

Australasian Railway Association

ACMA Submission

Updating earth station and PTP
coordination rules

14th April 2025

ABN: 64 217 302 489



The ARA

The Australasian Railway Association (ARA) is the peak body for the rail sector in Australia and New Zealand, and advocates for more than 220 member organisations across the industry.

Our membership covers every aspect of the rail industry, including the:

- passenger and freight operators that keep essential rail services moving;
- track owners, managers, and contractors that deliver a safe and efficient rail infrastructure network; and
- suppliers, manufacturers, and consultants that drive innovation, productivity, and efficiency in the rail industry.

Our members are driven to support vibrant, sustainable and connected communities through greater use of rail across Australia and New Zealand. We bring together industry and government to help achieve this ambition.

Our advocacy is informed by an extensive research program to ensure we offer solutions that are grounded in evidence and focused on delivering tangible value in our daily lives.

The rail industry has a crucial role to play in the region's sustainable development and growth, and offers meaningful and rewarding careers for tens of thousands of people in the regions.

Our significant program of work is focused on supporting a strong advocacy agenda, and creating opportunities for the rail industry to network, collaborate and share information, and maximise the benefits we have to offer the wider community.

The ARA thanks the Australian Communications and Media Authority for the opportunity to make this submission, which has been developed in consultation with ARA member organisations.

Any questions regarding this submission should be directed to [REDACTED], General Manager Passenger Rail and Safety via [REDACTED]

Australia's Rail Industry

Rail is a significant industry in Australia, creating economic activity through its operations and capital investments. It is an industry with activities across every major metropolitan and regional area and is supported by the full spectrum of skills in the Australian workforce.

In 2019, the rail industry contributed around \$30 billion to the Australian economy and employed more than 165,000 workers (directly and indirectly in full-time equivalent terms, FTE). The industry is made up of around 900 businesses that are located in approximately 20 major hubs.

Railway response

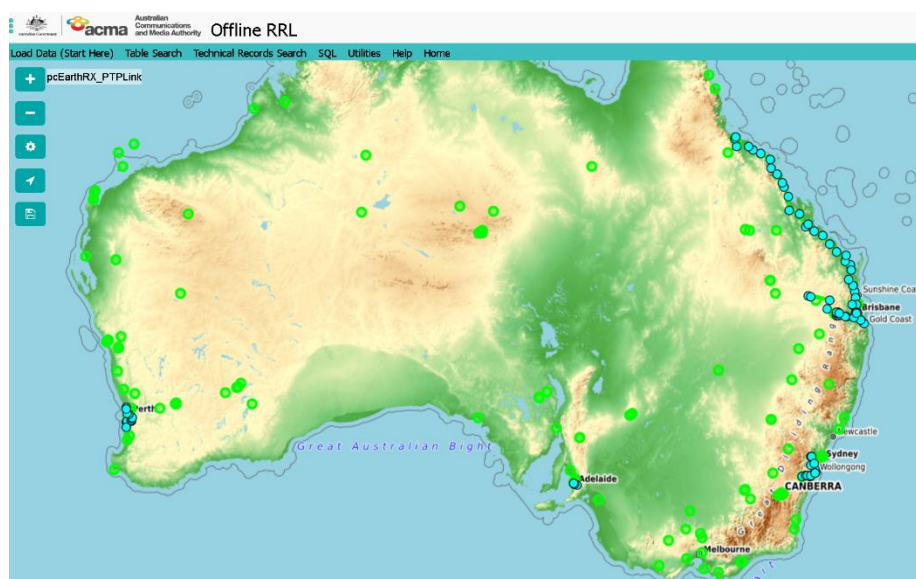
The ACMA is proposing to expand frequency coordination arrangements between apparatus licensed microwave fixed point-to-point (PTP) links and earth stations in certain frequency bands. While ARA doesn't have specific comments against the proposed amendments, we welcome the opportunity to provide the following general information to the ACMA's consultation.

The railway provides significant public benefit to Australians, and improving its efficiency and interoperability supports the provision of critical transport for passengers and freight across the country. Telecommunications (e.g. our various communication-based train control systems and driver emergency communications) are vital for rail safety and controlling the movements of trains.

The Council of Australian Governments' 2011 Intergovernmental Agreement on Rail Safety Regulation and Investigation Reform committed the parties to improved rail safety and seamless national safety regulation of rail operations. Further, the Australian Government has committed to a workplan with the states and territories that includes improving the interoperability of rail systems.¹

Australian railways depend on private and public telecommunication services, where available. The communications provided by the types of systems covered by (RALIs) MS45, FX20 are an essential element supporting national railway interoperability.

