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RADIO BROADCASTERS ASSOCIATION

Fixed Services Proposals

RBA Response to Discussion Paper

17 March 2015

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1 Executive Summary

The RBA are pleased to have the opportunity to respond to the MBIE proposals for Fixed Service Bands.

The views of the RBA represented in this document are predominantly in regard to STL bands.

The Discussion Paper heralds Fixed Services as the backbone of New Zealand digital economy.

In commercial broadcast radio the bulk of revenue still relies on analogue transmission and analogue receivers.

Over the past five years radio broadcasters have been forced by MBIE into spending millions of dollars on re-channelling STLs to clear the 915 – 921MHz band for RFIDs and short range devices. This required the purchase of new analogue STL transmitters and receivers together with new filters, combiners, splitters and antennas to allow STL operation in KL band. This was done with the expectation that once re-channelled, STLs would not be required to change again for some considerable time. The newly purchased analogue STL equipment to achieve this re-channelling has a 10 to 15 year lifespan.

The spectrum used for STLs is un-paired so it is of little value to Telco operators. The continued operation of analogue STLs is therefore not denying spectrum to higher value use.

Until there is a clear path to a digital upgrade of receivers, transmitters, and cost effective digital STL equipment, then the RBA cannot support a mandatory conversion of the 'backbone' of this analogue economy to digital for no gain.

It is time for the Ministry to get back to the original intent of the Radiocommunications Act which is one of enabling spectrum usage while minimising prescriptive management of the spectrum.

The RBA are available to discuss or clarify any of these views.

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3 Responses to General Fixed Service Proposals

Digitisation

Q1: *Should all or some sub 1 GHz fixed service bands be digital only? If so, are there particular bands that should be given priority to change to digital only services?*

The current mix of digital and analogue in STL bands is not causing significant issues and should be able to remain for as long as there are real drivers for retention of analogue linking.

In particular, where the technology being fed by the link is analogue, such as an AM or FM broadcast transmitter, then the linking needs to remain analogue.

Q2: *Should any requirement for digital services apply to new licences only or should existing analogue services be required to transition to digital? If all licences are required to transition to digital services, over what time period should analogue licences be phased out?*

There should not be any requirement on broadcasters to convert to digital linking. The decision to change to digital must rest with the service operator as they are in the best position to evaluate the costs and benefits in relation to the type of service and the age of current equipment.

Information on licence records

Q14: *Is inaccurate information on licences a significant issue for AREs and ARCs and licensees? If so, how should the Ministry respond to the issue?*

Accurate information on licences is important for evaluating interference impact from proposed new services so it is, therefore, in the licensee's best interests to maintain accurate parameters on licences.

Information on antenna type, bearing and height is more important than maintaining accurate data on equipment make and model.

It is unrealistic to expect licence holders to update transmitter/receiver details on a radio licence when equipment is swapped out for operational reasons due to the cost of engaging an ARE/ARC to carry out the licence updating task. Very short notice equipment swap outs are often required to maintain service and in many cases the changes may be only temporary while the failed equipment is repaired.

Licensing of STLs generally seem to be carried out by a group of ARCs and AREs who are aware of the pertinent details that should be recorded on a licence.

The current level of licence data accuracy is not a significant concern to radio broadcasters.

4 Band Specific Proposals

I_{STL}, JK_{STL} KL and K STL bands

Q19: *Should digital services be permitted in STL bands? If so, should digital and analogue services be permitted or should all existing analogue services be required to transition to digital?*

Digital linking should be permitted in the STL bands but it *must not* be mandated.

Analogue STLs are highly compatible with analogue AM and FM broadcasting and remain the most cost effective option for radio broadcasters. These type of licences should be retained for as long as broadcast radio transmission is remains analogue.

The RBA have consistently represented that STL Radio licences are the enabling 'backbone' for the AM and FM Spectrum licences. The RBA anticipate continued use until at least 2031 or the conversion to digital broadcasting.

There is already a mix of analogue and digital linking in the STL bands, albeit with the digital links on a limited one year term which requires annual re-licensing at additional expense.

To date there have been no interference cases arising from the use of both analogue and digital STLs within the same band and over the same path. Allowing these digital links to be licensed long term is, therefore, unlikely to cause issues in the future.

