



Factsheet

3A. Telecommunications Facilities

Telecommunications facilities, particularly mobile phone facilities, are of increasing concern to the public, because of the perceived effects of electromagnetic radiation on human health and the visual impact of mobile phone towers on amenities.

This Fact Sheet includes information on the *Telecommunications Act* (Cth) 1997, including the types of structures regarded as telecommunications facilities. Carriers (the entities owning or controlling the infrastructure) are responsible for compliance with this Act. The main industry Codes relevant to the installation of telecommunications infrastructure ('deployment') are also discussed. This Fact Sheet contains information concerning the risks perceived to be associated with radiofrequency radiation (also known as 'EMR') from antennas and handsets, and information as to Australia's safety standards under the *Radiocommunications Act* 1997.

This Fact Sheet does not consider other Australian Government legislation regulating telecommunications networks such as the Internet.



What are telecommunications facilities?

Telecommunications facilities are any structure or thing associated with a telecommunications network. Typically, a mobile phone carrier's system provides coverage to its customers by setting up a series of mobile phone facilities (often called base transmitter stations, or 'base stations') in a honeycomb pattern. The base station's transmitter communicates via antennas with the user's phone or handset, relaying signals to a master switch which sends signals to another base station, which sends signals to a handset. The definition of "facilities" in the *Telecommunications Act* ("Act") includes all the elements of a base station.



What are the elements of a base station?

A base station commonly comprises: *antennas*, which are generally mounted between 7m and 35m high on buildings, or poles; *cable* for power to the facility (although some base stations are solar-powered); and a box about 2m high and 1m wide, called a shelter, or an '*equipment shelter*' that contains the electronic transmitter components.

Antennas usually used outdoors include:

- **panel antennas** (approximately 2m high and 30cm across) usually arrayed in three sectors, some metres from each other so as not to cause interference, or in multiples of three;
- an **omnidirectional antenna** (looking like a long car aerial);
- '**deer antlers**' (looking like tuning forks) found on street furniture such as traffic lights or bus stops, used in cities; or,
- a **yagi** (looking like a big double-sided wire comb) which offers coverage over a longer distance than other kinds of antenna.

These antennas may be connected to the rest of the system via fibre-optic cable, (which involves trenches to put the cabling underground), or, by convex antennas called **microwave dishes**.

Base station configurations vary. An equipment shelter may be located underground - and in a road reserve, they are called "roadside cabinets". Antennas may also be mounted in ceilings to provide coverage within buildings.



Who regulates telecommunications facilities?

The Australian Government regulates the installation and modification of telecommunications facilities. The Australian Communications Authority, or ACA, has principal responsibility for oversight of the deployment of base stations,

Important disclaimer:

This Fact Sheet is for general information purposes. Important legal details have been omitted to provide a brief overview of this area of the law. If you require legal advice relating to your specific circumstances you should contact the Environmental Defender's Office WA (Inc) or your solicitor. The EDO takes no responsibility for any loss or damage resulting from any error in this Fact Sheet.

and must report annually to the Minister on compliance.

However, there are processes for facilities to obtain the approval of local government and other bodies, if they are not exempted. The regulatory regime applicable to telecommunications facilities is largely dependent on whether or not the facility is classified as low impact. The Act allows facilities to be installed without any permit if they are “low- impact”. If not, local and State government laws must be complied with, or, alternatively, a facilities installation permit must be obtained, and that is granted by the ACA only after a public inquiry. Carriers generally avoid deploying base station sites that involve obtaining a facility installation permit.



What is a low impact facility?

The Act provides that a new stand-alone mast or a mast on a building that is more than 5 m high is not a low impact facility, otherwise leaving the detail of the low impact facility classification for the Minister to determine.

The *Telecommunications (Low-Impact Facilities) Determination 1997* (as amended) says that a facility is low impact if it meets certain physical requirements in certain areas (classified as residential, industrial, commercial, and rural according to its principal or highest use under relevant zoning laws). In some areas the Determination provides that any telecommunications facility will not be considered to be ‘low impact’.

