



The Australian and New Zealand Society for Magnetic Resonance

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Wednesday, March 21, 2007

Mr Alan Melbourne
Standards Development and Committee Support Section
ARPANSA
619 Lower Plenty Rd
Yallambi Vic 3085

Dear Mr Melbourne,

The Australian and New Zealand Society for Magnetic Resonance writes to alert you to our serious concerns regarding the draft guidelines for EMF and static EM exposures.

Firstly, we would like to express our concern that this matter was not specifically brought to the attention of the relevant scientific societies in Australia. We only became aware of the opportunity to submit responses to the draft guidelines on Feb 27th, and that only because we were alerted to it by a related International Society. These guidelines have ramifications that will impact on us deeply and directly in their present form and we vigorously object to the lack of direct consultation.

Secondly, it is apparent that our concerns mirror those of our sister societies in Europe and the USA when similar guidelines were proposed in those countries. Our members work with high field magnets using nuclear magnetic resonance technologies across a wide range of applications. This includes use of magnets with field strengths ranging as high as 19 Tesla. Although our members are not exposed to fields quite as high as this, in working near the bore of their magnets they will be exposed to static magnetic fields of considerable strength. In these cases, occupational exposure would exceed the recommended 2 T upper limit in the draft guidelines.

Further, we have members who work regularly with whole body (human) magnetic resonance scanners, both for research and clinical applications. There are currently 11 magnets in Australia at strengths in excess of 2 Tesla, including 10 3T systems and one 4 T system. Here, we would note that the US Food and Drug Administration has recently set its guideline field strength for risk of exposure to 4 Tesla for neonates and 8 Tesla for other persons (see attached FDA.pdf).

There is no evidence yet available for adverse effects arising due to exposure to magnetic fields such as are generated by static magnets at strengths under 15 T. We believe that, while the range 8 – 15 T may be treated with caution and data collected on effects, there is no evidence to support restricting exposure below 8T. We need more evidence before any pronouncements can be made on the 8-15 T range.

In the United Kingdom and European Community, the directive on electromagnetic fields was heavily criticized for taking much of their advice from one source (the International Commission on

Non-Ionising Radiation Protection) and for not responding to concerns raised by the magnetic resonance community [See attached report from Science and Technology Select Committee of UK House of Commons, which we would like to table]. The ARPANSA draft guidelines are subject to the same heavy criticism as they currently stand.

It is imperative that these mistakes are not repeated in Australia and that Australia not become out of step with the rest of the world in magnetic resonance safety. We would urge you, as a matter of priority, to readdress the draft guidelines as they currently apply to magnetic resonance.

Yours faithfully,

Professor Gottfried Otting
(Chair, Australian and New Zealand Society for Magnetic Resonance)

