

Review of the Mobile Phone Jammer Prohibition

Public discussion paper

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Executive summary

In 1999 the Australian Communications Authority (ACA) published the Mobile Phone Jammer Prohibition to prohibit the supply and operation of specified radiocommunications devices commonly known as *mobile phone jammers*. The Mobile Phone Jammer Prohibition was introduced in 1999 because a small number of retailers were marketing mobile phone jammers and the ACA could not identify any legitimate uses for them.

In recognition of a number of significant developments that have occurred since 1999, the Australian Communications and Media Authority (the ACMA) identified the need for a review of the overall regulation of mobile phone jammers in 2008. A separate, but related, issue was the question of whether it was now possible to address the long-standing concerns of the corrective services community about the illegal use of mobile phones by inmates in correctional facilities and potential for mobile phone jammers to prevent or minimise that illegal use.

In 2009 the Corrective Services Administrators Council (CSAC) lodged a submission with the ACMA that set out:

- > the extent to which mobile phones are illegally used by inmates;
- > the steps that had already been taken to prevent or minimise the illegal use of mobile phones by inmates; and
- > the public benefits that could be expected if the deployment of mobile phone jammers in correctional facilities was permitted.

In particular, the CSAC submission detailed a number of measures that had been put in place by the States and Territories since the use of mobile phone jammers in correctional facilities was last considered by the ACA in 2003.

In response to the CSAC submission, the ACMA has formed the preliminary view that a trial of mobile phone jammers, at a suitable correctional facility, would be a useful first step in evaluating the feasibility of making regulatory arrangements to enable ongoing deployment of mobile phone jammers in correctional facilities in Australia.

In particular, the ACMA is considering the potential for an exemption to the Mobile Phone Jammer Prohibition to facilitate the trial of mobile phone jammers at the Lithgow Correctional Centre, a maximum security correctional facility in regional NSW. The proposed trial is within the scope of this review and is discussed and identified as an issue for comment in this paper. The ACMA expects to deal with the matter of the exemption as a priority.

This discussion paper:

- > examines the ten year history of the Mobile Phone Jammer Prohibition and its interaction with other provisions of the Radiocommunications Act;
- > considers the Mobile Phone Jammer Prohibition within the broader context of relevant regulatory theory;
- > identifies problematic aspects of the current regulatory approach;
- > explores options for future regulation of mobile phone jammers; and
- > invites comment on those options and other matters relating to the regulation of mobile phone jammers; including consideration of the proposed trialling of mobile phone jammers at the Lithgow Correctional Centre.

1. Introduction

In 1999 the Australian Communications Authority (the ACA) published the *Notification that the Australian Communications Authority Prohibits the Operation or Supply, or Possession for the Purpose of Operation or Supply, of Specified Devices* (the Mobile Phone Jammer Prohibition) to prohibit the supply and operation of specified radiocommunications devices commonly known as mobile phone jammers.¹ These devices have the potential to cause significant interference to legitimate radiocommunications services including, but not limited to, mobile phone networks. The Mobile Phone Jammer Prohibition was made under s.190 of the *Radiocommunications Act 1992* (the Radiocommunications Act).

The Australian Communications and Media Authority (the ACMA) is conducting a review of the Mobile Phone Jammer Prohibition in order to assess its continued relevance to the effective regulation of mobile phone jammers.² The scope of the review also encompasses the functions and powers available to the ACMA under section 27 of the Radiocommunications Act and their relevance to the regulation of mobile phone jammers.

Section 27 empowers the ACMA to exempt persons performing certain functions from parts of the Radiocommunications Act, including the offence provision in section 189 relating to the possession, supply and operation of devices prohibited by declaration notices such as the Mobile Phone Jammer Prohibition. Broadly expressed, exemptions may only be made in favour of certain defence, law enforcement and emergency personnel.

The ACMA is considering an exemption under section 27 in favour of the New South Wales Department of Corrective Services (NSW DCS). If made, the exemption would enable a trial of mobile phone jammers at the Lithgow Correctional Centre, a maximum security correctional facility in regional NSW. The illicit use of mobile phones in correctional facilities in Australia is a serious problem and the ACMA is positively disposed to making an exemption to facilitate the proposed trial. However, as the radiocommunications and telecommunications regulator, the ACMA must also take into account the interference potential of mobile phone jammers, particularly if there was to be continued and continuous use of jammers at particular locations.

The formulation of a technical and management framework to mitigate the potential for harmful interference to radiocommunications (including mobile phone networks) outside of the trial facility will, for example, require significant engagement with the telecommunications industry and particularly with mobile phone carriers. The proposed trial and exemption are discussed in this paper and identified as significant issues for comment.

Existing section 27 exemptions are outlined in section 2 (Background) and the functions of section 27 are described in more detail in section 4 (Legislative framework).

¹ The 1999 prohibition notice, the current Mobile Phone Jammer Prohibition (Notification that the Australian Communications and Media Authority Prohibits the Operation or Supply, or Possession for the Purpose of Operation or Supply, of Specified Devices (as amended)) and relevant amendment determinations can be found on the ComLaw site (viewed 28 Jan 2010): <http://bit.ly/47hQWs>

² A declaration made under s.190 of the Radiocommunications Act also exists concerning Radionavigation-satellite service (RNSS) jamming devices. That declaration is outside the scope of this review.

2. Background

2.1 What is a mobile phone jammer?

Mobile phone jammers are radiocommunications transmitters designed to interfere with licensed services operated by mobile carriers. A mobile phone works by communicating with its service network via a base station. A mobile phone jammer typically works by preventing the mobile phone from receiving signals from base stations. As a result, the mobile phone does not attempt to transmit to a base station, even though it may be within range. Jammers effectively disable mobile phones. Jamming a mobile phone may potentially cause it to 'lock up' and continue in a non-receiving state outside of the jammed area until the mobile phone is turned off and on again (this may not be apparent to or understood by the user of the mobile phone).

Mobile phones are commonly designed to operate across several bands. In most circumstances, a jammer would also need to operate across the same bands to effectively jam mobile phones within range. The geographical range of a mobile phone jammer depends on its power level, its operating frequencies, the physical situation of the jammer, the mobile phone/s it is attempting to block, and the local environment. Mobile phone jammers vary in quality and functionality, ranging from the rudimentary to the sophisticated.

The Mobile Phone Jammer Prohibition describes a 'prohibited device' as:

- > a device designed to operate within the frequency bands 870-960 MHz or 825-845 MHz and to interfere with radiocommunications or disrupt or disturb radiocommunications, except where:
 - > the device is designed to facilitate a cellular mobile telephone service on board an aircraft that operates on another frequency; and
 - > the device is operated for that purpose.

This description reflects a recent amendment to exempt the use of devices designed to facilitate mobile communication services on aircraft. Such devices were previously captured by the definition. In this discussion paper, the term *mobile phone jammer* is used to refer to any prohibited device, as defined in the Mobile Phone Jammer Prohibition.

2.2 The Mobile Phone Jammer Prohibition

In 1999 the ACA made the Mobile Phone Jammer Prohibition because:

- > jamming would be likely to substantially interfere with, or disrupt or disturb, public mobile phone services and have adverse consequences for public mobile phone users; and
- > there appeared to be no legitimate radiocommunications use for mobile telephone jamming devices; their only purpose seeming to be to deliberately disrupt licensed radiocommunications services.³

2.3 Exemptions and amendments since 1999

After the Mobile Phone Jammer Prohibition was put in place, it became apparent that there were particular circumstances where the use of mobile phone jammers may be in the public interest. Where the Radiocommunications Act provides for an exemption, the

³ The ACA's reasons for making the Mobile Phone Jammer Prohibition are set out in detail in section 5.2 of this discussion paper and in the Prohibition itself.

ACA (and later the ACMA) have considered requests for an exemption from the Mobile Phone Jammer Prohibition on a case-by-case basis.

In 2003 the ACA investigated the feasibility of deployment of mobile phone jammers in correctional facilities. Correctional services bodies had proposed use of jammers as a potential solution to the problem of unlawful use of mobile phones by inmates. While acknowledging the seriousness of this problem, the ACA concluded in July 2003 that the disadvantages of allowing the use of mobile phone jammers in correctional facilities appeared to outweigh the advantages.⁴

Since 2003, two exemptions have been made under section 27 to enable the supply, possession and operation of mobile phone jammers in specific circumstances. Since 2007, the ACMA has also twice amended the Mobile Phone Jammer Prohibition.

