

**CEEMET reply to the first stage consultation of the social partners  
on the review of Directive 2004/40/EC  
on minimum health and safety requirements regarding the exposure of workers to  
the risks arising from physical agents (electromagnetic fields)**

CEEMET represents the interests of employers' organisations in the metal, engineering and technology-based industries from 22 countries with a particular focus on social policy issues. Our member organisations currently represent around 200,000 companies, including a majority of small and medium sized enterprises (SMEs) and employing some 12,5 million people.

A wide range of industrial sectors are covered by CEEMET members, including:

- Basic metals
- Fabricated Metal Goods
- Machinery and Equipment
- Office Machinery and Computers
- Radio, Television and Communication equipment
- Medical, precision and optical instruments, watches and clocks
- Motor vehicles and trailers
- Transport: Building and repairing ships and boats; railway, tramway, locomotives and rolling stock; spacecraft; motorcycles and bicycles.
- Some member federations also cover the metal producing industries (iron and steel) or parts of it (foundries).

In all these sectors, a series of equipment and industrial processes are commonly used that produce electromagnetic fields:

- Metal welding
- Plastic welding
- Induction heating
- Dielectric heating
- Electrochemical processes
- Plasma discharge processes
- Arc furnaces
- Crack detection processes
- Electricity generation and distribution
- Motors and speed variators.

Binding provisions regarding electromagnetic fields (EMF) have a critical impact on all our sectors. Because the Directive 2004/40/EC on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields) was ill conceived and would have had unintended adverse effects on our sector, CEEMET welcome the review of the Directive and hope it will address our concerns.

Concerning the specific questions raised by the European Commission in the first consultation of the social partners, CEEMET would like to reply as follows:

*(1) Do you consider the current Directive 2004/40/EC sufficient for the health and safety protection of workers exposed to electromagnetic fields during their work?*

*If not, please explain why and say what the practicable alternative(s) could be.*

*(2) Do you think that a Community initiative is the best way to ensure a high standard of protection of workers exposed to electromagnetic fields?*

*Because unduly restrictive requirements in Directive 2004/40/EC would adversely affect common industrial processes without concrete benefit for the health and safety protection of workers, CEEMET consider that certain aspects of the technical content in the annex of the Directive 2004/40/EC are inappropriate. Therefore, CEEMET would strongly oppose the continuation of the Directive without any change.*

*Harmonised technical regulations at European level contribute to provide a level playing field for fair competition. However, despite its highly technical content, the Directive on Electromagnetic fields is part of labour law to which harmonization at European level does not apply. A balance between these two aspects of the Directive needs to be found for the Directive to be proportionate and efficient and to ensure legal certainty in this field.*

The EMF Directive 2004/40/EC would affect a wide range of manufacturing and industrial processes. Our own investigations with member companies have revealed a significant number of welding and induction heating operations that generate EMF at a level which would be in contravention of the Directive. Other studies have also found that some basic manufacturing processes may be seriously curtailed or even prohibited under the current Directive. It is likely that some simple welding work would have to be done outside of the EU because the Directive's limit values risk being exceeded, often with no practical steps which can be taken to reduce workers' exposure. Also, assessment (measurement and calculation) would be costly and typically provide inconclusive results.

### **Impact on health and safety protection**

Despite a decision within ICNIRP to use a "safety factor" of 10, ICNIRP values for occupational exposure on which the Directive 2004/40/EC is based correspond to a "safety factor" of 100 and more in the low frequency range<sup>1</sup>. This results in an excessively wide gap between the action values and the limit values where some effects can be observed but where no adverse effect can occur. Unfortunately, a majority of our industry equipment will fall between these two values.

The Directive's aim is to protect the health and safety of workers. Therefore the directive should consider only harmful effects to workers. However, not all physiological effects produced by EMF are harmful and some, such as minor sensory effects like twitching, bright lights in vision and metallic taste disappear completely when the exposure stops.

Regarding low frequency magnetic fields, **the exposure from typical industrial processes including welding and electrolysis is well below the threshold values at which adverse effects occur.** All these physiological effects have a clearly defined threshold. Any stimuli below the threshold value will not cause a physiological response, even when applied for a long time.

Regarding short term effects of EMF, the real risks and the threshold values at which they occur are known and appropriate prevention measures already exist, notably under the Framework Directive.

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<sup>1</sup> In contrast, the industry sees no problem with the values in the radiofrequency range.

Ignoring these facts, the Directive 2004/40/EC applies a uniform and burdensome approach without any risk-based distinction. We are of the view that this approach is counter-productive in terms of the health and safety protection of workers as it distracts attention from real risk areas regarding EMF. Furthermore, it is disproportionate compared to other types of risks where the impact on the health and safety of workers is noticeable (e.g. noise).

## **Impact on Industry**

*Already in 2007, CEEMET and Orgalime stressed the negative impact that the Directive 2004/40/EC would have on our industry<sup>2</sup>.*

Enquiries with member companies have revealed a number of operations that generate EMF at a level which would breach the outdated **Exposure Limit Values** (ELV) set in the Directive. If Directive 2004/40/EC would have been applied, certain basic manufacturing processes would thus have been seriously curtailed or even prohibited (e.g. some simple welding work). This would lead to jobs moving outside of the EU.

**Action Values** (AV) are exceeded in many workplaces and therefore, according to the Directive, require further assessment (measurement and calculation) to show whether or not ELV are exceeded.

The assessment process usually consists of the following steps:

- Inventory of equipment at the workplace;
- Identification of characteristics of the equipment with respect to EMF;
- Conditions of use of the equipment;
- Comparison of determined levels of EMF to AV.

For a specific EMF risk assessment, the reality in companies needs to be taken into account to understand how the EMF risk assessment could be implemented and which impact the Directive would then have on industry.

