SUBMISSION TO DEPARTMENT OF COMMUNICATIONS INFORMATION TECHNOLOGY AND THE ARTS ON THE DISCUSSION PAPER

"Digital conversion of self-help television retransmission sites"

FROM IMPARJA TELEVISION PTY. LTD.

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1. Introduction

The review issues paper states that some 85 per cent of Australians have access to all digital services intended for their area.

Another way of looking at this however, is that 15% of Australians still do not have access to all digital services intended for their area, some 6 years after the start of digital services in capital cities and only 4 years before the projected analogue switch off date.

Most of the locations where existing analogue services have not yet been supplemented by equivalent digital transmissions are in the remote licence areas and in by far the majority of these locations some or all of the analogue services are self help (ie owned and operated by the local community). Many of these are in remote indigenous communities. Geographically they represent over 90% of the Australian land-mass. It is clear therefore that the solution to the self help problem is a key factor in providing digital TV services to the whole of Australia and particularly to indigenous Australia.

Indeed it is this numerical predominance of self help over broadcaster provided services that differentiates the remote licence areas from the rest of Australia , and the need to solve the conundrum of devising an equitable and workable digital conversion scheme for them that has prevented the introduction of digital TV services to remote areas

This discussion paper is therefore welcomed by Imparja and the adoption of a scheme for remote area digital broadcasting which encompasses these self help sites should be seen as removing the final barrier towards providing digital TV services to the real "outback" . It is also the case that conversion scheme adopted for the conversion of self help communities to digital cannot be

considered in isolation because the method chosen to achieve this will have a profound effect on the satellite delivery paradigm for digital services.

2. Policy and regulatory framework

The review states that there is no regulatory impediment to communities who currently operate analogue self-help terrestrial retransmission facilities, seeking to install digital transmitters of their own volition. Imparja does not necessarily agree with this in respect of remote commercial services.

Self help transmissions licenced under Sec 212 of the BSA may not to alter or replace any part of the service they are re-broadcasting. In order therefore for a self help to re-broadcast a ***digital*** service, there has to be a licenced commercial (digital) service available for re-broadcasting, and, for self help operations in remote areas which are satellite fed, there must be an appropriate digital satellite signal for them to re-broadcast.

2.1. What do we mean by a digital satellite signal?

On one (trivial) level there is already a digital signal available to viewers, in that the (Aurora) satellite distribution system uses digital modulation. However while the "modulation" is digital, , the ***service*** being carried is the ***analogue service*** of the broadcaster concerned.

It is important therefore to differentiate between the delivery method and the actual content being carried.

A broadcaster's ***analogue service*** comprises a single 4:3 TV channel with no enhancements. The digital service is operated as a 16:9 picture and may include enhancements. These include data services, EPG, multi-view/multichannel, and the opportunity (under defined conditions) to carry different services (eg when a sports event over-runs).

In the case of Imparja the proposed enhancements include the National Indigenous Television Service (NITV), a possible community channel as well as a range of indigenous radio services.

There is also a possibility of the Remote Area broadcasters sharing a single multiplex, and even of including a third, (Sec 38B) service in the multiplex. A digital (content) satellite signal suitable for re-transmission by a self help broadcaster is therefore an essential pre-requisite for the provision of digital self help operations, which under Sec 212 must re-broadcast the signal without modification. While there is no technical reason why a self help operator could not downlink and re-broadcast individual analogue channels (from the Aurora service) and even include several such channels in a "self help" multiplex. Imparja would strenuously object to any such "Pick and choose" process which

would (quite rightly) fall foul of Sec 212 and turn the self help operators into broadcasters. It is clearly an unmanageable process where self help operators could locally decide what would (and would not) be included in the "self help" multiplex and what channel numbers they were on.

Self help digital re-transmission requires the development of a satellite signal that can be re-broadcast as a single entity with no possibility of individual services being deleted, edited or inserted locally.

Imparja believes that without the development of such a "digital transmission ready" satellite signal, there can be no Sec 212 self help re-broadcast because no defined "digital service" exists to be re-broadcast. In any case a digital signal which merely duplicated that which was already available in analogue is hardly going to provide an irresistible argument for viewers to move to digital

This new satellite service would need to be run concurrently with the existing (Aurora) service It is vital that viewers are presented with a compelling choice of enhanced and additional services in order to drive digital changeover. This will not be the case if digital services simply duplicate the existing analogue ones.

