



**To: Department of Communications**

**ACMA Review Panel**

From

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### 1. Background

Proeye Communications & Security systems is an installer and adviser of communications equipment and technologies, with over 16 years experience in the field of security electronics , satellite and TV reception technologies, telecommunications infrastructure, with a continuing focus on research into developing technologies.

#### *Background summary*

Activities that Proeye Engaged in was:

- Consulted and conducted Telecommunications customer cabling assessments of Fire and Lift Communications connected or to be connected to NBN Co's Fiber network across selected parts of Australia.
- Installation of Mobile Repeaters for Government, Private sector and individuals.
- R & D into mobile repeaters technologies and solutions
- R & D into sensor network and security solutions.
- Satellite consulting and optimisation.
- Reports to Government to resolve interference matters.
- Consulting and installation services regarding security and telecommunications in home and business environments.

Representation:

This submission is by Paul Di Berardino on behalf of Proeye Communications & Security Systems.

Submissions made about regulatory matters dealing with the supply of illegal mobile repeaters is also on behalf of all the petition signatories.

#### *Responses*

Proeye has not provided responses to all the terms of reference.



### *Terms of reference*

**The review is to examine and provide a report to the Minister for Communications on:**

- The current objectives of the entity as determined by the Government's forward priorities, other reviews and contemporary pressures of the broadening 'digital' character of the sector;
- The efficiency of the ACMA in delivering its functions to support these priorities, any areas requiring improvement, and potential alternative arrangements (including costs/benefit analysis and implementation actions required) that could improve efficiency, where required;
- The recent performance of the ACMA set broadly against the Government's *Regulator Performance Framework* and any areas for improvement;
- The current resource base of the organisation and relative contributions from current sources—i.e. government funding, industry cost recovery and/or levy arrangements and funding from other sources.

**Recommendations to the Minister for Communications on options for reform in relation to:**

- The future objectives and functions of the regulator;
- The appropriate structure, governance and accountability arrangements of the regulator;
- An appropriate resource base for the regulator and the expected relative contribution from government, industry and other sources;
- A proposed transition path to implement preferred alternatives to enable proposed changes (if any) to be put in place by 2016-17.

The review will have regard to:

- The market structure of the communications sector in Australia and relevant changes since 2005;
- The impact of digital network technologies changing media forms and communications platforms;
- Enduring public interest objectives relevant to citizens and consumers as well as industry;
- National and international best practice models of sectoral regulation and regulator governance structures;
- Any announced deregulatory proposals, recognising that these are subject to agreement by the Parliament;
- Evidence and views of the ACMA and its stakeholders in relation to its performance;
- Future spectrum policy and management arrangements under the *Spectrum Review* being undertaken by the Department;
- Any changes to the regulation of infrastructure access arrangements proposed or agreed by Government under the Competition Policy Review;
- Other relevant government policies or matters identified through consultation or research.

The issue paper predominantly focuses on the former but invites general commentary on the regulatory framework for the communications sector in section 2.5.



### *First and foremost recommendation*

The ACMA should be dissolved and a new Regulator be developed with new defined functions and roles following this review.

### *The Australian Communications Market*

1. **Are there unique characteristics of the communications sector that require a particular style of regulation and regulator?**

#### ***The use of spectrum.***

Based on the vast land mass Australia provides, there are pockets of mass spectrum available and accessible to communities on the basis of reducing the cost burden.

Spectrum access in areas of low demand should be provided with exceptionally low access fees or made available as a class licence to increase socio economic benefits in that area.

#### *Satellite C-Band increasingly becoming redundant in Australia despite increasing satellite demand and ITU recommendations*

The ACMA reviewed satellite spectrum, however didn't consider demand by various groups which use C-Band satellite for overseas broadcast content.

One of the largest user groups of Satellite C-Band satellite are Australians from a non-English speaking backgrounds. These end users consist of, but are not limited to, Vietnamese, Arabic, Italian, Spanish and Portuguese communities which rely on receiving free to air broadcast content from Satellite C-Band. They comprise of senior citizens, on a low income or pension, non-English speaking background, and rely on the free to air C-Band satellite broadcasts.

On 1 July 2015, the Italian international broadcast RAI on Asiasat 5 @ 1005 E (Asiasat) changed its broadcast technology from DVBS to DVBS2 and MPEG-4 and moved to the 3.7GHz transponder. Anecdotal sales data showed that approximately 5000 set top boxes in Victoria alone were sold to serve the Italian Community in the State. The sales data was important as it showed that there is high demand by the elderly Italian community which rely on the Italian free to air broadcast. Proeye provided professional assistance across Victoria to enable end users receive the RAI broadcast

The frequency change to 3.7GHz has rendered an engineering problem for installers in many areas of Australia as WAS services were allocated frequencies 3.670-3.7GHz. A prime example is the Morwell Italian community can no longer receive the Italian free to air broadcast on 3.7GHz (which uses 3.685 to 3.715 GHz) because the ACMA allocated the 3.67 to 3.7GHz to a wireless internet service provider in that area.

