

**Broadcast Networks Europe (BNE)  
Comments on the draft EMF Directive.**

## **Background**

Broadcast Networks Europe is dedicated to maintaining an efficient and fair regulatory and operational environment for Terrestrial Broadcast Network Operators with a view to ensuring European citizens continue having universal access to a broad range of TV and radio programs and content as well as other over-the-air services. Broadcast Networks Europe has 13 Full members representing 25 Countries; Abertis, Arqiva, Digea, Elettronica Industriale, Norkring, OIV, ORS, Swisscom Broadcast, Radiocom, RaiWay, RTENL, TDF, Teracom. BNE welcomes the opportunity to provide input to the debate on the draft EMF Directive and the information provided here-in represents our position on this matter.

### **1 Introduction**

These comments relate to the draft working document in view of amending Directive 2004/40/EC, Draft 10, 2/03/2011.

Of most concern to us is the apparent lack of self consistency within the document. We strongly believe that this Directive should be based on firm science; such an approach would lead, inherently, to consistency. However, this does not appear to be the case.

Of course, we understand there are arguments against simply basing the Directive on, say, the ICNIRP guidance; political and economic considerations must also be taken into account. However, we still feel that the Directive should be self consistent; indeed, we would suggest that any inconsistencies within the document will make terrestrial broadcast network operators vulnerable to legal challenges

Please see our comments below:

### **2 Changes to Tables 3.1/3.2 (Annex 3):**

We have noted the addition of an extra limit included in Table 3;

*“(\*) Additional constraint: in this range [ $10^5 - 10^7$  Hz] the induced electric field in the body shall not exceed the value of  $f/2120$  (f expressed in Hz)”*

This appears to be a significant change; we are surprised it has been added at this late stage. This raises several questions:

- **We would ask why such a change has been introduced only in this final version without any provision for an informed discussion?**

As mentioned above, we feel that, whatever limits are chosen, there should be a firm scientific basis underlying them. Having “last-minute” changes does not give the impression that this is the case. We would request that either this change is reversed or additional time for consideration / discussion is provided.

- **Should this be considered to be an “Exposure Limit Value”?**

Certainly, the status of this is not clear. Adding it as a footnote, rather than in a column in the table, suggests that it is of secondary importance to the other limits. On the other hand it is not directly measurable and, therefore, does not appear to qualify as an Action Value. This needs to be clarified.

- **Does any averaging apply to this limit?**

For example, no mention is made as to whether this limit is the temporal rms value or the peak. Similarly, is there any scope for spatial averaging or is this limiting the spatial peak? This needs to be made clear.

- **How do we assess our compliance with these new limits?**
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Our understanding is that the action value of 610 V/m is based on an ICNIRP reference level which was associated with a basic restriction on induced current density. Thus its relevance for testing compliance with the proposed induced field limit seems unclear. In particular, we are concerned that it could make us open to legal challenges in the future.

Consider the following example of a company which exposes its workers to field strengths at 200 kHz. The employer attempts to follow the Directive diligently and makes numerous field strength measurements with high quality, well calibrated equipment. The measurements indicate a consistent level of 500 V/m. i.e. the workers' exposure is below the Action Level. Thus, the employer considers that no further detailed assessment of the workers' exposure is required. However, after a couple of years, one of the workers suffers a medical problem. This worker has concerns about electromagnetic fields and takes a close look at the Directive and ICNIRP. He notes the following:

- The Directive specifies a limit on induced field strength of  $4.72 \times 10^{-4} f$  (V/m).
- ICNIRP specifies a basic restriction for induced field strength of  $2.7 \times 10^{-4} f$  (V/m).
- The associated ICNIRP reference level is 170 V/m
- The Action Value of 610 V/m was based on an induced current density limit, not an induced field limit.
- The ICNIRP data would suggest that the appropriate reference level for the Directive's limit is:

$$(4.72/2.7) \times 170 \sim 300 \text{ V/m}$$

- He takes his employer to court, citing this and asking for proof that the current density limit has not been exceeded.

***What evidence is available to the employer that the induced field strength limit has not been exceeded?***

Finally, it is important to note that any impact assessments which broadcasters have carried out with regard to previous drafts have not taken the new limits into account and could therefore grossly under-estimate the impact of its introduction. We assume this would be the case for other organisations working in this frequency range. We would request that any impact assessments used take into account the relevant limits and are not based on out-of-date versions of the Directive.

### **3 Exposure at 100 kHz:**

What is the appropriate Action Value for a frequency of 100 kHz? Should reference be made to Tables 2.1/2.1 or Tables 3.1/3.2? The former gives the Electric field Action Value at 100 kHz as 2120 V/m; the latter specifies it to be only 610 V/m.

This question highlights the significant discontinuity between the two frequency ranges; from a biological viewpoint, such a discontinuity is hard to understand.

Even if we ignore the question relating to a specific case of exposure at 100 kHz, there is still a problem. As it stands, the Annexes seem to indicate that, at a frequency of 99.99999999 kHz, the Action Value is 2120 V/m while at 100.0000000001 kHz it is 610 V/m. We do not believe that, at frequencies of the order of 100 kHz, the interaction mechanisms vary significantly over a range of a fraction of 1 Hz.

This is another example of an inconsistency within the Draft which would appear to make it vulnerable to legal challenges in the future.

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### **Annex 3. C. Prevention Measures**

We note clause 3 (Zone of exposure under the *action value*) simply mentions, “Appropriate signalisation”

We are assuming that “signalisation” means the introduction of signs. However, it is not clear what level of signage would be deemed “appropriate”. We do not see any value in signage for areas below the Action Values. Furthermore, we would suggest that such an approach could reduce safety; a preponderance of signs could lead to “sign-blindness” whereby there are so many signs that individuals find it more difficult to take notice.

#### **Additional Comments:**

- Annex 3, B.3: “2) For persons at particular risks referred to in Article 4.5, the exposure should not exceed the “nominal action value for persons at particular risk” unless a specific risk assessment is undertaken by the employer demonstrating that higher exposure levels can be accepted”

We welcome this flexibility

#### **Conclusions**

We believe:

- The Directive must be consistent
- The application of Exposure Limit Values must be clear.
- The Action Values must be continuous; having different Action Values for the same frequency does not add credibility to the scientific basis of the Directive.
- The Action Values must be derived using the associated Exposure Limit Values; not doing so could leave Employers at risk of legal action in the future.
- The Directive should be clear as to what actions are required; furthermore, these should include only actions which will improve safety.

In summary, we are concerned that this draft is not self-consistent. We strongly believe these inconsistencies should be addressed before the Directive is published. In its present form, it would appear that neither the worker nor the employer can have confidence that they are protected; the former in terms of safety; the latter in terms of being confident that they are fulfilling their legal responsibilities.