- > In 2004 the ACA created a section 27 exemption in favour of the Department of Defence and the Australian Defence Force (ADF) to exempt their use of mobile phone jammers for defence purposes, including Counter-Improvised Explosive Devices (CIED).⁵ Use of these devices is otherwise enabled for ADF members under section 26(1)(b)(iii) of the Radiocommunications Act.
- > In 2006 the ACMA made a section 27 exemption in favour of the Australian Federal Police (AFP) to permit testing of mobile phone jamming devices by Telstra in a shielded room. The test was intended to help determine the feasibility of deploying mobile phone jammers in correctional facilities to prevent the illicit use of mobile phones by inmates.⁶
- > In 2007 the ACMA authorised a trial of in-flight GSM services on a single Qantas aircraft for one year.⁷ An amendment to the Mobile Phone Jammer Prohibition exempted the operation of the *onboard system*, the means by which mobile communication services on aircraft are provided.⁸ The ACMA was then able to authorise the operation of the onboard system for the duration of the trial period under a scientific assigned apparatus licence.⁹
- > In January 2009 the ACMA amended the Mobile Phone Jammer Prohibition in order to exclude from the description of a 'prohibited device' devices that are:
 - a) designed to facilitate a cellular mobile telephone service onboard an aircraft operating within another frequency; and
 - b) are operated for that purpose.¹⁰

4 See the report Mobile Phone Jammers, which is available from the ACMA website at

http://www.acma.gov.au/webwr/aca_home/licensing/radcomm/space_systems/papers/jamsrep.pdf

5 Radiocommunications (Prohibited Device) (Mobile Telephone Jamming Devices) Exemption Determination 2004 (IED are commonly referred to as bombs.)

6 Radiocommunications (Prohibited Devices) (AFP testing of mobile telephone jamming devices) Exemption Determination 2006

7 Qantas limited the trial to text (SMS) and data services.

8 Notification that the Australian Communications and Media Authority prohibits the operation or supply, or possession for the purpose of operation or supply, of specified devices Amendment Declaration 2006 (No. 1)

9 The onboard system provides an environment where passengers can safely operate mobile phones onboard aircraft. In order to do this, a component of the system blocks communications from terrestrial base stations that may cause mobile handsets to increase transmission power and thereby create a risk of interference to onboard navigation systems. It also acts as a base station within the aircraft, transmitting to the terrestrial networks via satellite.

10 The Notification that the Australian Communications and Media Authority prohibits the operation or supply, or possession for the purpose of operation or supply, of specified devices Amendment Declaration 2009 (No. 1). The Amendment Declaration commenced on 21 January 2009.

The 2009 amendment to the Mobile Phone Jammer Prohibition did not in itself authorise in-flight services, but has allowed the ACMA to consider potential licensing arrangements for commercial deployment of mobile communication services on Australian-registered aircraft.¹¹

¹¹ See IFC 31/2009 at www.acma.gov.au/WEB/STANDARD/pc=PC_311973.

3. Review of the Mobile Phone Jammer Prohibition

The ACMA is reviewing the Mobile Phone Jammer Prohibition in order to assess its continued relevance to the effective regulation of mobile phone jammers. The ACMA is also reviewing other aspects of its regulatory approach to mobile phone jammers, including its approach to exemptions which enable (or may in the future enable) the possession, supply or operation of mobile phone jammers in specified circumstances.

3.1 Purpose

The purpose of the review is to ensure that the ACMA's approach to regulation of mobile phone jammers:

- > provides appropriate safeguards for legal radiocommunications and telecommunications services; and
- > takes proper account of circumstances in which the use of mobile phone jammers may be in the public interest.

In particular, the review will consider whether, and in what circumstances, it is appropriate to enable the use of mobile phone jammers to prevent the unlawful use of radiocommunications and telecommunications services.

3.2 Scope

The scope of the review includes:

- > The form and function of the Mobile Phone Jammer Prohibition.
- > Amendments that have been made to the Mobile Phone Jammer Prohibition and the reasons for those amendments.
- > The interaction of the Mobile Phone Jammer Prohibition with other provisions of the Radiocommunications Act as they pertain to the regulation of mobile phone jammers, including:
 - > the function of section 27 as a means of providing exemption from the Mobile Phone Jammer Prohibition and other provisions of the Radiocommunications Act, and
 - > particularly in relation to responsible bodies such as defence, law enforcement and emergency services personnel:
 - > circumstances where the use of mobile phone jammers can be considered legitimate or would have a public benefit, and
 - > appropriate criteria by which the ACMA can identify those circumstances and assess requests for exemption.
 - > Limitations inherent to section 27 and the impact of those limitations on the ACMA's regulation of mobile phone jammers.

3.3 Proposed trial of mobile phone jammers

Consideration by the ACMA of the potential for a s.27 exemption to enable the trialling of mobile phone jammers in a correctional facility is within the scope of the Review. The ACMA is seeking comments on the proposed trial. The discussion paper provides information about the trial.

3.4 Matters outside the scope of the review

The content of primary legislation (such as the Radiocommunications Act), or of State and Territory legislation, are outside of the scope of this review. Advice to government concerning potential amendments to the Radiocommunications Act is the responsibility of the Department of Broadband, Communications and the Digital Economy (DBCDE).

If appropriate, the ACMA may pass on recommendations or suggestions that relate to amendment of the Radiocommunications Act (in the case of confidential submissions, with the permission of the submitter).

3.5 Submissions

The ACMA welcomes any public comment on the issues under review, including the options provided in section 7 of this paper and the proposed trial of mobile phone jammers at Lithgow Correctional Centre. Questions for comment are provided throughout the paper. A list of the questions is also provided at section 8.

Publication of submissions

In general, the ACMA publishes all submissions it receives. However, the ACMA will not publish submissions that it considers to contain defamatory or irrelevant material.

The ACMA prefers to receive submissions that are not claimed to be confidential. However, the ACMA accepts that a submitter may sometimes wish to provide information in confidence. In these circumstances, submitters are asked to identify the material over which confidentiality is claimed and provide a written explanation for confidentiality claims.

The ACMA will not automatically accept all claims of confidentiality, but will consider each claim on a case-by-case basis. If the ACMA accepts a confidentiality claim, it will not publish the confidential information unless required to do so by law.

When can the ACMA be required by law to release information?

The ACMA may be required to release submissions by law under the *Freedom of Information Act 1982* (Cth) or for other reasons, including for the purpose of parliamentary processes or court subpoena. The ACMA will seek to consult submitters of confidential information before providing that information to another body or agency, but the ACMA cannot guarantee that confidential information will not be released through these or other legal means.

Sharing of information

Under the *Australian Communications and Media Authority Act 2005* (the ACMA Act), the ACMA is able to disclose submissions to the Minister for Broadband, Communications and the Digital Economy; the Department of Broadband, Communications and the Digital Economy (DBCDE), including authorised officials; Royal Commissions and certain Commonwealth authorities such as the Australian Competition and Consumer Commission (ACCC) and the Australian Securities and Investments Commission (ASIC).

If information is accepted by the ACMA as confidential, the ACMA will seek to consult with the submitter of the information where the ACMA intends to share that information.

Submissions may be sent to the ACMA as follows:

By email: LANDS@acma.gov.au

By mail: Licence and Numbering Development Section
Australian Communications and Media Authority
PO Box 78
Belconnen ACT 2616

Submissions are to be provided to the ACMA by **30 April 2010**.

4. Legislative framework and *Principles for Spectrum Management*

4.1 The role of the ACMA

The ACMA is the Australian government agency responsible for the regulation of broadcasting, the internet, radiocommunications and telecommunications. The ACMA seeks to make communications and media work in Australia's public interest. It does this in accordance with relevant legislation.¹²

Radiocommunications

The Radiocommunications Act is the primary legislation under which the ACMA regulates the radiofrequency spectrum. The object of the Radiocommunications Act is to provide for management of the radiofrequency spectrum in order to do the things set out at paragraphs 3(a)-(h). Paragraphs 3(a) and 3(b) are of particular relevance to the issues addressed in this discussion paper. Paragraph 3(a) makes it a goal of the management of the radiofrequency spectrum to:

maximise, by ensuring efficient allocation and use of spectrum, the public benefit derived from using radiofrequency spectrum

One means of ensuring efficient use of the spectrum is to provide for technical coordination designed to prevent unacceptable interference to legitimate radiocommunications services. In cases where a particular device is designed to have an adverse effect, and is likely to cause substantial interference, the Radiocommunications Act provides that the ACMA may prohibit that device.

The first part of paragraph 3(b) makes it another goal of the management of the radiofrequency spectrum to:

make adequate provision of the spectrum:

- (i) for use by agencies involved in the defence or national security of Australia, law enforcement or the provision of emergency services...

While these agencies are enabled by and generally operate under other legislation, the Radiocommunications Act acknowledges the part that radiocommunications play in facilitating the defence, security, law enforcement and emergency services activities that fall under the aegis of these agencies.

Telecommunications

Apart from the Radiocommunications Act, other legislation under which the ACMA operates also supports this dual objective. For example, one of the objects of the *Telecommunications Act 1997* is to provide a regulatory framework that promotes the long-term interests of end-users of carriage services including mobile phone services. Section 147 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999* provides objectives for determination of requirements for provision of emergency services by carriers to end-users; in particular that end-users should be provided with free access to emergency call services such as Triple Zero.

The *Telecommunications (Interception and Access) Act 1979* establishes the legal framework by which specified organisations such as police forces are authorised to

¹² Division 2 of the *Australian Communications and Media Authority Act 2005* (the ACMA Act) sets out the functions of the ACMA and legislation relevant to those functions. The ACMA Act can be found on the ComLaw site (viewed 28 Jan 2010): at: <http://bit.ly/6vhnz>

intercept telecommunications services, including telecommunications services provided by wireless means.

