



4 March 2024

The Registrar
Commerce Commission
Wellington
New Zealand

By email to: registrar@comcom.govt.nz

ONE NZ/DENSE AIR – SUBMISSION BY DENSE AIR LIMITED ON STATEMENT OF ISSUES

1. Dense Air Limited (**DA**) thanks the Commission for the opportunity to submit and provide further evidence to the Commission in response to the Statement of Issues (**Sol**) issued by the Commission dated 2 February 2024.
2. DA does not have access to any version of the Sol containing sensitive information. These versions have been provided only to its advisers in accordance with the confidentiality undertakings they have signed. Accordingly, this letter and the **enclosed** table respond to the redacted version of the Sol.

Report from the Brattle Group

3. DA has engaged the Brattle Group to provide an economic analysis of the proposed transaction between DA and One NZ, as it considers the Commission is likely to be assisted by the Brattle Group's extensive international expertise in relation to the economics of spectrum and telecommunications markets. A copy of the Brattle Group report is **enclosed**.

Detailed submission

4. DA has also provided submissions on the various areas in relation to which the Commission has requested further information in the Sol. A table setting out the issues raised and DA's submission (where DA has relevant information or is in a position to respond) is also **enclosed**.

Key points

5. The proposed acquisition of 100% of the shares in Dense Air New Zealand Limited (**DANZ**) and its 2.6 GHz spectrum by One NZ will not result in a substantial lessening of competition in the relevant markets (however defined). Indeed, DA considers that the proposed acquisition would be procompetitive, and indeed more competitive than a counterfactual in which 2degrees acquires DANZ's spectrum (which DA disputes is a likely counterfactual), including because:
 - (a) The proposed acquisition will result in One NZ imposing a stronger competitive constraint on the market leader Spark, which will encourage both of those competitors to compete vigorously across price and quality dimensions.
 - (b) One NZ's acquisition of DANZ's spectrum will only provide it with an equal amount of spectrum to Spark, appropriately reflecting One NZ and Spark's similar numbers of customers. By contrast, the acquisition of the spectrum by 2degrees would give 2degrees substantially more spectrum than it needs relative to its customer numbers.
 - (c) One NZ already has 2.6 GHz equipment deployed so it will be more efficient for One NZ to use additional 2.6 GHz spectrum. On the other hand, DA understand that



2degrees does not have any 2.6 GHz equipment and it would be just as efficient and effective for 2degrees to deploy an alternative frequency (for example, the Interim Māori Spectrum Commission's 2.1GHz and 2.3 GHz spectrum).¹

- (d) 2degrees has recently been overallocated 3.5 GHz spectrum for 5G services and is more likely to invest in equipment to develop that. In light of that, and the alternatives available to it to build 4G FWA capacity, 2degrees will also act as a constraint on both One NZ and Spark in the factual.
 - (e) One NZ is, and will remain in the factual, constrained by Spark and other broadband suppliers (including by fibre and satellite broadband services).
 - (f) There is no evidence to suggest that the Proposed Acquisition would result in higher prices, less choice or lower quality outcomes for New Zealand consumers.
6. Furthermore and importantly, 2degrees is not capacity constrained. It has access to a range of alternatives to the acquisition of DANZ's spectrum for building capacity, including through the acquisition and/or use of alternative spectrum bands or through densification/building more cell sites. It follows that the factual would not substantially lessen competition vis-à-vis a counterfactual where 2degrees acquires DANZ's spectrum because 2degrees would not be hindered from competing in the relevant markets.
7. Finally, DA does not consider that it is likely or credible that 2degrees would acquire DANZ's 2.6 GHz spectrum absent the proposed transaction, and accordingly DA disagrees with the Commission as to the proper counterfactual.

