Australian Broadcasting Corporation

submission to the

Department of Communications

Consultation Paper on digital television regulation

March 2015

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ABC

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Introduction

The ABC welcomes the opportunity to respond to the Department's Consultation Paper on digital television regulation. The Paper has been published at a time when the free-to-air broadcast industry faces growing competition for the attention of audiences from a range of online sources, including the recent arrival of a number of subscription video-on-demand (SVOD) services. At the same time, developments in both compression algorithms and higher-resolution video formats are creating the potential for new viewing experiences which broadcasters are unable to match within the constraints of current spectrum and standards.

In this environment, it is important that the regulatory regime governing free-to-air television enables broadcasters to keep pace with consumer and technological trends. Broadcasters should be given all reasonable opportunities to flexibly adapt their offerings so that they can successfully compete for audiences not just on the basis of content/genre, but also format/resolution and quality. Further, any transition to new technologies should be industry-wide and based on the setting of consistent standards containing minimum specifications.

The ABC notes that the broadcasting spectrum framework explored in this Consultation Paper reflects the strategic principles first articulated by the Minister at the ACMA's RadComms 2014 Conference in September 2014. The Corporation is pleased to see that the Government considers it important to continue to reserve spectrum for commercial and national television services. It would welcome a similar public commitment to the reservation of spectrum for radio services, which are also currently reserved spectrum in the broadcasting services bands (BSBs).

Likewise, the ABC welcomes the move towards broadcasters having the freedom to determine the most appropriate mix of services and formats for their audiences and being permitted to make more flexible use of spectrum.

The Corporation supports the principle that broadcasters should deliver their services in

spectrally-efficient ways. However, it does not agree with the Government's proposed approach to achieving this, which is based on mandating the adoption of MPEG-4 encoding to the exclusion of other encoding options. The ABC believes that the Consultation Paper underestimates the time and effort that would be required to convert the nation's television receivers to the new standard and that, as a result, it would be more feasible to instead plan to move directly to more advanced—and considerably more spectrally-efficient—technologies. These concerns are explained in greater detail below.

More generally, the Corporation does not support introducing new requirements that mandate specific technology encoding or transmission standards. While new standards will provide additional flexibility to the ABC to better serve its audience, their introduction and use should be managed by the industry, rather than government. Government intervention should be limited to facilitation of the use of the standards.

Enabling broadcasters to determine the best mix of services and formats

The Consultation Paper proposes a number of measures to increase the flexibility with which broadcasters can determine the mix of services and formats they offer audiences. The ABC welcomes the proposals that there be no new restrictions on the number of television services offered by broadcasters, that the requirement for a broadcaster's primary channel to be transmitted in standard definition (SD) mode be lifted and that high-definition (HD) quotas not be reintroduced. The Corporation does not wish to comment on the proposal to remove "service deficient" declarations, as it is not directly affected by those elements of the digital television regime.

Number of services

The ABC supports the Government's preliminary position that there should be no new regulations limiting the number of services provided by broadcasters in their allocated spectrum and new online services. Such forbearance will allow industry the necessary flexibility to respond to audience needs and test different services, channels and content options.

The Corporation's portfolio of channels and platforms—ABC, ABC2/ABC Kids, ABC3, ABC News 24 and iview—has been designed to meet the needs of different audiences and thus ensure it provides services of relevance to as wide an array of Australians as possible. For example, the daytime preschool service ABC Kids has an exclusive reach (i.e. it reaches audiences that no other ABC channel reaches) of 8.2%, while ABC2, which targets 24–35 year olds, has an exclusive reach of 5.2% or 1.2 million people per week that other ABC services do not currently reach.

As media markets fragment, the Corporation will have to balance its audiences' needs with the number of services available. However, the ABC has no intention of reducing the breadth of content it offers to Australians and will continue to provide distinct and diverse programming of both broad appeal and specialised interest. Indeed, next-generation television technologies offer the potential to enhance the services that it offers; the ABC may, for example, be interested in exploring the possibility of short-duration "pop-up" channels

tailored for specific events, such as state or federal elections or commemorations, as might have been the case with the centenary of the ANZAC landing.

Primary channel formats

The ABC supports the Government's preliminary position of proposing to remove the requirement that broadcasters' primary channels must be provided in SD. This will allow broadcasters flexibility in determining how to deliver content and meet audience expectations.

