



Radiation & public health

The Federal Government has established an interdepartmental committee to examine the public health effects of radiation released from telecommunications facilities and equipment, following consistent levels of public concern and last year's release of a CSIRO report into the issue. The committee comprises representatives from the Department of Communications and the Arts, the Department of Health and Family Services, Spectrum Management Authority (SMA), AUSTEL, the Australian Radiation Laboratory and the CSIRO, and is to examine the adequacy of current health exposure standards and compliance procedures, the status of national and international research and scope for further research.

Sources of human exposure to radiofrequency and microwave radiation include microwave communication links, radar, radio and TV transmitters, cellular telephones and microwave ovens. Extremely low frequency radiation (such as that emanating from power lines) emissions are outside the scope of the inquiry. The committee has undertaken to consult widely with interested community groups and, to that end, has planned regular conferences to share and gather information.

CSIRO report

Much of the Committee's work will involve the close examination of issues outlined by Dr Stan Barnett, of the CSIRO's Radiophysics division, in his 1994 SMA-commissioned report. The report concluded that existing research was inconclusive and that further research would need to be conducted before a safe emission standard, which took into account both the thermal and non-thermal effects of radiation, could be developed. It stated:

'Standards organisations prefer to base their standards on gross physiological responses initiated by significant temperature increases. It is, perhaps, more difficult to correlate a human health effect with the more sensitive cellular responses that cannot be easily explained by thermal mechanisms. The problem is that the Standards imply safety thresholds but it is not possible to identify these on the basis of current equivocal or disparate research' (p. 16).

Thermal studies are simple to conduct and consistent in their outcomes: there is consensus amongst the scientific community that internal body temperature increases of greater than 1 degree are extremely hazardous. However, if radiofrequency radiation has non-thermal effects differing in kind from thermal effects, then safe levels of human exposure are not determinable by a process of extrapolation from the results of thermal-based testing.

Despite a mass of work on the subject, little dependable and coordinated research has been conducted on the issue of long term exposure to low levels of radiation - levels low enough to isolate any non-thermal effects. Nevertheless, from the residue of credible studies, Barnett found increasing evidence of adverse non-thermal effects. However, because the biological mechanisms for these effects have not been identified there has been reluctance to accept these findings.

The CSIRO report recommended the formation of a committee to critically evaluate scientific studies; the development of strategic liaisons between the research, regulatory and political communities; the establishment of research protocols; and the promotion of international collaboration to verify important studies. The present Committee implements the first of these recommendations.

First conference

Attendees of the first conference held in Sydney on 6 June included representatives from the committee, local council and consumer groups. The Consumers' Telecommunications Network (CTN) relayed community fears over the possible health risks associated with telecommunications installations and frustration at the lack of information on the issue. Mention was made of Dr Bruce Hocking's preliminary report, released in May 1996, which identified a higher incidence of leukaemia amongst children living in areas of Sydney close to television towers.

The meeting discussed two specific aspects of Australian Standard AS2772, the existing regulatory standard on safe emission:

- the basing of the standard purely on the observed thermal effects of radiofrequency radiation; and
- the absence of any cumulative/aggregate aspect to compliance within a particular geographical area. That is, providing an individual appliance complied with AS 2772, no regard need be had to the appliance's contribution to any aggregate emission deriving from other sources in the location.

In light of these concerns, Dr Garry Smith of Sutherland Shire Council advocated the introduction of a lower 'precautionary standard' in the region of 2-3 times lower than the current standard. He also pressed for the development of guidelines relating to differing land uses, with a view to imposing stricter emission controls for residential areas. The Committee will return to liaise once more with interest groups in the new financial year. □

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