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20th of September, 2024

Expiring Spectrum License (ESL) Team  
Australian Communications and Media Authority

Level 3,  
40 Cameron Avenue  
Belconnen ACT 2617

To the ESL Team,

Thank you for requesting follow-up information about how increased spectrum availability can better support the development of rural and regional connectivity.

The difficulty that Christmas Island Fiber Internet (CiFi) experienced in obtaining access to spectrum licensing is an experience shared with a lot of small operators around Australia.

I hope that this document further stresses the positive impact that a Use-It-Or-Share-It framework would have in Australia, as well as providing insight into the steps that the ACMA can take to better support operators with the development of networks for regional and remote communities.

If you have any questions, please feel free to reach out to me for clarification at the above email address.

Kind regards,



(On behalf of CiFi Pty Ltd)

## Company Background

Christmas Island Fibre Internet (CiFi) was established in 2020 to provide Christmas Island with Fibre Internet, Fixed Line and Mobile services (4G LTE). With a focus on community connectivity, CiFi promotes innovation, education and entertainment through its range of services. CiFi's work is facilitated by a team of skilled engineers and technicians, who have a passion for providing mainland-quality services on one of Australia's most remote external territories.

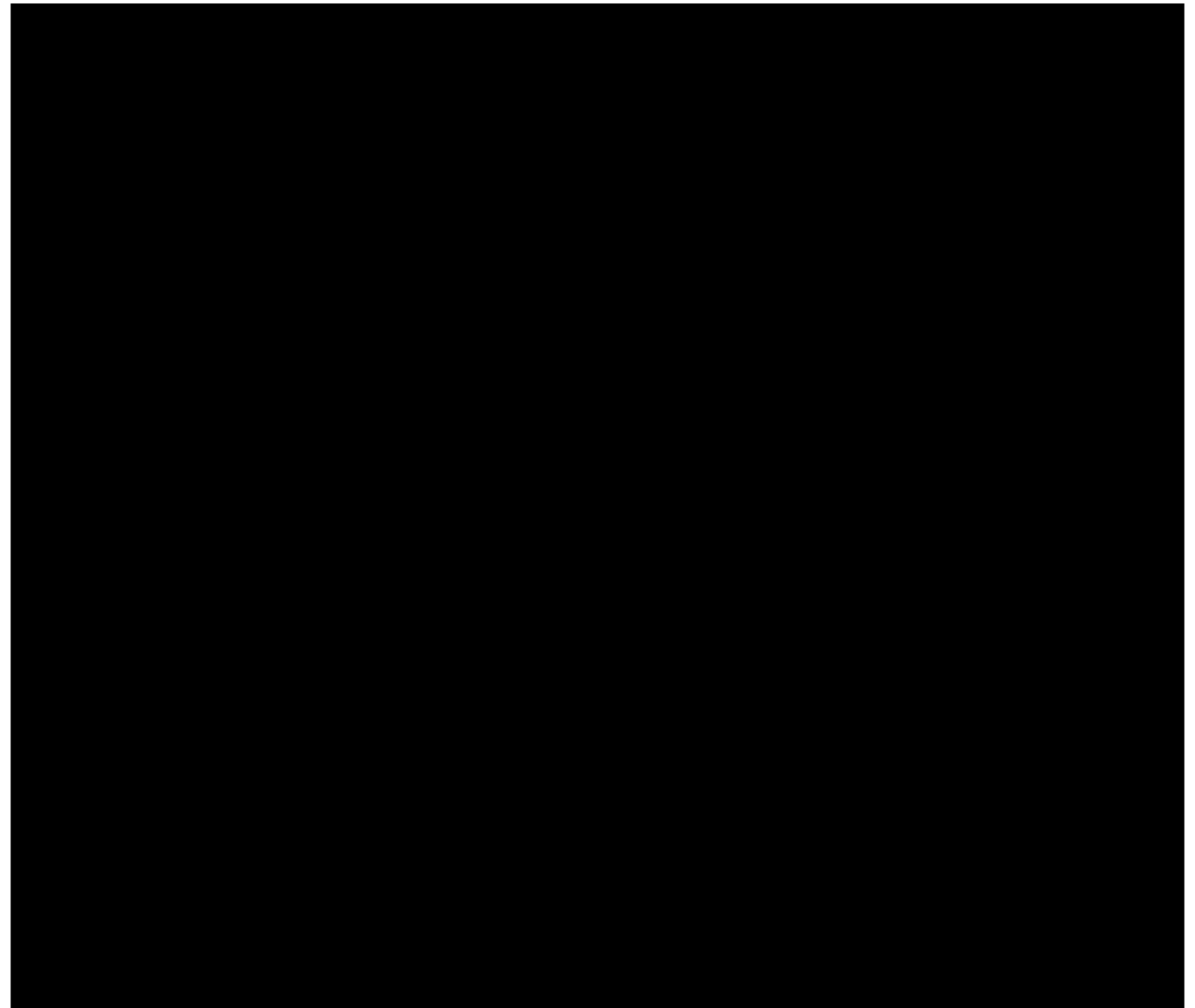
## CiFi's Experience obtaining Spectrum Licensing