Digital STL equipment is significantly more expensive and doesn't consume less spectrum unless bitrate compression is employed. The use of bitrate compression further degrades the quality of the audio resulting in an inferior on-air sound for much greater linking cost. Digital STLs are generally only used in special cases where accurate synchronisation is required for single frequency networks. In this application un-compressed digital audio is essential. The result is a need for a 500kHz RF channel for one stereo audio channel and this provides no spectrum efficiency over an analogue STL.

Q20: *Should a minimum link distance be specified for STLs in some bands for current and / or future links? If so, which bands should have the minimum link distance specified?*

This suggestion is re-visiting the past when such a rule resulted in great difficulty for radio broadcasters to obtain any form of linking to get their programme from the studio to the transmitter site when the path was short.

It was found to be unworkable and *should not* be re-introduced.

The RBA worked closely and cooperatively with MBIE during the development of PIB58 to agree workable rules that stipulate limits on the use of STL licences and get rid of the minimum distance rule.¹

There is no evidence to suggest that STLs being used on short paths deny spectrum use. In fact it could be argued that the opposite is the case. In any case, most operators are aiming to link programmes to common transmitter sites, and it is when several operators wish to use a common path, long or short, that conflict exists. Away from those paths, at 900MHz, cochannel use can and does exist.

There is no reason to consider this proposal any further.

Q21: *Should no new dual mono STL services be allowed? If not, should the Ministry*

¹ PIB 58, Section 4.2, page 22

transition users from dual mono services to digital links?

Dual mono STLs have the significant advantage of providing redundancy in that the station may be reduced to mono operation during an equipment failure but at least it is not completely off the air. They are more expensive than composite STLs so broadcasters have naturally moved away from them in an effort to cope with the very tight financial constraints of the radio broadcast industry.

However, there are cases where path lengths are so long that a dual mono STL is required to achieve adequate performance. The option of the dual mono STL must therefore remain available.

There should be no mandated change from dual mono to digital STLs. The decision to upgrade to digital must remain with the broadcaster who is in the best position to evaluate the pros and cons for their particular situation.

Q22: If the Ministry allows digital licences in the STL bands, should any broadcaster that transmits more than 3 programmes between a studio and broadcasting site be required to use a 500 kHz channel digital STL and those broadcasting a single programme be required to use a 250 kHz channel digital STL?

The RBA is not aware of the technology that MBIE refer to.

Radio broadcasters have not found any cost effective digital STL linking equipment despite looking for the past decade.

Digital STLs should be allowed but *must not* be mandated.

The decision to utilise this more expensive plant must rest with the radio broadcaster. Some of the current uses of digital STLs are in applications that require uncompressed audio data and this dictates the full 500kHz RF channel to provide one stereo audio channel.

It is unreasonable to restrict radio broadcasters to digital STLs by arbitrary rulings.

Q23: Should a limit of three STL licences (via a combination of analogue and digital transmissions) at any single location be introduced for any single licensee? If so, should this be limited to congested sites only? If so, which ones? Should these limits apply retrospectively to current licences or should they only apply for new licences. Should the limits apply once any licence holder applies to make a change to any one licence at a site?

Radio broadcasters need STL licences so that they can operate cost effective links to get programme audio to their transmitter in as good a quality as they can afford.

An artificial and arbitrary restriction on the number of STLs would seriously impact on the ability of radio broadcasters to utilise their AM/FM spectrum licences.

Any such restriction is totally unacceptable to radio broadcasters and is strongly opposed by the RBA.

MBIE are already aware of this long standing view from previous submissions made by the RBA.

- On 'VHF-FM broadcasting: Frequency availability and allocation' at tinyurl.com/oqtwco7
- On PIB 48 - Security of tenure for radio licences transitional plan guidelines at tinyurl.com/l3u95e8
- On 'Spectrum Management in the Radio Licencing Regime' at tinyurl.com/klc7hfu

Q24: *How should the Ministry manage the timing and introduction of any changes to STL services? How should each of the five proposals above be managed?*

There is no apparent need to make any changes to STL services.

Analogue STLs will be required for as long as radio in New Zealand broadcasts in the analogue AM/FM formats or until cost effective digital equipment finally arrives.

Any change from analogue to digital STLs must be left to the individual broadcaster to decide.

The Ministry should, therefore, facilitate such change if and where it is required but not force it.