As spectrum demand increases for wireless and mobile broadband, the ACMA needs to consider the communities that will be affected by allowing access to spectrum that will impinge on the public interest and economic benefit of satellite C-Band use in Australia.



ITU recommendations

An ITU<sup>1</sup> document shows that wireless telecommunications services cannot share the same frequency spectrum as satellite.<sup>2</sup> The ITU is well aware of the pressure from both industries, satellite and international mobile telecommunications, and it is increasingly important for a new Australian Regulator to ensure satellite C-Band spectrum is afforded protection.

### ***Spectrum Regulatory approach***

Regulation is based on monitoring and reporting on the health of the spectrum and the socio economic benefit. Some of KPI's recommended are based on, Spectrum Use Index, Spectrum Compliance Index, end user experience.

#### *Spectrum Use*

Based on a quantitative measure of spectrum use in a given area which reports on spectrum demand in a given area.

Where use is high, appropriate regulatory tools should be used to ensure demand and economic benefit is maintained.

Where use is low, further research is recommended to identify any potential barriers that may inhibit potential demand and use.

#### *Spectrum Compliance Index*

Is a quantitative measure which compares legitimate spectrum use versus unlicensed use. Spectrum compliance index is an important KPI which can trigger appropriate regulatory measures, it can be used as another feedback tool to identify systemic issues, and to help innovate spectrum use.

#### *Compliance and enforcement*

Compliance and enforcement approaches across different roles of the ACMA appear to be vastly different. The purpose of the differences should be made simpler and clearer to the public.

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<sup>1</sup> <http://www.tiaonline.org/policy/trade/international-telecommunication-union-itu>

<sup>2</sup> <http://www.itu.int/itu-news/manager/display.asp?lang=en&year=2007&issue=08&ipage=C-band>



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### ***Regulation by prioritising and advertising high risk areas***

One of the ACMA approaches to cost effectively regulate was by focusing on the areas of greater risk. The ACMA refer to the approach through the use of Priority Compliance Areas. However the focus on greater risk falls short if the regulatory approaches do not reduce the risk or prevalence of non-compliance. For example, the supply and prevalence of non-compliant mobile phone repeaters continue to pose high risk to the mobile carriers, and current regulatory approaches have proven in-effective.

The use of priority Compliance is a milestone initiative by the ACMA, however a future based communications Regulator needs to do more to reduce areas of high risk non-compliance.

It is recommended that the future Regulator needs to take on more risk and use more innovative actions to regulate in the public interest.

A new Regulator should consider:

- Continue to use evidence based risk data to focus compliance resources
- Amend legislation to ensure risks are reduced and to protect the economic benefit of Australia and its industry by minimising non-compliance.

One of the areas the ACMA previously focused Priority Compliance was of the supply of illegal mobile repeater models. The supply of illegal mobile repeaters continue to interfere with mobile carriers, and their supply continue to cause financial loss to legitimate business and end users duped into purchasing the illegal models, despite calls from industry to reduce the non-compliance.

### **Compliance regulation mobile repeaters**

The ACMA has not been able to reduce the supply and prevalence of illegal mobile repeater sales from online suppliers that pose to operate locally.

The impact of the supply and prevalence of illegal repeater models continue to pose risk to the mobile networks and put people's lives at risk.

Online sellers such as Mobilerepeatersaustralia, amplifyaustralia.com, signalboosteraustralia are just some of the online sellers of illegal mobile repeater mobiles the ACMA has not been able to stop.

Google provides the marketing tools such as Google Adwords, and will not remove advertising of illegal mobile repeater models despite numerous reports.

Both the ACMA, ACCC and Google are aware of a petition to stop the supply of illegal mobile repeater and the proposed legislative changes to reduce their prevalence in Australia.

### ***Extract of the mobile repeater petition***

<https://www.change.org/p/accc-google-malcolm-turnbull-stop-the-supply-of-dodgy-mobile-repeaters-to-australia>



Illegal Mobile Phone Repeaters cause interference to the mobile phone networks. Interference caused by illegal/unauthorised mobile phone repeaters increasingly puts people's lives at risk as their calls drop out or they lose service entirely. Interference from these repeaters affected competing mobile networks too, which is becoming an increasing problem as more on-line Australian consumers purchase and use them.

