

Submission on Copper Services Investigation Approach Paper

PUBLIC VERSION

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C H ● R U S

Executive summary

1. Chorus welcomes the Commerce Commission's (**Commission**) timely investigation under s 69AH of the Telecommunications Act 2001 (**Act**) into the regulation of copper services listed in s 69AH of the Act (the **relevant copper services**).¹
2. Consumers are rapidly switching away from copper to better alternatives and the network is being retired. The outcome of this investigation must support a sensible transition away from copper services that no longer meet household and business needs. This means removing regulation which has served its purpose and is now impeding rather than promoting competition.
3. Removal of outdated regulation is an essential step toward meeting the rural connectivity challenge. We know that a ~\$16.5 billion economic prize is available to New Zealand for boosting rural connectivity.² To achieve this, we need clear rural policy objectives and coherent regulatory settings – including deregulation of the relevant copper services. A clear vision for rural connectivity will empower our communities, fostering economic growth through access to affordable, high-speed and dependable telecommunications services. This investigation cannot provide a complete solution, but it can help pave the way by removing regulation where it is no longer justified.
4. After serving New Zealand for over 140 years, the copper network is approaching the end of its useful life. The ever-evolving telecommunications industry demands a forward-thinking regulatory approach, adaptable to market changes and technological advancements. Although New Zealand has seen alternative services emerge since the late 1990s, the copper network remains bound by remnants of outdated regulations. We must not let New Zealand's rural economy and consumers bear the weight of a growing digital divide abetted by out-dated regulation.
5. High-capacity fibre broadband now reaches 87 per cent of New Zealanders. Chorus is working to extend the reach of fibre to even more households and businesses.³ Outside of areas where fibre is available, continued government and industry investment in alternative technologies (notably wireless and satellite technologies) means consumers have an increasing number of options to replace their legacy copper services with modern voice and internet services. The natural consequence of this, as the Commission has observed,⁴ is the decline of copper connections as consumers transition to those alternative services and retail providers no longer sell copper services. This trend is observable both in New Zealand and internationally. Other jurisdictions are progressing, or have already implemented, proactive policy and regulatory measures to ensure the efficient retirement of copper networks.
6. A declining customer base means the average cost of providing copper services, and maintaining the infrastructure over which they are provided, continues to rise but the regulated prices do not. The effect is two-fold: increased burden on Chorus to supply an increasingly uneconomic service, and increased distortions which disincentivise entry from and/or further investment in alternative services.
7. We agree with the Commission that economic regulation is a remedy to the potential exploitation of market power, and where it becomes unprofitable to continue to supply services, it is unlikely there would be any market power to exploit.⁵ To this end, the Commission's application of the proposed framework needs to be grounded in the reality of Chorus' commercial environment; there is no realistic factual or counterfactual in which copper services

¹ The relevant copper services are the copper fixed line access services (being Chorus' unbundled bitstream access (UBA) and Chorus' unbundled copper low frequency service (UCLF), Chorus's unbundled bitstream access backhaul (UBA Backhaul), Chorus's unbundled copper local loop network co-location (UCLL Colocation), and Chorus's unbundled copper local loop network backhaul (UCLL Backhaul).

² *Rural Connectivity: Economic benefits of closing the rural digital divide, NZIER report* (4 November 2022), page i. The total benefit of \$16.5 billion represents a present value assuming a discount rate of 5 percent (page 16).

³ NZX Market Update, *Chorus announces plan to take fibre to 10,000 more premises*, (5 February 2024) <<https://www.nzx.com/announcements/425712>>

⁴ Commerce Commission, *Copper Services Investigation under section 69AH of the Telecommunications Act – Approach Paper* (22 April 2024) at [29] – [32].

⁵ Commerce Commission, *Copper Services Investigation under section 69AH of the Telecommunications Act – Approach Paper* (22 April 2024) at [37].

continue to be provided in a competitive market.⁶ Geographically averaged pricing was appropriate at a time when the majority of New Zealanders were consuming copper services but is neither sustainable, nor in the long-term interest of consumers in the context of an irreversible and accelerated decline in copper connections.

8. The Commission must make a decision that:
- a) **Best promotes competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand.** The Commission must not introduce extraneous considerations into its decision making. Universal service availability is an important public policy issue but it is outside the scope of the Commission's investigation. We are committed to making the retirement of the copper network and transition to alternative services as smooth as possible for all end-users;
 - b) **Recognises there is no reasonable factual or counterfactual scenario in which the copper network remains in operation.** Access regulation, as implemented through the Part 2 framework, is designed to allow the Commission to specify the price and non-price terms of access to bottleneck assets where the owner of those assets has incentives to impede efficient access to reduce competition. Where those assets are to be decommissioned, regulation is redundant;
 - c) **Recognises efficient prices in non-fibre areas are higher than the current regulated prices for the relevant copper services.** The Commission must not assess alternative services against regulated prices for relevant copper services. Doing so would assume the competitive price is below average cost which is inconsistent with workably competitive markets. Furthermore, the Commission must consider efficiency gains from prices that are higher and consistent with a workably competitive market – not regulated prices which are distorting incentives;
 - d) **Defines geographic scope of the market(s) at a sufficiently aggregated level to reflect future competitive dynamics.** Taking a granular approach (for example, property-by-property) is inappropriate and unworkable as it would fail to take those considerations into account;
 - e) **Recognises separate markets exist for voice and broadband services.** Voice and broadband services both face sufficient competition but voice services face more competition from mobile voice services and managed/unmanaged voice over internet protocol services;
 - f) **Recognises the risk of deregulating too late.** There is a high risk that deregulating too late results in material productive, allocative and dynamic inefficiencies;
 - g) **Does not speculate about security of supply.** The Commission would need clear evidence of intent (or incentive) to exit the New Zealand market if it is considering discounting competitive constraint from an alternative service based on security of supply. However, current evidence suggests further entry, rather than exit, is more likely; and
 - h) **Balances data requirements with timeframes to ensure timely deregulation.** While existing data suggests deregulation, where the Commission is uncertain about whether the relevant copper services should be deregulated it should source further information.
9. Recommending removal of the relevant copper services from Schedule 1 of the Act (**deregulation**) is the only reasonable conclusion for the Commission following investigation and proper application of the legal and economic framework. That is, removal of regulation of relevant copper services will best promote competition in telecommunications markets for the long-term benefit of end-users. As such, the Commission must make recommendations that will, if accepted by the Minister, achieve deregulation.

⁶ Chorus, [FY23 Investor Presentation](#) (21 August 2023), slide 27.

