

Proposed framework for long-term licensing of radionavigation-satellite service (RNSS) retransmission technologies

Consultation paper Response

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Introduction

RFI Technology Solutions (RFI)

RFI is a major participant in the Australian and global telecommunications marketplaces. The company has a deep involvement in every aspect of the market from design and development through to manufacture and supply and on towards detailed system and network design, integration, commissioning and ongoing support.

In the complex realm of Radio Frequency(RF) Management RFI has advanced technical and operational skills which are leveraged across every aspect of the radio communications markets supporting Land Mobile Radio for industry and emergency services.

RFI is a regular participant in ACMA consultations (directly and via responses) and as a user and representative of other users takes a serious and responsible attitude to the matters of licensing and conformance to the ACMA regulatory framework and device requirements.

In the aspects of transmitters and receivers RFI is a local manufacturer of radio communications repeaters which widely used for the retransmission of services in wide area networks, carrier grade networks and in particular in the case of indoor and underground applications where there may or may not be emissions which could have a potential impact on the spectrum in use by our clients.

RFI has held and continues to hold a number of Scientific Licenses and is aware of the limitations necessarily applied to these.

RFI also recently participated in an Australian first demonstration / trial of the Syntony SubWAVE Synthetic GNSS solution for Transport for NSW. The Syntony SubWAVE RRD was temporarily installed in the Cooks River road tunnel in metropolitan Sydney to evaluate the viability of the solution, and to also measure / monitor potential interference to other services in the immediate vicinity. RFI worked closely with our client on the planned demonstration of the reticulation of viable native GNSS reticulation in denied spaces. In planning for this trial RFI consulted with the ACMA in reviewing the underlying technical approaches taken in the equipment that was deployed. RFI also provided a report on the emissions results of the trial which was conducted under a Scientific License and set in place with fail-safe controls to enable the ACMA to have faith in the integrity of the trial.

With this background as an active manufacturer, integrator and Scientific Licence holder, RFI would like to respond in short to the proposed approach for the long-term licensing of RNSS repeaters, and the draft RALI covering the registration and technical requirements for Radionavigation-Satellite Service (RNSS) Repeater Devices (RRDs) (RALI: MS 49).

Consultation Paper Comments

Introduction: Understood and agreed.

Proposed Licensing Approach: Understood and agreed.

Technical Framework: Understood and commented in the following review of the RALI.

Fees: Understood and agreed.

Proposed changes to remade instruments: Understood and agreed.

RALI MS 49 Comments

Introduction: Understood.

Service Description: Understood and disagree.

The retransmitted signal from an RRD may in fact be slightly different to the signal that is received at the surface location. Signal parameters may be altered by the RRD to compensate for signal transmission delays introduced by the retransmission system. The latter could consist of a leaky coaxial cable network in a tunnel deployment, for instance. These delays will affect the positional accuracy and timing information withing the RRD coverage area if not appropriately compensated.

Licence Structure: Understood and agreed.

Technical requirements for RNSS Repeater Devices:

Section 4.1: Understood and agreed.

Section 4.2: Understood and agreed.

Section 4.3: Understood and agreed.

Section 4.4: Understood and agreed.

Section 4.5: Understood and agreed.

Section 4.6: Understood and suggest review.

Consideration should be given to stating an emissions limit measured just inside the service area close to the “edge” boundary but away from open sky. The measurement criteria distance of 30 metres away from the edge of the service area is likely to be in open sky and hence within the direct coverage area of the RNSS satellite constellation. Therefore, signal strength measurements are likely to be dominated by the signals received directly from the satellites, as opposed to signals emanating from the RRD service area, making this an unmanageable measurement.

Section 4.7: Understood and agreed (except in the case of section 4.7.1.2 in which case the note above related to section 4.6 is of relevance).

Section 4.8: Understood and agreed.

Section 5: Understood and agreed.

Thank you for the opportunity to participate and to provide our submission.

Mark Mezzapica
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RF Industries Pty Ltd/RFI Technology Solutions (RFI)