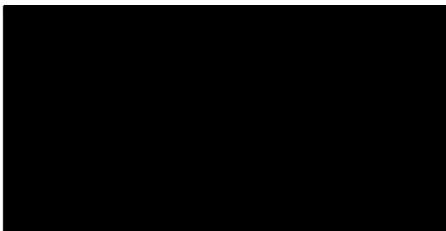
Confidentiality

8. The material in square brackets and highlighted yellow in this letter and the **attached** table is confidential and commercially sensitive, and its release would be likely to unreasonably prejudice DA and DANZ's position.

Next steps

9. DA trusts that this submission and the accompanying Brattle Report will be of assistance to the Commission. DA is happy to assist the Commission further, as needed, with any queries the Commission may have.

Respectfully submitted,



¹ See Statement of Issues at 29-30 and Table 2.

Dense Air – Response to Statement of Issues

Paragraph	Submissions Invited	Dense Air’s Comments
The Relevant Markets		
45	The Commission’s current approach to market definition/ further evidence on the scope of the relevant markets.	<p>In accordance with the conclusion on market definition in the Brattle Group Report, Dense Air Limited (DA) considers that the input and output markets are appropriately defined as follows:¹</p> <ul style="list-style-type: none"> o <u>Input Market:</u> <ul style="list-style-type: none"> • All spectrum bands that are available on the market and can be utilized to deploy wireless services. • In the era of 5G, this includes at a <i>minimum</i> the bands within 1 GHz – 4 GHz. o <u>Output Market:</u> <ul style="list-style-type: none"> • For mobile services: all product offerings by the three mobile network operators (MNOs) and all mobile virtual network operators (MVNOs) for the post-paid and pre-paid services. • For fixed broadband services: fibre (included in fibre geographies and not included in non-fibre geographies), ADSL/ADSL2+, satellite internet and fixed wireless access (FWA). If the speed-price bundles are comparable, then mobile broadband could also be considered as being in the same market. <p>Like the Brattle Group, however, DA broadly agrees that the competition issues that arise from the Proposed Acquisition can be assessed and isolated by defining the markets set out at paragraph 43 of the Commission’s Statement of Issues (SoI) (although mobile services provided by MVNOs should also be included in the assessment of the output market).² Whatever approach the Commission determines is appropriate, the Proposed Acquisition is ultimately procompetitive and the Commission can be satisfied that it will not substantially lessen competition.</p> <p>As discussed further below in this table, DA rejects 2degrees’ position that a separate market should be defined for wireless broadband services, including for the reasons set out in the Brattle Group Report.³ In this regard, DA also supports the reasons set out in the Chorus submission.⁴</p>

¹ Brattle Group Report, section IV.B.2.

² Brattle Group Report, pp 31-32, 37 and 41.

³ Brattle Group Report, pp 32-36.

⁴ Chorus *Submission on One NZ and Dense Air clearance application* (19 February 2024) at [6].

54	<p>The market for the acquisition of spectrum management rights, including:</p> <ul style="list-style-type: none"> • the substitutability of specific frequencies of mid-band spectrum by individual MNOs; and • how substitutability may potentially be affected by an individual MNO's network architecture and the active equipment it already has deployed on sites. 	<p>DA (supported by the Brattle Group) considers that there is substitutability, at a minimum, between all spectrum bands within 1 GHz – 4 GHz (with potential substitutability across a much wider range of spectrum bands). The Brattle Group observes that frequencies of spectrum are substitutable for provision of mobile services and wireless broadband services.⁵</p> <p>As a result, DA rejects 2degrees' submission that 2.6 GHz spectrum specifically is of any particular importance for the provision of services (including wireless broadband services). Furthermore and as noted above, DA understands that One NZ already has 2.6 GHz equipment deployed. It follows that while it will be efficient for One NZ to immediately utilise additional 2.6 GHz spectrum, 2degrees does not have any 2.6 GHz equipment and it would be just as efficient and effective for 2degrees to deploy an alternative frequency (eg, the Interim Māori Spectrum Commission's (IMSC) 2.1 GHz and 2.3 GHz spectrum).⁶</p>
57	<p>Retail mobile markets, including:</p> <ul style="list-style-type: none"> • the interchangeability of 2G, 3G, 4G and 5G retail mobile services from the perspective of customers and, separately MNOs; and • whether there are any discrete customer markets in the provision of retail mobile services that would be relevant to our competition assessment. 	<p>DA supports the Commission's preliminary view that it is unnecessary to determine whether there are discrete markets for the provision of 2G, 3G, 4G and 5G retail mobile services by MNOs or whether there are distinct customer markets for mobile services.</p> <p>In particular, DA considers that 4G and 5G are interchangeable (and notes that all MNO operators will soon close their 3G networks). This position is supported by the Brattle Group's analysis, which observes that consumers do not choose telecommunications services based on technological generations and that various generations of wireless technologies are required to provide a consistent and reliable mobile service to customers (until a generation has been entirely phased out).⁷ Finally, given 5G will replace 4G in the near term it would not be appropriate for the Commission to define separate markets for 4G and 5G.</p>