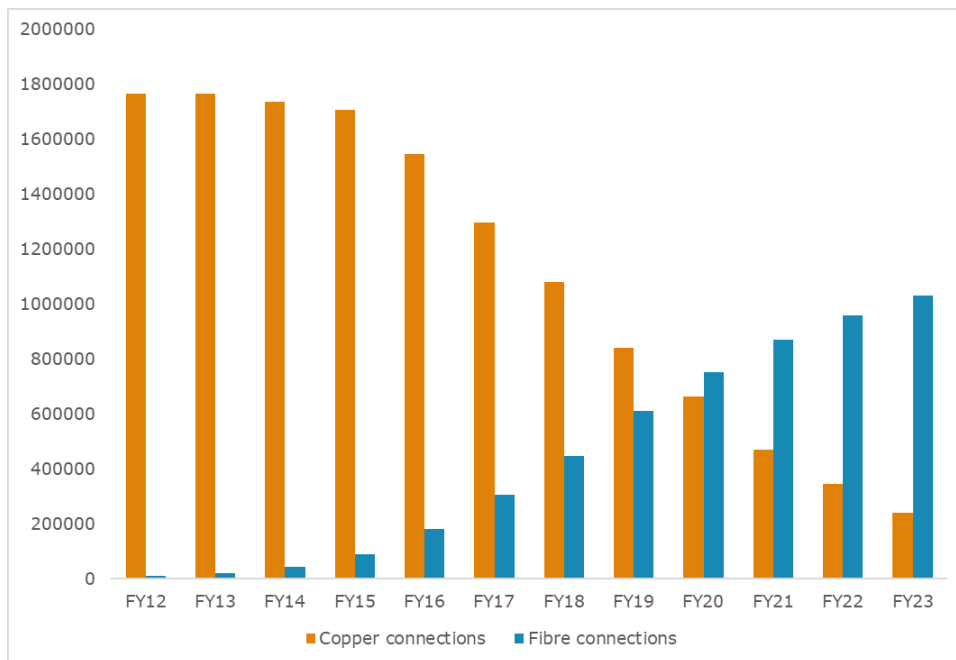
Introduction

- 10. This is Chorus’ submission on the Commission’s Copper Services Investigation – Approach paper (**Paper**), under 69AH of the Act.
- 11. This is the public version of this submission.

The decline of copper

- 12. The decline in copper connections is the key context for this investigation. The Commission’s investigation must look at the future state of telecommunication services in New Zealand against the certainty of copper retirement and the continued decline in copper demand, which it already has been steadily observing over the last decade (see Figure 1 below). This decline is accelerating because consumers, businesses and retailers all want - and are migrating to - better services as they become increasingly available.

Figure 1: Copper connections have declined significantly over the last decade



- 13. This decline is a trend both nationally and internationally, where several jurisdictions are progressing plans to achieve full copper switch-off. According to Analysys Mason, "16 operators worldwide have publicly announced the complete withdrawal of their PSTN/ISDN services and 5 have fully withdrawn their copper services. An additional 33 operators have announced that they are either planning/in the process of shutting down their copper services, with expected dates, if stated, up to 2030. On this basis, we would expect most copper to have been technically decommissioned by 2035."
- 14. The European Union recently announced its intentions for complete copper switch-off by 2030 to support its goal of reaching its "Digital Decade target" of gigabit coverage by 2030,⁸ providing a

⁷ Analysys Mason, [Carrot-and-stick' approaches to nudging the last customers off copper \(analysysmason.com\)](https://www.analysysmason.com), dated September 2023.

⁸ EU White Paper, Link: [White Paper - How to master Europe’s digital infrastructure needs? | Shaping Europe’s digital future \(europa.eu\)](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:5202000001), dated 21 February 2024.

clear target that enables member states to proactively tackle and plan for the challenges ahead. European operators that have announced final copper switch-off dates include, with copper switch-off dates respectively, the following: Spain's Telefonica in 2024, Norway's Telenor in 2025, Sweden's Telia in 2026, and France's Orange in 2030.⁹

15. In the New Zealand context, in 2017 Spark announced its plans to retire its copper PSTN network,¹⁰ Chorus began withdrawing its copper in urban areas in 2020 and last year we announced plans to retire the copper network within the decade.¹¹ Superior alternative technologies are increasingly available and copper is not sustainable or suitable to meet New Zealanders' growing connectivity needs, particularly in more remote rural areas. Just last month, OneNZ announced its intentions to decommission its copper telephone exchanges stating, "*...the number of customers that actually want and use copper landlines is all becoming quite prohibitive... We've got 2.4 million mobile devices out there... everybody has their own mobile, and landlines are really a fixed, static service, so people are moving off them.*"¹²
16. Chorus' copper connections have decreased from 1.8m in FY12 to 240k in FY23. This is the natural consequence of consumers choosing better, faster modern alternatives as they become increasingly available across the country assisted by Chorus' Copper Withdrawal programme in fibre areas (with over 800 copper cabinets already closed down).
17. But the overall migration off copper services is only one part of this key context. The reality is that the copper network is reaching its end of life – this is recognised by the Ministry of Business, Innovation and Employment in its Briefing to the Incoming Minister (**BIM**),¹³ and it is a key driver for copper decommissioning in New Zealand and around the world.
18. The ability to maintain and operate a near-end of life network to serve an ever-decreasing user base is increasingly challenging as replacement equipment becomes difficult or impossible to source. Copper connections, already susceptible to bad weather events, will experience increased faults and outages due to aged asset conditions. On top of this, the industry faces an aging workforce to help maintain the legacy network, where recruitment and training is not a viable option.
19. As urban end-users transition off copper, the cost to serve the remaining non-urban users is increasing. In particular, once the urban copper withdrawal programme is complete, and a large portion of the copper network is retired, the economics and, specifically, the cost to serve the remaining segments will increase significantly. This is not far away.
20. The Commission must investigate within the parameters of the legal and economic framework and consider whether access services to this soon-to-be obsolete network should be regulated for a decreasing number of retailers, for (an even faster) decreasing number of consumers – and whether there are long-term benefits of doing so. Our submission focuses on the technical attributes of this analytical task.
21. The only reasonable conclusion is to recommend removal of the relevant copper services from Schedule 1 of the Act, by December 2025.

Legal framework

22. The Commission's Paper sets out what the Commission is required to do in this investigation. The critical requirement is set out in section 19(c): The Commission must make the recommendation that it considers best gives, or is likely to best give, effect to the purpose set

⁹ Telefonica website: [Shutting down legacy networks: one step closer to the Digital Compass - Telefónica \(telefonica.com\)](#).

¹⁰ Spark NZ, *Spark NZ outlines upgrade of New Zealand's voice communications* (19 April 2017), <https://www.sparknz.co.nz/news/pstn-upgrade/>.

¹¹ <https://company.chorus.co.nz/media/releases/chorus-signals-copper-retirement-within-decade-focus-rural-fibre-extension>; and RNZ reported [Chorus plans to retire its copper network within next decade | RNZ News](#).

¹² NZ Herald article, *Copper phone network slowly being phased out*, dated 30 April 2024.