As the Consultation Paper notes, the original decision was based on a desire to ensure that consumers would have access to lower-cost alternatives to the initially high prices of HDTV receivers. Today, HD receivers make up the overwhelming majority of primary television sets in Australian homes. However, this is not necessarily the case on the second television set in homes as Australians have a propensity when purchasing new televisions to retain older, often less-capable, sets as secondary receivers for use in locations such as the bedroom or kitchen. Reporting on HD penetration among such secondary receivers is less reliable than for primary receivers. As a result, broadcasters choosing to convert their primary service to HD will need to assess the potential loss of audience that might result from their doing so. However, that should be a business decision for broadcasters, rather than a matter of regulation.

The ABC also notes that the Consultation Paper does not propose removing the concept of a primary channel from the broadcasting framework, even though that concept may be less relevant in a multichannel television broadcasting environment where there is no need to distinguish analog services from those offered only in digital. As a decision to remove the concept of the primary channel would affect a number of regulatory constructs, including captioning requirements and children's programming quotas, the ABC would expect further consultation if that concept were to be considered.

HD quotas

The ABC supports the Government's preliminary position of not reintroducing a quota specifying an amount of HDTV content that broadcasters must deliver each year. The quota reflects the original digital television policy, which required all broadcasters to transmit HD services. Today, when most homes have HDTV receivers, audiences understand what HD is and increasingly expect that suitable content—high-quality dramas, live sport and visually-rich documentaries, such as *Life on the Reef*—will be delivered in the format.

In this broad, competitive landscape of on-screen offerings, the provision of content in HD can and should be driven by audience demand, rather than quotas. While the ABC's current channel line-up, in which ABC News 24 is transmitted in HD, limits its ability to do so, its preference is for broadcasting content in HD where it is appropriate and suited to delivery in that format.

Using spectrum more flexibly

The ABC supports the general proposition that broadcasters should be able to more flexibly

use their spectrum allocations, provided it is clear that that flexibility is being used in ways that improve the services made freely available to the Australian public.

Datacasting, narrowcasting and sub-leasing spectrum to third parties

As set out in the Consultation Paper, the Government is proposing to permit spectrum licensed or allocated for broadcasting to be used to provide open narrowcasting and datacasting services. The ABC is not currently interested in using its television spectrum in these ways. Nonetheless, it acknowledges that lifting restrictions on open narrowcasting and datacasting would provide broadcasters with greater flexibility and may enable services of interest to audiences.

The Corporation is not opposed to broadcasters being permitted to sub-lease spectrum to third parties. It notes that the Government's preliminary position is not to allow sub-leasing in the near term. If that position were to change, the ABC would expect that national broadcasters, as well as commercial broadcasters, would be permitted to sub-lease spectrum in order to ensure a level playing field is maintained—although, in the absence of a change in encoding and/or transmission standards, the Corporation does not have any spare capacity to sub-lease. The ABC would also welcome further consultation on the regulatory conditions that would apply to such sub-leasing arrangements if it were to be more seriously considered.

Subscriptions services

The ABC supports the continuation of the principle that spectrum allocated for broadcasting services should not be used to provide subscription services.

Online services

The Corporation is pleased to see Government's recognition that the development of online delivery paths for free-to-air television services allows the broadcasting industry to provide new and diverse services to its viewers. The ABC sees its online television service, iview, as critically important to its overall service. Moreover, iview highlights the fact that the distinction between broadcasting and digital delivery is becoming more tenuous, as the brands that exist in broadcast exist simultaneously and seamlessly online. The Corporation recently launched its ABC Kids iview app, which is a child-tailored video-on-demand product that is solely focused on ABC Kids preschool content. In the children's television content market, in particular, the audience is increasingly ambivalent as to whether the content appeared first through broadcast or online.

The current regulatory scheme distinguishes between broadcast and online content in a number of ways. The ABC welcomes the Government's proposal in the Consultation Paper to undertake further work on these questions in 2015 and would welcome a reduction in broadcasting regulation to ensure that broadcasters and the increasing number of online-only content providers operate on a level playing field.

