Draft Variation to Licence Area Plan – Sydney Radio – No.1 of 2013

2MAC Campbelltown NSW

The request for mixed polarisation needs a rethink.

So called analog TV antennas are typically log periodic antennas are designed for a frequency range from 63 – 230 MHz as a continuous coverage. This obviously covers 87.5 – 108 MHz. The main TV transmitters for the Sydney Licence area are horizontally polarised.

As examples;

http://www.hillsantenna.com.au/common/HillsAntenna/files/DIGITEL_FLYER.pdf shows DL covers FM band and channel 2 whereas the DY covers only DTV channels and not FM.

Recent changes.

As correctly pointed out NBN 3 and WIN3 85 – 92 MHz have been switched off.

Since 2001 all main Sydney digital TV transmissions have been in band 3 (174 – 230 MHz). The antenna installers are commonly installing antennas which are not designed for any channel below channel 6 and this includes FM radio.

On 2MAC’s transmitter site there is also a full set of TV translators for Sydney programs starts transmission this month. To receive the TV translators a band 5 UHF antenna is required. These antennas are not sensitive to FM radio. In addition, next month a TV translator set will be installed on Crown Castle Optus/Telstra Site off Remembrance Drive VAULT HILL. This site covers Picton which is also in the 2MAC licence area.

These TV translations will overcome the variable signal strengths from the Artarmon/Willoughby/Gore Hill triangle.

So as new TV antennas are installed the power sent to the horizontally polarised part of the mixed polarisation transmitting FM antenna will be wasted. This is half the transmitter power.

Is it known what proportion of the audience listen to FM radio on a fixed receiver connected to a fixed antenna. Most reception is from a vertical rod antenna or the headphone wiring on hand held devices, phones, clock radios and portable radios.

It is likely over the next 10 years, a large proportion of TV antennas will not give a good FM signal.
Conclusion for 2MAC

Survey the audience to find out if the listeners use portable devices or a fixed FM tuner/sound system or Home theatre amplifier connected to an external antenna through a socket on the wall. This could be used in many other licence areas.

Determine if the change to mixed polarisation are worthwhile, over the length of the licence.

2MCR currently has mixed polarisation but is only transmitting 100 W to portable devices. Converting back to vertical only will double this power.

Penrith HPON

Now that NBN3 and WIN3 are off the air why hasn’t 87.9 MHz FM, vertically polarised not been considered?

This frequency is vacant in the this area, it matches the 0.8 MHz channelization pattern with 100.7 MHz 2WOW Penrith.

The closest occupied channel frequency is 88.3 MHz 2UUS which is very low powered and 87.5 MHz 2RSR which is also very low power in Sydney city and either will not be a problem.

The Licence Area Map http://www.acma.gov.au/licplan/defmaps/documents/maps/la_724.pdf can be more easily matched using an FM transmitter. The use of FM will cause the coverage area to be the same day and night.

There has been considerable population growth which will increase the noise level between 2006 and 2013. FM is the easiest way to overcome this effect. The transmitter site area for FM is much smaller than for AM.