⁵ Brattle Group Report, p 41. For completeness, it should be noted that, while low-band spectrum can be a substitute for mid-band spectrum (such as the 2.6 GHz spectrum in question), the inverse is not always true (p 35).

⁶ Brattle Group Report, p 39; and Sol at [29]-[30] and Table 2.

⁷ Brattle Group Report, pp 34-35 and 41.

68	<p>The markets relating to the retail supply of wireless broadband services, including:</p> <ul style="list-style-type: none"> • the substitutability between retail wireless broadband services and fixed-line (fibre or copper) or satellite broadband services; • whether the substitutability of types of broadband services is different for business versus residential customers; • how the pricing of alternative types of broadband impacts on the pricing of wireless broadband services in each of fibre and non-fibre areas; and • the extent to which the substitutability of broadband services varies between fibre and non-fibre areas. 	<p>As set out above, DA rejects 2degrees' position that a separate market should be defined for wireless broadband services. In accordance with the Brattle Group's approach to market definition, DA considers that the output market includes fixed wireless, fibre, satellite and other legacy fixed wireline technologies.⁸ In particular:⁹</p> <ul style="list-style-type: none"> • In New Zealand, consumers can choose between fixed wireless, fibre, satellite, and other legacy fixed wireline technologies (eg, ADSL or copper), and each technology is widely adopted in New Zealand with a well-balanced distribution of subscriber share. • The Commission's distinction between fibre and non-fibre areas is appropriate given consumers' choice set varies depending on whether or not fibre is available. • Even that being so, there is a choice set in either case. For example, non-fibre areas have access to new technologies, such as low earth orbit satellite broadband, which is a substitute for fixed wireless. Wireless internet service providers also operate in non-fibre areas.
75	<p>The markets for the wholesale supply of services by MNOs, including:</p> <ul style="list-style-type: none"> • the extent to which wholesale services are demanded and supplied on a national basis, or 	<p>DA refers to its submissions above and notes for completeness that, even though "MVNOs play a limited role in the market, and in 2022, MVNOs served [only] around 1.4% of New Zealand's mobile subscribers",¹⁰ DA supports the Brattle Group's assessment that mobile services provided by MVNOs should be included in the assessment of the output market.¹¹</p>

⁸ Brattle Group Report, pp 33-34.

⁹ Brattle Group Report, pp 33-34.

¹⁰ Brattle Group Report, p 19 and n 137.

¹¹ Brattle Group Report, pp 31-32, 37 and 41.

	<p>separately in fibre and non-fibre areas; and</p> <ul style="list-style-type: none">• whether there are discrete wholesale markets for the supply of mobile services, wireless broadband services and other wholesale services, or whether customers demand and acquire different wholesale services in a package.	
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The Factual

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What the Proposed Acquisition would mean for One NZ, its and others' telecommunications customers, and for One NZ's competitiveness in downstream retail and wholesale telecommunications markets.

