

Monday 6th August 2007

**The General Manager
Digital Broadcasting
Dept of Communications, Information Technology and the Arts
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Re: Digital conversion of self-help Television retransmission sites

Dear Sir/Madam

I am writing in response to a request for submissions to the DoCITA re conversion of existing retransmission services.

Background

I have been and am involved in a technical capacity with two (2) self-help retransmission sites and conducted the survey another two (2).

I hold a Cert. of Technology in Electronics and have worked in the telephony, data, radio communications and broadcasting industry for over 30 years.

Re: Comments sought by ACMA on the following issues

- 1. Whether the use of individual digital transmitters for each service or the use of multiplexors, would be the most effective option for converting existing analogue self-help retransmission sites to digital in relation to:-*

1.1 Technical Viability

Some facilities have the capacity to accommodate additional equipment but this would depend on each retransmission site

1.2 Cost of conversion, operation & maintenance

In general without support by way of Federal Government funding the cost for the community to fund conversion service would be prohibitive. The general community already believes that free to air TV should be just that, why should they pay for something that is supposed to be free.

Some sites have been set up in a way to allow other commercial services on their site and have the ability to charge these other users a fee that can be used to help maintain the Analogue TV retransmission equipment on site.

Depending on reliability & maintenance costs of new Digital TV transmitters it is difficult to say whether this remuneration would be enough in the future.

The Federal Government should be made aware of the huge ongoing maintenance costs to councils and community groups that have installed these retransmission sites. From insurance, licence fees and power to repair costs for technicians to remote locations, technical ability of some organizations, cost of replacement equipment and site fees.

ACMA Licence fees should not be charged for these community services.

The Federal Government should have an ongoing fund to help maintain at least the cost of replacement equipment for these retransmission sites due to the amount of money required to replace an unserviceable transmitter or antenna and feeder not to mention cost of the rigger and technician.

Some community communications/broadcast sites are established by the community for the good of the community in a non profit making exercise only to be forced to pay by higher rates if a commercial user wants to use or take over the site.

1.3 Other options for self-help TV retransmission sites.

Multiplexed transmitters

I believe that a very cost effective way of distribution of Regional, Rural & Remote Services (where no other service or the terrestrial licensee cannot provide a service) is to provide a single multiplex stream of the five (5) or six (6) basic services that originate from each state's capital city. They being the ABC, SBS, Seven, Nine, Ten & CTV (Community TV) Networks for each State and Territory.

This stream of 5 or 6 (depending on the capacity of the digital multiplex and how many channels or services could be squeezed in) would be placed on Satellite and could be received as a single digital channel and replace all the standard extra's like a second channel and high definition etc., and just deliver the 6 basic services.

These services could then be received via DTH Satellite or used at a Retransmission site to feed a single Digital multiplex transmitter carrying all services.

The advantages would be:-

1. Less spectrum required per retransmission site as only one frequency would be required for a single digital multiplex service.
2. Less cost with only one transmitter being required (but a spare would be highly recommended for ease of maintenance and continuity of service)
3. Don't need 5 or 6 different spare transmitters as backup for each individual service only one is needed.
4. No expensive multi coupling would be required, only band pass filtering for a single service.
5. The service could operate anywhere in Australia on a State by State basis, using an input feed via the Satellite from the metro service for the state capital for the state where the service is located.
6. Less resistance to using the service by viewers as content would be state based and reasonably local.
7. Less power consumption with one instead of 5 or 6 transmitters.
8. The funds that are saved by the reduced cost in the upgrade to digital for self-help retransmission sites could be used to fund the placing of these services on Satellite.
9. More services would be available than current Optus C1 Aurora service and would be state based.
10. Cheaper than providing a multiplex feed on Satellite for every regional and metro service in Australia.