3. DTH as an alternative to self help

Note that these enhanced and additional services can also be delivered by satellite DTH. There is a real opportunity to avoid a duplication of satellite services, by delivering all digital services to existing self help viewers ***direct from satellite***.

This would however require all current self help viewers in remote areas to purchase satellite decoders and satellite dishes rather than conventional terrestrial digital receivers. This would result in higher costs and reduced choice of receive equipment (it is unlikely for example that any integrated satellite/display TV receivers will be available). There is also an increased cost and the visual impact of a satellite dish (or 2 for Pay TV homes) on every roof.

Note that it is technically possible (though complex) for broadcasters to create a suitable multiplex for re-broadcasting ***at their own sites***, by downlinking and selecting the services from the existing Aurora platform for assembly into one or more digital re-transmission multiplexes. This would involve a range of individual receivers feeding a managed transport stream processor/multiplexer and the generation/inclusion of appropriate enhancements and service information. Its operation would have to be under real time broadcaster control. Imparja does not regard it as feasible to place such a complex, broadcaster managed system at self help locations. The whole point of self help operation is that it requires no direct involvement of the broadcaster

DTH satellite using the Aurora platform could be regarded as a replacement for self help operation , but would impose additional costs on affected viewers and arguably provide an inferior service to digital (self help) re-transmission

4. Alternatives to Aurora.

Consideration of DTH instead of self help re-broadcast raises the topic of whether the Aurora platform is the best medium for this. In the 12 years or so since Aurora was developed there have been many technical innovations in the field of video encoding and satellite transmission. While the existing DTH service may be regarded as adequate by the (relatively small) number of viewers who use it, it provides an inferior and limited experience compared to the integrated, expanding and compelling offerings of digital terrestrial services It is arguable that, were DTH to become the main delivery method for all existing self help viewers, that it ought to provide an experience as close as possible to that of a terrestrial delivery. At the same time the new platform could also provide the "transmitter ready" signal that would permit larger self helps to be able to choose whether to provide digital re-transmissions.

Of course any such "enhanced DTH and transmitter ready" satellite signal would almost certainly not be compatible with existing (Aurora) receivers It is inconceivable that the new service (which is a pre-requisite for any self help re-ransmission) could coexist for any significant time – purely for cost reasons- with the existing Aurora service.

The option exists therefore to develop a new "enhanced DTH and transmitter ready" satellite signal that would a) allow larger self helps to re-broadcast it, b) provide an identical compelling and enhanced satellite service in those locations where local operators preferred not to move to digital re-transmission and c) by making use of more efficient (and less expensive) coding and transmission methods provide options for additional or higher quality services (eg high definition). It would however require the (subsidised?) replacement of all existing satellite receivers in a relatively short time-table so that the Aurora (duplicate) services could be shut down.

A new DTH satellite platform could use modern coding, modulation and conditional access developments to provide an enhanced DTH experience as well as permitting simple self help re-broadcasting.

5. Costs and Logistics of Complete Self Help Digital Roll Out. Impacts on Indigenous Communities.

The costs and logistics of a remote area roll out of digital self help re-transmission should not be under-estimated. In practice it is likely that many if not all remote indigenous analogue self helps will find it commercially and technically challenging to convert to full digital operation in anything like a reasonable time frame.

Low power self help analogue equipment is robust, reliable, and able to be installed in the field by relatively untrained and un-skilled operators using little or no specialised test equipment. Simple maintenance (power down-re-set) can be carried out on the spot. Simple "triple spaced" combiners feed fairly narrow band collinear or slot antennas, and the transmitter is (analog) fed with the output of a low cost domestic receiver.

Digital transmitters by contrast will require expensive (ASI) professional receivers, test equipment, specialised knowledge to install and support and are unlikely to take kindly to power outs, over-heating, and dust/dirt laden environments.

Then there are the problems of needing either new and expensive adjacent channel combiners, or wideband replacement antennas, to say nothing of the enormous distances to be travelled, to install (and support) digital transmitters.

Equally the provision of up to 50 000 DTH receivers at up to 120 remote indigenous locations itself poses significant economic logistical challenges!

It is almost inconceivable that all remote indigenous self help analogue services will convert to digital, For many of these locations DTH satellite delivery is the only viable option

The delivery of digital services to remote indigenous communities who currently operate analogue self help transmitters will require significant and ongoing expenditure to a) support the existing analogue (Aurora) system to b) install and maintain digital self help transmitters and c) to meet the cost of DTH installations in locations where digital re-transmission is not practicable