

DIRECTIVE 2013/35/EU

EMF Directive on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields)

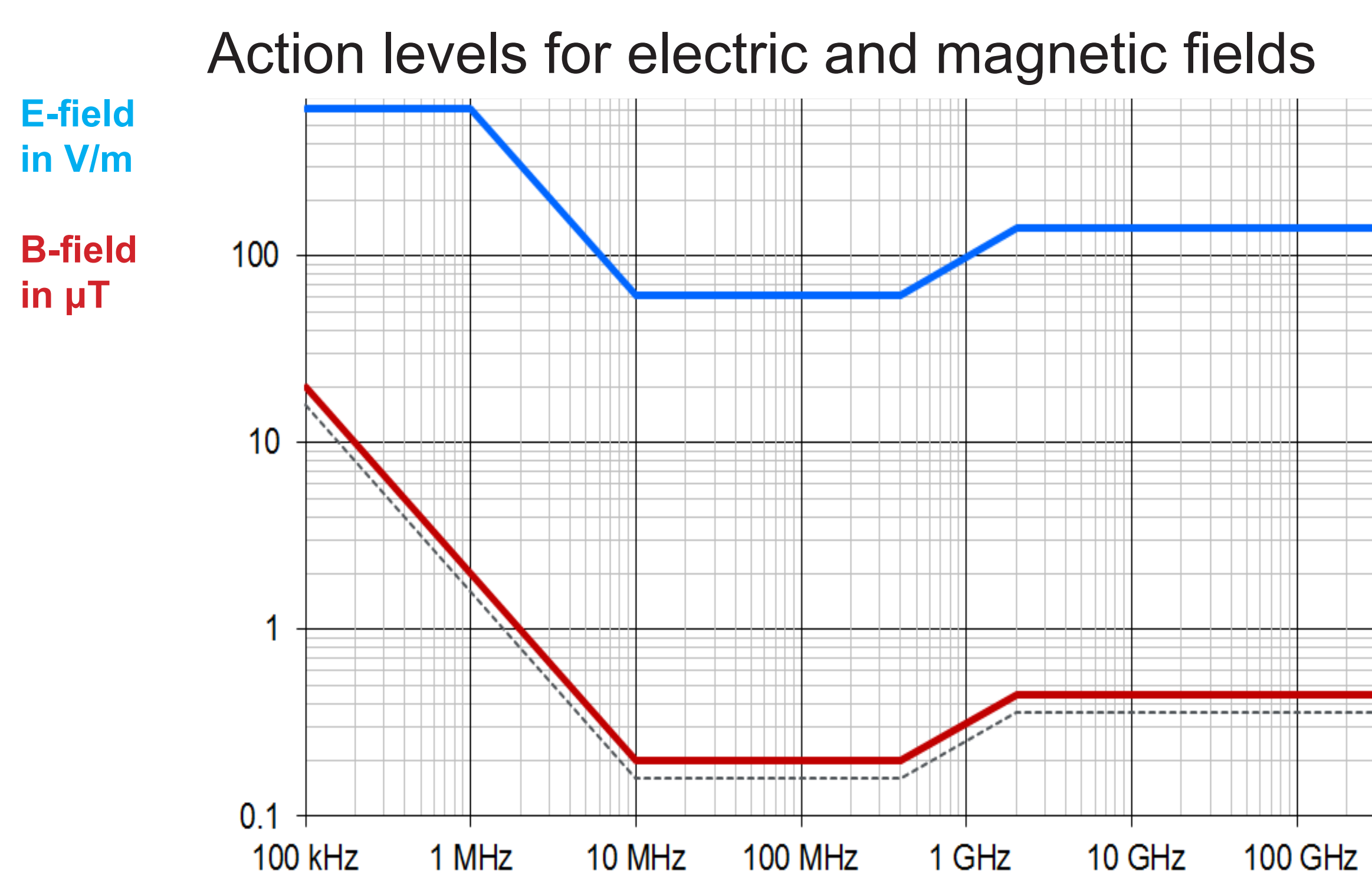
What is it all about?

- › Definition of minimum requirements for the protection of workers from risks arising from exposure to electromagnetic fields from 0 Hz (static) to 300 GHz
- › Consideration of all known effects caused by electromagnetic fields
- › Thermal effects by energy absorption (tissue heating)
- › Non-thermal effects such as stimulation of muscles, nerves and sensory organs
- › Limb currents
- › Indirect effects caused by the presence of an object (e.g. pacemaker, projectile risks, contact currents)

Good to know:

- › Exposure limit values (ELVs) for sensory effects relate to transient disturbed sensory perceptions
- › Exposure limit values (ELVs) for health effects relate to harmful health effects, thermal and non-thermal
- › Action levels (ALs)
- › Can be measured directly and simplify demonstration of ELVs
- › No further measures if compliant (thermal effects)
- › Non-thermal effects distinguish between
- › Low action levels (no further measures if compliant)
- › High action levels (health effects)
- › Protection or prevention measures required if Low ALs are exceeded

Limits chart Annex III B1



[ALs (E)]² and [ALs (B)]² to be averaged over a sixminute period.
 For pulses the peak power density averaged over the pulse width shall not exceed 1000 x AL
 = 32 x AL for field strength

How to set up risk assessment?

- › based on emission data of the equipment manufacturers
- › measure or calculate exposure levels, especially if compliance can't be reliably determined by readily accessible information
- › carried out by competent services or persons
- › repeated at appropriate time intervals
- › documentation in a suitable traceable form
- › particular attention shall be given to ELVs, ALs
- › frequency, level, duration and type of exposure
- › workers at particular risk (pregnant women, wearers of implants) any direct and indirect effects
- › simultaneous exposure of multiple sources and multiple frequency fields

Assistance for implementation?

- › The Commission made available non-binding guides in order to facilitate the implementation and elaborated issues such as:
- › Calculation methods, uncertainties, spatial averaging, referring to appropriate standards
- › Description of the 'weighted peak method' (LF fields)
- › Description of 'multi-frequency fields summation' (RF fields)
- › Conduct of the risk assessment (incl. simplified techniques for SMEs)

Necessary measures

- › Provisions aimed at avoiding or reducing risks other working methods, access control, personal protection equipment etc.
- › Information and training of workers and/or their representatives results of the assessment and measures undertaken how to detect adverse health effects and how to report them?
- › Circumstances in which workers are entitled to health surveillance save working practices to minimize risks
- › Consultation and participation of workers (according 89/391/EEC)
- › Health surveillance in accordance with national law medical examinations in case of reported health effects or in any event where exposure above the ELVs is detected

The new Directive 2013/35/EU

- › Implemented in national laws (such as German DGUV 15) from July 2016



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