent versions of the ICNIRP guidelines.

<sup>8</sup> 10 Watts EIRP is equivalent to 6.1 Watts ERP. In linear units  $EIRP (W) = 1.64 \times ERP (W)$ ; in decibels  $EIRP (dB) = ERP (dB) + 2.15$ . Ofcom’s “Guidance on EMF Compliance and Enforcement” explains how the Licensee can determine if wireless telegraphy station(s) or wireless telegraphy apparatus “transmits at powers higher than 10 Watts EIRP or 6.1 Watts ERP”.

- (g) **“Relevant Radio Equipment”** means all the Radio Equipment that is authorised by this Licence to transmit at powers higher than 10 Watts EIRP or 6.1 Watts ERP.
- (h) **“Shared Site Exemption”** means any of the following three situations apply on a shared site in relation to the Licensee or another licensee's wireless telegraphy station(s) or wireless telegraphy apparatus that is authorised to transmit at powers higher than 10 Watts EIRP or 6.1 Watts ERP:
- The first situation is that all of the licensee's wireless telegraphy station(s) or wireless telegraphy apparatus on a shared site do not transmit at a combined total radiated power in any particular direction<sup>9</sup> that is higher than 100 Watts EIRP or 61 Watts ERP.<sup>10</sup>
  - The second situation is that the total electromagnetic field exposure levels produced by the licensee's wireless telegraphy station(s) or wireless telegraphy apparatus in any area where a member of the general public is or can be expected to be present when transmissions are taking place is no more than 5% of the basic restrictions or 5% of the reference levels in the relevant tables for general public exposure identified in the ICNIRP Guidelines<sup>11</sup>.
  - The third situation is where the licensee's wireless telegraphy station or wireless telegraphy apparatus has an antenna gain that is equal to or higher than 29 dBi and has a fixed beam.
- (i) **“shared site”** means a site that is shared by the Licensee and at least one other licensee for the purposes of establishing, installing, modifying or using wireless telegraphy stations or wireless telegraphy apparatus.
- (j) **“site”** means a physical structure, building, vehicle or moving platform.
- (k) **“wireless telegraphy apparatus”** has the meaning given to it in section 117 of the Wireless Telegraphy Act 2006; and
- (l) **“wireless telegraphy station”** has the meaning given to it in section 117 of the Wireless Telegraphy Act 2006.

<sup>9</sup> For the purpose of this situation, the combined total radiated power is a simple sum of the radiated powers (in EIRP or ERP) of all of the licensee's wireless telegraphy station(s) or wireless telegraphy apparatus on the shared site that transmits signals covering the same or overlapping areas.

<sup>10</sup> 100 Watts EIRP is equivalent to 61 Watts ERP.

<sup>11</sup> The relevant tables for general public exposure are identified in Ofcom's "Guidance on EMF Compliance and Enforcement".