For example, each of the following is low impact in rural, industrial, commercial and residential areas:

- any microwave dish up to a maximum of 1.2 m diameter;
- any flush-mounted panel antenna; and
- any panel antenna up to 2.8 m long protruding not more than 3m from the structure to which it is affixed;

providing they are suitably colour-matched either to their background or as the local authority determines.

Wholly concealed antennas (such as those concealed in fake trees or chimneys) are low impact, except in residential areas. Antennas of any size that are designed to provide coverage only within a particular building, are low impact. Co-located telecommunications facilities (which means “one or more facilities installed on, or within, an original facility or a public utility structure”) not meeting other size limitations are also low impact. Trenching signage, widths and depths are also regulated in order for deployment of cable to be considered low impact.

New overhead aerial cabling is not low impact.

No facility within an area of environmental significance is considered ‘low impact’. Areas of environmental significance are those set out in clause 2.5 of the Determination including:

- areas designated as a reserve, the principal purpose of which is nature conservation;
- areas entered in a register relating to heritage conservation;
- areas protected from significant environmental disturbance; and
- areas of particular significance to Aboriginal or Torres Strait Islander people.

‘Significant environmental disturbance’ means “significant interference with the relationship between a species or community and its immediate environment or habitat and includes, for example, significant interference with identified flora and fauna, ecological communities, geological features, wilderness values or scientific values within an area”.

Thus, it does not matter how big or small any particular configuration of antennas, equipment shelters, or cable might be, if they are located in any area of environmental significance (whether designated by the State or the Commonwealth) then the facility will *not* be considered to be low impact. For example, a carrier laying power cable for a telecommunications facility in designated nature reserves, or national parks, must comply with State and local government planning and environmental laws, irrespective of the trench specifications.



What standards apply to low impact facilities?

If a facility is a low impact facility then there is no need to obtain any local or State government approval before installation or for maintenance of the original facility. However, the carrier responsible for the facility must comply with:

- (a) consultation requirements;
- (b) the *Telecommunications Code of Practice 1997*, (“Code of Practice”), which incorporates and expands on the best

practice and notification provisions of the Act; and

- (c) any industry codes mandated by the ACA. The relevant industry code for deployment of base stations is produced by the Australian Communications Industry Forum, or ACIF, is known as the “ACIF Code” and is binding. (A 2004 version of the ACIF code is expected to be mandated by the ACA on 8 April 2005.) There is a roadside deployment code as well.

In addition, carriers must comply with EMR safety standards set by the ACA under the *Radiocommunications Act 1997*(Cth).

Consultation

The carrier must notify the owner (and occupier, if they are different people) of the land upon which the low impact facility is to be situated at least 10 days prior to work commencing.

Under the ACIF Code local government must receive detailed advance advice of all base stations within its district that do not require development approvals. The carrier must develop a written consultation plan for low impact facilities and must carry it through.

Code of Practice Standards

The requirements that must be met by the carrier include taking all reasonable steps to ensure that:

- damage and inconvenience is minimised (including noise);
- the land is restored to its prior condition
- the installation of the facility is managed so as to:
 - follow good engineering practice
 - protect the safety of people and property
 - minimise interference with public utilities, roads and pathways, traffic and the use of land; and
 - protect the environment

Breach of the Code of Practice amounts to a breach of a carrier’s licence and attracts penalties under the Act. These are enforced by the ACA.

ACIF Code

As noted above, the carrier must also comply with the best practice requirements that are set out in industry codes and standards mandated by the ACA. The ACIF Code incorporates a precautionary approach to site design and implementation and a consultative approach to establishment of new base stations. It expressly recognises that the Determination and the Code are inadequate for that purpose.

Examples of the higher standards imposed on carriers by the ACIF Code for emissions include the following carrier requirements:

- conduct site EMR assessments for all new sites;
- minimise EMR emissions in site design; and
- turn off transmitters when sites are not in use.

Examples of higher standards in the ACIF code relating to consultation include giving local government advance notice about a carrier’s forward planning for base stations in its district. The ACA can direct a carrier to follow the ACIF Code and there are civil penalties available under the Act for failure to do so.