¹³ Ministry of Business, Innovation and Employment *Briefing for the incoming Minister for Media and Communications*, (27 November 2023) at [38].

out in section 18. This means the Commission must make the recommendation that will best promote competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand.

23. It is important that the Commission adheres to the task set by statute. The High Court has recently warned against applying any 'gloss' to the statutory purpose provisions in the Act based on an understanding of policymaker's intentions.¹⁴ The Commission is required to make the recommendation that will best promote competition for the long-term benefit of end-users, and other policy considerations must not interfere with that.
24. In the context of copper decline, it is our view that any rational analysis applied for the statutory purpose can only result in a recommendation that the relevant copper services be removed from Schedule 1.
25. In this section we identify areas we think are at risk of taking the analysis beyond its statutory purpose. Determinations under Part 2 are not:
 - 25.1. Universal service obligations – powers must not be exercised for the purpose of ensuring the availability of basic services at reasonable prices to uneconomic customers; or
 - 25.2. A copper withdrawal code – determinations cannot prevent the exit of assets that have reached the end of their economic life and have been superseded by superior alternatives until specified conditions are met.

This investigation is not about ensuring service availability

26. The Act contains mechanisms to ensure the availability of basic services at reasonable prices to uneconomic customers. Specifically, Part 3 of the Act provides a framework to facilitate the supply of certain telecommunications services to groups of end-users within New Zealand to whom those telecommunications services may not otherwise be supplied on a commercial basis or at a price that is considered by the Minister to be affordable to those groups of end-users.¹⁵
27. The current guarantees of service provided by instruments under Part 3 of the Act (specifically, the deeds comprising the Telecommunications Service Obligation (**TSO**)) are manifestly inadequate and a review of New Zealand's universal service arrangements is urgently required. However, the inadequacy of the TSO does not mean the Commission is permitted to exercise its powers under Part 2 of the Act to compensate.
28. Our position should not be misinterpreted as indifference to the impact on end-users the retirement of the copper network is having. We are committed to making the transition to modern technologies as smooth as possible for all users. An important factor in facilitating a smooth transition is certainty – and the continued presence of legacy regulation over the copper network means end-users are getting conflicting signals about the future of copper. All industry participants, policymakers and the Commission need to be clear with end-users that the copper network is retiring and we need to work together to ensure they understand their options for moving to services that better meet their needs.

Determinations under Part 2 do not prevent network retirement

29. As the Commission considers its recommendation to the Minister it is important to remain clear that determinations under Part 2 cannot prevent retirement of the copper network and are not a substitute for a copper withdrawal code. Access regulation, as implemented through the Part 2 framework, is designed to allow the Commission to specify the price and non-price terms of

¹⁴ *Chorus Ltd v Minister for the Digital Economy and Communications* [2022] NZHC 3602; see particularly para [200].

¹⁵ Telecommunications Act section 70(1).

access to bottleneck assets where the owner of those assets has incentives to impede efficient access to reduce competition. A determination under Part 2 cannot prevent a provider from retiring assets that have reached the end of their useful life and it would be an improper exercise of powers under that part to attempt to do so.

30. The limits on the access principles in Schedule 1 make it clear that obligations regarding the provision of designated and specified services is limited by the reasonable technical and operational practicability having regard to the access provider's network.¹⁶ The obligation to provide access to a network is dependent on the continued existence of a network. This is made explicit with regard to UCLF, the conditions for which provide:

Chorus's unbundled copper low frequency service is only available where—

(a) Chorus's local loop that connects the end-user's building (or, where relevant, the building's distribution frame) to the handover point in Chorus's local telephone exchange remains in place;

31. Similarly, the unbundled bitstream access (**UBA**) service description provides that the UBA service is available where Chorus has DSL coverage.¹⁷ Both UBA and UCLF operations manuals set out processes for Chorus to change availability of the respective services.¹⁸ The UCLF and UBA standard terms determinations (**STDs**) do not prevent retirement of the network.
32. In areas where fibre services from regulated providers are available, there is a prescribed process for withdrawal of copper services.¹⁹ The provisions of Part 2AA of the Act and supporting codes and processes were suitable for the first stages of copper network retirement when it was developed in 2018, but the passage of time, technological and market developments mean the framework has reached the end of its useful life. The copper network is now being retired entirely.
33. There is no prescribed process for copper withdrawal outside areas with regulated fibre. This will not prevent the full retirement of the copper network and determinations under Part 2 are not a tool that can be used to fill the gap. The absence of policy direction means it is incumbent upon industry and regulators to work together to ensure retirement and transition takes place with minimal disruption.

Economic framework

34. The Commission's application of the four-stage economic framework must be grounded in the reality of Chorus' commercial environment and in the context of copper decline and the increasing availability of alternative services. The Commission will be aware that we plan to retire the copper network by 2033,²⁰ eliminating any reasonable factual or counterfactual scenario in which copper services would be provided in a competitive market.
35. In order for the economic framework to reflect commercial reality, the Commission must:
- 35.1. **Acknowledge that efficient copper prices in non-SFAs are higher than the current regulated prices** – non-SFAs are largely rural areas that are more expensive to serve, however the current regulated prices are based on a hypothetical operator providing services nationally to urban and rural areas. The Commission has already acknowledged this.²¹ Therefore, assessing alternative services using current copper

¹⁶ Telecommunications Act, Schedule 1, clause 6(1)(a).

¹⁷ UBA Service description clauses 4.29 (Basic UBA) and 5.29 (EUBA).

¹⁸ UBA Operations Manual clause 17.1 and UCLF Operations Manual clause 15.1 and 15.2.

¹⁹ A feature of this process is the requirement that Chorus continue to provide copper services in SFAs until withdrawn in accordance with the CWC (see sections 69AC(2) and 69AD(2)). This requirement does not apply outside SFAs so service availability can be altered in accordance with the terms of the determination.

²⁰ Chorus, *Chorus signals copper retirement within the decade; focus on rural fibre extension*, (15 May 2023), <https://company.chorus.co.nz/media/releases/chorus-signals-copper-retirement-within-decade-focus-rural-fibre-extension>.

²¹ Commerce Commission, *Copper Services Investigation under section 69AH of the Telecommunications Act – Approach Paper* (22 April 2024) at [22].

prices will incorrectly start with prices that are below average cost - which is inconsistent with workably competitive markets.

