



A Submission on Structural Reform in Spectrum Management¹

1 Introduction

This submission responds to the request from the DCITA for comment on the respective roles and responsibilities of the ACA and the ABA with regard to spectrum management. An understanding of developments in the communications environment, especially the technologies and implications of convergence between telecommunications and broadcasting, is essential to that task.

The key element of convergence is digitalisation, which affects both industries and blurs the traditional distinction between them. Digitalisation allows the content of communication to be manipulated by computer. That is opening up new transmission and storage possibilities and bringing together the media used for communicating between individuals with those used for broadcasting.

Convergence is not simply a blurring of distinctions. By making content manipulable, digitalisation will also allow for new kinds of content and new methods of production. For example, digital transmission will make content interactive by establishing a back channel from what, in the pre-convergent world, were the receiving and transmitting parties. It will also allow content to be reformed by either party in idiosyncratic, tailored ways. Major implications arise for the regulation of telecommunications and broadcasting from each of these developments.

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CONVERGENT COMMUNICATIONS RESEARCH GROUP, UNIVERSITY OF ADELAIDE
A SUBMISSION ON STRUCTURAL REFORM IN SPECTRUM MANAGEMENT

As the name of our group suggests, we believe strongly in the importance of convergence but we see it as an unfolding set of opportunities and we caution against simple and hasty changes to institutions or legislation. In considering the implications for the relative responsibilities of the ABA and the ACA the central point we would make is that convergence does not mean that the work of the two Authorities increasingly overlap. As we illustrate below, the problem is not emerging duplication but emerging anomalies; not an overlapping of the two organisations but a gap opening between them. We propose a graduated, incremental policy response.

The work of the Convergent Communication Research Group brings together experts from telecommunications, media, legal and economic backgrounds in academia and business to understand and address the regulatory and commercial challenges which arise with convergence. Our group provides the broad basis we see as essential in responding to the novel elements of convergence.

This paper firstly contrasts the current approaches and objectives of the ACA and the ABA with regard to spectrum management. We argue that neither is well suited to the responsibilities of the other and therefore we support the status quo. Section 3 then considers the regulatory issues that are emerging outside of spectrum management *per se* and we illustrate gaps that are opening in the existing regulatory framework. Finally, we respond to the DCITA's requests for comment and make a proposal for immediate but modest institutional reform to provide the flexible response which the government seeks.

2 Spectrum Management in the ACA and the ABA

Important contrasts between the ABA and the ACA arise in spectrum management. The ACA adopts a technology-neutral, application-neutral approach which is blind to the identity of the licensee. By contrast, the ABA deals only with broadcasting applications. It effectively stipulates the technologies of transmission and reception and concerns itself with the fitness of broadcasters.

Economists argue that the less prescriptive is government regulation, the greater the scope for the private sector to allocate resources efficiently and this perspective lies behind the ACA approach. However, government has broader objectives than maximising economic efficiency. The promotion of community and cultural values for example are explicitly within the scope of the ABA's responsibilities.

The primary role of the ABA is to licence appropriate broadcasters rather than to maximise financial returns from spectrum fees. In broadcasting, the use of spectrum is specific and the ABA sets fees according to the revenues each licensee can generate.

In our view, the ACA approach is better suited to instances where the use of spectrum is for personal communication and where the licensee is primarily an infrastructure provider. It is inappropriate for the more public and social activity of broadcasting where the licensee has responsibility for content as well.

It is true that the technologies of convergence mean that some bands of the spectrum can be used for either broadcasting or personal communication. This gives centralised management a superficial appeal. However, centralised spectrum management is not the response to convergence that is needed. (One is reminded of the Humphrey Appleby statement along the lines: something needs to be done, this is something and therefore we must do it.)

There are other problems with the ACA's approach to allocating spectrum. In particular, those who will pay most for the spectrum are not necessarily those who can make best use of it and the telecommunications industry has recently shown, here and overseas, that companies whose practices are undesirable or whose plans are unrealistic can obtain spectrum licences in competitive bidding. It is one thing for a telco to overbid for spectrum but a more serious matter if a public broadcaster, whose responsibilities are broader and affect people more directly, were to obtain a licence inappropriately in that way.

Further, the experience from telecommunications is that maximising licence fees can have a deleterious effect on the dynamics of the industry. The European experience especially shows that maximising fees can slow the subsequent investment necessary to make use of that spectrum. That is a problem with the fee-maximising approach akin but in addition to the exclusion of non-economic objectives.

