

Delwyn

We have just read the latest ACA submission and wish to include an addendum with our earlier submission.

Core and Other Licence Conditions and Their Relevance to a Background Noise Floor

The Commission has asked a question of the ACA.

(c) Do spectrum licences have a guaranteed 'floor level' of background noise?

Spectrum licences do not have a guaranteed "floor level" of background noise. A class licence, if it were to operate in spectrum licensed spectrum, could include a condition related to interference mitigation. For example several class licences currently in existence contain a condition that they must not cause harmful interference to a radiocommunications service. A spectrum licence has core conditions that determine the level of interference that they must not exceed at their geographic and spectrum boundary.

While the answer to the question is correct, FuturePace believes there is a chance that the Commission may be misled by the answer.

While it is true that the utility of spectrum licences could be defined in a manner where the licensee had to either accept or be protected from ("what's in and what's not in" in Commissioner Byron's terminology) a background noise type low power transmitter, we wish to emphasise that:

- In-band interference is managed by any-time transmitter emission limits applied to an area-adjacent licensee; and
- Out-of-band interference is managed by first-in-time coordination between frequency-adjacent licensees.
-

And, those emission limits indirectly define and may even be said to, guarantee the minimum level (floor level) of in-band interference (background noise).

And, the compatibility requirement of the coordination procedure directly defines (guarantees) the minimum level (floor level) of out-of-band interference (background noise).

Importantly, these conditions are not core licence conditions.

But they are certainly very important conditions (contained in the s.145 Determination and Advisory Guidelines) which control the level of spectrum encroachment by adjacent licensees in order to maintain the quality of the licensee's spectrum space. Remembering that the licensee paid for this pre-defined spectrum quality.

In fact, the most important spectrum quality maintenance tools were placed in the s.145 Determination and Advisory Guidelines. The so-called core conditions of section 66, only define, in the main, the geographic area and the out-of-band emission limits. The 1992 Act was written in advance of the development of all the necessary details of spectrum licensing. Therefore, the Act provides only broad policy and legal guidance, it does not, and was never meant to provide prescriptive solutions to engineering issues. This is one reason why the Act allows so much flexibility for engineering.

The Commission will by now have realised that the Act, especially the parts that refer to the core conditions of spectrum licensing, were intentionally extremely simplistic in their design, remembering that at that time, the economists were driving spectrum management policy, charged with defining a legal and policy framework against which industry could implement the policy changes.

Mike Whittaker

FuturePace Solutions