Rio Tinto

Submission to the:
Australian Competition and Consumer Commission

Comments on the Discussion Paper on the Proposed spectrum reallocation for 1800 MHz in regional Australia

Regional areas of Australia

April 2015

Section 1 - Rio Tinto Australia

Australia is home to around half of Rio Tinto's global assets. We produce iron ore, coal, bauxite, alumina, aluminium, uranium, diamonds and salt from more than 30 operating sites and processing plants around the country. We also have offices in Melbourne, Perth and Brisbane. We are committed to building sustainable and economically resilient communities and devote significant resources towards achieving this every year.

Rio Tinto Australia supports ongoing regional development in the communities in which we work, employing locals, engaging local suppliers and creating commercial infrastructure that lives on after we've finished mining. In particular, we work with local communities in planning our operations to ensure we protect their cultural heritage, and that the social and economic benefits of our mining activities flow through to future generations.

The operating units within Rio Tinto Australia that would be affected by this proposal are Rio Tinto Coal Australia and Rio Tinto Alcan.

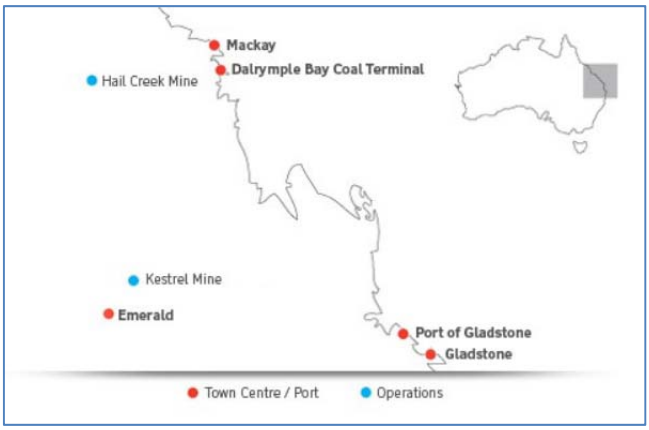
About Rio Tinto Coal Australia

Rio Tinto Coal Australia is one of Australia's leading mining organisations with a highly successful record in the development and management of world-class open cut and underground coal operations.

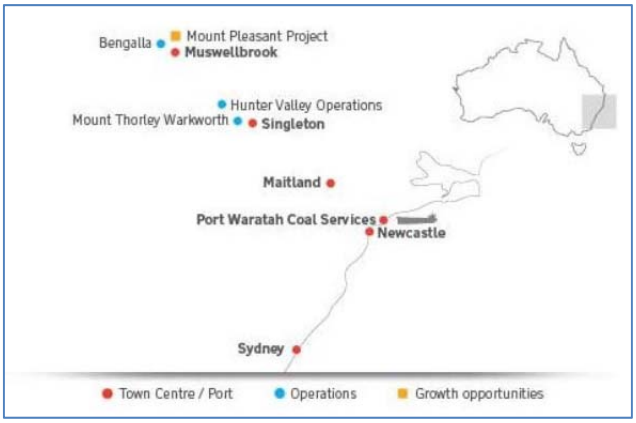
In 2014, more than 4,700 employees and 1,400 contractors helped us produce 56 million tonnes of coking, semi-soft and thermal coal for international export.

We operate five coal mines in Australia located in Queensland and New South Wales and are proud to be a long term member of the communities where we operate. These communities have helped us retain a leading position in the global coal market.

In Queensland, Rio Tinto Coal Australia operates the Hail Creek and Kestrel mines located in the Bowen Basin region.



In New South Wales our operations are located in the Hunter Valley region, where we manage Coal & Allied's three open cut operations at Bengalla, Hunter Valley Operations and Mount Thorley Warkworth.



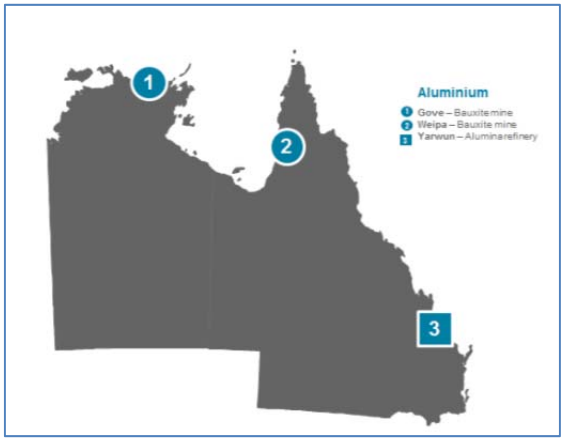
Our plans for the future will provide ongoing investment in the regions where we operate, generating revenue, creating jobs, providing infrastructure and supporting communities.

About Rio Tinto Alcan

Rio Tinto Alcan (RTA) is a global leader in the aluminium business. We are one of the world's largest producers of bauxite, alumina and aluminium. Within Australia, Rio Tinto Alcan operates mines, ports, rail infrastructure and processing plants. In 2014, RTA's two Australian mining operations, Weipa (Western Cape York Peninsula, Queensland) and Gove (Nhulunbuy, Northern Territory) combined, produced more than 30 million tonnes of bauxite.