- 35.2. **Ensure the geographic scope of the market(s) are not too granular** – the scope should be limited to non-SFAs. A property-by-property approach must not be used as it is impractical, does not reflect competitive dynamics and is not robust enough to future changes in the market and for forecasting.
 - 35.3. **Not speculate about security of supply** – the Commission notes that it is specifically considering satellite providers’ “commitment” to supplying services to New Zealand but, without evidence of an issue, this is speculation and should be disregarded based on the Commission’s own criteria.²² Furthermore, security of supply from a single provider is an unfounded concern as there are multiple, overlapping, wireless and satellite networks and it is more likely that new providers will enter the market based on recent evidence.
 - 35.4. **Consider competition for voice services separately from broadband** – both voice and broadband services face sufficient competition. However, voice services face more competition due to competition from mobile voice services, managed voice over internet protocol (**VOIP**) and unmanaged VOIP (such as Whatsapp and Microsoft Teams).
 - 35.5. **Consider the risk of deregulating too late** – the Commission’s framework needs to be balanced, its discussion only considers the risk of deregulating too soon. However, there is a high probability that deregulating too late results in material productive, allocative and dynamic losses.
 - 35.6. **Balance data requirements with timeframes to ensure timely deregulation** - Where the Commission wants more granular data, it should also consider whether the benefits of more data outweigh the costs of providing it and the potential impact on timeframes.
36. Applying the economic framework properly, such that it reflects the current and foreseeable future state of competition in the relevant market(s), should result in recommendations to deregulate. Below, we recommend how the Commission’s approach under each stage should be applied to New Zealand’s market, with respect to whether ex-ante access regulation is required to promote outcomes consistent with competition.

Market definition – there are numerous substitutes for copper services

37. The first step of the Commission’s framework is an assessment of the relevant markets in which the competitive constraints on Chorus’ copper services will be assessed. This involves defining the copper services and identifying economic substitutes. Based on the service descriptions in the Act and STDs and how the services are realistically used, the broadband service market should be separate from the voice service market.
38. The Commission can readily identify at least one economic substitute for copper services. The near ubiquity of both LEO and geostationary satellite coverage, the coverage of three mobile network operators (**MNO**) FWA services, the availability of wireless internet service provider (**WISP**) services, and the expanding coverage of fibre services highlights that there are currently multiple alternative services to copper services outside of specified fibre areas (**SFAs**). In particular, we expect that satellite coverage means that there are alternative services in *all* areas where copper services are available.
39. Additionally, there are even more alternative services to *voice* services since mobile voice services are also economic substitutes to copper voice. In terms of availability, widespread

²² Commerce Commission, *Copper Services Investigation under section 69AH of the Telecommunications Act – Approach Paper* (22 April 2024) at [132.1].

coverage²³ of three national mobile networks clearly indicates competition for copper voice in most areas in non-SFAs. Mobile voice services also provide comparable call quality to copper voice services and lower prices.

40. In the foreseeable future there will be more competition provided by alternative services. The number of LEO satellite providers will likely increase with Amazon expected to enter the market within the next five years.²⁴ As well as satellite, FWA will improve with MNOs already announcing rapid expansions to 5G coverage.²⁵ Additionally, mobile quality will improve with 5G²⁶ and likely expanded coverage from mobile services provided via satellite.²⁷ Also relevant is the recent geographic restrictions being removed from local fibre companies (**LFCs**), which means we could soon see more LFC fibre built, which would change the scope of current non-SFA areas.

Geographic scope of the market – the maximum area to consider is non-SFAs

41. We agree that the scope of the investigation is limited to within non-SFAs and, as a result, the largest geographic area the Commission can consider is the total area of non-SFAs. The Commission must focus on the scope of the investigation it’s conducting, the relevant competitive constraint as considered by a small but significant non-transitory increase in price (**SSNIP**) test and the availability of data. The following factors are key factors:
 - 41.1. How competition varies across geographies;
 - 41.2. How networks are rolled out in practice;
 - 41.3. The geographic scope needs to be robust to data irregularities; and
 - 41.4. The geographic scope needs to be robust to changes on a *forward-looking* basis.
42. Areas smaller than the non-SFA could be considered but we recommend approaching this with caution. The Commission signalled that a more granular approach would take into account the end-user experience and allow for clean separation of areas of competition based on the current market. This could be achieved by looking at alternative networks within groupings of Chorus Exchange Service Areas (**ESAs**) in non-SFAs – this would appropriately reflect competitive dynamics in the foreseeable future. Groupings of ESAs are suitable since:
 - 42.1. There are over 700 ESAs and they are granular enough to consider variations in competition without relying too much on current data;
 - 42.2. ESAs allow for data, such as connections, to be aggregated and forecast forward which will minimise forecast errors; and
 - 42.3. ESAs reflect how the copper network was rolled out in practice and therefore are a sensible unit of analysis for considering deregulation, as the unit of analysis would align with the assets used to provide the service.²⁸

Table 1: Options for geographic scope

²³ Average 3G and 4G mobile coverage in 2022 extended to 98% of the population (Commerce Commission, *2022 Telecommunications Monitoring Report*, (15 June 2022), at page [9].

²⁴ See, for example, Amazon.com Services LLC and Kuiper Systems LLC submission to Radio Spectrum Management in 2022 on Draft Five Year Spectrum Outlook 2022-2026 (<https://www.rsm.govt.nz/assets/Uploads/documents/consultations/2021-draft-five-year-spectrum-outlook-2022-2026/kuiper-systems-response-to-5-year-outlook.pdf>), and recent media reporting: <https://www.farmersweekly.co.nz/technology/rural-nz-first-for-satellite-liftoff/>, and <https://www.rnz.co.nz/news/world/499623/amazon-kuiper-jeff-bezos-joins-satellite-internet-race>.

²⁵ Spark H1 FY24 Results Summary: <https://investors.sparknz.co.nz/FormBuilder/Resource/module/gXbeer80tkeL4nEaF-kwFA/H1FY24-Results-Summary-FINAL.pdf>.

²⁶ Ericsson, Make your mobile network ready for 5G voice, <https://www.ericsson.com/en/5g-voice#:~:text=It%20provides%20a%20greater%20voice,a%20concert%20you%20are%20attending>.

²⁷ As announced publicly by MNOs: <https://one.nz/why-choose-us/spacex/>; <https://www.2degrees.nz/media-releases/2degrees-announces-satellite-to-cell-trial-with-lynk>; <https://www.sparknz.co.nz/news/Spark-to-launch-satellite-to-mobile-service/>.

²⁸ To be more specific, using ESAs would avoid a situation where a very granular analysis leads to the same assets being used to provide services under both regulated and non-regulated terms.

	Alternative network coverage only ²⁹	Simplified view of alternative network coverage using ESA groupings
Is competition in each area likely to be homogenous?	While the number of alternative networks is an indicator of competitive constraints, it could give a false sense of precision. Pricing and service quality are unlikely to vary neatly across network boundaries.	Reflects the material competitive dynamics, especially that pricing is usually simplified to a small number of areas. Service quality will vary within an area.
Do the areas reflect how networks are rolled out in practice?	Yes, although for non-copper networks this will be biased toward current coverage.	Yes, and in particular is useful in considering copper decommissioning, copper pricing and availability which are relevant to recommendations for removal or amending Schedule 1.
Are the areas likely robust to data irregularities?	No. Alternative network coverage only puts more importance on the quality of the data collected. Irregularities will lead to non-contiguous pockets of premises and holes in coverage for wireless technologies.	Yes. The ESAs have not materially varied over time and will abstract away from more data issues than relying on network coverage.
Are the areas likely robust on a forward-looking basis?	Less so than a simplified view as network coverage for wireless networks will change over time so relying on current network coverage will bias analysis toward current coverage.	Yes. Allows for an abstraction away from current wireless coverage which will allow for a clearer discussion of future state of competition and for forecasting at an aggregate level, if required. This will also be more relevant when considering how the copper network will change in the future with decommissioning.