However, the regulatory arrangements which are the primary focus of this discussion paper are all arrangements made, or which may be made, under the Radiocommunications Act. The key regulatory instrument made under the Radiocommunications Act is the Mobile Phone Jammer Prohibition.

4.2 Operation of devices under the Radiocommunications Act

In general the Act requires that the use of radiocommunications devices:

- > be licensed (Part 3.1);
- > meet certain standards and other technical requirements (Part 4.1); and
- > be conducted so as to avoid causing disruption or unacceptable interference to other radiocommunications services (Part 4.2).

Part 3.1 identifies certain actions as offences under the Radiocommunications Act. A person must not, without reasonable excuse, operate an unlicensed radiocommunications device, nor have such a device in their possession for any reason other than supply. This also applies to a person who has control over a device, even if another person actually possesses it. Section 50 provides for civil remedies where operation of a radiocommunications device not in accordance with any licence causes interference to radiocommunications provided under a spectrum licence.

Part 4.1 concerns standards and other technical regulation. It imposes prohibitions relating to non-standard devices (and provides for exceptions to those prohibitions). It enables the ACMA to make standards for devices and the radio emissions they produce, and to create requirements for compliance labelling. Division 8 of Part 4.1 enables devices to be prohibited because of their effect on radiocommunications and provides penalty provisions for operation of a prohibited device.

Part 4.2 provides that certain acts are offences under the Radiocommunications Act. These include causing substantial interference to radiocommunications services, more specifically interference to the radiocommunications of certain emergency services and interference likely to endanger safety. Other offence provisions relate to the transmission of false information or information likely to cause an explosion. Section 196, provides circumstances under which interference with radiocommunications services may be defensible.

4.2.1 Licensing and mobile phone jammers

The provisions in Parts 3.1, 4.1 and 4.2 together create a licensing framework intended to maximise efficient use of the spectrum. Efficiency is increased where standard devices are operated in a compliant manner, thereby preventing or containing interference to other radiocommunications services.

Therefore, generally speaking, the Radiocommunications Act does not provide for licensed use of jamming devices. Indeed, where a device has been designed to deliberately disrupt or interfere with legitimate radiocommunications services, the Act provides instead that the operation or supply, or possession for the purpose of operation or supply, of that device may be prohibited.

These limitations do not apply where operation of a device will not cause harmful interference. For example, situations will arise where it is desirable to test mobile phone jammers to assess their function or interference potential. If this testing occurs in a

controlled environment where there is little or no potential for harmful interference (such as a bench test in a shielded room), this use could be licensed (for example, under a scientific licence).

4.2.2 The use of mobile phone jammers in unusual circumstances

The Radiocommunications Act does provide for possession or operation of such devices in limited circumstances¹³. These are where:

- > in the case of a prohibited device (s. 189), operation occurs with reasonable excuse; or
- > in the case of an unlicensed device (s. 49) or where operation of the device causes substantial interference to radiocommunications (s. 196), operation of the device can be defended on the grounds that the device was used in the reasonable belief that it was necessary for the purpose of:
 - > securing the safety of a vessel, aircraft or space object that was in danger; or
 - > dealing with an emergency involving a serious threat to the environment; or
 - > dealing with an emergency involving risk of death of, or injury to, persons; or
 - > dealing with an emergency involving risk of substantial loss of, or substantial damage to, property; or
- > where a relevant exemption is made (s. 27). This kind of exemption is explained in more detail in section 4.4 of this paper.

4.3 Prohibition of devices

In cases where a device is considered to have been designed to deliberately disrupt or interfere with legitimate radiocommunications services, section 190(1) authorises the ACMA to prohibit the operation or supply, or possession for the purpose of operation or supply, of that device.

Section 189 of the Radiocommunications Act provides that a person must not operate or supply (or possess for the purpose of operation or supply) a prohibited device and that to knowingly do so is an offence, unless with reasonable excuse.

4.3.1 The Mobile Phone Jammer Prohibition

The Mobile Phone Jammer Prohibition prohibits the operation or supply, or possession for the purpose of operation or supply, of a device designed to operate within the frequency bands 870-960 MHz or 825-845 MHz and to interfere with radiocommunications or disrupt or disturb radiocommunications. Devices that are designed to facilitate a cellular mobile telephone service on board an aircraft and operated for that purpose are explicitly exempted.

The Mobile Phone Jammer Prohibition may be amended or remade in order to expand or narrow the description of a prohibited device. As set out above, two amendments have already been made to enable testing/trialling of prohibited devices, and most recently another to exclude from the description of a prohibited device the onboard systems which are used to provide mobile communication services on aircraft.

While prohibited devices cannot be licensed, the exclusion of any particular type of device from the Mobile Phone Jammer Prohibition does not, in and of itself, authorise operation of that particular type of device. However, if a device is not prohibited, the ACMA is able to establish or use appropriate licensing arrangements, such as the use of a scientific licence for tests and trials.

¹³ Such devices might be devices designed or used to cause interference or unlicensed devices. Mobile phone jammers are just a subset of the devices to which these provisions may apply.

4.4 Exemptions under s. 27 of the Radiocommunications Act

Section 27(2) of the Radiocommunications Act allows the ACMA to exempt eligible persons or agencies from the operation of some or all of the provisions in:

- > Part 3.1 (Unlicensed radiocommunications);
- > Part 4.1 (Standards and other technical regulation); and
- > Part 4.2 (Offences relating to radio emission).¹⁴

A section 27 exemption can provide that the operation of a prohibited device by a specified person or class of persons is not an offence, despite the fact that the device itself is otherwise prohibited (or difficult or undesirable to license due to interference potential). In this manner the Radiocommunications Act provides for the use of unlicensed, non-standard and prohibited devices in specified circumstances.¹⁵

However, section 27 exemptions are of limited application and can only be provided to the persons, or classes of persons, specified in subsection 27(1). These include defence, law enforcement or emergency services personnel, as clarified in the specifics of the provision. The impact of this limitation on the potential use of mobile phone jammers in correctional facilities is discussed in section 6.3.3 of this paper.

4.5 Conclusion: the regulatory framework and mobile phone jammers

The regulatory arrangements that pertain to mobile phone jammers are complex and require the ACMA to have regard to a number of competing objectives and statutory requirements.

The ability of the ACMA to license the operation of radiocommunications devices such as mobile phone jammers that are designed to cause interference to radiocommunications is limited. A scientific (apparatus) licence may be issued depending on the circumstances of use.¹⁶ This approach would allow the ACMA to licence some limited testing of jammers in controlled environments but is not easily adapted to license trials in a real-world situation.

The ACMA is able to prohibit the operation or supply of mobile phone jammers or possession of mobile phone jammers for the purpose of operation or supply.

There are statutory provisions that establish defences for possession or use of an unlicensed device, or use of a device that causes harmful interference, in exceptional circumstances (as outlined in 4.2.2). However, these provisions have a limited scope and are not appropriate to permit activities such as trials.

The ACMA is also able under section 27(2) to exempt a person from provisions of the Radiocommunications Act concerning licensing, standards, prohibited devices or offences relating to causing interference. However, exemptions may only be made to a class of person specified in section 27(1).

¹⁴ Part 4.1 of the Radiocommunications Act includes section 189 which provides that it is an offence to possess, supply or operate a prohibited device.

¹⁵ The Radiocommunications Act also provides, in section 26, an exemption from Parts 3.1, 4.1 and 4.2 of that Act in relation to certain matters for members of the Defence Force and the Department of Defence. Sections 24 and 25 provide similar exemptions in relation to other matters.

¹⁶ For example, operation in a shielded environment may cause no harmful interference at all.

4.6 Principles for spectrum management

On 31 March 2009 the ACMA released its *Principles for Spectrum Management* (the Principles). The Principles set out the basis on which the ACMA regulates and manages the radiofrequency spectrum, subject to the statutory framework.

The Principles are:

- 1/ allocate spectrum to the highest value use or uses
- 2/ enable and encourage spectrum to move to its highest value use or uses
- 3/ use the least cost and least restrictive approach to achieving policy objectives
- 4/ to the extent possible, promote both certainty and flexibility
- 5/ balance the cost of interference and the benefits of greater spectrum utilisation.

The Principles provide a framework for consideration of the issues set out in this paper. They may also assist those providing submissions. Further information about the Principles is available from the ACMA website.¹⁷

¹⁷ See http://aact01nctt1/webeditwr/_assets/main/lib310828/principles_for_spectrum_management.pdf

5. Prohibition as a regulatory tool

A primary concern of the Radiocommunications Act (and subordinate legislation made under that Act) is the prevention of harmful or otherwise unacceptable interference to legitimate radiocommunications. Naturally the operation of a device is more likely to cause interference if the device has been designed for that purpose. A key reason for the prohibition of mobile phone jammers is their potential to cause significant interference with far-reaching consequences.