In short, having access to funds to make the highest bid is an insufficient criterion for allocating broadcasting licences and the ABA's spectrum management reflects this fact. It should continue to do so.

There are other risks in moving to a spectrum-based, application-neutral approach. It might mean that the broadcasting bands were then used for some other purpose. That would put Australia out of step with the rest of the world. In all other parts of the world those frequencies are dedicated to broadcasting. The overwhelming majority of receivers are designed for those bands and there is no large scale production of equipment for the other applications, such as mobile telephony, that could use those frequencies. This means that the bands are effectively and tightly tied to broadcasting.

The legacy effects are particularly important. If, as a result of applying the ACA's technology- and application-neutral approach some broadcasting spectrum were used for other purposes or locked up for reasons of competitive corporate strategy, existing TVs, car radios, home sound systems, etc which cannot be remodulated would no longer be able to access all broadcasting services and the result would be greatly disruptive and hugely unpopular.

It would be possible for the ACA to manage broadcasting spectrum while the ABA continues to licence broadcasters. However, as is recognised in Attachment G of the Department's discussion paper, like broadcasting, certain military and public uses of spectrum are allocated by fiat rather than by market mechanisms, so there is no compelling consistency argument for the change.

This is all to say that broadcasting needs special regulation if Australia is to do more than maximise the initial contribution to Treasury from spectrum management. Allocating broadcasting spectrum is not an instance where Australia should go-it-alone.

3. Immediate and Imminent Regulatory Issues

The CCRG argues that broadcasting currently remains a special use of spectrum and should not be subject to the ACA's management approach. However, there are pressing regulatory issues to be addressed and a need to devise an appropriate mechanism to do so.

Gaps are opening in the current regulatory framework. For example, the Broadcasting Services Act (BSA) was recently appended with schedules which extend it to include online services and Internet content as well as so-called datacasting. However, the coverage is incomplete.

For example, only stored Internet content is included. In our view this was an attempt to excise personal communication from the ambit of the Act, on the basis that the two can be partially separated by the fact that much personal communication happens in so-called real time, that is, it is live. However, a consequence is that live Internet content falls outside the Act, even though it is publicly available and is more akin to broadcasting than to dyadic communication.

It is important to place a chronological perspective on these problems. Some argue that we have already arrived at a point where an exhibitionist could send live video to an audience of voyeurs. Our view is that the limitations inherent in the streaming technologies which would be used at present for that purpose mean it is not yet a major regulatory challenge.² However, new broadband transmission and more powerful computers at the sending and receiving ends will make this kind of broadcasted communication possible in the medium term. We will have live, broadcast quality content, transmitted point-to-multipoint across a publicly accessible medium, indistinguishable from broadcasting but not covered by the BSA. A response will be needed even though that application is neither immediate nor imminent.

There are other problems which reveal the lacunae of the current regime. For example, the BSA excludes from its coverage Internet content transmitted “in the form of a broadcasting service”. We presume this is because it was intended that the service providers would be required to obtain a broadcasting licence but, at present, such a requirement has not been legislated.

² CTIN, 2002: “Streaming Technologies and Broadband: a report to the ABA”, <http://ccrg.eleceng.adelaide.edu.au/ctin.pdf>

We understand that cable TV company TransACT, which has its own private network and also offers online services as well as cable TV, is not required to hold a broadcasting licence but has one because it fears its video-on-demand service might otherwise fall through this gap in the regulatory coverage.

TransACT's position indicates the *ad hoc* approach taken by industry and regulators to the immediate issues. We see that approach as both necessary at present and appropriately pragmatic. However, the progress of digitalisation and convergence mean that the gaps will widen and a more comprehensive, integrated response will be needed in future.

To give a brief indication of the technological advances that are coming, consider the MPEG-4 technology, that uses a data stream which rather than specifying images and sound frame-by-frame, is more like the abbreviated directions for a stage play. This allows a digital character, a so-called synthespian, to appear to speak Japanese or English, to be male or female, to be clothed or unclothed, all at the behest of the receiving party - who might be one among many. MPEG-4 will be a mainstream technology but it awaits the spread of improvements in transmission, storage and processing technologies, not to mention the development of content which exploits its capabilities. We need an incremental response, timed and shaped by an understanding of these developments.