Legitimate Australian Mobile Repeater suppliers and installers are financially affected as they cannot compete on a level playing field. The dodgy mobile repeater suppliers are overseas. They use an Australian Telephone number through Skype or similar technology, a fake business address, and they use the carriers logos on their web site to look authentic.

### *Definition of a Mobile repeater*

A mobile repeater operates within apparatus or spectrum licensed radio-frequency bands. Mobile repeaters are also used and managed by mobile carriers as part of their general network, and authorised under its Public Mobile Telecommunications Service (PMTS) licence.

Subscribers (mobile phone end users) wanting to use a mobile repeater must (with the exception of a passive mobile repeater) obtain permission from the mobile carrier under a third-party arrangement. Subscribers that operate a mobile repeater without the mobile carrier's permission, runs the risk of causing harmful interference to the mobile network, and a number of contraventions to the Radiocommunications Act 1992 such as Unlicensed Operation and Possession. Section 474.6 of the Criminal Code Act 1995 may apply as the person unlawfully operates the mobile repeater in the carriers network which can be taken to be an action of tamper or interference. Absolute liability applies to the physical element of circumstance of the offence, that the facility is owned or operated by a carrier, a carriage service provider or a nominated carrier.

### *Australian Suppliers - Increased Regulation*

Australian Suppliers of Mobile Repeaters are now required to maintain records of repeater sales and location information to assist the ACMA in its investigation of interference complaints by being able to access detailed information about those devices supplied.

The amendment to the Radiocommunications 1993 (Regulations), Regulation 38B specifies the 'particulars' which the supplier is required to record under paragraph 301(1)(b) of the Radiocommunications Act 1992. In summary, the 'particulars' include: 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) and information concerning the actual transaction (for example, the date of supply, particulars regarding the identity of the recipient, such as photo identification).

### *Illegal supply of repeaters - no effect by increased regulation*

Recent changes to legislation has not stopped the supply and proliferation of unauthorised Mobile Phone repeaters into Australia. There is ongoing misleading information from overseas sellers continuing to target Australian Consumers, and they're using search engine advertised marketing such as Google Adwords, to entice consumers to purchase and use



their mobile repeaters that are illegal to possess or operate under Australian Law. The changes has only affected Australian Suppliers that can be directly governed under Australian Jurisdiction. The Australian Communications and Media Authority (ACMA) and Australian carriers reported a number of instances of illegal mobile repeaters they found which caused interference, through twitter feeds, online news services or web sites.

Some examples:

<http://www.itnews.com.au/News/309950,telstra-suspects-underbelly-of-illegal-repeaters.aspx>

<http://www.mobilephonebooster.com.au/legal-mobile-phone-booster.html>

<http://www.telcoantennas.com.au/site/3g-next-g-4g-repeaters-sale-australia>

<http://www.abc.net.au/news/2015-03-07/mobile-repeaters-disrupting-mobile-phone-signal/6287256> ;;

According to Telstra, dodgy mobile repeaters can cost as little as \$70 on the internet which is about 10 times cheaper than a legitimate one.

Many consumers affected or scammed into purchasing a mobile repeater that is illegal to use in Australia at some stage would be visited by a carrier or and ACMA Inspector, and given notice to stop using the repeater, because it would have caused interference to the mobile phone network.

### *Google Adwords*

As mentioned before, the suppliers use Google Adwords to market the product which is completely against the Google Adword Policy - Misrepresentation of Self, product or service.

Google Adword policy -<https://support.google.com/adwordspolicy/answer/6020955>

The dodgy seller uses key words and logos such as Telstra Next G, Optus and Vodafone and does not provide any evidence that the repeater shall be authorised by the Australian Carrier. I received reports from persons lodging complaints to Google, and they continue to support these advertisers because Google continue to receive revenue from their advertising.

### *Legitimate suppliers*

Currently there was only one known importer that has agreements with all three Australian Carriers, other than the mobile carriers themselves (Optus Telstra and Vodafone), that supply Mobile Phone repeaters that can be authorised under a third party agreement. The repeaters are manufactured by Nextivity Inc. The mobile repeaters are imported by Powertec Telecommunications Australia Ltd and distributed by a number of retailers and installers across the country. The repeaters are sold under the Cel-Fi brand to subscribers.

### *Applicable Standards*

Currently there were no Regulatory Australian Telecommunications Standards applicable to mobile repeaters. However the 3rd Generation Project Partnership (3GPP)[7] developed





technical specification TS25.143 to allow manufacturers to assess performance of the repeaters against the specification as a benchmark.