5.1 Regulatory theory: *ex ante* versus *ex post*

Regulation dealing with harmful acts or omissions can be formulated to apply:

- > *ex ante* (before the fact) in order to:
 - > where possible, prevent harm, and
 - > where applicable, preclude a disproportionate need for enforcement actionOR
- > *ex post* (after the fact) in order to:
 - > punish an offence
 - > require some action or reparation, and/or
 - > discourage any repetition of the act or omission.

Ex ante regulation is more likely to rely on prior approvals (such as licensing, standards to be met or required qualifications) or prohibition, while *ex post* regulation is more likely to rely on penalties (such as fines or suspension/cancellation of licences).

Deciding which kind of regulation is most appropriate to prevent a particular harm involves balancing policy options and assessing the risk associated with each. Where the risk of significant harm (or likely occurrence of acts causing harm) is high, focussing resources on stronger or more broadly applicable *ex ante* regulation may be justifiable.

Where the risk is lower, it is reasonable to focus resources on creating *ex post* regulation and on commensurate enforcement action. Because it applies after the act is committed and the harm known, *ex post* regulation can be graduated so that an appropriate penalty applies in proportion to the harm caused. *Ex post* regulation is generally regarded as more flexible than *ex ante* regulation for this reason.

5.1.1 *Ex ante* and *ex post* regulation in the Radiocommunications Act

The Radiocommunications Act provides for both *ex ante* and *ex post* regulation of radiocommunications devices. Some examples are provided in Table 1.

Table 1 Examples of regulation provided by the Radiocommunications Act (by type)

Ex ante regulation	Ex post regulation
<ul style="list-style-type: none"> > Licensing requirements for operation of a radiocommunications device > Licence conditions and other technical requirements (eg ss.107 and 145(4)) > Registration of devices > Standards (s.162) > Labelling requirements (eg s.182) > Advisory guidelines (s.262) > Prohibition of specified devices (s.190) > Radio frequency planning (Parts 2.1-2.3) 	<ul style="list-style-type: none"> > Offence-related search and seizure (s.272) > Suspension of licence (eg s.126) > Cancellation of licence (eg s.77) > Directions (s.212) > Penalties (monies payable or imprisonment) assigned to offences relating to, for example:
<p>N.B. Exemptions are themselves ex ante measures, but may be applied to both types of regulation.</p>	

Where so specified in the provisions of the Act, the ACMA has the discretion to determine the scope and application of particular regulation and the manner of enforcement. By extension this allows the ACMA some flexibility to adjust the balance of *ex ante* and *ex post* regulation it applies to a particular radiocommunications matter, according to its assessment of the risks (including risk of harmful interference) involved.

Licensing of radiocommunication devices is pivotal to the ACMA's predominantly *ex ante* approach to radiocommunications regulation. It requires prior radio frequency planning, including allocation of spectrum for specified uses. It is a check point for standards-compliant devices. The licensing process also provides an opportunity for technical coordination and the setting of licence conditions. These are broadly intended to ensure that operation is in accordance with the licence conditions in order to minimise the potential for harmful interference to other radiocommunications services.

Even in the absence of a prohibition, the requirement for operation of a radiocommunications device to be licensed will tend to prevent the operation of devices such as mobile phone jammers. The operation of an unlicensed device, or possession of a device for the purpose of operation, is an offence under sections 46 and 47 of the Radiocommunications Act, except where the person has a reasonable excuse or a relevant exemption applies.¹⁸ However, section 48, explicitly excludes from these offences possession for the purpose of supply.

This was the context in which the ACA first considered prohibiting mobile phone jammers. Despite the fact that the operation of mobile phone jammers was illegal, a small number of retailers had begun to stock and advertise these devices. Recognising the potential for harmful interference if mobile phone jammers became generally available, the ACA opted for the extra precaution of prohibiting the possession of mobile phone jammers for any reason. This broader *ex ante* control was achieved by the making of the Mobile Phone Jammer Prohibition.

¹⁸ As previously noted, parties in whose favour such an exemption can be made are limited by s. 27(1) of the Radiocommunications Act.

5.2 The Mobile Phone Jammer Prohibition

The 1999 Mobile Phone Jammer Prohibition declared the ‘operation or supply, or possession for the purpose of operation or supply, of a device designed to operate within the frequency bands 870–960 MHz or 825–845 MHz and to interfere with radiocommunications or disrupt or disturb radiocommunications’ to be prohibited.

The ACA’s reasons for making the Mobile Phone Jammer Prohibition are set out in the declaration itself. They are that:

- > jamming would be likely to substantially interfere with, or disrupt or disturb, public mobile telephone services and have serious adverse consequences for public mobile telephone users by:
 - > jeopardising the quality and extent of legitimate carrier services;
 - > preventing access to emergency services;
 - > causing inconvenience to, or loss of business for, mobile telephone users; and
 - > disadvantaging those responsible customers using silent messaging features on their mobile telephones;
- > there appears to be no legitimate radiocommunications use for mobile telephone jamming devices; their only purpose seems to be to deliberately disrupt licensed radiocommunications services, including those services not specifically targeted by the jammers. These could include Defence radar and fixed point to point services that could be affected because they operate in the same frequency band;
- > given the ACA’s knowledge about the interfering and disruptive nature of these devices, they could not be licensed under normal circumstances. This means that operation of the device would be an offence, because:
 - > operators of the device may breach section 194 of the Radiocommunications Act (interference likely to endanger safety or cause loss or damage) and section 197 of the Radiocommunications Act (knowingly or recklessly interfere substantially with radiocommunications); and
 - > operation, or possession for the purpose of operation, of a radiocommunications device without an appropriate licence is an offence under sections 46 and 47 of the Radiocommunications Act, respectively;
- > these devices do not comply with the 900 MHz Band Plan (Statutory Rules 1992 No. 47). In addition, operation not in accordance with a band plan may only be authorised by the ACA in accordance with section 104 of the Radiocommunications Act. Such operation is for specified purposes, such as an event of international significance, or must be in the public interest, and can only be for 30 days and may only be renewed once. Mobile telephone jammers do not meet any of the criteria in section 104 of the Radiocommunications Act;
- > it is unfair to allow the sale of mobile telephone jamming devices when their operation is not permitted under any circumstances. It is equitable, efficient and effective to focus regulatory attention on the sellers and suppliers of mobile telephone jamming devices, while continuing to target individual operators if the need arises;
- > the radiation levels of high powered jammers may result in the exposure levels exceeding the maximum permitted under the interim and proposed Australian health exposure standards. This has implications for public safety, especially in confined areas, such as cafes or restaurants; and
- > the use of mobile phones in particular areas is able to be discouraged, if not entirely controlled, using alternative means, including:
 - > promotion to encourage people to use silent messaging features of their mobile phones (SMS); or

- > advising people (using prominent signage) that the use of mobile phones in certain areas is not welcome, or could affect the operation of sensitive equipment; or
- > electronically detecting active mobile phones, followed by advice to users to restrict their use.

The frequency bands specified in the Mobile Phone Jammer Prohibition are 825–845 MHz and 870–960 MHz. These frequency ranges were being used to provide public mobile telecommunications services in 1999.

Q1. Is the Mobile Phone Jammer Prohibition a necessary regulatory measure to prevent the general use of mobile phone jammers?

5.3 Developments since 1999

The reasons provided for making the Mobile Phone Jammer Prohibition remain unchanged in the current compiled version (which incorporates all still-relevant amendments). Review of these reasons will assist the ACMA in assessing the continued relevance of the Mobile Phone Jammer Prohibition and, in the event that the Mobile Phone Jammer Prohibition is remade as a result of the Review, inform the reasoning that would underpin the formulation of the remade instrument.

A number of developments have occurred since the Mobile Phone Jammer Prohibition was made in 1999. These include:

- > the increased number of frequency bands used for mobile telephony services
- > developments in jamming technology and uses of that technology
- > the emergence of legitimate uses for mobile phone jammers
- > the increasing need for trialling of prohibited devices for legitimate purposes
- > the establishment of standards relating to electromagnetic emissions (EME) and human health.

5.3.1 Additional mobile telephony bands

As set out above, the Mobile Phone Jammer Prohibition only applies to devices that operate in the frequency ranges 825–845 MHz and 870–960 MHz. These frequency bands are used to provide both 2G (second generation) and 3G (third generation) mobile telecommunications services.

Additional frequency bands such as the 1800 MHz and 2100 MHz bands are also used to provide public mobile telecommunications services. That is, the Mobile Phone Jammer Prohibition does not apply to all the frequency bands used to provide mobile phone services. In most circumstances, a jammer would need to operate across several bands at once in order to effectively block all mobile phones in a given area.

An issue for the Review is whether or not the scope of the Mobile Phone Jammer Prohibition should be expanded to include other frequency bands used for mobile telephony or even other wireless technologies such as Wi-Fi and WiMAX.

Q2. Should the Mobile Phone Jammer Prohibition’s scope be extended to include frequency ranges that are used by other wireless access services such as Wi-Fi and WiMAX?