What happens if the facility is not low impact?

Facilities that are not low impact can only be installed if authorized by all relevant local and State laws, so development approval will have to be obtained in each case, except if they are temporary defence facilities, or if a facility installation permit is obtained.

Development Applications

Development applications are required for telecommunications structures not authorised by the Determination and not being temporary defence installations in Western Australia, and it is understood that few applications have been refused. The carrier has a right of review by the State Administrative Tribunal (“SAT”) if refused planning approval. Third parties have no right to participate, but may be joined to proceedings at the discretion of the SAT.

Clearing permits, or permits under the State biodiversity conservation legislation, may also be required in order to deploy a base station that involves the clearing of native vegetation (see **Fact Sheet 7: Clearing native vegetation**).

State Planning Policy 5.2

In May 2004, the Western Australian Planning Commission issued State Planning Policy 5.2 ‘Telecommunications Infrastructure’. This policy is not referred to in any town planning statute as being a relevant mandatory consideration for those having functions in the consideration of development applications in the State, although case law indicates that it is. Part 5 of SPP 5.2 sets out Guiding Principles: e.g. minimising adverse impacts on the visual character and amenity of residential areas. It sets out information requirements for applications and public advertising guidelines for applications which comply with the Guiding Principles. However, the SPP contains no deployment obligations on carriers that are more onerous than the existing codes, much of which is repeated. The guidelines developed to be read with SPP 5.2 provide illustrative examples of deployment techniques seen to comply with the Guiding Principles.

Facility installation permits

If unable to obtain relevant development approvals and other permits, and the facility is not a temporary defence facility, then a carrier must apply to the ACA for a facility installation permit (“FIP”). The applicant for an FIP must satisfy certain criteria, including:

- The facility must be an important part of a nationally significant telecommunications network;
 - The benefit conveyed by the facility must outweigh any environmental harm that might be caused by the installation or operation of the facility; and
 - Most of the infrastructure of the network must have already been installed or all the administrative authorities whose approval otherwise would have been required have given, or are reasonably likely to give, their approval.
- Unless it decides to refuse the FIP, the ACA must hold a public inquiry. Even with its FIP, the carrier must:
- comply with the Code of Practice work standards and the ACIF Code;
 - negotiate with the proprietors of any land that will be affected by the facility and any administrative authority whose approval would have been required but for the exclusion contained in the Act.

Consultation for FIPs

Consultation with the community is only required if the site is a “community sensitive site”, which means near schools, kindergartens and the like.

The carrier must also consult the Australian Competition and Consumer Commission (“ACCC”) and the Department of Environment and Heritage. Where heritage places may be affected the advice of the Australian Heritage Commission must be sought.

Conditions

It is also possible for the ACA to impose conditions on any permit that it issues. It is anticipated that these conditions would require the company to conduct environmental impact assessment, expand its consultation of interested groups or obtain further approvals.



How do I object to base stations being established in my community?

Most mobile telecommunications facilities are low impact facilities. Where the facility is regarded as low impact, your options are limited to contacting the ACA to enforce the provisions of the relevant code, or, if you are a neighbour, asserting your common law rights in trespass, e.g. in an instance where an equipment shelter crosses a boundary line (see **Fact Sheet 2: Common law**).

The encouragement given by the Determination to co-location of facilities has resulted in deployment of fewer masts, that carry all four carriers' antennas, which means that masts are bigger in diameter, and taller, than they would otherwise be. This co-location policy is controversial in some communities. Carriers risk the opportunity cost of losing income from a base station if they involve communities in a trade-off in amenity terms between more poles but slimmer and shorter, versus fewer but taller and bulkier poles. Thus, the policy provides an economic disincentive to community engagement on amenity issues, where there are quicker low impact options available.

However, as it is becoming more difficult for carriers to find suitable low impact facility sites, the incidence of development applications may increase, resulting in more opportunities to access justice through the normal planning processes in future.