The Corporation also notes that the growth of online-only content services has the potential to affect the number and availability of Australian stories on screens and the local production industry that creates them. The ABC is strongly committed to Australian content

and local stories on television. It both contributes to and depends upon the existence of a vibrant and healthy "ecosystem" which supports the production and distribution of Australian content. One of the mechanisms that supports the local industry and leads to the creation of a substantial volume of Australian screen content is the quota system that applies to commercial broadcasters' services. By comparison, online-only services have no comparable obligations. If, as is sometimes predicted, the growth of online services were to lead to a reduction in broadcast channels, there is likely to be a corresponding diminution of Australian content. In such a circumstance, the ABC would support the creation of an Australian content fund to centralise funding for Australian screen content. Such a fund could be administered by Screen Australia and would receive contributions from all screen-content providers in the Australian market, including broadcasters, download-to-own, online streaming and SVOD services.

Spectrally-efficient broadcasting

As noted above, the ABC supports the principles articulated by the Minister at the RadComms 2014 conference in relation to maximising spectrum efficiency. It acknowledges that this may include the eventual sharing of spectrum by the national broadcasters. However, the Corporation has reservations about the means of achieving greater spectrum efficiency proposed in the Consultation Paper. In addition, it notes that a spectrum-sharing arrangement between the national broadcasters will not be feasible until more spectrally-efficient broadcasting technologies have been adopted.

More efficient broadcasting technologies

The rise of broadband and mobile platforms and devices over the last decade has multiplied the number of media consumption options available to Australian audiences. In order to remain competitive in this increasingly-fragmented market, free-to-air broadcasters require the scope to be able to adapt their services to meet changing viewer expectations.

The ABC, like other free-to-air broadcasters, uses its 7 MHz channel allocation to capacity in order to provide the best possible combination of services for its audiences. However, the number, format and broadcast quality of those services is constrained by the limits of the current combination of DVB-T transmissions and MPEG-2 encoding. The Corporation thus welcomes the Government's interest in migrating television broadcasting to more efficient delivery technologies, as greater spectral efficiency can be expected to translate into greater flexibility to adapt its service offerings to meet the needs of audiences. The ABC does not, however, agree with the Government's preferred approach to this issue.

As presented in the Consultation Paper, the Government's preliminary position on more efficient broadcasting technologies is that broadcasters should transition to the exclusive use of the MPEG-4 compression standard in conjunction with existing DVB-T transmissions. The Paper indicates that, following industry consultation, the Government may consider setting a deadline for such a transition to occur.

The ABC does not believe that a combination of DVB-T and MPEG-4 represents the next logical step in the evolution of digital television in Australia. Nor does the Corporation believe

that mandating any technical standard is the best way to deliver value to the Australian public. This is for a number of reasons.

New picture formats

The decision in August 2012 of the International Telecommunications Union's Radiocommunications Sector group (ITU-R) to approve two ultra-high-definition (UHD) television standards has opened the door for television standards of higher resolution and requiring greater bandwidth than HDTV. Equipment capable of displaying 4K UHD content is already being sold in Australia by all four major consumer electronics manufacturers. Likewise, 4K content is available to viewers over broadband, most notably from the recently-arrived Netflix subscription video-on-demand (SVOD) service. While it remains to be seen how popular such high-resolution content will prove to be with audiences, it is clear that 4K content cannot be broadcast using DVB-T and MPEG-4. Mandating MPEG-4 would thus lock Australian free-to-air broadcasters out of delivering higher-resolution services for the foreseeable future, even if viewers come to demand and expect them.

The ABC notes that a number of European countries are testing the use of the more advanced broadcasting and compression technologies of DVB-T2 and HEVC (high-efficiency video coding), at least in part to facilitate 4K broadcasting. In France, for instance, transmission in DVB-T2 and HEVC are planned from 2018, while in Germany a proposal is under discussion to completely migrate to DVB-T2 + HEVC by 2019 or 2020.

Length of transition period

Secondly, the ABC notes that a transition to MPEG-4 broadcasting in Australia is unlikely to be feasible before 2020. In this regard, the Consultation Paper would appear to overestimate the number of MPEG-4 receivers in Australian homes and underestimate the time and effort required to effect such a change.

It is important to note that the Australian free-to-air television industry is a horizontal market in which the broadcasters do not exercise control over the television receivers purchased by consumers. This has direct consequences for the introduction of new television standards or technologies. Australian consumers tend to purchase new television receivers infrequently—the average replacement time for a television set in Australia is seven or more years. Any transition to new receiver standards must be planned on the basis of timeframes that reflect these patterns, unless the new technologies offer capabilities that consumers perceive as offering such significant benefits compared with their existing equipment that a more accelerated migration becomes possible.