Obtaining the relevant ACMA apparatus licensing required to operate the CiFi network was a process that took almost 2 years, putting immense strain on the company and jeopardizing the introduction of 4G connectivity to the Christmas Island community.

The network required access to use low-band frequencies in the 800 Megahertz range (relevant to the RALI MS 40 band plan), selected for its ability to support greater penetration & coverage distances around the island. As this spectrum is unused on Christmas Island, hardware was obtained to support this, but the project was dependent on the approval of ACMA apparatus licensing to become operational.

██████████, the co-founder of Christmas Island Fibre Internet (CiFi), via ACMA AP ██████████  
██████████, submitted an initial License request to  
access the unutilised Low-Band spectrum in November 2022.

Due to fears that the low-band frequency would interfere with the nearby Telstra network (operating in the 900 Megahertz frequency - 2G GSM technology), the request was denied, citing the following:



Given that Christmas Island is an external territory, and therefore not within spectrum license zoning, determinations such as RALI SM26 (Radiocommunications [Unacceptable Levels of Interference – 850/900 MHz Band] Determination 2021) were not applicable or useful in this situation.

Left with no alternative except to attempt direct coordination with a national carrier that had remained silent despite repeated attempts to reach out, CiFi offered to provide further documentation and examples of other locations where networks of the same frequencies/technologies were able to co-exist without interfering, but was instructed their Accredited Person (AP) that it would not be sufficient to secure the license, given the ACMA's position.

The AP suggested conducting testing under an ACMA scientific license, which should be attempted in collaboration with Telstra, providing the ACMA with further evidence on the impact (or lack thereof) of permitting the requested apparatus licenses.

In April 2023, this scientific license application was refused on the grounds that testing must be conducted with the support and involvement of Telstra. Further documentation, including technical specification sheets, were provided as evidence to the ACMA to demonstrate the lack of interference; but was again deemed insufficient. Regardless of further evidence, CiFi would need Telstra's blessing to conduct the testing.

CiFi made several attempts to connect with Telstra over a period of 6 months. Without the assistance of a specific contact, and any kind of framework in which license holders/seekers must coordinate with each other, there was no option but to attempt contact through the same support channels as 100 million other enquiries<sup>1</sup>.

The lack of regulation from the ACMA mandating collaboration on testing for license seekers/holders (including for apparatus licenses) meant that Telstra had no initiative to provide support - so they didn't. CiFi was left with no option but to lose months of time, and potential revenue, for a solution that wasn't attainable. CiFi, being a small regional based MNO, simply does not have the resources or political power to get the attention of Telstra.

Despite having already purchased the hardware for the 800 Megahertz frequency and with the knowledge that alternate frequencies would be less effective in supporting the network & end user equipment in use, with no other options, CiFi commenced inquiries for alternate spectrum bands, although it was unlikely this would be a feasible solution.

Almost 1 year on, in November 2023, CiFi's AP reached out to the ACMA informing that attempts to work with Telstra on coordination & testing had been unsuccessful. Finally, with the support of ACMA Assistant Director [REDACTED] (who reached out to Telstra directly), contact with Telstra was established, and CiFi was able to arrange for the testing to proceed in agreement with Telstra. This enabled the scientific license to be granted by the ACMA while testing parameters were established between CiFi & Telstra.