This question is for One NZ and DA has not seen the information redacted in the Commission's Sol. However, DA considers that it is important that the Commission take into account certain important factors, which do not appear to be sufficiently acknowledged or canvassed in the Sol. In particular:

- It is relevant that One NZ has a materially greater number of customers than 2degrees. Accordingly, it is important that the Commission focusses on the spectrum holdings *relative to existing customer numbers* rather than simply the aggregate spectrum holdings by each MNO in figures 1, 2 and 3 in the Sol.
- One NZ's acquisition of Dense Air New Zealand Limited's (**DANZ**) spectrum will only provide it with an equal amount of spectrum to Spark, appropriately reflecting One NZ and Spark's similar numbers of customers.
- As noted earlier, One NZ already has 2.6 GHz equipment deployed so it will be efficient for One NZ to use additional 2.6 GHz spectrum. It is apparent that One NZ would be able to use this spectrum immediately given DANZ has previously loaned its 2.6 GHz spectrum to One NZ for use during the COVID-19 pandemic (effectively free of charge to support New Zealand's broader response to the pandemic). On the other hand, DA understands that 2degrees does not have any 2.6 GHz equipment, so it will not be in a position to utilise the spectrum immediately and it would be just as efficient and effective for 2degrees to deploy an alternative frequency (eg, the IMSC's 2.1 GHz and 2.3 GHz spectrum).¹²

In those circumstances, it is important that the Commission carefully consider and assess the procompetitive effects of the Proposed Acquisition in the markets, including that One NZ would be enabled to more strongly compete with Spark. This is likely to result in a greater enhancement to competition in the markets than if 2degrees were to acquire substantially more spectrum than it needs relative to its existing customer numbers (including because of the competitive constraint One NZ would impose on Spark in the factual).

¹² Sol at [29]-[30] and Table 2.

The Counterfactual

96, 112
and 117

Industry participants to provide us with further evidence on what is likely to happen absent the Proposed Acquisition, including potential alternative purchasers and the likelihood of 2degrees acquiring DANZ's spectrum in the counterfactual.

DA does not consider that it is likely that 2degrees would acquire DANZ's 2.6 GHz spectrum absent the Proposed Transaction (ie, there is not a "real chance" of this occurring). This is evident based on DA's dealings with 2degrees to date. DA has previous engaged with 2degrees in good faith and 2degrees has had numerous opportunities to acquire DANZ's spectrum.

This indicates to DA that 2degrees, does not see it as necessary for its ability to compete in the relevant markets and is able to increase capacity through other means.¹³

¹³ See Brattle Group Report, p 42, where the Brattle Group observes that the cost of adding more capacity will be the same for both alternatives – deploying new spectrum or adding more base stations/cell sites. This implies that where an MNO has been outbid in the sale of spectrum, it has made an assessment that the cost of building more base stations/cell sites would be more economic.

¹⁴ See Brattle Group Report, p 37, regarding the value placed on spectrum in Norway, for example. Note also Brattle Group's observations as to other uses of spectrum (p 11).

Considerations relevant to assessment of the Proposed Acquisition

131	The existing capacity of MNOs and their capacity constraints and on how spectrum holdings affect capacity, including on how essential spectrum is to the capacity of MNOs and the extent to which MNOs are capacity constrained (including if capacity constraints differ in fibre and non-fibre areas).	<p>DA refers to the analysis undertaken by the Brattle Group, which demonstrates that New Zealand MNOs are not spectrum constrained, particularly when compared to their US counterparts. All three New Zealand MNOs have more capacity per subscriber compared with the top two US MNOs (Verizon and AT&T). That reality remains the same in the factual and a counterfactual in which 2degrees acquires DANZ's spectrum given DANZ's spectrum is not currently deployed.¹⁵</p> <p>As Brattle Group observe, it follows that "further densification and cell site deployments can go quite far in adding capacity in providing both mobile services and wireless broadband services", and "2degrees does not appear to be constrained in terms of mobile or FWA spectrum (both 4G and 5G uses)".¹⁶</p> <p>In addition, DA observes that:</p> <ul style="list-style-type: none">• Non-fibre areas in NZ are generally rural, low population density areas. In these areas, broadband internet is often provided across mobile networks or by satellite.• Due to the rural nature, and low population density, lower frequency spectrum (eg, 700MHz) is preferred for delivering services due to its longer range, and better penetration.¹⁷• Many of these areas are serviced by the Rural Connectivity Group (RCG) (a joint venture between all three MNOs), which is not spectrum constrained.
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¹⁵ Brattle Group Report, p 38. See generally the analysis undertaken in the Brattle Group Report, pp 22-24.

