

Directive 2013/35/EU of the European Parliament and of the Council of 26 June 2013 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields) (20th individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC) and repealing Directive 2004/40/EC

## CHAPTER II

### OBLIGATIONS OF EMPLOYERS

#### *Article 4*

#### **Assessment of risks and determination of exposure**

1 In carrying out the obligations laid down in Articles 6(3) and 9(1) of Directive 89/391/EEC, the employer shall assess all risks for workers arising from electromagnetic fields at the workplace and, if necessary, measure or calculate the levels of electromagnetic fields to which workers are exposed.

Without prejudice to Article 10 of Directive 89/391/EEC and Article 6 of this Directive, that assessment can be made public on request in accordance with relevant Union and national laws. In particular, in the case of processing the personal data of employees in the course of such an assessment, any publication shall comply with Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data<sup>(1)</sup> and the national laws of the Member States implementing that Directive. Unless there is an overriding public interest in disclosure, public authorities that are in possession of a copy of the assessment may refuse a request for access to it or a request to make it public, where disclosure would undermine the protection of commercial interests of the employer, including those relating to intellectual property. Employers may refuse to disclose or make public the assessment under the same conditions in accordance with the relevant Union and national laws.

2 For the purpose of the assessment provided for in paragraph 1 of this Article the employer shall identify and assess electromagnetic fields at the workplace, taking into account the relevant practical guides referred to in Article 14 and other relevant standards or guidelines provided by the Member State concerned, including exposure databases. Notwithstanding the employer's obligations under this Article, the employer shall also be entitled, where relevant, to take into account the emission levels and other appropriate safety-related data provided, by the manufacturer or distributor, for the equipment, in accordance with relevant Union law, including an assessment of risks, if applicable to the exposure conditions at the workplace or place of installation.

3 If compliance with the ELVs cannot be reliably determined on the basis of readily accessible information, the assessment of the exposure shall be carried out on the basis of measurements or calculations. In such a case, the assessment shall take into account uncertainties concerning the measurements or calculations, such as numerical errors, source modelling, phantom geometry and the electrical properties of tissues and materials, determined in accordance with relevant good practice.

4 The assessment, measurement and calculations referred to in paragraphs 1, 2 and 3 of this Article shall be planned and carried out by competent services or persons at suitable intervals, taking into account the guidance given under this Directive and taking particular account of Articles 7 and 11 of Directive 89/391/EEC concerning the necessary competent services or persons and the consultation and participation of workers. The data obtained from the assessment, measurement or calculation of the level of exposure shall be preserved in a suitable traceable form so as to permit consultation at a later stage, in accordance with national law and practice.

5 When carrying out the risk assessment pursuant to Article 6(3) of Directive 89/391/EEC, the employer shall give particular attention to the following:

- a the health effects ELVs, the sensory effects ELVs and the ALs referred to in Article 3 and Annexes II and III to this Directive;
- b the frequency, the level, duration and type of exposure, including the distribution over the worker's body and over the volume of the workplace;
- c any direct biophysical effects;
- d any effects on the health and safety of workers at particular risk, in particular workers who wear active or passive implanted medical devices, such as cardiac pacemakers, workers with medical devices worn on the body, such as insulin pumps, and pregnant workers;
- e any indirect effects;
- f the existence of replacement equipment designed to reduce the level of exposure to electromagnetic fields;
- g appropriate information obtained from the health surveillance referred to in Article 8;
- h information provided by the manufacturer of equipment;
- i other relevant health and safety related information;
- j multiple sources of exposure;
- k simultaneous exposure to multiple frequency fields.

6 In workplaces open to the public it is not necessary for the exposure assessment to be carried out if an evaluation has already been undertaken in accordance with the provisions on the limitation of exposure of the general public to electromagnetic fields, if the restrictions specified in those provisions are respected for workers and if the health and safety risks are excluded. Where equipment intended for the public use is used as intended and complies with Union law on products that establishes stricter safety levels than those provided for by this Directive, and no other equipment is used, these conditions are deemed to be met.

7 The employer shall be in possession of an assessment of the risks in accordance with Article 9(1)(a) of Directive 89/391/EEC and shall identify which measures must be taken in accordance with Article 5 of this Directive. The risk assessment may include the reasons why the employer considers that the nature and the extent of the risks related to electromagnetic fields make a further detailed risk assessment unnecessary. The risk assessment shall be updated on a regular basis, particularly if there have been significant changes which could render it out of date, or if the results of the health surveillance referred to in Article 8 show this to be necessary.

#### *Article 5*

### **Provisions aimed at avoiding or reducing risks**

1 Taking account of technical progress and the availability of measures to control the production of electromagnetic fields at the source, the employer shall take the necessary actions

to ensure that risks arising from electromagnetic fields at the workplace are eliminated or reduced to a minimum.

The reduction of risks arising from exposure to electromagnetic fields shall be based on the general principles of prevention set out in Article 6(2) of Directive 89/391/EEC.

