

20 January, 2006

Clerk to the Committee
Science and Technology Committee
House of Commons
7 Millbank
London SW1P 3JA

Institute *of* **Physics**

Dear Sir/Madam

Scientific advice, risk and evidence: How government handles them – Case study on the use of MRI: The EU Physical Agency (Electromagnetic Fields) Directive

The Institute of Physics is a scientific membership organisation devoted to increasing the understanding and application of physics. It has an extensive worldwide membership (currently over 35,000) and is a leading communicator of physics with all audiences from specialists through government to the general public.

The Institute is a signatory to the evidence submitted by ourselves and the Royal College of Radiologists, the British Institute of Radiology, the Institute of Physics and Engineering in Medicine and the British Chapter of the International Society for Magnetic Resonance in Medicine. The evidence used the case study of the use of MRI equipment and the EU Physical Agents Directive to highlight significant concerns amongst physicists and the MRI technology user community about the Directive, which seeks to define safe levels for equipment operators' exposure to electromagnetic fields, and the failure of government agencies to take proper account of the community's concerns.

MRI is a revolutionary, physics-based, non-invasive, imaging technique that has changed the nature and enhanced the quality of diagnosis for a great many patients worldwide. There are currently more than 20,000 MRI machines around the world performing more than 60 million clinical examinations on patients every year. MRI is now a standard diagnostic tool in a large number of hospitals, improving treatment, cutting waiting times and saving lives.

MRI is in many ways the ideal medical imaging technique, as it can identify all kinds of tissue, poses no health risks and there is no limit to the number of images that can be safely taken. In addition, patients do not require any preparation and there is no need for recovery time. As a research tool, it has allowed doctors to see the inner structures of the brain, imaging the effects of thought processes, to see how they respond to stimuli and manage emotion. Currently, scientists are working towards combined MRI scanners to produce real-time images of internal organs.

In view of the considerable advantages in utilising MRI (over other more dangerous techniques) and the significant constraints on this utilisation posed by the Directive, the introduction of this Directive is bewildering. This bewilderment is exacerbated by the HSE and HPA ignoring the deeply held views of the scientific and medical community opposing the introduction of this Directive, and ignoring the overwhelming scientific advice that has been offered to them.

The Institute hopes that the Committee will use the evidence to address failings of the policy process in dealing with this Directive, in light of the comprehensive concerns expressed and the recent publication of the Chief Scientific Adviser's revised Guidelines on Scientific Analysis in Policy Making.

If you have any queries, please contact me or my colleague Professor Peter Main at the Institute.

Yours faithfully

Dr Robert Kirby-Harris CPhys FInstP
Chief Executive