

## The EU Commission's Scientific Committee on Health, Environmental and Emerging Risks (SCHEER) has published its opinion on the safety of electromagnetic fields (1 Hz – 100 kHz)



### ***Situation Report Bulletin: 2/2024 – published December 19, 2024***

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Nro 01

### ***Editorial***

In my bulletin editorials, I have often mentioned that the European Commission has asked the Scientific Committee on Health, Environmental and Emerging Risks (SCHEER) to produce two scientific opinions on the safety of electromagnetic fields (Opinion I and II). In November 2023, SCHEER launched a public consultation on the Preliminary Opinion on the potential health effects of exposure to low frequencies. Now it has published the updated Final Opinion. More details about the Final Opinion are shared in the first bulletin article. The Final Opinion discusses the same topics that have previously been discussed in these bulletins too. On SCHEER's website, you can also find the comments they have received on the draft opinion.



At the end of August, CIGRE held its Paris Session 2024. CIGRE is an international non-profit organization committed to the development of electric power systems. In this year's event, topics related to the health effects of electric and magnetic fields were barely touched on. CIGRE's Advisory Group on EMF and Health follows developments in this area.

Once again, I have found some fascinating scientific articles for this new bulletin. As mentioned above, the first bulletin article provides information on SCHEER's updated Final Opinion. Early in the bulletin, there's an article on Wilms tumor, also known as nephroblastoma, which is one type of childhood kidney tumor, and according to the authors, the fourth leading cause of cancer deaths in children. The article reports on an extensive study into environmental risk factors, mentioning paternal occupational exposure to extremely low frequency magnetic fields as one of them.

This time, several articles discuss the electric or magnetic fields related to power transmission lines. The magnetic fields have either been measured or simulated. One article explores the effect of tree quantity and distribution on the electric field under transmission lines. Several years ago, research into this topic was conducted in Finland too, so it was interesting to read what researchers elsewhere have discovered.

The bulletin again concludes with an article related to the health of workers, discussing the genotoxic effects of exposure to magnetic fields.

Below you can find the list of the articles presented in the Finnish bulletin version.

Leena Korpinen, Professor  
Editor-in-chief, Situation Report Bulletin



No. 02

***Final Opinion on potential health effects of exposure to electromagnetic fields (EMF): Update with regard to frequencies between 1 Hz and 100 kHz***

Source:

Scientific Committee on Health, Environmental and Emerging Risks. SCHEER. Final Opinion on potential health effects of exposure to electromagnetic fields (EMF): Update with regard to frequencies between 1 Hz and 100 kHz. 2024.

[https://health.ec.europa.eu/document/download/85ef39d5-49dc-4b5a-b875-54e578d1d2bc\\_en?filename=scheer\\_o\\_063.pdf](https://health.ec.europa.eu/document/download/85ef39d5-49dc-4b5a-b875-54e578d1d2bc_en?filename=scheer_o_063.pdf)

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No. 03

***Extremely low-frequency electromagnetic fields from indoor transformers: a review of occupational and residential exposure assessment studies***

Source:

Rathebe P C, Matjutla N, Ndwandwe V, Mafa T. Extremely low-frequency electromagnetic fields from indoor transformers: a review of occupational and residential exposure assessment studies. Cogent Engineering, 2024, 11:1, 2399302.

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No. 04

***Environmental risk factors of Wilms tumour: A systematic review and meta-analysis***

Source:

Onyije F M, Dolatkhah R, Olsson A, Bouaoun L, Schüz J. Environmental risk factors of Wilms tumour: A systematic review and meta-analysis. EJC Paediatric Oncology 4, 2024, 100178.

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No. 05

***Measuring and simulation of magnetic field generated by high voltage overhead transmission lines***

Source:

Ahsan M, Baharom N R, Zainal Z, Khalil I U. Measuring and simulation of magnetic field generated by high voltage overhead transmission lines. Results in Engineering 23, 2024, 102688.

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No. 06

***Effect of Tree Quantity and Distribution on the Electric Field under Transmission Lines***

Source:

Wang Z, Duan N, Chen J, Zhou X, Lu M, Zhao S. Effect of Tree Quantity and Distribution on the Electric Field under Transmission Lines. Applied Sciences 2024, 14, 8487.

<https://doi.org/10.3390/app14188487>

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No. 07

***Evaluation of the long-term exposure to the magnetic fields generated by overhead transmission lines using artificial neural networks – a case study***

Source:

Alihodžić A, Mujezinović A, Turajlić E, Dedović M M, Dautbašić N, Turković I. Evaluation of the long-term exposure to the magnetic fields generated by overhead transmission lines using artificial neural networks – a case study. B&H Electrical Engineering, Volume 18, Issue 1, 2024; 31–39.

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No. 08

***Hypersensitivity to man-made electromagnetic fields (EHS) correlates with immune responsivity to oxidative stress: a case report***

Source:

Thoradit T, Chabi M, Aguida B, Baouz S, Stierle V, Pooam M, Tousaints S, Akpovi C D, Ahmad M. Hypersensitivity to man-made electromagnetic fields (EHS) correlates with immune responsivity to oxidative stress: a case report. Communicative & Integrative Biology 2024, vol. 17, no. 1, 2384874.

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No. 9

***Exposure assessment and cytogenetic biomonitoring study of workers occupationally exposed to extremely low-frequency magnetic fields***

Source:

Nguyen H, Vandewalle G, Mertens B, Collard J-F, Hinsenkamp M, Verschaeve L, Feipel V, Magne I, Souques M, Beauvois V, Ledent M. Exposure assessment and cytogenetic biomonitoring study of workers occupationally exposed to extremely low-frequency magnetic fields. Bioelectromagnetics 2024; 45, 260–280.

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