43. A property-by-property approach is unworkable and should not be used. Based on the factors above, we agree with the Commission that a property-level geographic area should not be used.³⁰ Competition does not take place at an individual property level (for example prices are set for larger areas, rather than individually for each household), networks are rolled out to wider areas in order to benefit from economies of scale and it’s not tractable to analyse competition at a property-level as it will be prone to data irregularities and difficult to apply forecasts and expectations about the future (which are usually high-level) to individual premises.

44. In this case, a property-by-property approach cannot provide pragmatic guidance on how regulations should be removed (or amended). If the Commission’s assessment used a property-by-property approach and it believed there were isolated addresses that should not be deregulated then this will lead to even more complexity with pockets of regulated premises in which the considerable fixed costs of the copper network would be borne by a small number of connections – this is an unrealistic outcome.

The decline in copper shows there are multiple alternative services in non-SFAs that satisfy end-user needs

²⁹ As proposed by the Commerce Commission, *Copper Services Investigation under section 69AH of the Telecommunications Act – Approach Paper* (22 April 2024) at [104].
³⁰ Commerce Commission, *Copper Services Investigation under section 69AH of the Telecommunications Act – Approach Paper* (22 April 2024) at Table 3.

45. Copper connections in non-UFB areas have declined significantly and this is clear evidence that there are alternative services that end-users are moving to. Figure 2 below shows that the copper connections in non-UFB areas are declining at a faster rate now than previously **CCI[]**. This highlights that the Commission does need to consider the characteristics of copper services and alternatives on a holistic basis because clearly the overall outcome is that customers are moving away from copper services.

Figure 2: Copper service decline has accelerated

CCI[

]

Alternative service characteristics – current copper prices are an artificially low starting point

46. We agree that availability, quality and price are relevant factors to consider when identifying economic substitutes – but the current copper services prices are not the relevant starting point as they do not reflect prices in a workably competitive market in non-SFAs.³¹
47. The Commission should account for the artificially low price of copper services in non-SFAs when considering the recurring and non-recurring prices of alternative services. The regulated wholesale prices for copper services were set in 2014 based on a hypothetical national network that included multiple technologies and from 2019 these prices have increased by inflation.³² Therefore, the current prices for copper services will be too low when the Commission is considering alternative services because:
- 47.1. The Final Pricing Principle (**FPP**) prices were set on a nationally, geographically average basis³³ and as such the current pricing reflects an average of urban areas and non-urban areas, however the Commission’s task for this copper investigation is to consider competition in non-SFAs only – which implies a higher copper price that is not nationally averaged but closer to non-urban. This is not to say that the FPP non-urban prices are the relevant copper prices, rather that the current prices are certainly not the relevant prices;
- 47.2. Chorus’ copper network does not consist of FWA services as the FPP prices assumed and therefore the network cost in non-SFAs is considerably higher; and
- 47.3. The FPP prices assumed that the hypothetical network had 100% demand, however the reality today is that Chorus’ non-SFA copper services are less than 10% of that.³⁴ Demand continues to decrease which results in significantly reduced economies of scope and scale compared to the FPP assumptions and an increasing unit cost over time.
48. The Commission should consider alternative services with prices that are higher than current copper retail prices. SSNIP tests are performed based on whether substitution will occur if there is a sustained, small increase in prices from the *competitive level* of pricing but the current regulated copper prices do not reflect a competitive level in non-SFAs.³⁵ A demonstrably reasonable alternative is to *start* with copper prices that consider the possible difference in prices between SFAs and non-SFAs. A possible minimum starting point would be to consider the difference between the national and non-urban prices from the UBA FPP. We estimate that the

³¹ As proposed by the Commerce Commission, *Copper Services Investigation under section 69AH of the Telecommunications Act – Approach Paper* (22 April 2024) at [113].

³² Specified in Schedule 1 of the Act.

³³ Commerce Commission, *Final pricing review determination for Chorus’ unbundled copper local loop* (15 Dec 2015), at X34.

³⁴ Based on 101k non-UFB copper connections as at 31 Dec 2023 compared to 1.8m connections nationally in FY12.

³⁵ Ofcom, *Promoting competition and investment in fibre networks: Wholesale Fixed Telecoms Market Review 2021-26 Volume 2: Market analysis* (18 March 2021) at footnote 4.

non-urban monthly rental price from the FPP would be \$81.66, which is \$30 higher than the current nationally geographically averaged price (nominal). This is based on weighted average prices from the FPP: the geographically average year 1 price of \$41.19, 72%³⁶ of lines being urban, an urban price of \$31.60 and actual inflation applied to estimate a 2024 nominal value.³⁷ We expect this would still understate pricing given that non-urban lines would account for considerably more non-SFA lines (certainly over 28%).³⁸

- 49. Starting with this price will show that there are multiple alternative services and will be more reflective of the possible cost to provide services to non-SFAs in workably competitive markets. However, this is only a workable estimate that the Commission can use as a starting point, as discussed above the FPP prices are not an accurate reflection of prices for copper services.

Table 2: There are multiple alternatives based on price

Service	Retail monthly rental
Retail copper monthly rental ³⁹	\$73-105
Non-urban copper price starting estimate	\$103-135 (\$30 + retail copper monthly rental)
FWA (4G) ⁴⁰	\$85-156
WISP broadband ⁴¹	\$70-200
LEO satellite	Deprioritised: ⁴² \$79 Standard: ⁴³ \$159
Geostationary satellite ⁴⁴	Basic: \$50-60 Higher-speed: \$150-200
Mobile voice	Unlimited pre-paid: ⁴⁵ \$27

Alternative service characteristics – there is more than one alternative available at each premises

- 50. We expect there is at least one effective economic substitute available, or realistically available in the foreseeable future, to the end-users of copper services in non-SFAs.⁴⁶ The availability of LEO and geostationary satellite means that there will be more than one available service to all copper services in non-SFAs and when considering the foreseeable future this will increase with additional LEO providers.
- 51. In addition to current and future satellite coverage, current and future FWA coverage (4G and 5G), as well as WISP network coverage, means that most copper end-users will have access to