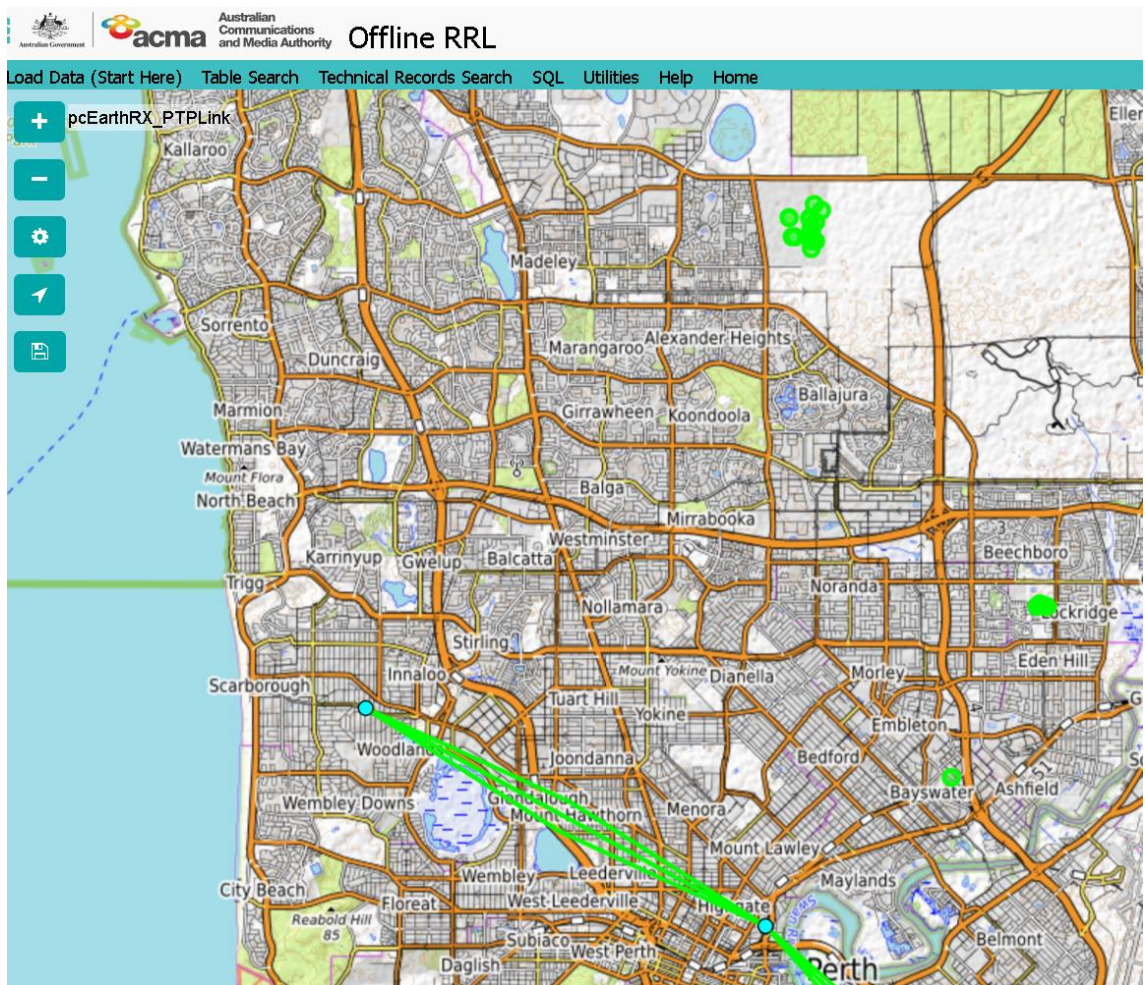
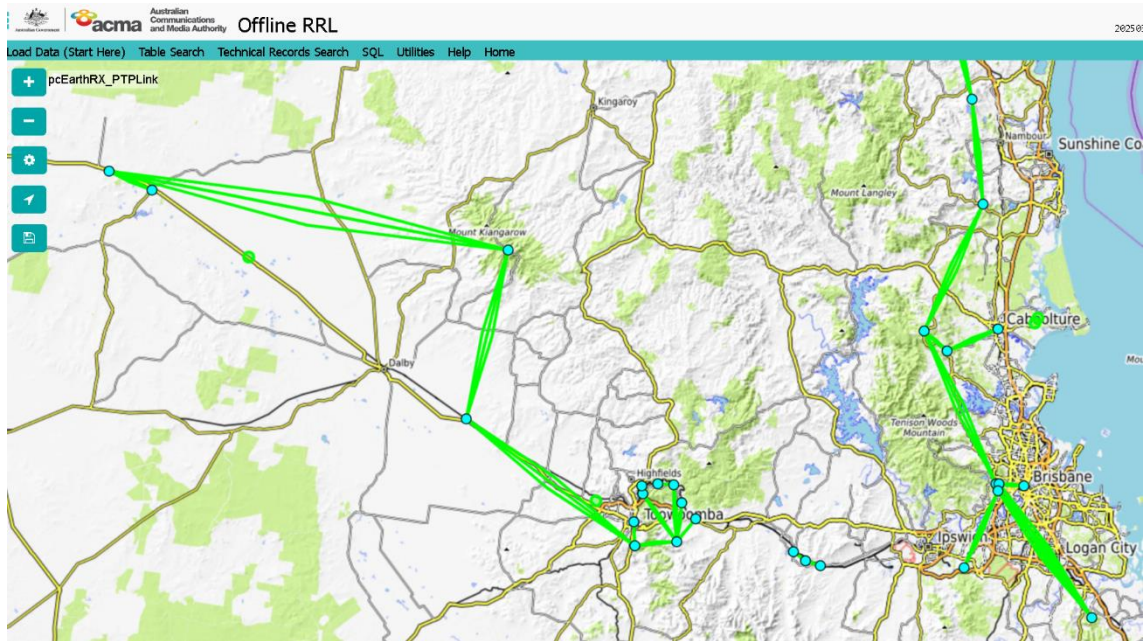
We've plotted rail PTP and Earth RX stations and can see that there do seem to be some PTP terminals that are near existing Earth RX locations. The following diagrams show microwave systems (cyan dots) and satellite Earth receive stations (green dots) over Australia, followed by specific examples in Brisbane, Perth and regional NSW.