¹⁶ Brattle Group Report, p 42.

¹⁷ Brattle Group Report, pp 12-13.

146	<p>What spectrum holdings and network capacity means for the services offered by (and the relative competitiveness of) MNOs, including on:</p> <ul style="list-style-type: none"> • how MNOs intend to reallocate spectrum from 2G/3G to 4G/5G as they retire older networks, and how this may impact on the capacity of MNOs to serve mobile or wireless broadband customers in the future; • the extent to which any spectrum-driven capacity constraints impact on an MNO's ability to offer 4G and 5G services to the same extent, or to varying degrees; and • efforts MNOs can undertake to alleviate or eliminate capacity constraints, or otherwise manage capacity to offer competitive mobile or wireless broadband services. 	<p>As noted above, none of the New Zealand MNOs can reasonably be described as spectrum constrained. Further densification and cell site deployments can go quite far in adding capacity in providing both mobile services and wireless broadband services.</p> <p>Furthermore, DA does not consider it credible that 2degrees would use DANZ's spectrum in the counterfactual to enable it to provide 4G FWA services, particularly given the time and cost involved in acquiring and deploying the equipment for 2degrees to use the spectrum. Much more likely is that 2degrees would use the spectrum to support its deployment of 5G, supplementing the considerable 3.5GHz holdings 2degrees already has. The 4G technology is essentially now a legacy technology, and the transition from 4G to 5G is well underway for all MNOs.</p>
155	<p>The opportunities that MNOs will have to acquire or access additional spectrum in the future.</p>	<p>DA is aware that work is underway to implement the Crown's agreement with Māori regarding spectrum interests which should give rise to opportunities to acquire more spectrum in the short to medium term. The IMSC was given the following spectrum, and a commitment to receive ~20% of all future allocations and renewals (this includes the renewal of the 2.6 GHz band in 2028) going forward:</p>

		<table border="1"> <thead> <tr> <th>Band name</th> <th>Frequency range</th> </tr> </thead> <tbody> <tr> <td>2100 MHz</td> <td>1970-1980 and 2160-2170 MHz</td> </tr> <tr> <td>2300 MHz</td> <td>2370-2395 MHz</td> </tr> <tr> <td>3.5 GHz</td> <td>100 MHz in the range 3.4-3.8 GHz, with specific frequency be agreed</td> </tr> </tbody> </table> <p>DA understand that the IMSC is interested in establishing leasing arrangements with the MNOs for their spectrum assets. These could be made available rapidly to 2degrees if they are able to reach an agreement with the IMSC.</p> <p>DA also invites the Commission to reflect on the role of the Crown in allocating spectrum in New Zealand. It is relevant that the Crown can respond to any competition concerns that may eventuate (however unlikely) through its allocation policy. In this sense, while spectrum is, ultimately, a scarce resource, the scarcity of the input in this particular context is somewhat artificial.</p>	Band name	Frequency range	2100 MHz	1970-1980 and 2160-2170 MHz	2300 MHz	2370-2395 MHz	3.5 GHz	100 MHz in the range 3.4-3.8 GHz, with specific frequency be agreed
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2100 MHz	1970-1980 and 2160-2170 MHz									
2300 MHz	2370-2395 MHz									
3.5 GHz	100 MHz in the range 3.4-3.8 GHz, with specific frequency be agreed									
163	The alternatives available to MNOs to add capacity, including on the extent to which it may be profitable for an MNO to invest in adding capacity to its networks in the above ways and how these alternatives compare to acquiring additional spectrum.	<p>As explained above, New Zealand MNOs are not spectrum constrained and 2degrees has a high amount of capacity per subscriber. It remains available to 2degrees to employ further densification and the building of further cell sites to increase capacity.¹⁸ Moreover, there are alternative sources of spectrum that are likely to come available to 2degrees (particularly from the IMSC and the Ministry of Business, Innovation and Employment (MBIE)).¹⁹</p> <p>While DA accepts that adding more spectrum will inevitably be beneficial for participants in the markets, ultimately any business needs to make a business decision as to how best to allocate funds to be serve existing and potential customers (whether or not alternatives for adding capacity might be considered a “second best” option).²⁰ 2degrees has demonstrated its business decisions in its commercial dealings with DA. Those dealings demonstrate that 2degrees , does not see it as necessary for its ability to compete in the relevant markets and is able to increase capacity through other means.²¹ If 2degrees considered that the DANZ spectrum was essential to its ability to compete,</p> <p>As we have already noted, DA understands that 2degrees does not have any 2.6 GHz equipment so it is just as efficient and effective for 2degrees to deploy another frequency band instead of 2.6GHz. That</p>								

