

Comments in respect to *The draft of the ICNIRP Guidelines on Limiting Exposure to Time-Varying Electric, Magnetic and Electromagnetic Fields (100 kHz to 300 GHz)*

1. The document considers 'health effects' as those caused by heating of the body by 1 degree Celsius and does not take into account biological effects.

\_ This is at odds with the WHO's definition of health as a 'state of complete physical, mental, and social wellbeing, and not merely the absence of disease or infirmity'.

\_ The document does not give appropriate consideration to the thousands of studies showing that RF exposure causes harmful biological effects that could lead to disease.

\_ This approach has been strongly criticised by many scientists working in this field. For example, the EMF Scientists Appeal (2016), signed by 220 scientists from 41 nations.

2. The document assumes that exposure to radiofrequency radiation can be averaged over a six minute period. In other words, the body can tolerate brief, intense pulses of radiation as long as the pulses on either side of it are much less intense.

3. ICNIRP's conclusion that there is no evidence of adverse effects on the body, including cancer, is inconsistent with the IARC's classification of radiofrequency electromagnetic fields as a 2B carcinogen, in the same category as lead.

4. ICNIRP's premise that health effects are only caused by heating is inconsistent with a number of mechanisms that have been proposed to account for adverse effects on the body at nonheating levels of exposure, for example:

\_ via oxidative stress, implicated in many health problems, including cancer

\_ via activation of calcium ion channels

\_ via activation of mast cells.

5. The document does not provide protection for particularly vulnerable populations such as:

\_ the foetus

\_ people with electromagnetic hypersensitivity

\_ people with cancer because cancer cells absorb more radiation than normal cells

- developing children being exposed to radiation at home and at school (EU laws prevent the use of WiFi in kindergartens/schools)

6. The document allows higher levels of exposure than those permitted by standards in countries such as Russia, Switzerland, Austria and Italy, which draw on the same scientific evidence.

7. In light of the uncertainty about safe levels of exposure in the scientific literature, the document must recommend a precautionary approach to exposure and include suggestions for reducing exposure and address those special interest groups outlined in point 5 and respond to the evidence outlined in point 4 to ensure no unreasonable harm is caused.

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31 August 2018