³⁶ Commerce Commission, *Final pricing review determination for Chorus’ unbundled copper local loop* (15 Dec 2015), at X35.
³⁷ Commerce Commission, *Final pricing review determination for Chorus’ unbundled copper local loop* (15 Dec 2015), at 686.
³⁸ This is not to say that the FPP non-urban prices are the relevant copper prices, rather that the current prices are certainly too low. We note that the TSLRIC prices we calculated were higher than those in the final FPP determination (see: <http://nzx-prod-s7fd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/CNU/258494/205054.pdf>).
³⁹ Commerce Commission, *2022 Annual Monitoring Report* (15 June 2023), table 16.
⁴⁰ Commerce Commission, *2022 Annual Monitoring Report* (15 June 2023), page 101.
⁴¹ Commerce Commission, *2022 Annual Monitoring Report* (15 June 2023), page 101.
⁴² Starlink, <https://www.starlink.com/nz/service-plans> last accessed on 16 May 2024.
⁴³ Starlink, <https://www.starlink.com/nz/service-plans> last accessed on 16 May 2024.
⁴⁴ Commerce Commission, *2022 Annual Monitoring Report* (15 June 2023), page 101.
⁴⁵ See Warehouse Mobile, *2022 Annual Monitoring Report*, page 137.
⁴⁶ Note that this does not necessarily mean it has to be available to every premise that currently has a copper service available. In competitive markets providers do not necessarily strive to achieve 100% overlap in premise coverage.

at least three alternative services (with over four providers). The extent of coverage from alternative networks is highlighted in Appendix A.

- 52. For voice services, current mobile coverage and future coverage should show that mobile voice services are an economic substitute for copper voice services. Current mobile coverage is 98% of the population based on 4G and limited 5G coverage.⁴⁷ This coverage may increase within the next five years as MNOs expand their coverage by co-locating on additional sites⁴⁸ provided by Tower Cos, such as Fortysouth and Connexa, and mobile voice services are provided over satellite.⁴⁹ All of these changes have already been announced and so there is high certainty that they will eventuate.

Alternative service characteristics – there are multiple alternative voice services and broadband services with similar quality

- 53. In terms of quality, there are multiple alternative services to copper broadband services. We agree the Commission should consider data allowances,⁵⁰ speed, latency and functionality when considering economic substitutes - currently and in the foreseeable future. We note that substitutability does not require equivalence as two differentiated products can compete with each other without being 'perfect substitutes'. Substitutability from an end-user's perspective is whether the services meet end-users' needs, and services with different underlying technical capabilities can still meet those needs without being identical. Based on the Commission's own data we expect LEO satellite, geostationary satellite, FWA (4G and 5G) and WISP broadband to be competitive to copper broadband services from an end-user's perspective.

Table 3: Alternative broadband services in non-Fibre Areas⁵¹

	Speed Down/Up (Mbps)	Latency under downstream load (ms) ⁵²
ADSL	9 / 1	27
VDSL	41 / 11	18
FWA (4G)	32 / 14	56
WISP wireless⁵³	60 / 20	Not reported
LEO satellite	186 / 28	36
Geostationary satellite⁵⁴	50 / 10	Not reported

- 54. For voice services there are even more alternatives. We expect any broadband service will provide a sufficient quality of voice service via VOIP and over-the-top (**OTT**) voice services such as Whatsapp, Skype, Microsoft Teams and Zoom. In addition, mobile voice services provide a

⁴⁷ Average 3G and 4G mobile coverage in 2022 extended to 98% of the population (Commerce Commission, 2022 Telecommunications Monitoring Report, (15 June 2022), at page 9.

⁴⁸ For example, see Spark, <https://www.sparknz.co.nz/news/Spark-announces-sale-of-TowerCo/>, accessed on 20 May 2024.

⁴⁹ For example, see Infratil, Annual Report 2024, <https://infratil.com/for-investors/reports-results-meetings-investor-days/reports/annual-report-2024/>, at page 38.

⁵⁰ We note that data allowances should be considered alongside supply and demand constraints. Average data usage on copper broadband was 282GB on average for Dec-23, and ADSL would be considerably lower highlighting that most plans in tables 13 and 14 of the 2022 Annual Monitoring report provide sufficient data allowances relative to copper. See https://assets.ctfassets.net/7urik9vedtqc/nzx-doc-413555/2927f97b649c5ba7deb4c5355d82d433/2_Investor_Presentation.pdf, page 8.

⁵¹ SamKnows, Measuring Broadband New Zealand Report 19 (April 2024), figures 10 and 14. Where possible, these are peak speeds.

⁵² SamKnows, Measuring Broadband New Zealand Report 19 (April 2024), figure 16.

⁵³ Example based on Amuri net \$149 plan: <https://www.amuri.net/at-home.html#wireless> (accessed on 21 May 2024).

⁵⁴ Example based on Gravity Unlimited 50/10 plan: <https://getgravity.nz/broadband-plans/unlimited-satellite/> (accessed on 21 May 24).

similar call quality to copper voice services which has improved over time with voice over long-term evolution (VoLTE)⁵⁵ and will improve further with 5G.⁵⁶

Assessing competition – there is sufficient competition and it will increase in the future

55. Telecommunications markets evolve rapidly, especially relative to other infrastructure services, and this is evident in the markets for voice and fixed broadband services. It is clear that over the last decade that competition for voice and broadband services has increased significantly and this will continue in the foreseeable future, highlighting the decreasing relevance of copper services in the market.
56. Copper connections have rapidly decreased and are expected to continue decreasing in the future. In FY12 Chorus had 1.8m copper connections nationwide but by FY23 this had decreased to only 240k. The Commission notes that in rural areas copper was only 49% of connections as at FY22.⁵⁷ This trend of declining copper connections is expected to continue as end-users continue to transition to alternative services and retail providers stop selling copper services.
57. The number of retail and wholesale competitors has increased. Three MNOs – Spark, One NZ and 2degrees – have introduced 4G and 5G FWA services and connections on those services have increased to 16% of connections.⁵⁸ They sell services in the retail and wholesale markets. Government funded initiatives such as the rural broadband initiative and rural connectivity upgrade, and over 30 regional wireless ISPs have all introduced alternatives to copper services. Additionally, LEO satellite has entered the market and within a couple of years secured 33,000 connections and 14% share of the rural market.⁵⁹ As at 2022, New Zealand was 4th highest in the OECD on a per capita basis for satellite penetration (LEO and GEO).⁶⁰
58. Recent announcements indicate that the number of FWA and LEO satellite competitors is expected to increase with all three MNOs selling their passive tower infrastructure and Amazon Kuiper expected to enter the market in the foreseeable future.⁶¹ Furthermore, fibre providers are increasingly looking to new areas to rollout fibre networks.⁶²
59. Barriers to entry have declined significantly for voice and fixed broadband services. FWA technology has shown that entry-level broadband services can be provided without the need for significant underground infrastructure. LEO satellite services have shown that international companies can enter the New Zealand market without a significant incremental cost. The entrance of new fibre providers in the market shows that there are business cases for existing infrastructure providers⁶³ to expand their networks.
60. Consistent with the Commission’s approach to previous Schedule 3 reviews of Schedule 1, where the Commission identifies one competitive alternative to the relevant copper services this is sufficient competition to justify deregulation.