The Disadvantages are:-

1. Limited number of services per multiplex.
2. Need 6 Multiplexes one for each state via satellite (ACT use NSW feed).
3. Not a local or Regional service. The state metro service feed, being the closest and cheapest alternative, close to a local service for many.
4. If transmitter fails at retransmission site all services are lost, thus the need for a spare or backup transmitter.
5. Viewers would not have the access to multiple multiplexes that terrestrial services would provide.

Individual Multiplex transmitters

From a maintenance point of view, individual transmitters are a much better alternative to one single multiplexed transmitter. The reason being, that if an individual transmitter fails only that service is affected until repairs are made and so viewers aren't badly disadvantaged with the temporary loss of a single transmitter, other services remain on air.

Spare transmitters are essential to continuity of service, but are usually designed for each individual service channel, so one for each service would need to be kept for shorter disruptions to service while repairs take place, this is expensive to have so many spares.

Also a list of ACMA preferred or approved Digital TV equipment would be helpful some type approval of this equipment may reduce interference and site issues for many self-help retransmission providers.

2. *Whether the DTH option for viewers residing in remote areas of Australia where the population is less than 500 should be adopted, rather than converting existing self-help retransmission sites from analogue to digital.*

I don't believe that the minimum should be under 200 residents which was the criteria for Black Spot TV funding, 100 would be a better figure.

Unfortunately the problem is that many of the self-help Analogue TV Retransmission sites should never have happened. Delivery should have always been via a DTH satellite.

The problem is that there is not enough State or Regional "Local" "Free to Air" service Channels. There is no Victorian or Tasmanian ABC TV service and Commercial services are Queensland and Northern Territory based. This is the single biggest complaint and needs to be addressed before anyone even thinks about forcing viewers to DTH Satellite, especially in the southern states.

After the amount of work that has occurred to establish the infrastructure that is now in place at many Retransmission sites it would be a pity to now simply abandon them. Most viewers have installed antenna's to receive these local TV transmissions.

In addition some self-help groups have also established FM Radio services from these sites further enhancing services available and adding to the site infrastructure.

Satellite dish antenna would have to be installed and decoders purchased for DTH Satellite costing many hundreds of dollars instead of the purchase of a Terrestrial Decoder at current price of around \$99.00 each that most viewers are able install themselves.

Itinerant populations must also be included in figures for these services, Lake Eildon in Victoria (5 times the size of Sydney Harbour) has over 500 Houseboats permanently moored and Taylor Bay on the banks of Lake Eildon has over 200 houses but in the past has not counted in applications such as these for funding as it is a holiday area. The whole area has little or no TV reception.

3. *Timing of digital self-help retransmission site conversion*

If funding is to be made available, similar to the Black Spot TV funding, time constraints on the installation and delivery of equipment need to be flexible as with the Black Spot program the availability of equipment and suitable installers was extremely limited and meant that preferred suppliers and installers could not meet delivery dates for funding.

Summary

That the minimum number of residents be 100 before DTH Satellite be considered and only a greater figure if more State or Local Regional services are included on the Satellite TV service.

Retransmission sites continue to Broadcast Analogue TV services until funding is made available for digital conversion or more DTH Satellite services with local content are provided before the Analogue TV services would cease.

A single multiplex for each state be established containing the basic 6 services, ABC, SBS, CTV, Seven, Nine & Ten capital city services, one for each State & (6) Territory (ACT use NSW) for delivery to Retransmission sites and DTH Satellite for smaller communities.

Self-help Retransmission sites to be federally funded for the Digital TV conversion and to include a backup spare transmitter if single multiplex is used for each site, with access to an ongoing equipment replacement fund to replace non repairable Retransmission equipment, as in many cases it is beyond the ability of the self-help groups to fund these items.

Included in equipment funded for a retransmission site it is essential a UPS uninterrupted power supply unit be used to filter mains power for digital transmitter and receiver, along with lightning protection for mains and antenna feeders.

Itinerant populations/houses need to be countable in determining funding.

I hope this is of help to you

Yours Faithfully,

Peter Weeks
Weeks Radio