Other applicable standards that may apply are the Radiocommunications EMC Standard 2008[8] for external power supplies, and ARPANSA standard relates to the electromagnetic radiation exposure to humans.[9]

*What needs to be done*

This petition is based stamping out illegal mobile repeaters by influencing the right people to make the right changes.

That can happen by influencing:

Communications Minister Malcolm Turnbull,

the ACCC, and

Google.

All persons who agree something needs to be done should sign this petition and share this information with other persons.

I urge persons scammed into buying a dodgy repeater to include the repeater and the supplier details or web site URL, as it provides the essential evidence of these dodgy companies required by Government and Google to stop the selling of the illegal repeaters.

Proposed legislative change - Repeater labelling scheme

Amendment to the Radiocommunications Act 1992 should include the prohibition of Mobile Repeaters, and allowance for a permit labelling scheme to allow the supply of Authorised Mobile Repeaters.

Suppliers authorised under the permit labelling scheme will not be further burdened on the scheme because the information currently required under current legislation should satisfy the documentary requirements to obtain a permit.

The permit scheme will enhance the legitimacy of approved repeater models. The permit scheme should require the carrier to issue a permit number which is placed on the mobile repeater. That permit number references the mobile repeater name, brand model ... via the carriers web page.

The permit scheme will:

Enable carriers to maintain a simple web page listing legitimate repeaters

Enable industry to recommend and reference legitimate repeaters by pointing to the carriers web page.

Allow buyers to easily identify legitimate repeaters by checking the carriers web page.

The scheme will place more pressure on entities such as Google to remove advertisers of dodgy repeater sellers.

Thank you in taking the time to consider this petition



### Compliance and regulatory approach

The current ACMA approach to regulate the supply of mobile repeater punishes the end user of illegal mobile repeater, established an anti-competitive platform for legitimate repeater suppliers with increased regulatory burden, and the deceptive practices of the unscrupulous illegal mobile repeater suppliers continue to sell illegal repeaters to Australians.

The petition provides background and regulatory approaches to reduce the prevalence of illegal mobile repeaters.

### ***Interference to BOM Radar***

#### ***Digital TV Interference Management***

The ACMA requires an antenna installer to undertake checks and measurements (pre-diagnosis) to assist in the resolution of a customer's Digital TV Interference matter. Where the interference signal is outside the premise and out of control of the end-user, the Antenna Installer is required to make such a declaration by filling out an ACMA form to assist the end-user. The costs for this pre-diagnosis is born by the end user.

#### *The issue*

End-users rely on a TV Antenna Installer that may not be trained or have any competencies in interference diagnostic service to make a diagnosis.

There is no cost effective industry accreditation system that end users can refer to select an appropriate TV Antenna Installer to either diagnose or resolve Digital TV Interference matters.

End users can be out of pocket hundreds of dollars through mis-diagnosis and by initial cost burden before the ACMA would agree to do anything to resolve such matters.

#### Sources of Interference

Some of the sources of interference were caused through the use LED lighting, Solar Power Inverters, TV's, and Powerlines Infrastructure.

Proeye provided diagnostic services and reports to the ACMA to help end users resolve some of these interference matters which were caused by product that had national impact to Digital TV interference and put at risk interference to emergency communications .

Examples of some Youtube video examples:

- GVA Brand TV - <https://www.youtube.com/watch?v=sARhLoNzvf4>
- LED Light - <https://www.youtube.com/watch?v=v5MFVcrHO08>



- LED Lights UGE Brand - <https://www.youtube.com/watch?v=NCCuZmGhhuc>
- Digital TV Interference by external unknown source - <https://www.youtube.com/watch?v=0zFBKF5xcHM>

ACMA Regulation by prioritising and advertising high risk areas

The ACMA is responsible for the management of the EMC Labelling scheme. The scheme was introduced in 1997. The schemes objective was to place regulatory obligations onto industry to reduce the risk of electrical and electronic devices cause interference to the radio spectrum. A key objective to lower that risk of non-compliance was through the use of advertising and other regulatory interventions. However the scheme has fallen short where further action is not followed through to reduce the risk of non-compliant devices.

Some examples relate to ongoing systemic matters caused by devices which fail to comply with the EMC labelling scheme. The impact with some of these non -compliant devices have caused interference to Digital TV Spectrum and VHF Spectrum used emergency communications.

*What needs to be done*

### ***Re-Introduce the Digital TV Antenna endorsement scheme with additional competencies***

The Antenna Installer Endorsement Scheme (the Scheme) was a Government Initiative. The initiative was based on non-mandatory industry participation at the discretion of installers. The Scheme and use of the Get Ready for Digital TV logo was used by the Government and industry to assist with the digital switchover from analog to digital television.

