

Do exclusion zones actually work?

There has been some debate in the community over the siting of mobile phone base stations and whether there should be exclusion zones within certain distances of residential areas, schools, hospitals and nursing homes. However, there is no science-based reason to set up exclusion zones around such areas.

All mobile phone networks must comply with regulations set by the Federal Government in relation to exposure to electromagnetic energy (EME) from mobile phone base stations, known as the ARPANSA Standard (RPS3). This Standard has a fifty-fold safety margin built into it and is designed to provide protection for all people (including children and the elderly) for exposure 24 hours a day, 7 days a week. ARPANSA coordinated a survey of environmental radio frequency electromagnetic energy (RF EME) levels arising from mobile phone base station antennas from 2007 to 2013 and the results show that the levels of EME measured were very low in relation to the ARPANSA Standard.

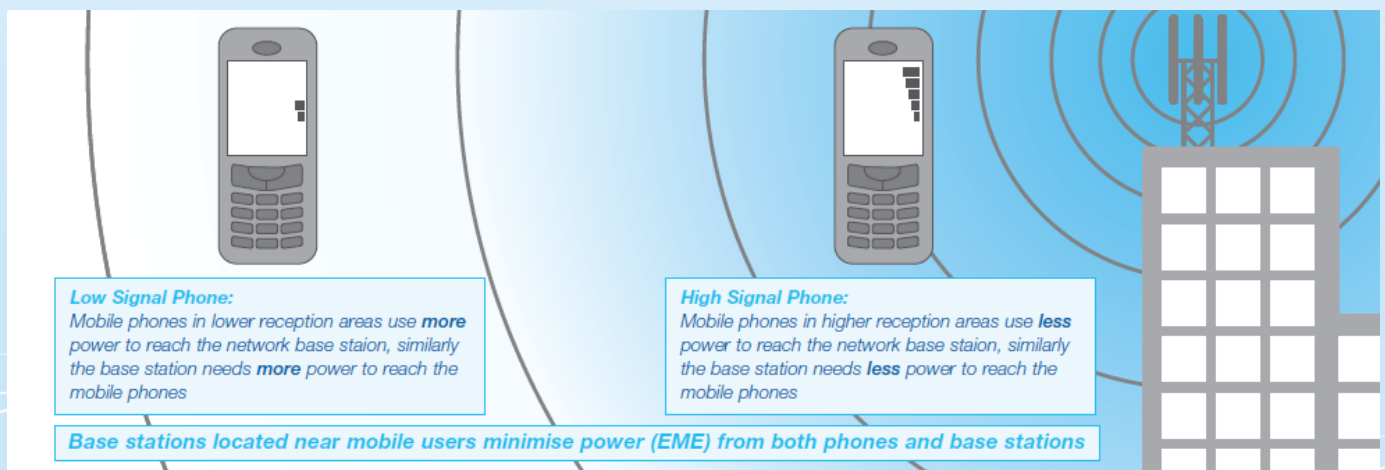
ARPANSA confirms that *"The balance of evidence does not indicate a risk to the health of people, including children, living in the vicinity of base stations where the exposure levels are only small fractions of the ARPANSA Standard"*. (ARPANSA EME Fact Sheet No. 11 "Mobile phones and children" Revised February 2013)

Locating a site for a mobile phone base station

The Communications Alliance (formerly ACIF) Mobile Phone Base Station Deployment Code 2011 (commonly referred to as "the Deployment Code") outlines the steps telecommunications carriers must take when deciding the location of new mobile phone base stations.

The Deployment Code requires carriers to take a precautionary approach and to consider 'community sensitive' locations such as schools, and balance this with other factors such as coverage objectives and engineering requirements when deciding on a base station site. However, the Code does not specify distances at which base stations must be constructed away from locations, because there is no science-based reason to do so.

Mobile phones and base stations are designed to operate at the lowest power to make a quality connection. Base stations adapt their output depending on the number of calls and the distance of handsets from the base station. If a base station is built further away from areas requiring coverage, it needs to operate using more power, which increases exposure to radio frequency electromagnetic fields – although these levels are still low and are compliant with Australia's safety standards. Quite simply the base stations need to be close to users to minimise the power from the base station and the mobile phone.



ARPANSA states that the standards which protect people from EME exposure do not set any distances between mobile base station locations and areas which may be considered to be sensitive. ARPANSA goes on to say *“Similarly, the Communications Alliance Code does not specify arbitrary distances at which infrastructure must be sited from community sensitive locations, because arbitrary distances do not necessarily reflect a precautionary approach. In fact, infrastructure sited further from a community sensitive area may need to operate at a higher power and may result in higher EME exposures in that sensitive area. Furthermore, it must be remembered that evidence gathered by ARPANSA confirms that exposure levels in public areas are typically hundreds or thousands of times less than the exposure limit set by the ACMA”* (ARPANSA Fact Sheet No. 6 “About mobile phone networks”, revised July 2012)

The World Health Organisation

The mobile phone industry relies on the advice of international expert bodies such as the World Health Organisation (WHO). The WHO has also warned that a precautionary policy for EME should be introduced only with great care and deliberation:

A principle requirement is that such policies be adopted only under the condition that scientific assessments of risk and science based exposure limits should not be undermined by the adoption of arbitrary cautionary approaches.

WHO Backgrounder “Electromagnetic Fields and Public Health Cautionary Policies” March 2000

The WHO has said that it is difficult to envisage a consistent precautionary policy that would minimise EME exposures from mobile phone base stations given the presence of far higher powered sources of EME in the same area.

ARPANSA confirms that based on its own measurement surveys, mobile phone networks make up a small fraction of the total level of EME produced by similar services. Other services include TV, AM and FM radio, paging and police, fire, rescue, council and ambulance radio.

Exclusion zones could be problematic for the community

Exclusion zones could create reception black spots or network congestion, which would deny Australians access to the safety, business and personal benefits of mobile

communications when there is no substantiated scientific evidence of adverse health effects from living, working or studying near a mobile phone base station. For example, if exclusion zones were to be placed around kindergartens, schools, day care centres, hospitals and aged care facilities then coverage black spots could be created around these areas where there is a real need for access to communications.

Creating exclusion zones for base stations could restrict community development. The logical implication of an exclusion zone is that new facilities cannot be built within the area covered by the exclusion zone surrounding a base station. This then restricts where new schools, pre-schools, hospitals and nursing homes can be built, and adversely impacts on community development.

Information about EME levels

The mobile phone industry recognises that some people are concerned about the location of mobile phone base stations. Information on the environmental emission levels from base stations is available online at www.rfnsa.com.au where you can search by location name, suburb, or postcode for existing or proposed facilities. The mobile phone industry is committed to making information on EME readily available.

For more information, please contact:

Mobile Carriers Forum Ph: (02) 6295 8191

www.mcf.amta.org.au

EMF Explained web site www.emfexplained.info

Additional independent information can be obtained from:

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Ph: (03) 9433 2211 www.arpansa.gov.au

Fact sheets are available at

<http://www.arpansa.gov.au/eme/index.cfm>

The World Health Organisation – EMF Project

www.who.int/peh-emf

WHO Backgrounder “Electromagnetic Fields and Public Health – Cautionary Policies” can be found at

[http://www.who.int/docstore/peh-](http://www.who.int/docstore/peh-emf/publications/facts_press/EMF-Precaution.htm)

[emf/publications/facts_press/EMF-Precaution.htm](http://www.who.int/docstore/peh-emf/publications/facts_press/EMF-Precaution.htm)