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Subject: E&C Committee - Public hearing transcript and QONs
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Inquiry into Telecommunications Amendment (Mobile Phone Towers) Bill 2012
Public hearing in Canberra on Thursday 12 April 2012
Question on notice:

Purpose

The purpose of this paper is to answer the following question on notice,

“...To provide a view as to ARPANSA’s engagement with the WHO and what you see as deficiencies there...”

Background

Australia, through ARPANSA, was one of 12 countries¹ that contributed to the WHO’s Interphone study. The Interphone study was intended to be a key longitudinal study into the cancer risk of mobile phones. Following the report’s publication, several questions have been raised about the effectiveness of the results by non-governmental organisations.

Funding for the Interphone study was received from

1. Non-industry sources, including national and local research funding organisations and the European Union
2. The telecommunications industry, through the Mobile Manufacturers Forum, and the GSM association

There are several key agencies involved in setting standards. The International Agency for Research on Cancer (**IARC**) is an agency of the World Health Organization (**WHO**). One of its prime roles is to evaluate and classify the carcinogenicity of chemicals and other substances (including electromagnetic radiation) that will then be used by national health and regulatory agencies to protect public health. The International Commission on Non-Ionizing Radiation Protection (**ICNIRP**), a body of scientists consisting of a main Commission of 14 members, who review scientific research and set standards.

Several national organizations (including ARPANSA) have established standards for EMR exposure based on exposure limits for EMR developed by the ICNIRP. Funding for ICNIRP is from both government and industry sources.

The independence of the ICNIRP has been questioned in the media. A 2006 paper in the *Australian College of Nutritional and Environmental medicine (ACNEM)* calls into question the independence of WHO and ICNIRP, indicating half of the official members of the WHO EMF task group are also members of ICNIRP. This included the head of WHO international EMF project, (Dr Mike Repacholi), who receives \$150,000 annually from the cell phone industry, via the Royal Adelaide Hospital.

I have been advised that when the WHO adopted the ICNIRP standards the lead EMF expert (Dr Mike Repacholi) was also the former chair of ICNIRP.

¹ Contributing countries: Australia, Canada, Denmark, Finland, France, Germany, Israel, Italy, Japan, New Zealand, Norway, Sweden.

Deficiencies in ARPANSA's Engagement with the WHO Issues

1. Australian Standards:

On the subject of EMR, it would appear that ARPANSA follows the WHO recommendations, which are based on the thermal effects of EMR, without questioning their scientific validity.

ARPANSA's EMR safety standards are based on the ICNIRP standards adopted by the WHO. These standards are based on the thermal effects of EMR on a human body, and exclude the non-thermal effects, which have been shown to occur at far lower levels.

An increasing number of regulatory authorities, including non-English speaking European countries are adopting a precautionary approach to setting "safe limits of EMR" approximately 1/100 of those in Australia, in light of emerging and persistent concerns about health risks.

The commercial world is also taking action: Telecommunications companies worldwide are increasingly unable to obtain insurance against EMR-related illness, whilst retaining the liability for those illnesses.

The recent (2011) classification of radiofrequency EMR as a class 2b carcinogen by the WHO may also open the door to litigation from people who contract cancers caused by EMR.

2. Scientific Analysis by WHO:

Many scientists around the world seriously criticise the lack of rigour that is often evident in the WHO's scientific approach.

EMR may produce thermal (the ability to increase body temperature by one degree Celsius) and non-thermal (biological) effects. The international scientific community continues to contest the safety (or otherwise) of EMR's non-thermal effects. This debate – and lack of definitive answers – is of grave and enduring concern to a significant proportion of communities in Australia and overseas.

Reports by scientists external to the WHO have reported side effects of EMR including² immune system failure, cancer (childhood leukemia, prostate, breast), neurological effects (poor concentration, memory problems, headaches, dizziness, depression, tremors, chronic fatigue), sleep problems, cardiovascular symptoms, palpitations, skin conditions and electro hypersensitivity syndrome.

One article in *The Lancet* ("Use of Evidence in WHO Recommendations", by Andrew D. Oxman, John N. Lavis and Atle Fretheim – Vol 369, June 2, 2007) summarises this point thus:

"Systematic reviews and concise summaries of findings are rarely used for developing recommendations. Instead, processes usually rely heavily on experts in a particular speciality rather than representatives of those who will have to live with the recommendation, or on experts in particular methodological areas... which means that evidence is generally not retrieved, appraised, synthesised and interpreted using systematic and transparent methods."

The precautionary levels set by 9/27 EU countries, China, Russia and others are around **10 $\mu\text{W}/\text{cm}^2$** , and health effects have been reported as low as 5-10 $\mu\text{W}/\text{cm}^2$ (Kundi and Hutter³). The majority of mobile phone facilities in Australia operate below the maximum levels recommended by adopting a precautionary approach.

² Carpenter, D. & Sage, S. **2007**. Key Scientific Evidence and Public Health Policy Recommendations; Johansson, O. Disturbance Of The Immune System By Electromagnetic Fields – A Potentially Underlying Cause For Cellular Damage And Tissue Repair Reduction Which Could Lead To Disease And Impairment. *Pathophysiology* **2009**; Horst, E. et al. The Influence of Being Physically Near to a Cell Phone Transmission Mast on the Incidence of Cancer. *Umwelt-Medizin-Gesellschaft* **2004**,17,4; Comments on the "Naila Mobilfunkstudie" by the Federal Office for Radiation Protection (BFS), Germany. Genius SJ. Fielding A Current Idea: Exploring The Public Health Impact Of Electromagnetic Radiation. *Public Health* 2007. BioInitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF) Released August 31, **2007**; Goldsworthy, A, **2007** The Biological Effects of Weak Electromagnetic Fields.

