

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR)

Request for a scientific opinion on:

Potential health effects of exposure to electromagnetic fields (EMF)

1. Background

Council Recommendation of 12 July 1999¹ on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz) fixes basic restrictions and reference levels for the exposure of the general public to electromagnetic fields (EMFs). These restrictions and reference levels are based on the guidelines published by the International Commission on Non Ionising Radiation Protection in 1998 (ICNIRP)². In response to the Council Recommendation, all Member States have implemented measures to limit the exposure of the public to EMF, either by implementing the provisions proposed by the Council Recommendation, or by implementing more stringent provisions³.

For workers, the Council and the Parliament have adopted Directive 2004/40/EC of 29 April 2004⁴ on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (EMFs). However, issues related to its implementation led to the suspension of its implementation. A new directive proposal was adopted by the Commission and is being discussed with the Council and the European Parliament⁵.

The Council Recommendation also invites the Commission to "*keep the matters covered by this recommendation under review, with a view to its revision and updating, taking into account possible effects, which are currently the object of research, including relevant aspects of precaution*". The ICNIRP guidelines were endorsed by the Scientific Steering Committee (SSC)⁶ in its opinion on health effects of EMFs of 25–26 June 1998. The Scientific Committee on Toxicity, Ecotoxicity and the Environment (CSTEE) prepared an update of the Scientific Steering Committee's opinion and concluded in its opinion on "Possible effects of Electromagnetic Fields (EMF), Radio Frequency Fields (RF) and Microwave Radiation on human health", of 30 October 2001, that the information that had become available since the SSC opinion of June 1999 did not justify revision of the exposure limits recommended by the Council⁷.

The opinions delivered by the SCENIHR in March 2007⁸, January 2009⁹ and July 2009¹⁰ confirmed the earlier conclusion of the CSTEE and highlighted again the need for additional data and research on this issue and recommended that specific research areas be addressed.

¹ (OJ. L 199/59, 30.7.1999)

² <http://www.icnirp.de/>

³ http://ec.europa.eu/health/electromagnetic_fields/role_eu_ms/index_en.htm

⁴ (OJ. L 184/1, 24.5.2004)

⁵ 11951/11 SOC 598 CODEC 1075 - COM(2011) 348 final, proposal for a Directive of the European Parliament and of the Council on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields) (XXth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)

⁶ http://europa.eu.int/comm/food/fs/sc/ssc/index_en.html

⁷ The main frequencies in the ELF frequency range are 50 Hz in Europe and 60 Hz in North America. The RF and lower microwave frequencies are of particular interest for broadcasting, mobile telephony. The 2.45 GHz frequency is mainly used in domestic and industrial microwave ovens.

⁸ http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_007.pdf

⁹ http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_022.pdf

¹⁰ http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_024.pdf

The Commission relies on the SCENIHR to review periodically new information that may influence the assessment of risks to human health in this area and to provide regular updates on the scientific evidence base to the Commission.

Since September 2008, the cut-off date for the previous review by the SCENIHR, a sufficient number of new scientific publications have appeared to warrant a new analysis of the scientific evidence on possible effects on human health of exposure to EMF. In addition, the development of new technologies using EMF in the THz range, especially imaging techniques such as security scanners for passenger screening, calls for new assessments.

On 16-17 November 2011, the International Conference on EMF and Health, organized by the European Commission under the auspices of the SCENIHR, provided an overview of the most recent scientific developments in this area as a first preparation for a future scientific opinion.

Consequently, the SCENIHR is being asked to examine this new scientific evidence and to address in particular the questions listed in the Terms of Reference.

2. Terms of reference

The Committee is requested:

1. To update its opinions of 2009^{8,9} in the light of newly available information.
2. To give particular attention to issues affected by important gaps in knowledge in the previous opinions, especially:
 - the potential adverse effects of EMF on the nervous system, including neurobehavioural disorders and on the risk of neoplastic diseases,
 - the understanding of biophysical mechanisms that could explain observed biological effects and epidemiological associations, and
 - the potential role of co-exposures with other environmental stressors in biological effects attributed to EMF.
3. To review the scientific evidence available to understand the potential adverse health effects of EMF in the THz range.
4. To develop a set of prioritized research recommendations taking updating previous efforts in this area (in particular by the SCENIHR and the WHO). These recommendations should include methodological guidance on the experimental design and minimum requirements to ensure data quality and usability for risk assessment.

3. Deadline:

December 2012