Security of supply is not a material issue for this review

61. The Commission has indicated it will be considering “security of supply” and “commitment” in respect to the provision of satellite services as part of its investigation.⁶⁴ We caution the Commission against understating the constraint satellite services currently and are likely to

⁵⁵ For example, see Spark, <https://www.spark.co.nz/shop/mobile/volte/> (accessed on 20/5/2024).

⁵⁶ Ericsson: [https://www.ericsson.com/en/5g-voice#:~:text=5G%20voice%20is%20the%20regular,over%20NR%20\(ViNR\)%20technology](https://www.ericsson.com/en/5g-voice#:~:text=5G%20voice%20is%20the%20regular,over%20NR%20(ViNR)%20technology) (accessed on 20 May 2024).

⁵⁷ Commerce Commission, *Copper Services Investigation under section 69AH of the Telecommunications Act – Approach Paper* (22 April 2024) at page 86.

⁵⁸ Commerce Commission, *2022 Telecommunications Monitoring Report* (15 June 2022), at page 36.

⁵⁹ Commerce Commission presentation at the TUANZ Rural Symposium (7 May 2024).

⁶⁰ Commerce Commission, *2022 Telecommunications Monitoring Report* (15 June 2022) at page 86.

⁶¹ Rural NZ first for satellite liftoff, *Farmers Weekly* (accessed on 20/5/2024): <https://www.farmersweekly.co.nz/technology/rural-nz-first-for-satellite-liftoff/>.

⁶² For example, Chorus, <https://company.chorus.co.nz/media/releases/chorus-extends-fibre-to-10-000-homes-and-businesses>: accessed on 21 May 24.

⁶³ Such as the Local fibre companies (LFCs), Electricity Distribution Companies and others.

⁶⁴ Commerce Commission, *Copper Services Investigation under section 69AH of the Telecommunications Act – Approach Paper* (22 April 2024) at [125].

continue to provide. This is not a permissible consideration in exercising functions under Part 2AA or Part 2 of the Act.

62. The Commission would need clear evidence of intent (or incentive) - from satellite providers or others - to exit the New Zealand market if it is considering security of supply. We are not aware of any evidence suggesting any satellite provider intends to exit the New Zealand market within the period of analysis. Conversely, there is strong evidence of the likelihood of further entry in the near future, for example Amazon's Project Kuiper.⁶⁵ It's highly speculative to focus on security of supply for LEO satellite and this is counter to the Commission's expectation that it will consider the degree of certainty it has over future outcomes.
63. The incentives for LEO satellite operators indicate entry, rather than exit, is more likely. LEO satellite broadband is provided by large arrays of satellites that orbit the earth (which contrasts to geostationary satellites which largely stay in a fixed position above earth). Because of this, satellites don't only serve the New Zealand market - they serve a range of markets on their orbit - and are required as a larger part of the array. As such, the opportunity cost of serving New Zealand is low when the satellites are already passing New Zealand in their orbit.

Costs and benefits of regulation – the cost of regulation for copper services outweighs the benefit

64. Access regulation for the relevant copper services is no longer required and should be removed. The Commission has previously agreed that where regulation of a service is no longer required then retaining that service in Schedule 1 is not required to promote competition for the long-term benefit of end-users.⁶⁶ For copper services that time is now as access regulation is simply not providing a net benefit in non-SFAs.
65. Not only is regulation of the relevant copper services not providing benefits to competition, it is impeding it. The current regulations are distorting market incentives, resulting in inefficient outcomes rather than promoting competition.⁶⁷ In assessing the costs and benefits of regulation the key benefit is typically that regulation promotes outcomes consistent with workably competitive markets which results in productive, dynamic and allocative efficiencies - and benefits end-users. However, in non-SFAs copper regulation is distorting decisions towards copper at the expense of more efficient alternatives and creates a barrier to new entry, and expansion, resulting in a material allocative and dynamic loss. This is unlikely to be in the long-term interests of consumers as artificially low regulated prices reduce the incentive to invest in copper services, suppress competition from alternative networks that might efficiently compete with copper services and reduce the incentive to innovate.

There is no regulated pricing principle that will promote competition

66. The Commission has noted that existing copper prices were set on the basis of a cross-subsidy from lower cost urban connections to higher-cost rural connections. With the lower-cost urban connections now gone, and fewer and fewer rural connections, regulated pricing may not only suppress prices below the competitive level, but may result in a requirement to price services below cost. There can be no question that a regulated requirement to price a service below cost does not promote competition.
67. Price controls for designated services are intended to prevent providers with market power from increasing prices due to the absence of constraint by competition. Conversely, the current determinations for copper services prevent price increases which would result *because copper services are constrained by competition* and consumers switching to better alternatives means the remaining user base would need to meet the costs of copper service provision. It is important the Commission's framework for this investigation explicitly recognises that the costs

⁶⁵ See, for example, Amazon.com Services LLC and Kuiper Systems LLC submission to Radio Spectrum Management in 2022 on Draft Five Year Spectrum Outlook 2022-2026 (<https://www.rsm.govt.nz/assets/Uploads/documents/consultations/2021-draft-five-year-spectrum-outlook-2022-2026/kuiper-systems-response-to-5-year-outlook.pdf>) and recent media reporting: <https://www.farmersweekly.co.nz/technology/rural-nz-first-for-satellite-liftoff/>, and <https://www.rnz.co.nz/news/world/499623/amazon-kuiper-jeff-bezos-joins-satellite-internet-race>.

⁶⁶ Commerce Commission, *Review of Designated and Specified Services under Schedule 1 of the Telecommunications Act 2001* (5 July 2016) at 26.

⁶⁷ Commerce Commission, *Final decision on Mobile Termination Access Services (MTAS)* (2 September 2020) at 124.

of regulation may outweigh its benefits where regulation is actually distorting rather than reflecting competitive outcomes.

68. In considering regulation of designated services under Part 2, a pricing principle which permits cost recovery is necessary not only to ensure an outcome consistent with the purpose of promoting competition, but is fundamental from a legal and public policy perspective. Public authorities cannot require a private organisation to provide services below cost, without compensation and subject to a prohibition on recovering the costs through its other business activities. In the context of a rapidly declining customer base using legacy technology, it is unlikely such a pricing principle exists – a principle which permits cost recovery would be set a level which accelerates migration to alternatives and would quickly raise the breakeven point above the new price cap. There is no regulated pricing solution to promoting competition and deregulation is the only reasonable approach.