5.3.2 Technological development and new uses

Developments in communications technology have resulted in the availability of devices with the capability to jam or channel radiofrequency signals with more sophisticated and nuanced functionality. This has enabled new uses for jamming technology. The crucial difference in these new applications is that the design function of the devices is not to cause interference to or disrupt legitimate mobile telecommunications services, but rather to perform a jamming function that has some technical facilitative purpose. In short, these are not nuisance devices in the same sense as was envisioned by the ACA in 1999.

One example is the onboard system for aircraft now explicitly exempted from the scope of the Mobile Phone Jammer Prohibition. A component part of the system performs a jamming function in order to allow the system to operate effectively as a base station in the onboard environment. This component part was initially considered to be a prohibited device, because it was captured by the broad description of a specified device in the Mobile Phone Jammer Prohibition. However, the purpose of the component, when considering the onboard system as a whole, is to facilitate mobile communications, rather than to disrupt them.¹⁹

The ACMA considered that the device did not meet the criteria set out in section 190(2) of the Radiocommunications Act because, as a necessary component of the onboard system, the device is:

- > not designed to have an adverse effect on radiocommunications;
- > unlikely to cause harmful interference to aircraft avionics or to terrestrial telecommunications network services²⁰
- > unlikely to have an adverse effect on the health and safety of persons.

The ACMA therefore concluded that the device should not be characterised as a prohibited device and the Mobile Phone Jammer Prohibition was amended accordingly to clarify the status of this kind of device.²¹

Q3. How can the ACMA best approach regulation of emerging technologies that utilise devices that may be unnecessarily prohibited?

5.3.3 Legitimate uses for 'nuisance' mobile phone jammers

As outlined in section 2 (Background) the ACA's view that there appeared to be no legitimate use for mobile phone jammers has come under increasing scrutiny since 1999. The ACMA has considered, and in some cases granted, exemptions for the legitimate use of devices originally designed to cause interference only for nuisance purposes. The ACMA considers that the operation of these devices in certain circumstances may offer significant public benefit.

Recent years have seen a worldwide proliferation of electronic countermeasures for use by military forces or police against 'bombs,' or improvised explosive devices (IED). Use of radiofrequency spectrum for the purpose of 'counter IED', including but not limited to jamming, is predicted to become a long-term feature of security, policing and military training/operation.

¹⁹ Safety and interference concerns prevent the in-flight use of mobile phone where such an onboard system is not present.

²⁰ Prior to commencement of the 2007 trial of mobile communications on aircraft, spectrum and apparatus licensees operating in relevant frequency bands were informed of the trial and invited to give feedback. No complaints of interference were received by Qantas, AeroMobile or the ACMA during the trial.

²¹ The fact that a particular radiocommunications device is not prohibited does not automatically mean that the device can or should be licensed. Licensing arrangements are a separate consideration.

The use of a mobile phone jammer to prevent remote detonation of a bomb, for example, by circumventing a considerable threat to life and property, is likely to offer a greater public benefit than the uninterrupted use of mobile phones in the vicinity.

The ACMA is currently developing an exemption for law enforcement agencies to use mobile phone jammers (along with a range of other jamming devices) for this purpose. Informing its considerations is the general importance of mobile phone services to the public (including the necessary access these phones provide to emergency services) and the extent to which interference to critical infrastructure services can be limited or managed.²²

Similarly the use of mobile phone jammers to prevent illicit use of mobile phones by inmates of correctional facilities may confer a significant public benefit in the prevention of serious crime. In its consideration of the proposed trial, the ACMA must take into account this potential long-term use, including:

- > the potential public benefit of preventing mobile phone use inside the facility (including, for example, the prevention of serious crime)
- > any interference potential the operation of mobile phone jammers may pose to lawful mobile phone use outside of the facility²³
- > the availability and effectiveness of alternative methods for preventing illicit use of mobile phones within correctional facilities.

The first element of the object of the Radiocommunications Act is to maximise the overall public benefit derived from using the radiofrequency spectrum, by ensuring the efficient allocation and use of the spectrum (subsection 3(a)).

Public benefit will be maximised where spectrum is allocated to the highest value use or uses, i.e. the use or uses that maximize the value derived from the spectrum by licensees, consumers and the wider community. However, it can be argued that there are circumstances where the highest value use of spectrum is for that spectrum not to be used (or for use to be actively prevented). For example, this may be the case where otherwise legitimately licensed mobile phones are being used unlawfully or for the purpose of committing a crime.

The second element of the object of the Radiocommunications Act explicitly requires that adequate provision of spectrum be made for use in the defence or national security of Australia, law enforcement or emergency services, and for use by public or community services (subsection 3(b)). In assessing the highest value use or uses of the spectrum, the ACMA will also consider this paragraph of the object of the Radiocommunications Act, the community benefits derived from these services and any other relevant **matters**.²⁴

A section 27 exemption, which may exempt specified persons from interference-related offences under the Radiocommunications Act, provides for circumstances in which interference to licensed radiocommunications is justifiable, despite the rights of existing licensees or other considerations. This is because that interference enables defence, law enforcement or emergency personnel to perform functions or duties which, on balance, may confer a greater public benefit than is afforded by access to mobile phone networks in those circumstances.

In this context, every proposal for the use of mobile phone jammers is judged on the specific merits of the particular case. The ACMA believes that an exemption should only

²² This proposed exemption is provided only as an example. It is the subject of a separate consultation process with major stakeholders and is not further discussed in this paper.

²³ Consideration of the proposed trial is discussed in more detail in section 6.3.

²⁴ www.acma.gov.au/WEB/STANDARD/pc=PC_311683.

be provided where any adverse consequences of operation can be successfully mitigated, or are outweighed by the public benefit provided. In addition, there must be evidence that alternative measures are ineffective or not feasible under the circumstances.

5.3.4 The need for testing/trialling

Laboratory testing and/or field trialling of mobile phone jammers or similar prohibited devices can be an important step in determining the legitimacy of particular devices or particular functions or uses for the devices. Amendments have previously been made to the Mobile Phone Jammer Prohibition in order to temporarily enable these activities. An issue for the review is whether or not the ACMA should implement a more general, longer-term amendment to the Mobile Phone Jammer Prohibition that would exclude from the scope of the prohibition the possession and operation of any specified device where operation of the device is authorised for trialling under a scientific licence.²⁵

Q4. If the Mobile Phone Jammer Prohibition were re-made to provide a general exemption for tests/trials, what measures would be required to ensure the accountability and transparency of each decision?

5.3.5 EME standards

In making the Mobile Phone Jammer Prohibition, the ACA reasoned that the radiation levels of high powered jammers might result in exposure levels exceeding the maximum permitted under 'interim and proposed' Australian health exposure standards. Standards regarding maximum exposure levels to radiofrequency fields (EME standards) have now been established by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). These standards are voluntary, but have been incorporated into the regulation of many government bodies.

The ACMA has issued EME standards under section 162 of the Radiocommunications Act that apply to complete radiocommunications devices that are intended to be used in close proximity to the human body. Similar standards which apply to other radiocommunications devices are incorporated into the conditions of apparatus licences. However, these standards do not apply to all radiofrequency spectrum users or necessarily to unlicensed or non-standard devices.

In short, the establishment of these standards and their incorporation into some government regulation has not entirely addressed the concerns that the ACA had about this issue.

Q5. Bearing in mind that the Radiocommunications Act provides that some spectrum users may be exempted from such standards, what approach should the ACMA take to the issue of EME standards in relation to the exempted use of mobile phone jammers?

5.4 Impact of developments

5.4.1 Continuing relevance of the Mobile Phone Jammer Prohibition

The Radiocommunications Act both implicitly and explicitly limits the use of devices that are designed to cause interference, such as mobile phone jammers, through its general licensing framework. The Mobile Phone Jammer Prohibition provides for more robust

²⁵ Such as the 2007 Qantas/AeroMobile trial of in-flight GSM (text and data) services.

constraints through prohibition of such devices for any reason (including supply). The Radiocommunications Act also provides for exemption from licensing, standards and interference-related provisions of the Act where appropriate.

The making of exemptions over the past 10 years has brought into question one of the main reasons for the general prohibition of mobile phone jammers—the understanding that no legitimate uses for mobile phone jammers existed. However, the legitimate uses that have emerged are generally sector specific (defence, law enforcement, emergency situation management). That is, while some of the reasons given for making of the Mobile Phone Jammer Prohibition in 1999 would now be qualified, other concerns remain valid (such as the use of jammers for nuisance purposes) and some new issues have arisen (such as the potential use of jammers by terrorists).

Protecting the integrity of public mobile phone networks is no less important than it was in 1999. Indeed, the Australian public is becoming increasingly reliant on mobile phone services for both general and emergency communications. Fixed-mobile substitution (a mobile service being used in lieu of a fixed-line phone) is becoming more common in Australia.²⁶ In the 2007–08 financial year 62.1 per cent of calls to emergency services came from mobile phones.²⁷ Unimpeded access to emergency services on Triple Zero must remain a high priority and any changes to the Mobile Phone Jammer Prohibition must take this into consideration. The Emergency Alert system that commenced operation in December 2009 uses both fixed and mobile telephone networks to send warning messages to the public and is another example of the increasing importance of mobile phone access.