Thanks to the contact information provided by the ACMA, CiFi was able to connect with [REDACTED], a representative at Telstra, and testing was able to proceed. [REDACTED] was told by [REDACTED] that the standard process for Interference mitigation required the installation of additional filters, the cost of which was expected to be covered by CiFi. The site was

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<sup>1</sup> <https://www.telstra.com.au/business-enterprise/products/unified-communications/customer-contact>

reviewed and [REDACTED] confirmed that while the blocking of their receiver was unlikely, he required further testing for confirmation.

In late November 2023, CiFi's on-site testing concluded that, as expected, the use of the proposed low-band spectrum in the 800mhz range would have no interference with Telstra's network. The results recorded were well below Telstra's interference thresholds. The results of the testing were emailed to Telstra, copying all involved (AP & ACMA), and no further response was received.

With over 12 months lost since the initial low-band license was requested, CiFi was able to again submit its apparatus license application. Since the interference concerns were addressed, the license was now able to be approved by the ACMA, allowing the business to finish developing Christmas Island's first 4G Mobile Network.

## Enhancing Support from the ACMA

For CiFi, the **12-month** process of obtaining this essential low band apparatus licensing saw lost time and profit for the company and caused significant delay to providing a stronger, more reliable network for community connectivity. For these reasons, we feel it imperative for the ACMA to implement the following changes:

### 1. Policy Revisions

The ACMA should consider updating their policy, specifically in relation to any PTS RALI band plan relevant to mobile phone networks (700,800,900,1800,2100,2600Mhz etc), to include a clear process regarding the mandated collaboration of external network operators when it comes to coordination in both apparatus & spectrum license cases.

Where this is related to a cases of use-it-or-lose-it/share-it is when an operator is unable to progress with their licensing application without the support or assistance of an external network operator, then there needs to be a procedure in place to ensure that this is managed effectively.

A reasonable timeline should be specified for the return contact of an external operator, which, if left unmet, should then allow for an alternate approach through which the applicant can progress their license request without being at the discretion of a third-party operator.

For example, 'If an external operator is required for collaboration on testing or approving submission documentation, but does not return contact within a 3-month period, then the applicant may provide alternative evidence to support their license request.' Existing license holders should be required to advertise an organizational point of contact for other carriers & parties to make contact regarding ACMA licensing matters, preferably as part of their publicly available license certificates (such as on the RRL).

This alteration to the ACMA policy ensures that operators are not blocked from developing networks by other (often larger) telecommunication companies. This would create a more equitable system for spectrum access, and ensure that in cases of remote or regional communities where these frequencies are valuable, public resources are able to be leveraged by smaller operators to provide digital services.

## 2. The 'Use-It-Or-Share-It' Approach

As outlined in our ESL Submission, we support the implementation of either a Use-It-Or-Share-It to spectrum & apparatus license holding. This approach would ensure areas where any smaller operator is able to fill a need for a community is able to progress, and allow for a fairer distribution of the available spectrum.

Process Summary:

1. A potential secondary licensee (ie a local 'place-based' network operator) identifies that spectrum is not being utilized inside the bounds of the target area
2. The potential secondary licensee lodges a request for secondary access with ACMA, outlining the boundaries of the target area and supporting evidence
3. Respective spectrum/apparatus license holders are alerted and provided a set notice period, during which they can veto the application if they are already committed to utilizing the spectrum in that area in a given specified time period.
4. If no appeals are made to the application, the Secondary Use License is granted
5. The secondary license holder must begin utilizing the spectrum within a given (short) timeframe, or the secondary use license will be forfeited

## 3. The 'Use-It-Or-Lose-It' Approach

As with the Use-It-Or-Share-It approach, the Use-It-Or-Lose-It approach to spectrum holding would ensure areas where any smaller operator is able to fill a need for a community is able to progress, and allow for a fairer distribution of the available spectrum.

Process Summary:

1. Primary licenses are issued with a fixed time to deliver service with the spectrum (immediately if renewing existing licenses)
2. In areas the license holders do not service (proven via measurement or datasets from National Audit of Mobile Coverage) these areas are removed from the existing license footprint and the spectrum is made available under a different license scheme, such as apparatus licensing.

At this stage, any interested parties can apply for access to the spectrum in the areas no longer managed under the primary license. In the event the previous primary license holder (who had given up their spectrum) wishes to expand their coverage into the area formerly covered by their license, they can apply like any other interested party.