³ Kundi, M. & Hutter, H. Mobile Phone Base Stations – Effects On Wellbeing And Health. *Pathophysiology* 2009; 16:

3. Independence of WHO Scientist Dr Michael Repacholi

I have been advised that, when the WHO adopted the ICNIRP standards, the lead WHO EMF expert (Dr Mike Repacholi) was also the former chair of ICNIRP.

There has been, and continues to be, serious controversy raging over the integrity of **Dr Michael Repacholi**, the scientist who led the International Electromagnetic Field Project at the WHO. Many independent scientists have discredited the ICNIRP guidelines on the assertion that scientific studies that did not suit industry were deliberately ignored.

Microwave News reports that the WHO EMF project has been receiving more industry money than has been previously disclosed. The peak Industry group *GSM Association (GSMA)* recently increased its annual payment to €150,000 (**\$165,000**). Before 2005, the GSMA contributed €50,000 (\$55,000) a year. This is in addition to the **\$150,000** the Mobile Manufacturers Forum (MMF) (another industry group) gives the EMF project each year. Previously, Motorola gave Dr Repacholi **\$50,000** a year; but the company now funnels its payments through the MMF. It is estimated that these two mobile phone trade associations made up more than 40% of the EMF project's 2005-2006 budget. Other industry-funded groups, including the FGF, the German wireless industry group, has been giving the EMF project about €15,000 (**\$16,500**) a year. This does not include possible support from the electric utility industry, which is also believed to co-fund the WHO EMF project.

4. ARPANSA's Confusing Position

The current ARPANSA Standard⁴, dated 2002, includes the following comments by its CEO (John Loy):

"There is currently a level of concern about RF exposure which is not fully alleviated by existing scientific data. It is true that data regarding biological effects, at levels below the limits specified in the Standard are incomplete and inconsistent. The health implications for this data are not known and such data could not be used for setting the levels of the of the basic restrictions in the standard."

This statement recognises community concern about EMR, and that a lack of longitudinal studies means the science is not keeping pace with the technology.

5. Increased Adoption of a Precautionary Principle in Setting EMR Standards by Others

There is an increasing trend from other countries to adopt a precautionary approach in the establishment of national emission standards. For example, on 02 April 2009, the European Union passed a resolution⁵ (559 votes for, 22 against) on health concerns associated with electromagnetic fields. The resolution stated (amongst other things) that:

- i. *"The scientific community has reached no definite conclusions has not prevented some national or regional governments, in China, Switzerland, and Russia, as well as in at least nine [out of 27] EU Member States, from setting what are termed "preventive" exposure limits, that is to say, lower than those advocated by the Commission and its independent scientific committee, the Scientific Committee on Emerging and Newly Identified Health Risks.*
- ii. *Reactions to microwave exposure vary from one person to another, the need, as a matter of priority, to conduct exposure tests under actual conditions in order to assess the non-thermal effects associated with radio-frequency (RF) fields, and the fact that children exposed to EMFs are especially vulnerable.*
- iii. *Given the increasing numbers of legal actions and measures by public authorities having the effect of a moratorium on the installation of new EMF-transmitting equipment, it is in the general interest to encourage solutions based on negotiations involving industry*

⁴ RADIATION PROTECTION STANDARD, Maximum Exposure Levels, to Radiofrequency Fields — 3 kHz to 300 GHz Radiation Protection Series Publication No. 3

⁵ <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT%2BTA%2BP6-TA-2009-0216%2B0%2BDOC%2BXML%2BV0//EN>

stakeholders, public authorities, military authorities and residents" associations to determine the criteria for setting up new GSM antennas or high-voltage power lines, and to ensure at least that schools, crèches, retirement homes, and health care institutions are kept clear, within a specific distance determined by scientific criteria, of facilities of this type.

- iv. *Is greatly concerned about the fact that insurance companies are tending to exclude coverage for the risks associated with EMFs from the scope of liability insurance policies, the implication clearly being that European insurers are already enforcing their version of the precautionary principle”.*

Precautionary levels are being adopted by municipalities independent of national government, in response to health concerns. There are trials underway in Europe. Cities currently operating on the level of 0.1 microwatts/cm² include Salzburg in Austria and Legares in Spain. Furthermore, 17 cities in France are successfully trialling this level at the moment.

I understand USA has levels similar to Australia, however on 29 May 2009 the Los Angeles Board of Education Members Voted to Prohibit Cell Phone Towers Near Schools.

New South Wales department of education has a (non-enforceable) policy against cell phone towers near schools. In 2010, Education Queensland advised it will be adopting a (non-enforceable) policy relating to the placement of telephone towers. The separation distance for these towers and school grounds has been set at either less than 1% of the Australian Radiation and Nuclear Safety Agency's (ARPANSA) safe public exposure limit or at a distance of at least 200 metres from the school or TAFE campus boundary.

Risk Assessment

There is a risk that the inability of phone companies to obtain insurance coverage for the effects of EMR, and the classification of EMR as a class 2b carcinogen by the WHO in 2011 has increased the risk to the Commonwealth of Australia (in particular, the Department of Health and Ageing) of having to fund additional medical and social costs due to an increased rate of cancers caused by mobile phones, and base stations, while carriers will argue that they were operating within the Australian Standard.