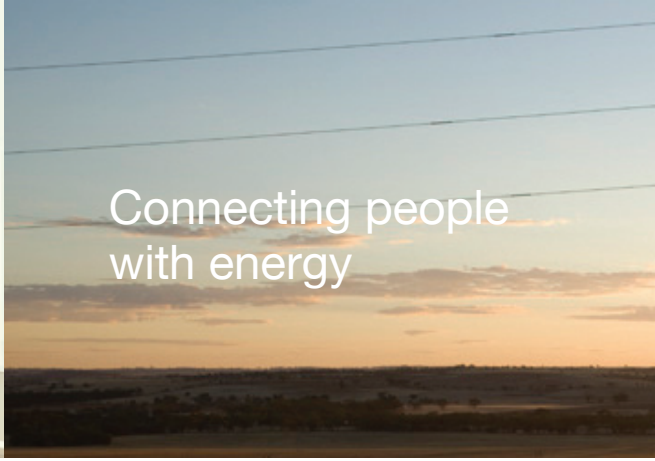


Electric and magnetic fields (EMF)





Connecting people
with energy













What is an EMF?

Electric and magnetic fields (EMF) occur both naturally and from manufactured sources. Naturally occurring EMF are associated with lightning, solar activity or the earth's magnetic field. EMF occurs whenever electricity is being used in any form of electrical equipment or wiring. Most people will be exposed to a variety of EMF sources, through use of electrical equipment, household and business wiring.

EMF around us

EMF levels are measured in a unit called 'milliGauss' (mG). The table (right) provides an indication of the typical levels of EMF likely to be experienced around the home and associated with the electricity network. It is worth noting that the EMF levels rapidly decrease as we move away from the EMF source.

Appliance measurements taken at typical distances experienced by users

Common EMF sources		Range of measurements (mG)
	Electric stove	2 - 30
	PC	2 - 20
	TV	0.2 - 2
	Electric blanket	5 - 30
	Hair dryer	10 - 70
	Refrigerator	2 - 5
	Toaster	2 - 10
	Kettle	2 - 10
	Fan	0.2 - 2
	Substation	1 - 8 (at substation fence)
	Transmission line:	
	- under the line	10 - 200
	- edge of easement	2 - 50
	Distribution line:	
	- under the line	2 - 30
	- 10m away	0.5 - 10

Source: (ARPANSA)





Through the continued expansion and maintenance of Western Power's network, we are helping the State grow and fulfil its bright future.

EMF health research

Biological and occupational health research on EMF began in the early 1960s by national and international review panels. These included the World Health Organisation, the Australian Health Authority and the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). Based on the international research, ARPANSA has concluded that 'on balance, the scientific evidence does not indicate that exposure to EMF found around the home, the office or near powerlines is a hazard to human health'.

EMF exposure

Western Power and the rest of the electricity industry have followed interim guidelines for exposure to EMF developed by Australia's National Health and Medical Research Council (NHMRC). Under these guidelines, the recommended magnetic field exposure limit for members of the public (24 hour exposure) is 1,000 mG. We operate our electricity network, including powerlines and substations, to comply with these exposure limits.

The NHMRC guidelines have now been officially withdrawn ahead of the release of an Australian standard. In December 2006 ARPANSA released a draft new standard for EMF exposure taking into account the latest scientific research. This draft standard includes similar public exposure limits to the NHMRC guidelines. Following public comment, this new standard is expected to be finalised and implemented in 2013.

Measuring EMF in your home

ARPANSA hires out EMF meters to allow you to measure the EMF levels within your home.



What is Western Power doing to minimise EMF exposure?

While the balance of evidence does not indicate that exposure to EMF results in adverse health effects, Western Power recognises there are still concerns in the community and we take our responsibility seriously to help address these concerns.

Western Power will continue to:

- provide balanced, accurate information to our employees and customers, including EMF measurements and advice
- take prudent avoidance measures to limit field exposures from new facilities by locating and operating our electrical installations prudently within Australian health guidelines
- closely monitor engineering and scientific research, overseas policy development and major reviews of scientific, medical and engineering research regarding EMF and health
- cooperate fully with any bodies established by governments in Australia to investigate and report on EMF.

Further information on EMF is available from:

Australian Radiation Protection and Nuclear Safety Agency – www.arpana.gov.au

Energy Networks Association – www.ena.asn.au

World Health Organisation – www.who.int



Contact information

Faults & emergencies, power interruptions, estimated restoration times (24 hrs)

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This information is available in alternative formats on request.

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