Submission for the Revised draft variation to licence area plan for Perth (radio) February 2006.  File Number PF2005/1233

6PR currently operates from the Belmont MF site in Perth with a CMF of 990V and Frequency of 882kHz. The Belmont site, with an increase in power from 2kw (At Applecross) to 10kw has improved the Perth coverage. However, due to the poor soil conductivity conditions in the Perth metropolitan area, the 10kW power level is inadequate.

Current Coverage.
In March and May 2005, an extensive field survey was conducted. The completed measurements, map and report have been forwarded to the ABA previously. A summary map showing the service area and 2.5mV/m contour is included in this submission.

Existing signal strengths have been shown to be in the order of 0.75 to 1.7mV/m in the new populated suburbs in the Northern and Southern Coastal strip.
Measurement 25, Butler, 1.3mV/m
Measurement 26, Butler, 1.7mV/m
Measurement 32, Clarkson, 1.5mV/m
Measurement 105, Medina, 1.7mV/m
Measurement 104, Orelia, 1.7mV/m
Measurement 106, Kwinana Town Centre, 1.6mV/m
Measurement 109, Wellard, 1.2mV/m
Measurement 121, Warnbro, 1.6mV/m
Measurement 127, Secret Harbour, 1.5mV/m
Measurement 131, Singleton, 1.2mV/m

Population Growth Areas.

The last few years has seen the Perth economy grow strongly, mainly due to resurgence in mining and resources in WA. Consequently new housing demand has continued to be very strong in Perth with many new suburbs and communities built over the last few years.

Population growth in Perth is mainly North and South, close to the ocean.

The northern strip now includes new suburbs Jindalee and Butler. The northern railway line now extends the suburb of Clarkson (36) 2.0mV/m, (32) 1.5mV/m). Marmion Ave continues to be extended as the main road north, and it is foreseeable that in the next few years, the Perth suburban sprawl will extend to Two Rocks in the North.

In the south many new suburbs and communities are being built, mainly due to the current construction (Opens Dec 2006) of the Perth to Mandurah railway line. The railway line passes through the areas of Kwinana, Wellard, Rockingham and Warnbro. Extensive new subdivisions are being constructed in Wellard, Baldivis, Port Kennedy, Secret Harbour and Golden Bay.
We will see the suburban sprawl continue to extend south and will meet up with Mandurah in the next few years.

**Power levels required for Adequate Coverage.**

With a signal strength in northern suburb of Butler of 1.3mV/m (measurement 25) and signal in the southern suburb of Golden Bay of 0.75mV/m, power levels in the order of a 50 to 100kW transmitter would be required to provide adequate coverage.

Power levels of this order form the Belmont site would be not practical due to the proximity of the Ascott Waters housing estate and the EMR issues that would arise at these power levels.

**Night Time Self fading.**

Night time self fading is a significant problem in Perth due to the poor soil conductivity. The ground wave quickly attenuates over the sandy soil as the sky wave will interfere within a short distance from the transmitter at night. The night time self fading Eu is 2.9mV/m. We receive many complaints from listeners that can receive the station well during daylight hours, yet do not get an adequate signal at night.

**Submission for Translators.**

Adequate coverage could only be achieved by the use of FM translators in the northern coastal strip, and another translator in the Kwinana, Baldivis and Port Kennedy area in the south. Southern Cross Broadcasting 6PR Pty Ltd, proposes that infill FM translators, with the appropriate power level and directional antenna will be able to provide for the shortfall in the existing AM coverage area. AM transmitter power levels required to provide adequate coverage of the Perth Service area would be of unacceptable in regard to EMR, Co-Channel and Adjacent Channel interference levels.

**Attachments.**

**Attachment A**
Service area map and 6PR 2.5mV/m contour.

**Attachment B**
Service area map and 6PR 2.9mV/m contour.
Shaded areas on this map show the Perth Suburban areas not provided with an adequate signal.

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