The illegal or negligent use of any radiocommunications transmitter may result in significant interference to radiocommunications devices or services. However mobile phone jammers are *designed* for that purpose. Therefore, every instance of illegal mobile phone jamming has the potential to cause real and significant harm.

In the absence of the Mobile Phone Jammer Prohibition, possession of mobile phone jammers for the purpose of supply would be permitted. If these devices became generally available, the ACMA may have to rely more heavily on *ex post* penalties and enforcement actions in order to minimise the incidence of harmful interference. These are not necessarily as effective a measure as *ex ante* prohibition to deal with the use of mobile phone jammers, given the interference potential of these devices.

For these reasons, the pairing of a general prohibition with provision for granting exemptions may still have considerable merit.

5.4.2 The cost of interference

Mobile phone jammers present a regulatory challenge that is markedly different to the regulation of most radiocommunications devices. In the *Principles for Spectrum Management*, the ACMA has committed to:

- > use the least cost and least restrictive approach to achieving policy objectives, and
- > balance the cost of interference and the benefits of greater spectrum utilisation.

The cost of interference is a primary issue when considering any proposal for enabling the use of mobile phone jammers. It is also the case that the use of mobile phone jammers for legitimate purposes presupposes that there will also be benefits from interference in specific circumstances. Similarly, greater spectrum utilisation in the same circumstances could produce a cost. For example, wider access to mobile phone services is generally be viewed as a public benefit. However, where the phones are used

²⁶ Convergence and Communications, www.acma.gov.au/webwr/assets/main/lib100068/convergence_comms_rep-1_household_consumers.pdf

²⁷ ACMA Communications Report 2007–2008, www.acma.gov.au/WEB/STANDARD/pc=PC_311541

in correctional facilities to commit serious crime, the cost to the public of that spectrum use may be great. The use of mobile phone jammers to prevent mobile phone use in correctional facilities potentially offers a significant public benefit. However, the cost of interference caused to legitimate radiocommunication and telecommunication services outside of the facility is also a primary consideration.

5.4.3 Preliminary conclusions

The overall need to protect legitimate mobile phone communications has only intensified since 1999 and mobile phone jammers remain a device with significant potential to cause harmful interference to mobile phone networks.

There have, however, been circumstances where the ACMA has considered the need for section 27 exemptions for the use of mobile phone jammers for defence, law enforcement and emergency purposes. In these circumstances, the use of a mobile phone jammer for legitimate purposes require a section 27 exemption not only because the jammer is a prohibited device, but because its operation:

- > cannot be licensed in normal circumstances; and
- > is likely to cause unacceptable interference.

Therefore, even if these devices were not prohibited, the need to consider and develop section 27 exemptions would not necessarily be reduced. For these reasons, the ACMA considers that the use of the Mobile Phone Jammer Prohibition as a preventative measure against the general possession and operation of mobile phone jammers is likely to continue.

The ACMA recognises that the need to consider exemptions will continue. How this process has been implemented in the past and how best to efficiently and effectively consider exemptions to the Mobile Phone Jammer Prohibition and to the other, broader provisions of the Radiocommunications Act that may be exempted under section 27, is discussed in the next section of this discussion paper.

Q6. Do the reasons underpinning in the Mobile Phone Jammer Prohibition remain relevant?

Q7. Are there other significant reasons for prohibition which should be included?

6. Other issues

6.1 Exemption criteria

The ACMA has considered several exemption requests and other matters relating to the Mobile Phone Jammer Prohibition over the 10 years since its making. In that process, a number of relevant criteria have been identified and they inform the decision-making process. The process is outlined below.

1. Is a section 27 exemption required for possession, operation or supply of the device?

Some questions that may be asked during this part of the decision-making process are:

- > Can this device be licensed under normal circumstances?
- > Is operation of this device likely to cause harmful interference or otherwise disrupt radiocommunications?
- > Is the device prohibited?
- > Does a relevant exemption already exist?

If the device cannot be licensed, is likely to cause harmful interference or is prohibited, and there is no existing exemption to enable its use, then possession and operation of the device can only be enabled through a section 27 exemption.

Proposed operation may include operation for testing/trialling.

- ### 2. Is the operational scenario envisaged by the applicant related to defence, law enforcement or emergency services?
- ### 3. Is the potential operator an eligible party under section 27(1) or can operation feasibly occur in cooperation with an eligible party?

If the answer to these questions is 'yes' the ACMA could then consider making a section 27 exemption. If not, a section 27 exemption cannot be considered.

4. Does the public benefit of making the exemption outweigh the potential risk?

If it is clear that a section 27 exemption can be made in favour of the applicant, the ACMA can consider whether an exemption should be made. A detailed examination of the proposed operational scenario is made to identify the advantages and disadvantages of operation and to assess its technical feasibility.

Some questions that might be asked during this part of the decision-making process are:

- > What is the purpose and potential benefit of operation?
- > Would operation of the device be intermittent or continuous?
- > Are there any EME considerations?
- > Will operation impact radiocommunications that support critical infrastructure or emergency services such as Triple Zero?
- > What is the interference potential and to what extent can it be mitigated?
- > What is the appropriate level of stakeholder consultation?

In order for the ACMA to decide that it will proceed with the development of a section 27 exemption, the proposed use of the device must be shown to be both:

- > justifiable in terms of public benefit; and
- > technically feasible, particularly in relation to interference potential and mitigation.

Q8. What criteria should the ACMA use to assess requests for exemptions under section 27 of the Radiocommunications Act?

6.2 Facilitation of timely deployment

The ACMA has not amended the Mobile Phone Jammer Prohibition to exclude certain uses of mobile phone jammers by defence, law enforcement or emergency services personnel. This is because such use generally requires a section 27 exemption and an exemption to section 189 (offences related to the possession, supply and operation of a prohibited device) can be included as part of that exemption. However, there may be good reason to consider a temporary amendment to the Mobile Phone Jammer Prohibition where doing so would facilitate timely deployment of mobile phone jammers by enabling preliminary supporting activities.

Development of an exemption determination can be a lengthy process. Exemptions can be expressed to apply generally or in specified circumstances. Where technical coordination is required to minimise adverse interference, conditions for operation must be included in such specifications. This may require planning and extensive consultation with affected stakeholders. Other factors relating to the development of legal instruments also apply.

This means that the need for an exemption can present a significant barrier to timely deployment of mobile phone jammers, even in cases where use of the devices can be readily justified. There are several preparatory activities that could be safely conducted while the ACMA is developing an exemption determination. For example, an amendment to the Mobile Phone Jammer Prohibition could enable persons (in whose favour the exemption is to be made) to:

- > acquire and possess mobile phone jammers
- > bench-test and develop the devices in a shielded environment under a scientific licence
- > access resources for planned future activities such as training or research which may be inaccessible and unable to be funded while the device is prohibited.

6.3 Potential deployment of mobile phone jammers in correctional facilities

The ACMA is considering the potential for the use of mobile phone jammers in correctional facilities. Since this issue was considered by the ACA in 2003 there have been a number of significant social and technological developments.

These developments include improvements in jammer technology, which may render mitigation of interference more feasible and significant advances in mobile phone technology. Mobile phones have become cheaper, provide increased functionality such as internet access and have extended battery life. Smaller, lighter mobile phones with fewer metal components are easier to conceal and harder to detect than previous models. This has increased the concern of corrective services bodies over the use of mobile phones by inmates.

6.3.1 Reconsideration of the issue

In June 2008, the Correctional Services Ministerial Council (CSMC) endorsed a proposed action plan. The first step in the action plan involved the correctional services community providing information to the ACMA regarding its operational requirements for the deployment of jammers in correctional facilities. That submission was provided to the ACMA in March 2009.²⁸

The submission outlined the challenges presented by mobile phone use by inmates and also the various detection and other measures employed by corrective services staff to prevent inmate access and use of mobile phones. The submission also provided information on the introduction of mobile phone jammers in correctional facilities in New Zealand. The New Zealand Ministry of Economic Development, in cooperation with mobile phone carriers, has developed, trialled and implemented arrangements where both mobile phone jammers and passive detection devices have been deployed as part of a comprehensive approach to minimising mobile phone use in correctional facilities.

6.3.2 Towards the proposed trial

The ACMA is now considering the development of a section 27 exemption in favour of the NSW Department of Corrective Services to conduct a trial of mobile phone jammers at the Lithgow Correctional Centre.²⁹ The ACMA expects to deal with the matter of the exemption as a priority. The Department of Corrective Services considers the use of jammers to be part of a viable solution to the problem of illicit use of mobile phones in correctional facilities. If the trial is successful, it would provide a basis for the ACMA to develop a permanent exemption to enable deployment of mobile phone jammers at the Lithgow Correctional Centre. It could also provide valuable data for consideration of future deployment in other locations.

Deployment of mobile phone jammers in correctional facilities presents a complex technical challenge. Even if the deployment of devices was limited to high security facilities, those facilities may be in locations where the radiofrequency spectrum is used to provide legitimate communications to nearby residential areas or publicly accessible areas such as roads. Consideration must also be given to electromagnetic emission (EME) standards to ensure that the continuous operation of the devices does not have an adverse effect on the health of staff and inmates.

