



TELSTRA CORPORATION LIMITED

Facilitating trials of radionavigation-satellite service (RNSS) repeater devices in road tunnel networks

Public submission

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01 Introduction

We welcome the opportunity to provide our views to the ACMA's consultation on **facilitating trials of radionavigation-satellite service (RNSS) repeater devices in road tunnel networks**. As the ACMA observes, radionavigation-satellite services (RNSS), commonly referred to as the Global Positioning System (GPS) have become ubiquitous and an indispensable part of a wide array of transport sector purposes and consumer applications. Due to the very high precision of timing signals generated by radionavigation satellite services, they are also used for timing and synchronisation of fixed and mobile communications networks, including mobile telephony and broadband, fixed-wireless broadband, residential broadband and enterprise data networks. Future 5G networks with ultra-low latency will be especially dependent on accurate timing sources, and so reliability and trust of timing sources (like RNSS) will be more important than ever.

We have no objection to the trialling of RNSS repeaters in road tunnel networks, although we ask that telecommunications network operators such as Telstra are kept informed of trial timing to ensure any risk of interference to telecommunications networks is understood and can be mitigated. We also have no objection to ongoing permanent deployment of RNSS repeaters in road tunnels provided they are deployed and maintained in a manner that ensures no interference to telecommunications networks that use GPS timing signals for synchronisation.

We are strongly of the view that RNSS jammers must remain a prohibited device and that the technical characteristics of a RNSS repeater mean they are likely to fall within the definition of a jammer under the prohibited devices declaration. We do not believe the declaration should be amended to exclude RNSS repeaters from the declaration. Our view is that RNSS repeaters should be allowed to operate by exception only, and that an appropriate legislative mechanism must be used to allow RNSS repeaters on an exceptional basis rather than by default.

We support a modification to the ACMA's proposed Option 2 for the long-term solution, and with the same modification, support Option 3 as a mechanism for Transurban and Transport for New South Wales (TfNSW) to conduct trials of the technology in the near term.

02 Options for permitting RNSS repeaters

This section of our submission provides our views on the ACMA's proposed options to facilitate lawful importation, possession, operation and supply of RNSS repeaters to a select category of operators (most likely, road operators) while maintaining prohibition of RNSS repeaters for anyone outside this category.

At the bottom of p.6 of the consultation, the ACMA sets out its views that RNSS Repeaters should not be a prohibited device:

We consider that RNSS repeaters are specifically designed to improve RNSS signal reception and should not be prohibited by the Declaration. Unlike the devices covered by the Declaration, RNSS repeaters serve a legitimate purpose and, when deployed correctly, benefit RNSS service users. The correct operation of RNSS repeaters does not reflect the reasons for prohibiting RNSS jamming devices, as set out in the Declaration.



We are concerned at the potential for incorrectly deployed or operated RNSS repeaters to cause disruption to telecommunications networks. We note in the UK in 2012, Ofcom decided to licence RNSS repeaters for *indoor* use only.^{1,2} There appears to be no licensing regime for outdoor use in the UK. In the USA, while outdoor use does appear to be permitted, it is restricted to use by federal agencies or departments within a federal controlled range/facility/installation or cordoned zone, or inside an agency/department owned aircraft.³

2.1. Option 1 – Determine an exemption under s.27 of the *Radiocommunications Act 1992*

Section 27 of the *Radiocommunications Act 1992* (the Act) only allows for the ACMA to grant an exemption to defence or emergency services organisations, and road operators clearly do not fit into either category. We agree with the ACMA's observation that s.27 of the Act is inappropriate for facilitating an exemption for road operators.

2.2. Option 2 - Amend the Declaration, and develop long-term licensing arrangements

Under this option, the ACMA proposes to amend the Prohibitions Declaration⁴ to expressly exclude RNSS repeaters. The ACMA then goes on to conceptually explore either class licensing or apparatus licensing as the mechanism to license devices.

We support amending the Prohibitions Declaration to exclude RNSS repeaters but only for a very select category of RNSS repeater operators. Notionally, this would be major road operators such as state road authorities (e.g. TfNSW, VicRoads, Qld T&MR, etc) and major private road operators (e.g. Transurban). This exclusion could be achieved by naming the relevant entities in the Prohibitions Declaration in the same way, for example, that certain exemption determinations made under section 27 of the Act specifically name the exempted party.⁵ Alternatively, the ACMA could name a class of entities which are covered by the exclusion. The ACMA may also wish to consider placing a time limit on any RNSS repeater exclusion in the Prohibited Declaration, similar to the time limits that exist in exemption determinations made under section 27. This would provide the ACMA with greater control over the trialling activities of road authorities and road operators (see 2.3 below). The time period could be extended if trials proved successful and the scientific licences converted to apparatus licences. The default position, therefore, would be that RNSS repeaters are prohibited unless a named entity or class of entities are specifically exempted from this prohibition.