2 On the basis of the risk assessment referred to in Article 4, once the relevant ALs, referred to in Article 3 and in Annexes II and III, are exceeded and unless the assessment carried out in accordance with Article 4(1), (2) and (3) demonstrates that the relevant ELVs are not exceeded and that safety risks can be excluded, the employer shall devise and implement an action plan that shall include technical and/or organisational measures to prevent exposure exceeding the health effects ELVs and sensory effects ELVs, taking into account, in particular:

- a other working methods that entail less exposure to electromagnetic fields;
- b the choice of equipment emitting less intense electromagnetic fields, taking account of the work to be done;
- c technical measures to reduce the emission of electromagnetic fields, including, where necessary, the use of interlocks, shielding or similar health protection mechanisms;
- d appropriate delimitation and access measures, such as signals, labels, floor markings, barriers, in order to limit or control access;
- e in the case of exposure to electric fields, measures and procedures to manage spark discharges and contact currents through technical means and through the training of workers;
- f appropriate maintenance programmes for work equipment, workplaces and workstation systems;
- g the design and layout of workplaces and workstations;
- h limitations of the duration and intensity of the exposure; and
- i the availability of adequate personal protection equipment.

3 On the basis of the risk assessment referred to in Article 4, the employer shall devise and implement an action plan that shall include technical and/or organisational measures to prevent any risks to workers at particular risk, and any risks due to indirect effects, referred to in Article 4.

4 In addition to providing the information set out in Article 6 of this Directive, the employer shall, pursuant to Article 15 of Directive 89/391/EEC, adapt the measures referred to in this Article to the requirements of workers at particular risk and, where applicable, to individual risks assessments, in particular in respect of workers who have declared the use of active or passive implanted medical devices, such as cardiac pacemakers, or the use of medical devices worn on the body, such as insulin pumps, or in respect of pregnant workers who have informed their employer of their condition.

5 On the basis of the risk assessment referred to in Article 4, workplaces where workers are likely to be exposed to electromagnetic fields that exceed the ALs shall be indicated by appropriate signs in accordance with Annexes II and III and with Council Directive 92/58/EEC of 24 June 1992 on the minimum requirements for the provision of safety and/or health signs at work (ninth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)<sup>(2)</sup>. The areas in question shall be identified and access to them limited, as appropriate. Where access to these areas is suitably restricted for other reasons and workers are informed of the risks arising from electromagnetic fields, signs and access restrictions specific to electromagnetic fields shall not be required.

6 Where Article 3(3)(a) applies, specific protection measures shall be taken, such as the training of workers in accordance with Article 6 and the use of technical means and personal

protection, for example the grounding of work objects, the bonding of workers with work objects (equipotential bonding) and, where appropriate and in accordance with Article 4(1)(a) of Council Directive 89/656/EEC of 30 November 1989 on the minimum health and safety requirements for the use by workers of personal protective equipment at the workplace (third individual directive within the meaning of Article 16(1) of Directive 89/391/EEC)<sup>(3)</sup>, the use of insulating shoes, gloves and protective clothing.

7 Where Article 3(4)(a) applies, specific protection measures, such as controlling movements, shall be taken.

8 Workers shall not be exposed above the health effects ELVs and sensory effects ELVs, unless the conditions under either Article 10(1)(a) or (c) or Articles 3(3) or (4) are fulfilled. If, despite the measures taken by the employer, the health effects ELVs and sensory effects ELVs are exceeded, the employer shall take immediate action to reduce exposure below these ELVs. The employer shall identify and record the reasons why the health effects ELVs and sensory effects ELVs have been exceeded, and shall amend the protection and prevention measures accordingly in order to prevent them being exceeded again. The amended protection and prevention measures shall be preserved in a suitable traceable form so as to permit consultation at a later stage, in accordance with national law and practice.

9 Where paragraphs 3 and 4 of Article 3 apply and where the worker reports transient symptoms, the employer shall, if necessary, update the risk assessment and the prevention measures. Transient symptoms may include:

- a sensory perceptions and effects in the functioning of the central nervous system in the head evoked by time varying magnetic fields; and
- b static magnetic field effects, such as vertigo and nausea.

### *Article 6*

#### **Worker information and training**

Without prejudice to Articles 10 and 12 of Directive 89/391/EEC, the employer shall ensure that workers who are likely to be exposed to risks from electromagnetic fields at work and/or their representatives receive any necessary information and training relating to the outcome of the risk assessment provided for in Article 4 of this Directive, concerning in particular:

- (a) measures taken in application of this Directive;
- (b) the values and concepts of the ELVs and ALs, the associated possible risks and the preventive measures taken;
- (c) the possible indirect effects of exposure;
- (d) the results of the assessment, measurement or calculations of the levels of exposure to electromagnetic fields, carried out in accordance with Article 4 of this Directive;
- (e) how to detect adverse health effects of exposure and how to report them;
- (f) the possibility of transient symptoms and sensations related to effects in the central or peripheral nervous system;
- (g) the circumstances in which workers are entitled to health surveillance;
- (h) safe working practices to minimise risks resulting from exposure;

- (i) workers at particular risk, as referred to in Article 4(5)(d) and Article 5(3) and (4) of this Directive.

#### *Article 7*

### **Consultation and participation of workers**

Consultation and participation of workers and/or their representatives shall take place in accordance with Article 11 of Directive 89/391/EEC.

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**Status:** This is the original version (as it was originally adopted).

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- (1) OJ L 281, 23.11.1995, p. 31.
- (2) OJ L 245, 26.8.1992, p. 23.
- (3) OJ L 393, 30.12.1989, p. 18.