The ACMA is consulting with the Department of Corrective Services in order to establish a sound technical framework for the proposed trial. The ACMA will be encouraging engagement and interaction between those planning the trial and relevant stakeholders. These stakeholders may include radiofrequency spectrum users that provide services or conduct radiocommunications activities that support critical infrastructure, such as (but not limited to) mobile phone carriers. In order to facilitate this engagement, and to identify the relevant issues, the ACMA plans to conduct a stakeholder workshop during the consultation period.

²⁸ In their submission CSAC concluded that the use of detection technologies alone is insufficient to satisfactorily mitigate the effects of the increased efficiency and capacity of mobile phone technology. The submission is provided on the ACMA website at: www.acma.gov.au/WEB/STANDARD/pc=PC_312026.

²⁹ NSW DCS are considered an eligible party under s. 27(1)(b)(i), but the ACMA will need to determine this in writing, as required by s. 27(1)(b)(ii), prior to any making of an exemption determination to enable the proposed trial.

Amongst the ACMA's requirements will be the development of an effective methodology for evaluating the results of the trial. This will allow the Department of Corrective Services and the ACMA to gauge the success of the trial in terms of:

- > prevention of interference to lawful mobile communications outside the facility
- > effective prevention of mobile phone communication inside the targeted areas within the facility
- > protection of the health of staff, visitors and inmates.

The ACMA's consideration of this issue must be informed by an accurate assessment of the current interference potential and any disadvantages posed by the operation of mobile phone jammers in the corrective services context. This assessment will be informed by calculations made in preparation for the trial and also by empirical data collected during the course of the trial. The ACMA is positively disposed to making an exemption to enable the trial, as long as a suitable technical framework can be developed

Attachment A provides a summary of regulatory policy in relation to the use of mobile phone jammers, as well as information on the use, or potential use, of mobile phone jammers in correctional facilities in the UK, US and New Zealand.

Q9. What other performance indicators would best inform evaluation of the success of the trial?

Q10. What sort of technology (including design and distribution of devices) could facilitate an effective jamming solution without causing harmful interference to radiocommunications services outside of the trial facility?

Q11. Are there other matters that the ACMA should take into account in considering a section 27 exemption to enable a trial of mobile phone jammers at Lithgow Correctional Centre?

6.3.3 Limitations on exemption powers under section 27

Any consideration of the issue of mobile phone jammers in correctional facilities highlights the legislative limitations on the ACMA's powers to make section 27 exemptions.

The ACMA understands that it is able to make an exemption in favour of the New South Wales Department of Corrective Services (NSW DCS) because that department performs functions relating to the investigation, prevention or prosecution of serious crime (see section 27(1)(be) of the Radiocommunications Act). However, the ACMA has not yet determined whether it is possible to extend such an exemption to other corrective services agencies. This largely depends upon how the functions of those agencies are defined in the State and Territory legislation under which they are established.

The ACMA understands that it is possible to make a section 27 exemption in favour of NSW DCS to enable the proposed trial. However, if the trial is successful, and consideration is given to an exemption for longer term use of mobile phone jammers, providing an exemption to all Federal, State and Territory Corrective Services agencies who could arguably make a case for deployment of mobile phone jammers in their facilities may not be possible without a full assessment of their individual eligibility.

An alternative may be the amendment of section 27(1) of the Radiocommunications Act to increase the scope of eligible parties. While the ACMA is able to provide advice to the government about the operation of the legislation for which it is responsible, amendment of legislation is a matter for government rather than the ACMA.

6.3.4 Conclusion: Proposed trial—the way forward

The ACMA acknowledges that the illicit use of mobile phones by inmates of correctional facilities is a significant challenge for corrective services bodies in Australia. It agrees that there is a substantial public benefit in the prevention of serious crime by preventing this illicit use, where it is technically feasible to do so. However, as the radiocommunications and telecommunications regulator, the ACMA must also give consideration to the question of whether the potential for harmful interference during such a trial can be appropriately and effectively managed. A section 27 exemption to enable the proposed trial will only be made if this requirement can be met. This will require engagement with potentially affected stakeholders, and particularly mobile phone carriers, in both the design and implementation stages of the trial.

If the proposed trial goes ahead, and is considered successful, the results will inform development of an exemption to enable longer-term deployment at the Lithgow Correctional Centre. The results and experience of the trial will also help to inform the ACMA's consideration of long term deployment of mobile phone jammers in other correctional facilities in Australia.

7. Options

At this stage of the review, the ACMA has identified the following three options for the future of the Prohibition:

- 1/ retain the existing regulatory arrangements relating to mobile phone jammers, including the Mobile Phone Jammer Prohibition
- 2/ remake the Mobile Phone Jammer Prohibition (and/or make changes to other relevant arrangements)
- 3/ revoke the Mobile Phone Jammer Prohibition.

7.1 Option 1—Retain the Mobile Phone Jammer Prohibition and related arrangements

The ACMA could simply retain the existing regulatory arrangements relating to mobile phone jammers. In this scenario:

- > the Mobile Phone Jammer Prohibition would remain as currently formulated and limited in scope to devices designed to operate in the 870–960 MHz and 825–845 MHz frequency bands
- > the ACMA would continue to consider—on a case-by-case basis and in line with the existing consideration criteria—applications for section 27 exemptions and other requests related to exclusion from the Mobile Phone Jammer Prohibition.

Q12. Does the existing Mobile Phone Jammer Prohibition provide adequate protection from the supply, possession or operation of mobile phone jammers?

Q13. Does the existing approach to the regulation of mobile phone jammers constitute an appropriate combination of *ex ante* and *ex post* regulation? If not, what kind or combination of regulation is most appropriate for mobile phone jammers?

7.2 Option 2—Remake the Mobile Phone Jammer Prohibition and consider other changes to the existing arrangements

As set out below, the ACMA has identified five different approaches to reformulating the Mobile Phone Jammer Prohibition and associated arrangements relating to mobile phone jammers. It would be possible for the ACMA to adopt an approach that was based on one or more of these five approaches.

7.2.1 Option 2A: Scope of the prohibition: additional frequency bands

The ACMA could expand the scope of the Mobile Phone Jammer Prohibition to include all mobile telephony bands (and possibly other relevant bands). The relevant bands could be specified by frequency range, or in more general terms. A more general description could allow for frequency bands allocated in the future for relevant services to be automatically included, without the need for an amendment to the Mobile Phone Jammer Prohibition.

Q14. Should all mobile telephony bands be included in the Mobile Phone Jammer Prohibition? If so, should the bands be provided for specifically by reference to frequency range or described in more general terms so as to automatically include bands allocated for mobile telephony services in the future?

7.2.2 Option 2B: Scope of the prohibition: targeting nuisance jammers

The description of a specified device in the Mobile Phone Jammer Prohibition could be amended to expressly target nuisance devices that are designed to deliberately disturb, disrupt and interfere with public mobile phone communications.

Jammer technology is being applied in ways not envisaged at the time the Mobile Phone Jammer Prohibition was originally made. A more nuanced description of a prohibited device could retain protections against nuisance devices while removing preventative (*ex ante*) regulation from low risk devices that do not pose any appreciable level of threat. Such a description could also be formulated in such a way as to acknowledge the potential for new applications of jamming technology (with low interference potential) to emerge in the future and provide for trialling of such devices under a scientific licence. This option may provide a more targeted response to certain nuisance devices than is offered by the existing prohibition.

7.2.3 Option 2C: Scope of the prohibition: responsible bodies

As described in section 5.1, the application of broad *ex ante* regulation is most appropriate where the risk of non-compliance is high. Relaxing the Mobile Phone Jammer Prohibition in relation to responsible bodies that arguably present a lower risk of non-compliance may provide more flexibility where this is appropriate.

The description of a specified device in the Mobile Phone Jammer Prohibition could be amended to exclude from prohibition certain actions by persons such as defence, law enforcement and emergency services personnel. Such an exemption could enable specified classes of persons to, for example:

- > obtain and possess mobile phone jammers; and
- > operate mobile phone jammers in a shielded environment as authorised under a scientific licence.

As noted in section 6.2, this could be used to provide a temporary solution for such bodies during development of an Exemption Determination. It should be noted, however, that such an amendment cannot itself authorise the unlicensed operation of a jammer. Legal operation of a mobile phone jammer can only occur where:

- > licensed (for example, under a scientific licence as noted above); or
- > an exemption exists for this purpose; or
- > otherwise stipulated by the Radiocommunications Act (for example, in ss. 49 or 196 concerning emergency circumstances).

Q15. Are there other responsible bodies that should be considered for this kind of limited exemption in the Mobile Phone Jammer Prohibition?

7.2.4 Option 2D: Scope of the prohibition: testing/trialling

The Mobile Phone Jammer Prohibition has at times delayed consideration of authorising trials, or longer term licensing arrangements, for particular devices or services. For example, it was necessary to amend the Mobile Phone Jammer Prohibition to enable the trialling of the onboard systems used for mobile communications on aircraft. As jamming

technology is further developed, it is possible that other applications (with low interference potential) for this technology will become viable and face a similar barrier.

The description of a specified device in the Mobile Phone Jammer Prohibition could be amended to exclude the possession and operation of mobile phone jammers for the purpose of conducting bench-tests or field trials. These activities have been mentioned in Options 2B and 2C. Option 2D specifically proposes an amendment to enable testing/trialling of mobile phone jammers and may be particularly relevant if Options 2B and 2C are not pursued.

Q16. Should Option 2D apply:

- a) generally; or
- b) at the ACMA's discretion; or
- c) is it more appropriate to limit such an exemption to specified parties?

7.2.5 Option 2E: Exemption criteria for exemption and related matters

Section 6.1 discussed the kinds of criteria that have informed the decision-making process of the ACMA when considering requests for section 27 exemptions. These criteria have been identified over time and, while used in a consistent manner, do not constitute a formal decision-making framework.

The ACMA could formalise and promulgate this framework following the review and publish it in a policy paper in order to increase the certainty and understanding of stakeholders in relation to this decision-making process. The ACMA is not able to establish exemptions for organisations unless they are listed in section 27(1). The ACMA has not yet been approached to consider an exemption to the Mobile Phone Jammer Prohibition for a purely commercial use of mobile phone jammers.

Q17. Should the ACMA formalise and publish its decision-making process for assessment of the status of devices in relation to the Mobile Phone Jammer Prohibition or section 27 exemptions?

Q18. Are the current criteria appropriate for this decision-making process? Are there other criteria that should be considered?

7.3 Option 3 – Revoke the Mobile Phone Jammer Prohibition

As set out in section 5.4.1, there may be considerable merit in retaining a general prohibition on mobile phone jammers. The Mobile Phone Jammer Prohibition appears to have been an effective *ex ante* measure in preventing the use of mobile phone jammers for nuisance purposes. However, it may be that other factors have contributed to this apparent circumstance. Also, there may be sound reasons for considering the revocation of the Mobile Phone Jammer Prohibition that the ACMA has not yet identified. The ACMA seeks comment on this matter.

Q19. Should the ACMA revoke the Mobile Phone Jammer Prohibition? Is there any significant benefit or risk involved in revoking the Mobile Phone Jammer Prohibition? If so, why?

Q20. Assuming the Mobile Phone Jammer Prohibition is not revoked, should it be amended or remade? If so, what are the advantages and disadvantages of the potential changes discussed under Option 2?

Q21. Are there any other amendments the ACMA should consider?

8. Questions for comment

The questions provided throughout the discussion paper are summarised by section below.

Prohibition as a regulatory tool

Q1. Is the Mobile Phone Jammer Prohibition a necessary regulatory measure to prevent the general use of mobile phone jammers?

Q2. Should the Mobile Phone Jammer Prohibition's scope be extended to include frequency ranges that are used by other wireless access services such as Wi-Fi and WiMAX?

Q3. How can the ACMA best approach regulation of emerging technologies that utilise devices that may be unnecessarily prohibited?

Q4. If the Mobile Phone Jammer Prohibition were re-made to provide a general exemption for tests/trials, what measures would be required to ensure the accountability and transparency of each decision?

Q5. Bearing in mind that the Radiocommunications Act provides that some spectrum users may be exempted from such standards, what approach should the ACMA take to the issue of EME standards in relation to the exempted use of mobile phone jammers?

Q6. Do the reasons underpinning in the Mobile Phone Jammer Prohibition remain relevant?

Q7. Are there other significant reasons for prohibition which should be included?

Other issues

Q8. What criteria should the ACMA use to assess requests for exemptions under section 27 of the Radiocommunications Act?

Q9. What other performance indicators would best inform evaluation of the success of the trial?

Q10. What sort of technology (including design and distribution of devices) could facilitate an effective jamming solution without causing harmful interference to radiocommunications services outside of the trial facility?

Q11. Are there other matters that the ACMA should take into account in considering a section 27 exemption to enable a trial of mobile phone jammers at Lithgow Correctional Centre?

Options

Q12. Does the existing Mobile Phone Jammer Prohibition provide adequate protection from the supply, possession or operation of mobile phone jammers?

Q13. Does the ACMA's approach to the regulation of mobile phone jammers constitute an appropriate combination of *ex ante* and *ex post* regulation? If not, what kind or combination of regulation is most appropriate for mobile phone jammers?

Q14. Should all mobile telephony bands be included in the Mobile Phone Jammer Prohibition? If so, should the bands be provided for specifically by reference to frequency range or described in more general terms so as to automatically include bands allocated for mobile telephony services in the future?

Q15. Are there other responsible bodies that should be considered for this kind of limited exemption in the Mobile Phone Jammer Prohibition?

Q16. Should Option 2D apply:

- a) generally; or
- b) at the ACMA's discretion; or
- c) is it more appropriate to limit such an exemption to specified parties?

Q17. Should the ACMA formalise its decision-making process for assessment of the status of devices in relation to the Mobile Phone Jammer Prohibition or section 27 exemptions?

Q18. Are the current criteria appropriate for this decision-making process? Are there other criteria that should be considered?

Q19. Should the ACMA revoke the Mobile Phone Jammer Prohibition? Is there any significant benefit or risk involved in revoking the Mobile Phone Jammer Prohibition?

Q20. Assuming the Mobile Phone Jammer Prohibition is not revoked, should it be amended or remade? If so, what are the advantages and disadvantages of the potential changes discussed under Option 2?

Q21. Are there any other amendments the ACMA should consider?

Attachment A

Policy on mobile phone jammers in other countries

Regulatory policy on the use of mobile phone jammers differs according to country. In general three trends can be observed. These are that the use of mobile phone jammers:

- > by the general public is almost always illegal
- > in commercial premises or places of worship is usually illegal
- > by police and correctional facility staff is often either:
 - > authorised or otherwise enabled (eg, by exemption/waiver); or
 - > currently under consideration.

There are exceptions to these general policy trends. A few countries have permitted the limited use of mobile phone jammers in one or more unusual settings, such as large events, school examinations, particular types of entertainment venue, religious ceremonies, banks or courts, but this is relatively rare and, anecdotal evidence would suggest, not without unexpected or adverse consequences.

Similarly, where the use of mobile phone jammers in correctional facilities has occurred, it has been with varying degrees of success in terms of preventing interference to legitimate mobile phone and other radiocommunication services outside of the facility. The prevention of adverse interference has become a key feasibility indicator for most regulators (including the ACMA) considering the matter of mobile phone jammers in prisons.

Recent developments: potential use of mobile phone jammers in prisons

United Kingdom (UK): It is generally illegal to install or use these devices in the UK. However, there have been developments recently regarding the potential deployment of mobile phone jammers in UK prisons. In a recent press statement the UK Ministry of Justice set out the measures that have been implemented to combat the illegal use and traffic of drugs and mobile phones within UK prisons. This includes the rollout of new technologies such as high-sensitivity handheld metal-detecting wands and Body Orifice Security Scanners (BOSS chairs) that detect internally concealed items such as mobile phones. Work is underway to trial mobile phone signal blocking technology, and the National Offender Management Service (NOMS) will look to roll out blockers more widely as funding becomes available (www.justice.gov.uk/news/announcement130709b.htm).

United States of America (USA): Except for some Federal Government agencies, it is illegal to install or operate mobile phone jammers. However, the *Safe Prisons Communications Bill of 2009* was introduced to the US Senate in January. If passed into law it will amend the *Federal Communications Act of 1934 (US)* to allow the director of the Federal Bureau of Prisons or the chief executive officer of a state to petition the Federal Communications Commission (FCC) for a waiver to permit installation of jamming devices in a prison (or other correctional facility) for up to 10 years (can be renewed). A waiver requires:

- > that there be no interference caused to communications originating and terminating outside of the prison grounds;
- > cessation of operation where written notice of interference caused is received from a commercial mobile service provider;

- > investigation/resolution of interference complaints before resumption of operation;
- > use of devices that are FCC-approved and capable of directionalised operation;
- > operation at the lowest feasible transmission power; and
- > compliance with other technical standards established by the FCC.

The proposed legislation also requires the FCC to establish criteria for certification for the manufacture, sale, importation, and interstate shipment of such devices.

New Zealand: Though generally illegal, the use of mobile phone jammers has been introduced into some prisons, with roll-out to other prisons continuing. Prior to deployment, the New Zealand Department of Corrections worked with Vodafone and Telecom to find and evaluate solutions to the problem. For each site, depending on location and site characteristics that determine interference potential, a combination of four possible types of devices are, or will be, used:

- 1/ detectors—that identify if a mobile phone is active within an area
- 2/ local blanket jammers—that block a local area
- 3/ micro cell jammers—towers that block mobile phones in parts, or all, of a prison site
- 4/ hand-held detectors—which are already in use in prisons.

The cell-phone jamming technologies complement other initiatives to manage contraband in prisons, such as single points of entry to make searching easier and stiffer penalties for people found with a cell-phone inside a prison (<http://bit.ly/8TK2Z2>).