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Mr Joe Sheehan
Manager, Services and Regulation Section - Media Branch
Department of Communications
GPO Box 2154
CANBERRA ACT 2601

Dear Mr Sheehan,

DIGITAL TELEVISION REGULATION REVIEW

The Australian Industry Group (Ai Group) welcomes the opportunity to provide a submission to the Australian Government Department of Communication's consultation paper on digital television regulation. We commend the Australian Government for commencing the review of the current broadcasting regulatory framework, with the objective of promoting innovation and efficiency in digital television.

Our membership includes many businesses in the consumer electronics sector, who form a major layer of the free to view television industry. We are actively involved in standards development in Australia and are the largest industry nominating organisation to Standards Australia.

In this submission, Ai Group's comments focus on four key areas relevant to the objectives of this review:

- The importance of picture quality to consumers, particularly through High Definition (HD).
- The service that television broadcasters are required to provide on the primary commercial television broadcasting service (primary channel).
- The broadcasting video compression standard for delivery of HD.
- The transition processes to MPEG-4 and HEVC/DVB-T2.

In summary, this submission recommends that:

- The review should focus on the importance of consumer experience, in particular picture quality in genuine HD and, eventually, still higher resolutions. This will address an expectation from consumers of the quality of service that is broadcast to them.

- The requirement for Standard Definition (SD) to be broadcast on the primary channel should be removed. This brings legislation up to date with the current state of the market, by removing a legacy system following the completion of the digital switchover.
- The video compression standard that would facilitate better picture quality in the near term is MPEG-4. There is widespread penetration of MPEG-4 compliant television receivers in a matured market. MPEG-4 is a stepping stone to more efficient technologies, and will maximise the benefits to consumers of existing and new equipment by allowing broadcasters to increase picture quality without sacrificing their current services.
- A smooth and expedient transition to MPEG-4 should be driven by the market, with Government facilitating collaboration between the television broadcasters and consumer electronics businesses, and closely consulting with industry to establish a road map for this transition. This should include a date by which broadcasters are expected to establish at least one MPEG-4 multichannel each, rather than a simultaneous switch of all services offered by all broadcasters.
- Government facilitation will also be necessary to help industry establish a road map for migrating to future technologies, including HEVC and DVB-T2, in the medium to longer term. This will provide certainty to industry and promote ongoing innovation in the market, and create new benefits such as more efficient use of spectrum and scope for sales of any spectrum freed up.

Picture quality

The consultation paper gives insufficient attention to picture quality and consumer experience more generally, apparently assuming that commercial flexibility for broadcasters will lead to the optimal balance of content, diversity and quality. We strongly recommend that these issues be considered more explicitly in this review. Consumer needs and preferences should be strongly reflected, and our members are constantly exposed to consumers' desire for broadcast content that utilises more of the capabilities of ever larger and higher resolution screens.

If television broadcasters transition to MPEG-4 (as discussed below), it is possible for picture quality to improve, but only if broadcasters use the additional bandwidth for higher bitrates for their existing services, or to broadcast services at a higher resolution and an appropriately higher bitrate. The trade-off that consumers would choose between quality and quantity of services is not necessarily the same as that made by broadcasters.

We therefore recommend that the Government consider picture quality and consumer experience as central to its review. We are happy to discuss this further with the Government.

Primary channel

In the consultation paper, the Government's preliminary position is to remove the requirement, under clause 41G of Schedule 4 to the *Broadcasting Services Act 1992* (Cth),¹ where television broadcasters are currently required to provide an SD service on the primary channel. The Government has decided to remove this on the basis that there is widespread availability of HD television receivers.

¹ Equivalent provisions for the national television broadcasters, ABC and SBS, are covered under clause 41M of Schedule 4 to the *Broadcasting Services Act 1992* (Cth).

We support the Government's position to remove SD from the definition of primary channel and its reason for this removal.

As noted by the Government, SD is a legacy system which has been carried over from the digital switchover period when the broadcaster had to provide an SD simulcast of the analog television service on its primary channel. Since the completion of the digital switchover, television receivers have matured and there is significant penetration of television receivers in the market that are capable of displaying HD (and, indeed, decoding MPEG-4).² Therefore, the Government's proposal is consistent with the rationale for amending obsolete provisions of the Act.

More efficient delivery of broadcasting services

The consultation paper also proposes for television broadcasters to commence a process for transition to transmit their services using the MPEG-4 video compression standard. The Government indicates that it may set a deadline for this transition following industry consultation, and also encourages industry to explore adopting additional spectrum efficient technologies in the future.

We broadly endorse the Government's position that broadcasters should make a timely transition to MPEG-4. As noted above, MPEG-4 is a mature standard and almost all primary television receivers in the market are capable of receiving signals encoded in MPEG-4. We understand that MPEG-4 capable receivers have been in the market since 2005, which is over a decade ago. Therefore, a transition to MPEG-4 is well overdue, and would have a minimum impact in terms of cost and disruption to consumer electronic businesses and, most importantly, the public. The maturity and availability of these television receivers mean consumers will greatly benefit from receiving significantly improved picture quality in the nearer term, and be able to transition to MPEG-4 at minimum cost and disruption.

The consumer benefits of transitioning to MPEG-4 in the near future are more significant in light of the likely lengthy delay before a transition to more advanced technologies is feasible. While Ai Group strongly supports the orderly and rapid adoption of advanced standards, discussed further below, the current low penetration of such technologies and the rate of turnover of household televisions suggests that 'skipping' MPEG-4 to adopt more advanced technologies would see current inadequate MPEG-2 broadcasting persist for another decade or more.