¹ [AFR Infrastructure Summit 2022 | Ministers for the Department of Infrastructure](#)

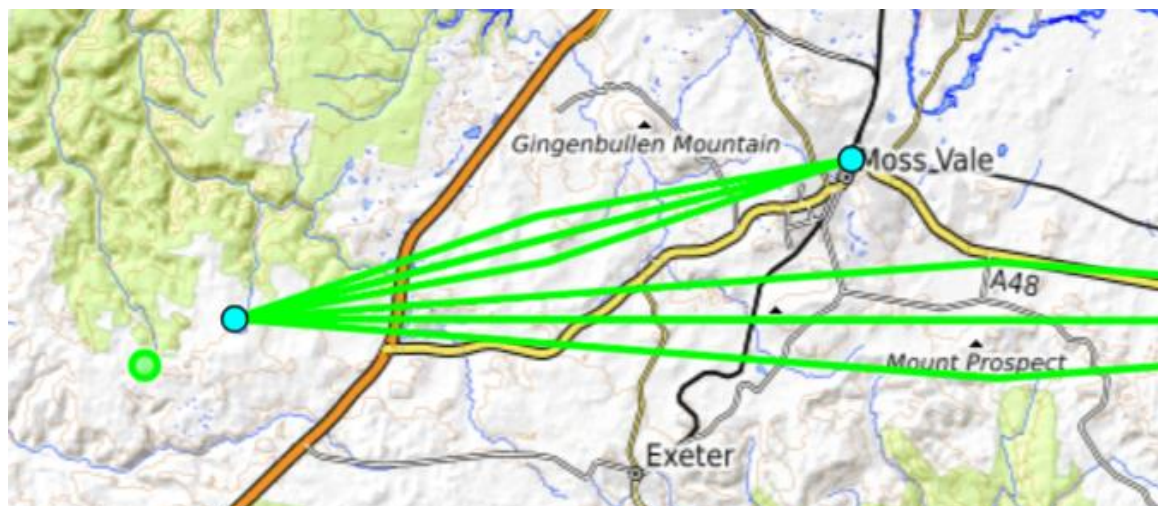


SUBMISSION



For example the green dot in the diagram below is a SpaceX earth station approximately in line with TX from Moss Vale.

In this case SpaceX is using 18/19 GHz. Moss Vale is 12/13 GHz so this arrangement is unlikely to interfere.



Having said that, several railways are exploring the implementation of further microwave links. For example in NSW the following is currently in the pipeline and there may be additional examples in the future:

1. Mt Sugarloaf Repeater Site – Broadmeadow (8GHz)
2. Dural Repeater Site – Chullora Repeater Site (8GHz)
3. Helensburgh Repeater Site – Chullora Repeater Site (8GHz)
4. Explorer Tree Hill Repeater Site – Browns Gap Repeater Site (8GHz)
5. Browns Gap Repeater Site – Lithgow Exchange (18GHz)
6. Cowan Repeater Site – Mt Penang Repeater Site (8GHz)
7. Mt Penang Repeater Site – Wyee Repeater Site (8GHz)
8. Wyee Repeater Site – Wyee Station (18GHz)

Queensland Rail are embarking on a PTP microwave replacement program between Brisbane and Townsville to address equipment and technology obsolescence issues. These links operate predominantly in the 6GHz upper and 6GHz lower bands, but also span other PTP bands as defined in RALI FX3.

There is a general concern about the gradual reduction in available PTP microwave frequencies through reassignment to other uses such as Wireless Broadband, RLAN, satellite services etc. In addition, there may also be impacts to PTP link expansion i.e. aggregating licenses for larger bandwidths plus equipment renewals where a replacement link is installed in parallel to ensure service continuity.

The ARA would raise with the ACMA, what the proposed changes might mean in terms of potential impact to the railway's ability to deploy more, or to upgrade, microwave systems in future.