To qualify as an endorsed antenna installer, a person had to undergo certain qualification checks to determine the level of endorsement. The minimum qualifications were based on the following:

- Hold Public Liability Insurance
- Hold relevant OH&S
- Pass basic technical examination about TV Antenna installation

The scheme achieved a competency milestone in the TV, Satellite installer industry and enabled consumers the option to use an endorsed antenna installers are at greater risk of choosing an installer that may not be insured or have the right skills.

The scheme ended in 2013 without any suitable handover to keep the scheme available and accessible to industry.

The scheme should be re-introduced as a competency endorsement that can be administered one or more of the five cabling registrars.



Additional competencies should be introduced to enable industry to self regulate and reduce the risk of interference issues.

The Minister should consider funding competent installers in undertaking diagnostic services where there is suitable information that the interference signal is outside the control of the end user.

The recommendations would reduce some of the resource burden on the ACMA, and enable specialists backed by the future regulator to resolve such matters.

2. Do the characteristics of the communications sector mean that a sector-specific regulator should be responsible for all aspects of industry regulation including economic regulation? Would switching models enable the regulator to strike the optimal balance between investment and consumer outcomes?

A sector specific Regulator should not be responsible for all aspects of industry regulation. The risks in a Regulator controlling all aspects of industry regulation may require more resources to cover all areas of regulation which is against the Government agenda to reduce the size of Government.

However, it should be encouraged for Government Regulators to collaboratively contribute resources to regulate particular industries where all aspects of regulation would be in the public interest. The ACMA should continue to work with other Government Regulators, both Federal State and local to achieve good regulatory governance

3. What developments in the communications sector over the next 5-10 years are likely to affect the role of the regulator? In what ways will that role be affected?

Fixed, Wireless and Satellite access for broadband shall continue to be in increasing demand as more services and devices converge and use broadband IP based communications.

The ACMA provided research reports which focused on technology developments and consumer use. The reports provided research based evidence which the ACMA used to educate itself and inform the public. Unfortunately research areas of Government departments generally decline as they are considered one of the first areas in Government to reduce resources. The ACMA decline in research resource will be challenging as it will need to rely on other sources to obtain relevant research based data to ensure regulation is in the public interest.

*Mobile communications sector.*

Increasing demand in mobile communications access requires the ACMA and the Department to focus more resources in this sector. Some of the challenges that the ACMA is faced with is in applying appropriate regulatory tools to effectively regulate in the public interest.



It appears that the current Government agenda is to reduce regulatory red tape to industry. However, it is equally important to maintain or increase regulation in particular areas to protect industry and end users.

### *Mobile Phone Repeaters*

The Mobile Phone Repeaters shall become increasingly prevalent as the developed of medium and high rise buildings continue to be developed in metropolitan areas.

As an installer of Mobile Repeaters, it is becoming increasingly difficult for carriers to find suitable and uncontested areas to install mobile phone base stations. Therefore quick solutions to resolve Mobile reception problems is through the use of Mobile Phone Repeaters. They are quick and easy to deploy and can be cheaper than other systems in the market place.

The future regulator should increase regulation and used difference approaches to reduces the prevalence of illegal mobile repeater models and stimulate legitimate sales.

#### 4. What should be the unifying objective and purpose of the communications regulator—is there a succinct way to describe what the regulator should achieve?

The regulators objective should be to regulate in the public interest. More specifically some of the elements are as follows:

- Encourage and enable efficient use of communications technologies.
- Provide appropriate tools to ensure best economic access for communications.
- Use regulatory tools to stimulate business and protect end users.
- Protect certain communications technologies and sectors that are in the public interest or recommended by the International Telecommunications Union

#### 5. When should the Minister be able to give directions to the ACMA in relation to the performance of its functions?

The minister should be able to be provide directions wherever it sees as necessary to ensure the ACMA continues to regulate in the public interest.

With the illegal supply of Mobile Phone Repeaters matter, the Minister should intervene immediately by making a public announcement to the media and to Google.



6. What are the optimal structure and governance arrangements for the Authority and Executive?

The Chair and CEO comprise of two separate persons. It is recommended that the chair of ACCC should also be appointed as the chair of the ACMA. The ACCC has been involved in numerous telecommunications matters such as NBN developments and other broadband charging matters.

A board of part time expert panel of board members are required to provide input and guidance on regulatory matters and appropriate decision making.

7. What are the optimal arrangements to support good decision-making and maintain trust (including for managing conflicts of interest for decision makers and delegating decision-making)?