The Paper argues on the basis of an unpublished "presentation to the Department" that, as of late 2013, 80% of main digital television receivers in Australian homes can decode MPEG-4. The ABC believes the penetration of MPEG-4-ready consumer equipment into the marketplace is likely not as high as claimed. When MPEG-4 was incorporated into the Australian television standard in 2010, roughly 68% of households had already converted at least their first television receiver to digital. As the average replacement time for primary television sets is seven or more years, a significant number of the digital receivers purchased

before 2010—and thus before MPEG-4 became part of the standard—are likely to still be in use.

The Corporation notes that no reliable consumer surveys are currently conducted that could indicate with any certainty how many television sets or other devices are capable of decoding an MPEG-4 broadcast transmission. This problem primarily reflects the fact that the actual capability of a receiver can only be properly tested by passing a test stream through it; in the absence of MPEG-4-encoded broadcasts, it is not possible to meaningfully survey consumers. In a similar fashion, it is unclear whether older sets that are claimed by manufacturers to be MPEG-4-capable, but which were released in 2008 and 2009—before the incorporation of MPEG-4 into the television standard in 2010—would actually allow viewers to watch MPEG-4 content that might be delivered today.

An assessment of the ABC's own television stock—which it does not suggest necessarily constitutes a representative survey—found that, of 60 televisions in the Corporation's Ultimo offices that were tested, only two-thirds were capable of decoding MPEG-4 broadcasts.

In addition, it is important to note that the 80% claim relates only to primary receivers. As noted above, when Australians purchase new televisions, they have a tendency to retain older, often less-capable, sets as secondary receivers for use in locations such as the kitchen or bedroom. Any decision to exclusively use MPEG-4 encoding must take account of the number of these secondary sets that are only capable of decoding MPEG-2 signals and will effectively become unusable without some form of conversion at the point that a hard cut-over to MPEG-4 occurs. The more rapidly an attempt is made to transition to a new receiver technology, the greater the probability that it will force consumers to spend money on new equipment in order to continue to enjoy the benefits of current broadcast services.

It should be noted that, while contested, a figure of 80% of primary receivers is roughly equivalent to the penetration level for digital television in 2010. Converting to digital offered viewers the tangible benefits of a more-than-threefold increase in the number of channels available and was supported by a major government assistance program. Nonetheless, the switch-off of analog services was not completed for another three years. The benefits to consumers of converting from MPEG-2 to MPEG-4 will not be in any way comparable to the transition from analog to digital, as a result of which it seems deeply implausible to expect a comparable conversion rate.

For these reasons, the ABC estimates that, if it were required to broadcast its channels exclusively in MPEG-4 today, it would likely lose between 20% and 30% of its audience. Indeed, the Corporation believes that any transition to MPEG-4-only transmissions before 2020 is likely to mean that a not-insignificant proportion of Australians would lose access to free-to-air television broadcasts. The ABC would not support any transition to future technologies, including MPEG-4, that came at the expense of current viewers.

Moreover, a transition to MPEG-4 that could not be completed before 2020 would effectively delay the future adoption of more advanced transmission and encoding technologies with much greater potential to deliver efficiency benefits. It would also place Australia considerably behind other broadcasting nations. If the ABC's estimates are correct, Australia would be completing the introduction of MPEG-4 around the time that major European countries were completing their introduction of DVB-T2 + HEVC.

Limited efficiency gains

Thirdly, while MPEG-4 encoding provides more efficient compression than MPEG-2, the overall gain is in practice relatively small, amounting to no more than two additional SDTV service per 7 MHz channel. As a result, it important to consider whether such an incremental improvement in spectral efficiency is worth the consumer disruption and delay of more efficient technologies that achieving it will entail.

The ABC also notes that the national broadcasters could not share a DVB-T + MPEG-4 multiplex, as suggested in the Consultation Paper, as there would be insufficient bandwidth to carry all of their services: a 7 MHz DVB-T channel carries roughly 23 Mbps of data, whereas broadcasting the current ABC and SBS services that are transmitted using digital television spectrum would, if encoded using MPEG-4, require in the order of 30 Mbps.

MPEG-4 should be an optional standard

In spite of the difficulties associated with the exclusive use of MPEG-4, the Corporation believes it has potential applications over the next few years and that broadcasters should have the opportunity to make use of those efficiencies, as they see fit, in order to provide the greatest flexibility in serving audiences. Accordingly, it proposes that current restrictions on the use MPEG-4 be lifted, so that broadcasters can choose to use it for any services for which they believe it makes business sense. For example, it may make sense to use MPEG-4 to transmit HDTV channels. However, as a national broadcaster with obligations to provide broadcasting services for all Australians, the ABC does not anticipate shifting its services to MPEG-4 until there is clear evidence that the overwhelming majority of receivers, both primary and secondary, are able to decode MPEG-4 signals.

Moving to more advanced standards

The Corporation strongly believes that the next step is the evolution of digital television in Australia should be to based on more advanced transmission and encoding technologies, specifically DVB-T2 and HEVC. This combination of technologies is capable of providing a five-fold improvement in spectrum efficiency for a given suite of content when compared to the current combination of DVB-T + MPEG-2 technologies. It likewise provides a three-fold spectrum efficiency when compared to DVB-T + MPEG-4.

As such, DVB-T2 + HEVC can be expected to provide broadcasters with the flexibility to compete with non-broadcast media offerings, including enabling 4K services and/or wider content options. The size of the spectral efficiency gain is sufficient to justify the replacement of consumer devices, while the scope for material service improvements suggests that consumers are likely to be provided with tangible incentives to upgrade their receivers.

The ABC is currently conducting in-house testing of both DVB-T2 + HEVC and 4K content using Ericsson compression encoders and Sony televisions. It would be happy to demonstrate this work to the Government.

The greatest difficulty with such a transition is that it will entail a multi-year strategy that includes the identification of spectrum for a simulcast of DVB-T2 + HEVC services alongside current DVB-T transmissions and a commitment to enforcing appropriate receiver standards.

One potential path for developing the technology would be to allow the industry to make shared use of the sixth multiplex in Sydney to test the use of DVB-T2 and HEVC, including 4K content delivery, ahead of any nationwide rollout of DVB-T2 + HEVC services. Providing otherwise-unavailable services on the sixth multiplex in this way would create incentives for Australian consumers to purchase suitable receivers. Further, to encourage manufacturers to bring such equipment into Australia, the Corporation proposes that the industry adopt DVB-T2, HEVC and 4K as part of the Australian digital television standards. The ABC understands that many new televisions are also incorporating HEVC technology and the anticipated transition to these technologies in countries such as France and Germany means that receivers should be available for use in the Australian market with minimal alteration.

The ABC would gladly play a leading role in such a transition. It is already trialling DVB-T2, HEVC and 4K technologies in laboratory settings and believes that broadcast trials could begin in 2016.

If a development path of this kind were to be adopted, the ABC does not believe legislative intervention would be required or desirable, as industry is able to set minimum receiver performance specifications, as it has done in the past. Similarly, the question of whether to develop technical standards for terrestrial transmitters or television receivers should remain in the hands of the ACMA in line with its mandate to provide certainty to the marketplace. Should any technical standards be deemed necessary, they should not be overly prescriptive, focusing instead on setting minimum standards to provide certainty to the market and enable equipment supply to occur in an orderly fashion.

Multiplex licensing

As noted above, MPEG-4 encoding is more efficient than MPEG-2. However, the efficiency improvement is not sufficient to enable the creation of a multiplex with the capacity to carry all of the services that the ABC and SBS currently provide to Australians. The introduction of DVB-T2 and HEVC would potentially make such a multiplex feasible. However, in the absence of a clear strategy to transition to those technologies, the Corporation does not believe it is useful to discuss licensing arrangements to support spectrum sharing.

In general, the ABC believes that the current spectrum licensing model, under which each free-to-air broadcaster operates within a discrete 7 MHz spectrum allocation, is preferable to multiplex licensing. This is particularly true if future audience demand makes it necessary for broadcasters to offer 4K ultra-high definition programming. The ABC estimates that broadcasting HEVC-compressed 4K content will require half or more of the bandwidth available in a 7 MHz DVB-T2 channel transmitted at power levels providing equivalent coverage to today.

Conclusion

The ABC welcomes the opportunity to comment on the future of digital television regulation in Australia. Overall, the Corporation is supportive of any proposal that provides the industry with greater flexibility to respond to the televisual needs of the Australian public. In a time of

increasing fragmentation and uncertainty, the broadcasting industry is best placed to quickly respond to the needs of audiences and provide the services that they need and want.

Accordingly, the ABC believes that the Government should remove current restrictions on the use of SD, HD and MPEG-4, and move to facilitate the introduction of DVB-T2 and HEVC.