



Council Recommendation 1999/519/EC and the precautionary principle

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Public concern

- Launch of 5G has raised public concern about potential health effects of electromagnetic fields.
- European Union has set
 - legal requirements for protection of health and safety of workers.
 - restrictions on EMF emissions from electrical products to ensure the safety of users.

Council Recommendation 1999/519/EC

- Recommendation has established set of basic restrictions and limits of exposure levels to provide guidance to Member States.
- In line with Treaty of Functioning of Europe, Commission has no competence to lay down legally binding measures to protect public from adverse effects linked to exposure to electromagnetic fields.
- Exposure limits set by Recommendation are not legally binding for Member States.
- However, all Member States follow guidelines.
- Some Member States have even significantly lower exposure limits.
- Recommendation is based on 1998 guidelines of International Commission on Non-Ionizing Radiation Protection (ICNIRP).

ICNIRP Guidelines

- ICNIRP guidelines are currently under review.
- Public consultations by ICNIRP have been concluded last year.
- Revised guidelines are expected to be published very shortly.
- ICNIRP
 - is independent from commercial, national and vested interests.
 - does not receive money from industry.
 - is committed to independence and transparency.

Council Recommendation and SHEER

- Community legislation must be based on best available scientific data and advice in this area.
- Recommendation should be regularly reviewed and reassessed, in light of new knowledge and developments in technology and applications of sources and practices giving rise to exposure to electromagnetic fields.
- Body entrusted to carry out reassessment of scientific evidence is Scientific Committee on Health, Environmental and Emerging Risks (SCHEER).

SHEER

- SCHEER, on request of Commission services, provides Opinions on questions concerning emerging or newly identified health and environmental risks.
- Commission takes great care to ensure that work of this important Committee is subject to stringent rules.
- Commission carefully cross-checks issues of conflict of interest.
- Any member with conflict of interest is excluded from any further engagement.
- SCHEER has provided five opinions on risk assessment on potential health effects of exposure to electromagnetic fields.
- Last opinion was adopted in January 2015.

SHEER opinion

- There are no evident adverse health effects if exposure remains below the levels recommended by EU legislation.
- Overall, epidemiological studies on radiofrequency EMF exposure do not show increased risk of brain tumours.
- They do not indicate increased risk for other cancers of head and neck region.
- New studies on Alzheimer's disease do not confirm link with EMF.
- Epidemiological studies do not provide evidence of exposure to ELF fields from long-term living in close proximity to power lines to higher rate of childhood leukaemia.

SHEER opinion

- Concerning EMF hypersensitivity research consistently shows that there is no causal link between self-reported symptoms and EMF exposure.
- Limits established in Recommendation are still valid.
- More quality studies are needed to better assess potential health effects of electromagnetic fields.

Key messages

- Protection of public health is of paramount importance and is always taken into account in all of Commission's proposals and initiatives, including on 5G.
- New wireless technologies such as 5G are likely to create new cumulative EMF characteristics including reduced emission power levels with small cells and more focused EMF effects with beamforming emissions.
- 5G is expected to use smaller cells with lower power levels and overall electromagnetic fields exposure is, therefore, expected to decrease in areas where 5G is deployed.
- 5G rollout is under responsibility of Member States.
- There is currently no conclusive scientific evidence available to prove that higher 5G frequencies are dangerous as long as they are below the recommended limits.
- Power consumption per bit on 5G is 90% less than on 4G.

Key messages

- Recommendation
 - follows precautionary approach.
 - is in line with ICNIRP guidelines.
- For workers recommended protective exposure levels are 10 times lower than presumed health effect levels.
- For general public they are even 50 times lower.
- In 5G setting mobile communication operated at maximum level of capacity level of exposure only reaches tiny fraction of recommended maximum exposure levels.

Key messages

- Bulk of daily exposure to electromagnetic fields is related to use of mobile phones.
- However, overall evaluation of research leads to conclusion that High Frequency exposure below the thermal threshold is unlikely to be associated with adverse health effects.
- Users can manage exposure by
 - avoid overly long phone calls.
 - making sure mobiles are only used when connection is good.
 - using headphones.
 - communicating via SMS.

Next steps

- Once new guidelines are out Commission will either refer them to
 - SCHEER for opinion as regards need to review Council Recommendation.
 - Scientific Advice Mechanism for opinion, which would cover both public health protection and necessary legislative changes.

SAM

- Group of Chief Scientific Advisors is expert group of European Commission and provides independent scientific advice to College of European Commissioners to inform their decision making.
- Group works closely with Science Advice for Policy by European Academies consortium.
- Consortium
 - brings together outstanding knowledge and expertise of Fellows from over 100 Academies and Learned Societies in over 40 countries across Europe.
 - spans engineering, humanities, medicine, natural sciences and social sciences.
- Group of Chief Scientific Advisors and Consortium are known as Scientific Advice Mechanism (SAM).
- SAM can be asked to provide advice.

Conclusions

- Protection of public health is of paramount importance.
- Strict and safe exposure limits for electromagnetic fields recommended at EU level apply for all frequency bands currently envisaged for 5G.
- New communication technology will operate well below the safe health limits of electromagnetic emissions.
- SCHEER
 - regularly assesses health risks that may be associated with exposure.
 - confirmed at their last review in 2015 that there was no scientific justification to revise very strict existing limits.
- Limits are based on independent guidance issued by ICNIRP.

Conclusions

- ICNIRP is currently reviewing its guidelines to be published shortly.
- Commission will reassess situation depending on outcome of process.
- Commission will keep abreast of future developments in view of safeguarding health of European citizens at highest level possible and in line with its mandate.