However, we note that while transitioning to MPEG-4 will allow better use to be made of existing spectrum, through higher quality services, it will not necessarily lead to the freeing up of spectrum. The higher compression allowed by MPEG-4, useful as it is, is not sufficient to allow existing services to be moved to merged multiplexes without a loss of services. Such spectrum efficiency benefits would instead be realised when transitioning to HEVC and DVB-T2 (as discussed below). MPEG-4, is still an important initial step towards adopting more efficient technologies, since it familiarises consumers with a more regular process of technology updates in broadcasting.

² The Government's consultation paper cites an early 2014 Newspoll that found 96 per cent of households' primary sets or set top boxes were HD capable.

Migration to MPEG-4

We note that television broadcasters have not fully embraced MPEG-4 to date. There may be legitimate reasons for why they have not been able to migrate to MPEG-4.

However, we consider that immediate issues relating to picture quality would be best resolved through the Government's proposal for a transition process to MPEG-4. We suggest that the transition not involve a hard transition of all services on a single date, since this is likely to be more fraught and disruptive for both broadcasters and consumers. Instead, a target date should be set, following consultation, for broadcasters to offer at least one MPEG-4 multichannel, with an expectation that the standard will be adopted on others as soon as practical. Broadcasters should also consider a timeframe for improving broadcast resolutions alongside adoption of MPEG-4 (e.g. increasing the use of HD). Ensuring that MPEG-4 broadcasts deliver higher picture quality within current bitrates would deliver a concrete consumer benefit from the migration, increasing consumer enthusiasm for this technology and future upgrade pathways.

To provide certainty in the short term, a transition process could entail Government facilitating collaboration between the different stakeholders involved in the free to view television industry, and closely consulting with industry to establish a roadmap to ensure that MPEG-4 is properly implemented within a set period of time. This process should commence without delay and be completed expediently so broadcasters can each deliver one or more MPEG-4 multichannels as soon as possible and maximise the benefits that flow from this technology.

For effective collaboration during the transition process to MPEG-4, it is important that consumer electronic businesses and television broadcasters work together to ensure that any identified technical issues are resolved during the transition process.

In particular, to ensure that services will provide accessible and high quality broadcasts to consumers once migrated to MPEG-4, it is imperative that television broadcasters provide consumer electronic businesses with transport streams encoded in MPEG-4 to allow testing on displays and other equipment in current consumer use. Television broadcasters will benefit greatly from this process, through feedback provided from consumer electronic businesses in identifying any broadcasting problems that could arise during the transition process.

Future standards: DVBT-2 and HEVC

Efficiencies gained in transitioning to MPEG-4, such as improved picture quality, are not the end of the road. As is the nature of innovation, it would be expected that broadcast television stakeholders, including broadcasters, consumer electronic businesses, content providers and Government, will continue to plan for the adoption of new and more efficient technologies. Two obvious candidate technologies are DVB-T2 and HEVC.

Whilst a transition to MPEG-4 would allow for improved picture quality within current spectrum allocations, DVB-T2 and HEVC will eventually offer much greater possibilities for efficient use of spectrum and freeing up spectrum. However, adoption of such technologies requires settled standards, industry experience in implementing them in real products and sufficient market penetration to allow broadcasters to switch without subjecting consumers to a loss of coverage. While DVB-T2 has been implemented in a number of countries and others have indicated future adoption, older television models sold in Australia largely do not support it. HEVC is new, its extensions remain under active development and, while it is used with streamed video, the specification for broadcast has not yet been finalised. Given the rate of television replacement in Australia, which has not sustained the accelerated pace seen during the transition to digital broadcasting, it will take considerable time to transition to either technology, which will require more significant changes compared to transitioning from MPEG-2 to MPEG-4. The effort will be worthwhile, whether in terms of consumer experience, commercial possibility or spectrum efficiency. It is worth accelerating, and a road map to such transitions will promote it. But increasing penetration of these technologies, readying broadcasters and managing adjustments to spectrum will be a major undertaking requiring close collaboration from broadcasters, consumer electronics suppliers and Government.

In addition, Australia is a smaller consumer market in digital television. Therefore, Australia's approach to standards needs to be informed by international standards development and adoption of technologies. This has certainly been the experience with MPEG-4. And even this extended timeframe depends on strong consultation and coordination among key stakeholders.

For this reason, we also propose that Government assist industry, by closely consulting with industry to develop a longer term road map to transition from MPEG-4 to future technologies such as DVB-T2 and HEVC. However, this road map should be sufficiently flexible to accommodate potential variations to the schedule, given that these would have a longer term outlook compared to MPEG-4.

To summarise, the Government should not delay transitioning to DVB-T2 and HEVC, but a transition to MPEG-4 should proceed in the shorter term. This transition is an important first step towards even more efficient technologies, and will allow improved services that will benefit consumers while also preparing them for future steps.

Ai Group would welcome further opportunities to provide input on these issues and in the first instance please contact Charles Hoang our Policy Adviser on digital technologies on [REDACTED]

Yours sincerely,

A handwritten signature in blue ink that reads "Innes Willox". The signature is written in a cursive style and is underlined with a single horizontal line.

Innes Willox
Chief Executive