Perceived health issues

EMR is emitted by antennas and handsets, allowing phones to communicate to antennas and vice versa. Community concerns about the health impacts of EMR has been making news since mobile phones started becoming popular in Australia in the early 1990s and the debate is continuing in Western Australia, notwithstanding the ACA's adoption of safety standards.

On 7 May 2002, a new safety standard was published by the Australian Radiation Protection and Nuclear Safety Agency ("ARPANSA") for use in monitoring and measuring radiofrequency radiation, or EMR. In May 2003, the ACA made that ARPANSA standard mandatory. The ACA is responsible for ensuring that the industry complies with it.

Base stations

The current Australian standard for base stations is in line with the international EMR guidelines published by the International Commission on Non-Ionizing Radiation Protection. The industry takes responsibility for auditing its base stations against the Australian standard. The ACIF Code further provides for the carrier to undertake modelling of EMR prior to establishment of a base station and to publish that information to local government. Further checks are provided by independent measurement of base stations by ARPANSA and the publication of that information on the Internet.

Handsets

A voluntary reporting scheme relating to handset emissions and compliance with the Australian standard is available through the website of the Australian Mobile Telecommunications Authority www.amta.org.au

Information and resources

Information and resources about the development safety limits for EMR (also known as EMF in Europe) and the effects of radiofrequency radiation on human health is published by:

- the World Health Organization (see www.who.int/peh-emf/about/WhatisEMF/en/index1.html)
- the ICNIRP (www.icnirp.de) see in particular a note as to its criteria for its Guidelines' development at (www.icnirp.de/documents/Use.htm)
- ARPANSA, which, has fact sheets on Radiation and Health and at the time of writing, the actual measurements of GSM sites including Bunbury and Jolimont (www.arpansa.gov.au)
- the ACA, in its Consumer Fact sheet series (www.aca.gov.au)



Recycling handsets

A recycling program has been run by the carriers for a number of years that takes back the handsets and re-uses or recycles the components. The cost is built into the purchase price of each phone. For more information see www.amta.org.au/aoi.asp?ID=Recycling

Other resources and further information

Legislation relating to carriers obligations can be found at the following address:

www.dcita.gov.au/tel/carrier_powers_to_install_telecommunications_infrastructure/legislation_and_standards

Legislation relating to carriers obligations can be found at the following address: see

www.dcita.gov.au/tel/carrier_powers_to_install_telecommunications_infrastructure/legislation_and_standards

The ACA has a comprehensive consumer enforcement brochure:

see http://internet.aca.gov.au/acainterwr/tecomm/industry_codes/codes/comp_and_enforcement/consumer_codes

The Telecommunications Industry Ombudsman is available for complaints about non-EMR issues, such as complaints by the landowner about failure to comply with the notice provisions of the Code of Practice (see www.tio.com.au/policies/jurisdiction.htm)

The ACIF Consumer Advisory Council meets regularly to review consumer issues: see

www.acif.org.au/current_activities/consumer_liason/council

There is also a Telecommunications Users Group whose website is <http://www.atug.org.au>

The Environmental Defender's Office WA (Inc)

The Environmental Defender's Office WA (EDO) is a community legal centre specialising in public interest environmental law.

The objects of the EDO include:

- ◆ to provide community groups and individuals with legal advice and representation to help protect the environment;
- ◆ to promote law reform that improves environmental protection; and
- ◆ to provide community education about environmental law.

The EDO is a non-profit, non-government organisation. The EDO receives its principal funding from the Federal Attorney-General's Department. However, these funds are limited and donations from the public provide a vital source of funds for many of our activities. Donations over \$2 are fully tax deductible. The EDO also welcomes people with a commitment to the environment to join as members.

If you require legal advice on an environmental issue or wish to find out more about the EDO, please contact us at the following address:

Environmental Defender's Office WA (Inc)
Second Floor, Kings New Office Tower
533 Hay Street, PERTH WA 6000

Tel: (08) 9221 3030 Fax: (08) 9221 3070

Email: edowa@edowa.org.au Web: www.edowa.org.au

This fact sheet was produced with the assistance of: