



Australian Government

**Department of Broadband,
Communications and the Digital Economy**

Regulation Impact Statement

**Cellular mobile repeaters: proposed amendments to the
Radio Communications Regulations 1993**

July 2013

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Introduction

Cellular mobile repeaters are currently regulated by the Australian Communications and Media Authority (ACMA) under the *Radiocommunications Act 1992* (the Act).

Under section 314 of the Act, the Governor-General may make regulations in certain circumstances that specify how the Act is implemented. Regulations are prepared by the Office of Legislative Drafting and Publishing (OLDP) on instructions from the Department of Broadband, Communications and the Digital Economy (the Department), whose Minister administers the primary legislation.

The purpose of this Regulation Impact Statement (RIS) is to inform a recommendation to the Minister for Broadband, Communications and the Digital Economy, with regard to amending the *Radiocommunications Regulations 1993* (the Regulations) to:

- specify cellular mobile repeaters as ‘eligible radiocommunications devices’; and
- set out the details required to be kept by a supplier in relation to the supply of a repeater device.

This would have the effect of prohibiting a the supply of cellular mobile repeaters to persons other than a licensee or a person authorised in writing by the licensee.

This RIS examines the second stage of a two-stage policy development process. The first stage, conducted by the ACMA, explored a number of policy options before recommending the above course of action to the Minister for Broadband, Communications and the Digital Economy. A RIS covering this first stage was prepared by the ACMA, entitled *Proposed changes to the regulation of cellular mobile repeaters*, which examined the impact of each of five options under consideration. This RIS should be read in conjunction with the ACMA RIS.

1. Background

1.1. What is a cellular mobile repeater?

A cellular mobile repeater (repeater) is a wireless radiocommunications device that repeats mobile network signals. It can receive, amplify and retransmit these signals in order to improve mobile phone reception within a small area.

Mobile network operators use repeaters as part of their ordinary network management. Repeaters can be used to extend signal coverage into areas where coverage may not exist or is too low in power to use due to local conditions (such as the underground floors of a building parking area). If the device is configured to operate on a particular mobile network, then the risk of interference is minimised. However, the unauthorised use of repeaters has the potential to cause destructive interference. Consequently, the operation and possession of repeaters by unauthorised persons is prohibited under the Act. At present, selling or supplying these devices to unauthorised persons is not prohibited.

1.2. Other technologies

There are a number of technologies that perform similar functions to repeaters, such as smart repeaters, mobile phone boosters and external antennas. These are discussed in more detail below.

Smart repeaters

A smart repeater is a new technology that is able to actively monitor mobile network signals and adjust its transmit power in real time to avoid interference with the mobile network.

By contrast, most existing repeaters require a technician to physically install the device and configure it to the mobile network. This may require regular physical monitoring or adjustments by a mobile operator's technician. A smart repeater removes the need for this by actively monitoring the signal and self-adjusting its output.

It is proposed that the supply of smart repeaters be restricted in the same way as ordinary repeaters.

Mobile phone boosters

A mobile phone booster also improves signal reception for a mobile phone user. Unlike a repeater, a mobile phone booster is normally physically connected to a user's mobile phone and amplifies the signal for the benefit of that phone. This action can cause interference to other users on the same network, since increased power levels swamp nearby base stations to the point where they become 'blinded' to other calls. The coverage is reduced to a small percentage of the original area, and as more boosters are used, the coverage becomes worse.

The sale and supply of mobile phone boosters is already prohibited by the ACMA under the *Telecommunications (Prohibition of Mobile Phone Boosters) Declaration 2011*. This is due to the level of destructive interference generated by boosters.

Mobile phone external antennas

There are a number of other devices currently on the Australian market that can be legally used to improve a user's mobile phone reception. These include external antennas that plug into a handset or are fixed to a vehicle; these devices do not amplify the received signal, but simply improve the signal reception. These devices generally do not interfere with the mobile network and they are not proposed to be subject to the new regulations proposed in this paper.

1.3. First stage policy development and consultation

In September 2011 the ACMA released a discussion paper, [Cellular mobile repeaters – a proposed regulatory approach](#). The paper sought public comment on the policy and regulatory options for mobile repeaters, the impost on industry associated with the implementation of the identified options, and any additional options that had not already been considered. Release of the paper followed reports from mobile network operators that the unauthorised use of repeaters was increasing and causing interference to their network operations.

The discussion paper was published on the ACMA website and circulated to interested parties via existing ACMA distribution lists. The paper presented five options to manage the supply of repeaters and provided an analysis of each option.

The five regulatory options under consideration were:

1. Maintain the status quo.
2. Develop a radiocommunications device technical standard made under section 162 of the *Radiocommunications Act 1992*.
3. Develop a telecommunications customer equipment technical standard made under section 376 of the *Telecommunications Act 1997*.
4. Restrict the supply under section 301 of the *Radiocommunications Act 1992*.
5. Issue a declaration of prohibited devices under section 190 of the *Radiocommunications Act 1992*.

The ACMA considered that Option 4, the adoption of a new regulatory framework to restrict the supply of repeaters, would be the most effective option to prevent the unauthorised use of repeaters. Five submissions were lodged during the consultation period from interested parties. The majority of submissions indicated support for Option 4. These submissions were summarised in the ACMA RIS and can be found on the [ACMA website](#).

The ACMA subsequently wrote to the Minister for Broadband, Communications and the Digital Economy recommending the implementation of Option 4—that a regulation be made to restrict the supply of cellular mobile repeaters.

2. Problem

2.1. What is the problem?

Mobile network operators regularly use repeaters as part of their ordinary network management, including for the purpose of extending mobile signal coverage. However, the existing regulatory environment has allowed for repeaters to be supplied to consumers without operator permission. The unauthorised use of repeaters causes interference to network signals, as the device is not configured to operate in alignment with the network. Such use adversely affects the operation of mobile services, including preventing access to emergency call services, and impacting on coverage that may appear to users as mobile blackspots.

As noted in the ACMA RIS, the current regulatory arrangements only address the operation and possession of repeaters; there is no regulatory mechanism that prohibits or limits the supply of repeaters to end users.

The ACMA RIS provides further details concerning the extent of the problem, including:

- evidence of increasing instances of interference caused by the unauthorised use of repeaters
- the negative impact of repeaters on network performance, along with negative customer experience and reduced revenue
- the additional operational costs incurred by carriers to manage related customer complaints, to identify and isolate devices, and undertake physical and legal action to disable the repeaters.

2.2. The current regulatory framework

In Australia, spectrum is licensed under one of three different licensing arrangements: class, apparatus or spectrum licences. Mobile network operators are licensed under spectrum and apparatus licences. These licences provide mobile network operators with, among other things, the authority to use radiocommunications devices such as repeaters.

A licence holder can designate a third party to be authorised to use equipment or devices on its network. These arrangements or agreements are matters for a licence holder to determine.

Under the Act, the unlicensed operation of, or possession for the purpose of operating, a repeater is subject to offence provisions (see sections 46 and 47).

While the current regulatory arrangements prohibit the unauthorised operation and possession of repeaters, they do not address their supply. For example, there are no device restrictions, prohibitions or technical standards to guide suppliers or consumers of repeaters.

Currently, section 301 of the Act provides that a person (the supplier) must not supply another person with an 'eligible radiocommunications device' unless the other person holds an appropriate licence, or a third party authorisation, that authorises them to operate the device. However, there is no definition of an eligible radiocommunications device listed under section 301.

3. Objectives of regulatory change

In its 2011 consultation paper, the ACMA identified the following four policy objectives to guide any amendment to existing regulations concerning repeaters:

- Aim to prevent the potential for repeaters to cause unacceptable interference to mobile networks
- Restrict the supply of repeaters to mobile operators or persons authorised by mobile operators only
- Facilitate innovative repeater technologies (for example, smart repeaters) that provide for effective interference management
- Continue to support existing repeaters installed by operators.

In its 2013 consultation paper, the Department added a fifth objective concerning access to mobile services:

- Enhance consumer access to mobile services.

The addition of this objective does not require the consideration of alternative solutions. Rather, it affirms that consumers are the ultimate beneficiaries of improved mobile services and reduced interference that would arise from achievement of the first four objectives.

The proposed amendments to the Regulations attached to this paper have been designed to satisfy these five policy objectives.

4. Options

As discussed previously, the ACMA considered five options to address the supply of unauthorised mobile repeaters. These are summarised below:

1. **Status quo.** Under the current regulatory arrangements, the unlicensed operation and unlawful possession of a repeater is subject to offence provisions in sections 46 and 47 of the Radiocommunications Act. The ACMA has the option to maintain the current regulatory arrangements under the Radiocommunications Act and address the supply of unauthorised repeaters via targeted compliance action and education.
2. **Radiocommunications device technical standard.** The ACMA may make a mandatory standard for radiocommunications transmitters and receivers under section 162 of the Radiocommunications Act. Part 4.1 of Radiocommunications Act provides that it is unlawful for a person to supply or possess for the purpose of operation a non-standard device.
3. **Telecommunications customer equipment technical standard.** The ACMA could make a section 376 technical standard to apply to repeaters of customer equipment while specifying requirements that would only allow a subset of repeaters (for example, smart repeaters) to meet the standard. This would restrict the supply of non-standard repeaters and prohibit the connection of the repeater to a mobile network without the permission of the network operator.
4. **Restriction of supply under the Radiocommunications Act.** Section 301 of the Radiocommunications Act provides that a person (the supplier) must not supply another person with an eligible radiocommunications device unless the other person holds an appropriate licence or a third party authorisation that authorises them to operate the device. An eligible radiocommunications device is a device specified in the regulations.
5. **Declaration of prohibited device.** Section 190 of the Radiocommunications Act provides that the ACMA may declare that operation or supply, or possession for the purpose of operation or supply, of a specified device is prohibited.

In its analysis and consultation on Options 1 to 3 and 5, the ACMA found that these options only partially address the problem, do not sufficiently meet the objectives of regulatory change, have unintended consequences, or would be technically difficult and/or costly to implement.

Consequently, on 3 May 2012 the ACMA Chairman wrote to the Minister recommending Option 4—that an amendment be made to the Regulations to regulate the supply of repeaters. Prior to consideration or a decision by the Minister, the Department prepared an amendment to the Regulations with the assistance of the Office of Parliamentary Counsel. The draft regulations were issued by the Department as part of an additional [consultation paper](#) that explored the practical effect of implementing the ACMA's recommendation (see section 4.3 Consultation below).

There are two main elements to the proposed changes that would be implemented under Option 4: (i) make the supply of repeaters subject to the restrictions under section 301 of the *Radiocommunications Act 1992*; and (ii) place new record-keeping obligations on suppliers of repeaters. These are discussed in more detail below.

4.1. Restrict supply

Options to restrict supply were canvassed under the first stage policy development and consultation undertaken by the ACMA. The preferred option identified in this first stage involves specifying cellular mobile repeaters as a class of radiocommunications devices for the definition of an 'eligible radiocommunications device' in subsection 301(4) of the Act.

This would have the effect of requiring that suppliers must not supply another person with a repeater unless that person holds an appropriate licence or a third party authorisation that authorises them to operate the device.

While the ACMA has canvassed the wider range of options for restricting supply as outlined above, within Option 4 there is a limited range of alternative courses of action. One such possibility would be to strengthen supply restrictions by defining who may act as a supplier. This would have the disadvantage of limiting the number of suppliers to an officially accredited subset and imposing an additional public administrative burden.

4.2. Record-keeping obligations

The second element of the proposed changes to the Regulations is to place new administrative (record-keeping) obligations on suppliers of repeaters.

Proposed regulation 38B specifies the particulars which the supplier is required to record under subsection 301(1)(b) of the Act. In summary, it is proposed that suppliers be required to record the following particulars:

- licence holder or authorisation agreement details (for example the licence number, date of issue and expiry, full name of the licensee or a duplicate of the licence)
- repeater device details (for example the device's serial or model number)
- information concerning the actual transaction including the date of supply
- additional details regarding the identity of the recipient that the supplier considers, on reasonable grounds, are required to confirm that the recipient is an authorised person.

Section 301(3) of the Act requires that the supplier must retain the recorded particulars for at least two years after the supply transaction.

Alternative options include an approach involving no record-keeping obligations, and another approach involving additional administrative requirements, such as pre-authorisation of purchasers through exchange of formal documentation between the licensee and the supplier. The first approach would deprive the ACMA of a valuable audit trail to assist its investigations into the unauthorised use of repeaters. The second approach would impose greater administrative costs on both suppliers and licensees for a small incremental benefit over the proposed option.

4.3. Consultation

The Department conducted a public consultation on proposed regulatory amendments that would implement the ACMA's recommendation. In April 2013, the Department released a discussion paper, *Cellular mobile repeaters – proposed changes to the Radiocommunications Regulations 1993*, which sought public comment on proposed amendments to the Regulations. Submissions on the discussion

paper could be made from 5 April 2013 to 3 May 2013. Three responses were submitted by the close of the consultation.

The submissions were consistent in their support for implementing the ACMA's recommended course of action of restricting the supply of repeaters by amending the Regulations. Submissions viewed this option as providing the ability to minimise the unauthorised use of repeaters by restricting supply to authorised persons at the point of sale, which will reduce instances of interference to mobile networks.

Two submissions suggested a minor change to the proposed definition of 'mobile station' to more clearly specify the types of devices that communicate with repeaters, and thereby ensure that the supply restriction is placed on the correct type of repeater. Specifically, the change would clarify that the definition only applies to mobile stations that are used for the purpose of accessing a public mobile telecommunications service. This would have the effect of allowing the continued supply of repeaters for purposes other than accessing a public mobile telecommunications service. This suggestion has been accepted, as it more precisely targets the intended repeater devices.

No submissions from suppliers of repeaters or radiocommunications devices were received by the Department. This is the same result for the ACMA's 2011 consultation paper. In both instances, the ACMA informed interested parties of the 2011 and 2013 consultation papers through its 'What's New' mailing list, which includes suppliers of radiocommunications devices. This mailing list has over 1300 subscribers.

5. Impact analysis

This section sets out the benefits and costs of implementing Option 4 to regulate the supply of unauthorised mobile repeaters.

5.1. Benefits

Restricting the supply of repeaters to licence holders and authorised third parties would have the following benefits:

- Prohibit the supply of repeaters to unlicensed end users.
- A reduction in the number of reported incidents of interference caused by the unauthorised use of repeaters.
- Allows carriers to continue to possess and operate repeaters.
- Additional record keeping requirements imposed on suppliers will provide an audit trail that could assist the ACMA with interference investigations and subsequent enforcement action.

The proposed definition of a 'cellular mobile repeater' is worded to protect the needs of mobile network operators who currently operate repeaters as part of their legitimate network infrastructure. The definition also captures smart repeaters and other new technologies that could enhance consumer access to mobile services. Such devices have the potential to cause harmful interference with existing networks.

The new record-keeping requirements will assist the ACMA in its investigation of interference complaints by providing an audit trail of devices purchased. They will also assist suppliers of repeaters in determining whether a person is authorised to purchase and use the device, by specifying the type of identification required.

5.2. Costs

Although it was not specifically raised by respondents to the Department's consultation process, it is anticipated that the additional record keeping requirements will result in a small increase in administrative costs incurred by suppliers of repeaters. However, this cost is expected to be negligible because the proposed regulation of supply means that only authorised users will be permitted to purchase repeaters, rather than ordinary citizens. As a result, repeater suppliers will only need to keep records for customers who are authorised users, which will primarily comprise the major Australian telecommunications carriers. Further, the record-keeping requirements will assist suppliers in determining whether a prospective customer is authorised, thereby minimising the risk of selling a repeater for unauthorised use.

The proposed regulation is unlikely to affect business viability because Australian communications equipment suppliers tend not to specialise in the sale of repeaters. These devices are typically an adjunct product rather than their core business. For that reason, the proposed supply regulation is expected to have a minimal impact on these businesses.

5.3. Conclusion

The proposed amendments will establish a definition under section 301 of the Act that restricts the supply of repeaters to licence holders or persons authorised by the licence holder.

Complementing this definition with record-keeping requirements on suppliers of repeaters will ensure that the devices are supplied to authorised parties only. These measures will also assist the ACMA in enforcing the new regulatory framework.

The proposed amendments allow for the continued operation of existing repeaters used by mobile network operators and authorised users. It will also enable the unimpeded implementation of new technologies by mobile network operators, such as smart repeaters.

In terms of the objectives for regulatory change discussed in section 3, the proposed amendments are expected to meet all five objectives, as follows:

1. **Aim to prevent the potential for repeaters to cause unacceptable interference to mobile networks.** The proposed regulation to restrict supply to authorised users will apply to new sales of repeaters. Although there is an existing stock of unauthorised repeaters in use in Australia, the proposed supply regulation would ensure that this stock is not increased. Further, the existing stock is already subject to offence provisions under the *Radiocommunications Act 1992*. A person found guilty of the unlicensed operation of, or possession for the purpose of operating, a repeater may receive a penalty of 1,500 penalty units (\$255,000) or two years imprisonment (if the offender is an individual).

As a result of the proposed repeater supply regulation, and ongoing ACMA enforcement activity concerning their unauthorised use, instances of interference caused by unauthorised use are expected to stabilise and decline over time.

2. **Restrict the supply of repeaters to mobile operators or persons authorised by mobile operators only.** Under the proposed regulations, the supply of repeaters to unauthorised persons will be subject to offence provisions. A supplier found guilty of this offence may receive a penalty of 20 penalty units (\$3,400).

The ACMA is currently working with international partners to manage online supply by overseas vendors. This includes an agreement with members of the International Regulators Forum to share intelligence about compliance matters, with the UK regulator Ofcom coordinating the exchange of information. The possession and use of repeaters obtained from overseas vendors will remain subject to the offence provisions outlined at objective 1 above.

3. **Facilitate innovative repeater technologies (for example, smart repeaters) that provide for effective interference management.** The restriction on the supply of repeaters is worded to encompass future technology developments. This will ensure that unauthorised users will not be able to obtain repeater devices based on new technology, while allowing authorised users—mobile network operators—unrestricted access to deploy these devices as required.
4. **Continue to support existing repeaters installed by operators.** The proposed regulations will not impact on the authorised use of existing repeaters. As stated at objective 1 above, the Act already contains provisions that prohibit the unauthorised use of repeaters.
5. **Enhance consumer access to mobile services.** Consumer access to mobile services will be enhanced as a result of a reduction in the unauthorised use of repeaters. This is because there will be fewer sources of destructive interference from repeaters, which can prevent access to mobile services by consumers in the affected area.

6. Implementation and review

Once the amendments to the regulations are made, the ACMA will notify suppliers of their new obligations through its usual channels. The ACMA will also make a broader announcement through its *engage* website that will inform suppliers, members of public and other interested parties of the new regulations concerning the supply of repeaters.

In terms of reviewing the post-implementation impact of the regulations, the Radio Regulations 1993 are scheduled to sunset in 2018. Around three years prior to sunset, a full review will be conducted to inform a recommendation regarding whether the Regulations should be remade in whole or in part. Such a review requires a public consultation to be conducted. The review will examine the purpose and effectiveness of all provisions contained in the Regulations and, if made, would include a review of the proposed regulations concerning the supply of repeaters.