Product is shipped to international customers, however the majority of bauxite is supplied to RTA's local refinery facilities in the Gladstone region. We own and operate the Yarwun Alumina Refinery and are a majority shareholder in the Queensland Alumina Limited Refinery; together they represent a combined capacity of almost 8mT of alumina annually.

Rio Tinto Alcan is a major contributor to the regional economy and makes substantial investment in local infrastructure in the communities and townships in which they operate.



Section 2 - Comments on Spectrum

1. What are the likely intended uses of 1800 MHz spectrum in regional areas?

Rio Tinto would utilise the 1800 MHz band for the deployment of private wireless data networks. These networks would be deployed for safety, control, corporate and emerging systems purposes and would be contained to specific localised geographical areas where apparatus licensing would be the most beneficial and efficient use of spectrum.

2. What is the optimal allocation of spectrum for the anticipated uses?

Rio Tinto believes that in regional areas, spectrum licensing alone will not support the flexibility required to allow efficient access to the band by multiple entities in high up-take areas. While spectrum licences reduce the amount of coordination required between licensees, Rio Tinto believes this would create a situation where all available channels in the band have been allocated for a region but those channels remain unused in certain areas. Prospective licensees would be unable to apply directly for these unused channels; this leads to inefficient use of spectrum and does not maximise its value.

Rio Tinto believes that allocating a portion of the band to apparatus licencing is a better use than allocating it entirely to Spectrum licencing and that a 2 x 10 MHz channel (2 contiguous 5MHz channel pairs) would be sufficient to deploy a viable service to support operations. Therefore Rio Tinto would recommend that reallocating a lesser amount in the order of 2 x 40 MHz for Spectrum licencing would allow enough room for apparatus licence use within the remaining 2 x 20 MHz channel space in the 1800 MHz band. The following table contains an example of such a channel plan.

Channel	Type	Frequency range A (5 MHz)	Frequency range B (5 MHz)	Total
1	Spectrum Licence	1725–1730 MHz	1820–1825 MHz	2 x 40 MHz
2		1730–1735 MHz	1825–1830 MHz	
3		1735–1740 MHz	1830–1835 MHz	
4		1740–1745 MHz	1835–1840 MHz	
5		1745–1750 MHz	1840–1845 MHz	
6		1750–1755 MHz	1845–1850 MHz	
7		1755–1760 MHz	1850–1855 MHz	
8		1760–1765 MHz	1855–1860 MHz	
9	Apparatus Licence	1765–1770 MHz	1860–1865 MHz	2 x 20 MHz
10		1770–1775 MHz	1865–1870 MHz	
11		1775–1780 MHz	1870–1875 MHz	
12		1780–1785 MHz	1875–1880 MHz	
12 channels		**1725–1785 MHz**	**1820–1880 MHz**	**2 x 60 MHz**

3. **Are there any other technical factors that the ACCC should take into account in its assessment of competition limits?**

Rio Tinto believes that careful consideration should be given towards the regulation of spectrum acquisition to contiguous channels by any single licensee. It is Rio Tinto's belief that limiting licensees to obtaining contiguous channels would be the most efficient and fairest method of allocation of the available spectrum, as opposed to allowing licensees to obtain fragmented channels within the 1800MHz band.

4. **Are there sectors, other than telecommunications, that are likely to participate in the auction?**

Rio Tinto will only be interested in access to spectrum within relatively small geographic areas where apparatus licensing would be the most beneficial and efficient use of spectrum. Rio Tinto would therefore be unlikely to participate in the auction for spectrum licenses in the 12 geographic areas currently identified in the ACMA proposal.

5. **To what extent do you consider mobile broadband markets are competitive? Please provide evidence and reasons for your view.**

Not relevant to Rio Tinto.

6. **How does the state of competition differ in metropolitan, regional and rural areas of Australia? Please provide evidence and reasons for your view.**

Not relevant to Rio Tinto

7. **What are the substitutes for spectrum in the 1800 MHz band in regional areas?**

Rio Tinto believes that the 700MHz and 2100MHz bands are the closest viable alternatives to the 1800MHz spectrum.

8. **To what extent are these fully-effective substitutes?**

Although the 700MHz spectrum allows the potential for providing broader geographical coverage, the nature of this band means fewer channels are available for allocation than 1800MHz and as such is less efficient to achieve the comparable bandwidth. Rio Tinto does however see potential for the 700MHz spectrum to provide wireless broadband access for applications suited for long range communications, such as down operational railway lines and access roads commonly used in regional Australia. The range of available applicable products capable of operation within the 700MHz band is still limited compared with that of the 1800MHz band, and so is not as advantageous in terms of infrastructure procurement.

The 2100MHz spectrum may be suitable as an alternative although the geographical coverage it is capable of providing would not be as broad as the 1800MHz spectrum. As with the 700Mhz spectrum, the range of available applicable products capable of operation within the 2100MHz band is still a developing ecosystem, which although more evolved than the 700MHz band, is not as mature as that of the 1800Mhz band.