Distortion caused by regulation will increase

69. The distortions caused by current regulation will increase in the future. Regulation for copper services is being applied to an ever-decreasing number of connections, that on a forward-looking basis will fall to zero as the copper network is retired. Even if the Commission believes that there isn't workable competition in the market, it is highly unlikely that any benefits from maintaining regulation to such a diminishing user base would outweigh the costs.
70. Deregulating the copper services will remove the current distortions and improve productive, dynamic and allocative efficiency, consistent with section 18. In addition, the direct costs of maintaining and complying with copper access regulation will also be removed with deregulation.

The Commission must consider the risk of deregulating too late

71. We don't expect there to be an asymmetric risk to deregulating the relevant copper services. As discussed above, there is sufficient competition in the market and so the welfare costs of deregulating too early do not exist since there is no market power that is causing a distortion – rather current regulation is creating a distortion. However, because there is already sufficient competition there is a risk that the welfare costs associated with current regulation are extended. We're not aware of an asymmetric risk framework that has previously been applied to Schedule 3 reviews but if one was applied in this review then it would need to be consulted on.

Evidence for the Investigation

72. The Commission already has sufficient information to support a deregulation recommendation. To support competition analysis consistent with the legal and economic frameworks, the Commission discusses examples of information it will assess as a starting point. The examples consist of reports and data it currently has which give an indication of the current (albeit lagged) state of competition in the voice and fixed broadband markets, as well as historical trends. We expect that this information should be enough to conclude that the relevant copper services should be removed from schedule 1 of the Act.

Evidence – existing data suggests deregulation

73. The Commission's existing information supports deregulating the relevant copper services. The Commission proposes starting with its existing information, namely:
- 73.1. The Rural Connectivity Study (RCS);
 - 73.2. Annual Telecommunications Monitoring Report (AMR);
 - 73.3. Measuring Broadband NZ (MBNZ) testing; and

- 73.4. Customer satisfaction monitoring survey (CSMS).
74. We support the use of these existing reports and the data and trends shown in them should make it clear that there are multiple alternatives to copper services, that competition is sufficient and increasing, and that the costs of regulating copper services outweigh the benefits. Ultimately, they indicate that the relevant copper services should be deregulated.
75. However, we note that these data sources only show current data and historical trends which may understate the need for deregulation on a forward-looking basis. For example, the AMR and RCS show historical connection trends to June 2022, which will understate copper connection decline. Since then, we have observed a faster decrease in copper connections as shown in figure 2.
76. The Commission should consider credible publicly available information that provides a leading indicator of future developments. Credible, public information should provide the Commission a reasonable degree of certainty that future developments that aren't shown in their reports are likely to occur and it won't provide a significant burden on providers to supply information or on the Commission in analysing it. Examples of recent developments highlight significant changes that have occurred since 2023.
- 76.1. Amazon Kuiper is likely to enter the market for voice and fixed broadband services;
- 76.2. Sat One is partnering with OneWeb to provide LEO satellite services in New Zealand;⁶⁸
- 76.3. Further to this, since 2023 Starlink has announced lower, more competitive, pricing; and
- 76.4. MNOs have sold their passive tower infrastructure, which will reduce the barriers to entry and expansion. For current operators, the barriers to network expansion will be lower as upfront costs will be incurred by Tower Cos and for potential new entrants, they can choose to operate localised networks and scale as needed by co-locating equipment.⁶⁹

Evidence – the data used should reflect the markets being assessed

77. As noted above in paragraphs 46-49, the Commission should consider alternative services with prices that are higher than current copper retail prices. SSNIP tests are performed based on whether substitution will occur if there is a sustained, small increase in prices from the *competitive level* of pricing but the current regulated copper prices do not reflect a competitive level in non-SFAs. A demonstrably reasonable alternative is to *start* with copper prices that consider the possible difference in prices between SFAs and non-SFAs.
78. The Commission must also consider evidence of competition in the market for voice services. The reports the Commission is focussing on largely focus on broadband services but doing so will understate the additional competitive pressures voice services face from:
- 78.1. Managed VOIP services – where retailers provide a bundled VOIP service the call quality is the same as for copper services, as is the coverage.
- 78.2. Unmanaged/OTTVOIP services – services such as Microsoft Teams, Skype, WhatsApp and Zoom can provide a sufficient voice call quality, with the addition of video calls, and end-users increasingly use them as substitutes for copper voice services. Covid lockdowns have played a significant role in increasing the wider public's acceptance of these services.

⁶⁸ OneWeb, <https://oneweb.net/resources/sat-one-secures-oneweb-capacity-australia-and-new-zealand> (accessed on 22/5/24)

⁶⁹ One NZ, Submission in response to Statement of Issues (5March 2024) at 7.2-7.3

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- 78.3. Mobile voice services – fixed to mobile substitution (**FMS**) was previously considered by the Commission and disregarded as the number of fixed lines remained flat. However, this appears more likely with mobile call quality and coverage improving. Additionally, wifi calling from mobile phones improves mobile call quality and coverage even further into remote areas.

Evidence – the Commission needs to balance data requirements with timeframes to ensure timely deregulation

79. While existing data suggests deregulation, where the Commission is uncertain about whether the relevant copper services should be deregulated it should source further information. Where the Commission wants more granular data, it should also consider whether the benefits of more data outweigh the costs of providing it and the potential impact on timeframes.

Appendix A: Examples of coverage maps show multiple networks, and multiple providers, covering non-SFAs

Starlink is available at almost 100% of premises



Source: Starlink, <https://www.starlink.com/nz/map> (accessed on 20/5/2024)

Gravity satellite broadband appears available at almost 100% of premises



Source: Gravity, <https://getgravity.nz/satellite-internet/coverage-map/> (accessed on 20/5/2024)

Chorus VDSL coverage – few retailers still sell copper services



Source: Chorus, <https://www.chorus.co.nz/tools-support/broadband-tools/broadband-map> (accessed on 20/5/2024)

2degrees 4G mobile coverage



Source: 2degrees, <https://www.2degrees.nz/coverage> (accessed on 20/5/2024)

One NZ 4G mobile coverage with LEO satellite voice services to be added in the foreseeable future



What's our coverage?



4G and 5G Coverage

Our 4G and 5G network connects more than 99% of the population and delivers a great experience with data on speed and connectivity, and voice quality with VoLTE. By late 2024 we'll have rolled out 4G or 5G everywhere we currently have 3G and we'll start to switch off the 3G network. There's plenty of time to make the move over to 4G or 5G.



Starlink

We're very proud to collaborate with SpaceX to provide Starlink satellite to mobile service. When the service goes live, there will be a satellite to mobile service for far greater coverage than available now. We will launch with a TXT service by the end of 2024, with data and voice to follow in 2025. (Capacity management and fair use may apply).

Source: One NZ, <https://one.nz/network/coverage/> (accessed on 20/5/2024)