The current *ad hoc* approach will not be sufficient to address these upcoming manifestations of convergence and the DCITA is right to be raising the issue of the respective roles and responsibilities of the two Authorities within this context.

4. Recommendations

We have argued that the ABA should retain responsibility for licensing broadcasters, that spectrum should be set aside for that purpose and that multiple objectives must be pursued in determining the licence fees. We have argued further that the importance of convergence lies not with spectrum management but in the gaps it is opening within the regulatory framework.

The appropriate response at this stage is to make better use of what is best in the current regime, as a transitional arrangement, but with an eye to what it can be anticipated will be needed in future. We make our recommendation below.

With regard to the specific issues upon which the DCITA called for comment:

- There is little merit in replacing broadcasting licence fees with spectrum-based transmitter fees: there is no compelling consistency argument and a risk it could lead to uses of the broadcasting bands which are incompatible with international assignment and inconsistent with the legacy of existing equipment.
- Maximising the coverage of broadcasting transmission is at least partially inconsistent with maximising government returns from licensing. The optimal outcome is a balancing of competing objectives. Setting fees in relation to the broadcasting revenues is not inconsistent with that balancing.
- Increasing the requirement to optimise returns on the sale of broadcasting spectrum suggests moving towards a single-mindedness we believe is inappropriate. It would focus too greatly on what is merely immediate and economic.
- In advice given previously by members of our group to the Department of Finance and Administration we have argued that the best means to value

licences is by making appropriate international and historical comparisons. Research is needed to advise on the value of existing broadcasting licences.

- Diversity in broadcasting can be encouraged by requiring that licensees' coverage plans be one of a set of licensing criteria.

We do not recommend that legislation be rewritten or amalgamated – the current uncertainties are too great. The schedules attached to the BSA dealing with online services, datacasting and Internet content illustrate that well intentioned but hasty legislative change does not serve well in a world of quickly changing technology. Any change now would be no more than a stop gap. This is the same conclusion reached recently by others contemplating responses to different fast moving technology.³

Rather than changing the legislation, we propose a means of making the existing legislation work as effectively as possible while accumulating the understanding needed for future changes. We further recommend supporting initiatives, including conducting an appropriate research programme which is informed by an appreciation of the technologies but is not limited to the voices of technologists.

We have characterised the current approach to convergence as *ad hoc* and we argue that should continue in a new form. In this regard we note that currently the Deputy Head of the ABA sits on the Board of the ACA and vice versa. We recommend building on that arrangement by creating a new ***Convergence Executive***, chaired alternately by those Deputy Heads and comprised of other senior officials together with invited specialists.

³ For example, ALRC/AHEC Discussion Paper 66 "Protection of Human Genetic Information" (available at www.alrc.gov.au) suggests establishing a Human Genetics Commission and other responses such as improved education and information, rather than rushing to specific laws. Similarly, NOIE Interim Report on Spam ("*The Spam Problem and how it can be countered*") similarly downplays legislative "silver bullets" and stresses alternative approaches – (available at <http://www.noie.gov.au/Projects/consumer/Spam/index.htm>)

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We envisage a high level group which would coordinate the responses of both Authorities to the challenges of convergence while maintaining the separate decision making powers and responsibilities of the two Authorities. The Convergence Executive would have only a medium term existence and would establish the mechanism for a gradual, structured merger and proposals for legislative change while enabling existing issues to be addressed. The Convergence Executive would:

- address problem areas such as datacasting, online services and digital TV
- make proposals to the Minister for legislative and structural changes
- be a reference group for private sector innovators

Our position on this matter is inconsistent with all 3 of the options canvassed in the DCITA discussion paper. Firstly, it would be premature to pursue Option A and amalgamate the two Authorities. Better to set in train mechanisms to achieve that smoothly over the medium term. Secondly, transferring broadcasting spectrum management to the ACA, either as Option B or the more limited Option C, would require that Authority to balance some, but only some, of the competing objectives currently pursued by the ABA. We would prefer to see the status quo maintained while the Convergence Executive considers the emerging implications of convergence.

The approach we recommend allows for a graduated and flexible response to convergence. It builds on an existing arrangement and provides a structure in which an understanding of convergence can be accumulated and from which a more comprehensive response can be devised. Critical to the success of our proposal is a targeted research program which draws on a range of disciplines. The CCRG has a number of concrete suggestions to make regarding that research.

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