9. Do you think competition limits are necessary for the 1800 MHz band in regional areas of Australia?

Rio Tinto believes that the 1800MHz band will increasingly become a band of choice for many industry sectors. The 1800 MHz band is likely to have an abundance of end user device options as a result of the international standardisation for long term evolution (LTE) technology – the 4G network.

In regional and remote areas, where population density is lower, the 4G network is subject largely to apparatus licensing arrangements. Although apparatus licences require more frequent coordination efforts, they generally allow the spectrum to be used efficiently and effectively and allow more licensees access. Industry sectors appear to be the most likely consumers of spectrum in the 1800MHz band in regional areas of Australia as a result of their extensive operational infrastructure. The diverse network needs of these industry sectors drives the need to implement separately owned networks in order to enable viable and competitive services.

In the case of the regional 1800MHz band, spectrum licensing arrangements would enable licensees to gain licence holdings which are contiguous with spectrum licences in metropolitan areas and potentially ensure efficient use of the spectrum. While spectrum licences reduce the amount of coordination between licensees, they often create a situation where all available channels are allocated for a region but many of those channels remain largely unused. Although sub-leasing from a license holder is possible, it can be difficult and potentially expensive to do so with no guarantee that spectrum will be available.

Rio Tinto believes that ensuring a degree of competition in regional areas, as occurs in metropolitan areas will enhance access to the spectrum and promote greater efficiency in its use by all interested parties.

Further to this, Rio Tinto believes that any spectrum purchase should be on a “use it, or lose it” basis. That is, no organisation should be able to block others from using the spectrum by purchasing spectrum and not using it, or offering it for re-sale to other potential users.

10. If so, what do you think appropriate competition limits would be?

Rio Tinto believes that the most appropriate competition limits would be 2 x 10 MHz channels (2 contiguous 5MHz channel pairs) per licensee for apparatus licencing in accordance with the spectrum allocation outlined in question 2. The competition limits for spectrum licencing are not relevant to Rio Tinto.

11. Should existing spectrum holdings be considered in any assessment of competition limits? Please provide reasons for your view.

In regional areas, it is necessary to have a degree of flexibility for all users to allow access to the band by multiple licensees particularly in high take-up areas. This flexibility extends not only to having different licence models available but also to having different license holders in regional areas.

The significant costs of providing geographic coverage in regional and remote areas have already resulted in impediments to competition in regional, remote and rural areas. One of the

main reasons coverage in these areas is limited is that the cost of extending networks to regional areas is high, while the number of potential subscribers is often low. This means that often there is little commercial incentive for licensees to invest in extending their networks in regional, rural and remote areas. It is unlikely that competitive forces alone will be sufficient to compel licensees to extend their networks to such areas, and that other action is required to address regional coverage issues. Improved competition for services will also deliver benefits. For example, improved competition has the potential to improve the quality and range of services offered in regional areas.

More importantly than actual spectrum holdings, Rio Tinto would consider current spectrum utilisation to be more relevant in determining competition limits. If a current spectrum holder has existing unused spectrum in any frequency range, then that should limit their ability to purchase further spectrum in the 1800MHz band.

12. What do you think are the relevant downstream markets for the purposes of the ACCC's analysis?

Due to the propagation properties of the band, the 1800MHz band is currently primarily used for fixed point-to-point links in regional areas. Rio Tinto believes that the 1800MHz spectrum will primarily be used in regional areas for deploying 4G technology to provide mobile broadband coverage. Rio Tinto does not believe that there are any intended uses of the spectrum outside of wireless broadband access and fixed point topoint links for the purpose of the ACCC's analysis.

13. Do you think competition limits would promote competition in these downstream markets? Why or why not?

Rio Tinto believes competition limits should maximise the opportunities for businesses to enter communications industries and encourage robust competition between different types of services. On this basis, any competition limits should meet broader public interest objectives and be proportional to the market that has been identified.

Rio Tinto believes any competitive limits should not have the effect of inhibiting the development of competition in the downstream markets. Any reform to the competition limits should be based on an identified and persistent issue with their current construction, and consideration should be given to the precise outcomes sought by any modifications to the competition limits.

Given the nature of spectrum as a scarce public resource, Rio Tinto supports a competitive process for allocating spectrum and competition limits. A competitive process would maximise the overall public benefit as spectrum would be allocated to most efficient use. This general principle should continue to guide future allocations of spectrum and competition limits in the communications market.

14. Are there any other factors that you think the ACCC should consider in its assessment of possible competition limits?

Rio Tinto recommends that limiting the spectrum licencing to 2 x 40 MHz and reserving 2 x 20 MHz for apparatus licensing would provide efficient and fair access for all the relevant

industries including both the resource and telecommunications sectors. The efficiency of allocations of the apparatus licences will also be determined by the size of the geographical boundaries associated with the licencing, and should be closely considered when assessing the reuse of spectrum in relation to competition limits.