¹ Ofcom: "Statement on Authorisation Regime for GNSS repeaters", 12 June 2020.
https://www.ofcom.org.uk/data/assets/pdf_file/0028/49717/statement.pdf

² Ofcom OfW524: "Guidance on the licensing of GNSS repeaters".
https://www.ofcom.org.uk/data/assets/pdf_file/0007/32011/ofw524.pdf

³ NTIA Manual of Regulations and Procedures for Federal Radio Frequency Management. Sections 8.2.28-8.3.30.
https://www.ntia.doc.gov/files/ntia/publications/redbook/2013/8_13.pdf

⁴ Radiocommunications (Prohibited Device) (RNSS Jamming Devices) Declaration 2014.
<https://www.legislation.gov.au/Details/F2015C00848>

⁵ For example, the *Radiocommunications (Use by Corrective Services NSW of PMTS Jamming Devices at Lithgow Correctional Centre) Exemption Determination 2018* which specifically exempts Corrective Services NSW.



We are strongly opposed to RNSS repeaters operating under a class licence. We note in the UK and USA a licence is required, with registration of the devices required in their respective radiocommunications devices registers. Class licensing is not an appropriate mechanism, nor is it commensurate with our proposal that an exclusion in the Prohibitions Declaration apply only to specific entities or a category of entities. **Apparatus licensing** is the only appropriate licensing mechanism, as it will facilitate qualified assessment and coordination by an Accredited Person. We note ECC Report 145 recommends “*operation of GNSS repeater devices should be subject to individual licensing and that licence exempt operation should not be permitted*”.⁶ Given a moderate number of very low-power repeaters would be required along the length of a tunnel, this could be catered for with standard site-specific Apparatus licences.

We are concerned that excluding RNSS repeaters in an amended Prohibitions Declaration (even if the exclusion applied to major road operators only) could result in the supply of these devices to unlicensed persons and/or their use as jammers, unless consideration is also given to engaging section 301 of the Act. In order to restrict the supply of RNSS repeaters, we are strongly of the view that the ACMA should amend the regulations in order to capture RNSS repeaters as a class of radiocommunication devices within the meaning of “eligible radiocommunications device” in section 301(4) of the Act.⁷ This would be an important protection in ensuring that suppliers can only supply RNSS repeaters to those entities which are entitled to obtain and do obtain a licence.

We support option 2 as the ongoing (long-term) mechanism for a select group of road operators to deploy and operate RNSS repeaters. The exclusion in an amended Prohibitions Declaration should only apply to a select group of public and private road operators, with apparatus licensing used along with a new RALI to ensure appropriate coordination with telecommunications networks requiring GPS for timing and synchronisation, and with supply restricted to persons who hold a licence.

2.3. Option 3

The ACMA’s Option 3 is ostensibly the same as Option 2 for permitting the procurement, deployment and operation of RNSS repeaters, but differs in the licensing approach. In terms of the mechanism to facilitate procurement, deployment and operation of RNSS repeaters, our comments on this facet against Option 2 in the previous section apply to Option 3.

Option 3 differs from Option 2 in that it proposes scientific apparatus licences for the purpose of trialling and testing RNSS repeaters. We have no concerns and support this approach for the two trials outlined in the consultation document. At the conclusion of the trial, assuming success and a desire to continue to operate the RNSS repeaters on an ongoing basis, the licensing should convert to an apparatus licence type, as per Option 2.

Finally, we ask that telecommunications network operators such as Telstra are involved in the trial to ensure any risk of interference to Telecommunications networks is understood and fully mitigated.

⁶ ECC Report 145: “Regulatory framework for global navigation satellite system (GNSS) repeaters”. May 2010.
<https://www.ecodocdb.dk/download/9b4e8f9c-acad/ECCREP145.PDF>

⁷ See for example, *Radiocommunications Amendment (Cellular Mobile Repeaters Supply—Specified Particulars) Regulation 2013*,