A survey conducted within the CEEMET and Orgalime network in 2007 showed that many businesses and SMEs in particular have little knowledge of EMF and of their relevance for their business. It is also a fact that much of the existing fleet of equipment in business pre-dates any information regarding EMF generation. Furthermore, the level of information currently provided by manufacturers on EMF generated by their equipment is not relevant for the type of assessment that is expected in the Directive, notably because the exposure needs to be assessed when the equipment is used in a real environment.

For SMEs, the Directive will *de facto* represent an obligation to request external expertise to deal with the risk assessment.

Moreover, because the "action values" were set so low, the assessment will often lead to the conclusion that they are exceeded. Therefore measurement/calculation to check that the ELV have not been exceeded will become the norm in nearly every exposure situation.

In terms of costs, measurements and calculation procedures which test direct compliance with the exposure limit values are very expensive and time consuming; they require a high degree of expertise and often highly specialised equipment. Consequently, the impact on SMEs will be significant.

*To conclude, the burdens imposed on companies by the current Directive are disproportionate to the benefits in terms of health and safety protection.*

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<sup>2</sup> CEEMET Orgalime joint position regarding Directive 2004/40/EC.

(3) Do you think that certain categories of workers should be excluded from the scope of any future Community initiative because of reported implementation problems (e.g. medical procedures involving MRI) with some provisions (exposure limit values) of Directive 2004/40/EC?

If so, how would you provide for the protection of such workers?

If not, do you think that there should be some flexibility for workers exposed under special circumstances in their sector (e.g. MRI personnel during certain MRI procedures when normal protection measures cannot provide adequate protection) by

- a) introducing higher/other exposure limit values?
- b) introducing different methods for evaluating exposure?
- c) introducing the possibility of occasional or conditional derogations?

(4) Would you find non-binding measures such as the production of good practices guides, launching of regular information campaigns, setting-up of appropriate training programmes, and drawing-up of voluntary agreements between the social partners at EU or sector level – useful, and for what purpose?

For the Directive to be **proportionate to its aim and effective**, CEEMET consider that a solution should be found that deals with the problems raised by the Directive for any sector or company potentially affected. Creating exemptions for specific categories of workers would contradict a comprehensive approach and would have no scientific validity.

Against this background, CEEMET has requested Mrs. Hannah Heinrich, an independent scientific expert, to proceed with a technical screening of possible changes to the annex of the Directive. Experts from the welding, electrolysis and electromechanical sectors contributed to this work, the aim of which was to identify possible solutions for **all** sectors covered by CEEMET as well as practical implications. The result of this work has reinforced CEEMET's opinion that Directive 2004/40/EC needs to be adjusted to include:

- **New exposure limit values and action values** based on up to date scientific information **and**
- A **pragmatic and proportionate "risk based" approach** regarding the "assessment".

### **Introducing new exposure limit values: Less restrictive and Easier to assess**

Most of the values given in the annex of the Directive (table 1) cannot be measured directly because they consist of physical quantities which exist inside the human body only. The accurate determination of the exposure level requires complex numerical calculations of electromagnetic fields on the basis of calculation models to which only very few companies have access.

The information provided by Mrs. Hannah Heinrich clearly shows that it is possible to introduce exposure limit values which are **less restrictive and easier to assess** than the ones currently set in the Directive and which would allow one to take into account specific work environments, **without compromising adequate health and safety protection**.

CEEMET considers that new exposure limit values which are less restrictive and easier to assess should be introduced. Action values should also be less restrictive and formulated in a way that makes compliance procedure easier.

## **Introducing different methods for evaluating exposure**

According to the current article 4.1 of the Directive 2004/40/EC, assessment does not necessarily require measurement and/or calculation. However because of the choice and setting of the "action values" in the Directive, measurement/calculation becomes the norm for nearly every exposure situation.

Therefore, we consider that the Directive should clearly state that **measurement is required only if the action values are likely to be exceeded**.

The situation is further complicated because of the link to CENELEC standards made in the Directive. According to CENELEC standard 50499, the vast majority of work equipment will not fall under the scope of the "initial assessment" (equipment that does not require measurement).

Regarding CENELEC standards, it is also important to recall that compliance with harmonised standards remains voluntary, and manufacturers are free to choose any other technical solution that provides compliance with the essential requirements of the Directive on which these standards are based.

In this regard, good practice and guidance exist in several Member States, some of which have been developed by employers' organisations (e.g. Belgium).

*Therefore, CEEMET considers that non-binding measures are a crucial complement to legislation. Increasing the legislative burden on employers is not a useful way of securing improved compliance. Softer techniques such as sector specific guidance and communication of good practices will provide a framework for compliance, whilst the provisions of proportionate legislation allow for regulatory activity to address non-compliance.*

<p>5. <i>Should a possible future EU Community initiative cover the long-term effects of workers' occupational exposure to electromagnetic fields?</i></p>
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The question of whether electromagnetic fields influence human health in the long-term has been the topic of numerous studies over the past decades. So far, they conclude that there is no evidence of long-term ill health effects. The latest SCENHIR conclusions presented in February 2009 indicated that no new evidence supported a link between long term exposure to EMF and human health effects. Therefore, the conclusions previously reached in 2007 were confirmed. This was also the reason why long term effects were excluded from the scope of Directive 2004/40/EC.

*As the rationale remains unchanged - "for the moment, there is insufficient scientific evidence on possible long-term effects" - CEEMET would strongly oppose the inclusion of long term effects in the scope of the EMF Directive.*

The same conclusions are drawn by international authorities, notably by the WHO. In CEEMET's opinion, WHO recommendations in this field (**WHO' guidance**) should be taken into account. They favour the promotion of research, effective and open communication but also reject "policies based on the adoption of arbitrary low exposure limits".

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