¹⁸ Brattle Group Report, pp 38-39 and 42.

¹⁹ Brattle Group Report, pp 35-36.

²⁰ Sol at [160].

²¹ Brattle Group Report, p 42.

		<p>position can be contrasted against the position of One NZ, which already has 2.6 GHz equipment deployed meaning it will be efficient for One NZ to use more 2.6 GHz spectrum immediately.²²</p> <p>Additionally, DA understands that in the recent 5G spectrum allocations, 2degrees was provided more spectrum (per subscriber) than One NZ or Spark (they were each allocated 80 MHz) giving them a competitive advantage with respect to this spectrum range. As the new 3.5 GHz 5G spectrum is a high frequency band, additional sites will be required in 2degrees' network to utilize these frequencies to their fullest, meaning 2degrees will already be employing alternatives (to acquisition of the DANZ spectrum) to add capacity.</p>
<p>Competitive effects of the Proposed Acquisition</p>		
<p>174, 183, 194 and 200</p>	<p>The Commission's assessment of the competitive effects of the Proposed Acquisition and its potential impacts on the:</p> <ul style="list-style-type: none"> • retail supply of mobile services; • retail supply of wireless broadband services; and • wholesale supply of services by MNOs. 	<p>The Proposed Acquisition of DANZ's 2.6 GHz spectrum by One NZ will not result in a substantial lessening of competition in the relevant markets, however defined. We make two key points.</p> <p>First, the Brattle Group's Report persuasively demonstrates that there are alternatives available to 2degrees than acquiring DANZ's spectrum. In particular, 2degrees is not capacity constrained and could increase capacity through densification/building more cell sites, or through acquiring or leasing spectrum from the IMSC or MBIE.</p> <p>There is no compelling evidence to suggest that the Proposed Acquisition will impact on 2degrees' ability to compete in the provision of retail and wholesale mobile and wireless broadband services if it is committed to doing so.</p> <p>Second, the Proposed Acquisition (ie, the factual) will bring with it procompetitive effects that are likely to greatly exceed any potential effects arising in the counterfactual in which 2degrees acquires the spectrum. As observed by the Brattle Group and earlier in this table, the Proposed Acquisition will allow One NZ to quickly and efficiently deploy 2.6GHz spectrum, using existing equipment (which DA understands 2degrees does not have), thereby improving the quality of service for One NZ customers and, importantly, enabling One NZ to impose a much stronger constraint on Spark (which is the current market leader and currently has the highest average revenue per user (ARPU) in the market). Furthermore, One NZ is and will remain constrained by Spark, 2degrees and other broadband suppliers (including through fibre and by satellite). There is no evidence to suggest that the Proposed Acquisition would result in higher prices, less choice or lower quality outcomes for New Zealand consumers. It follows that the Proposed Acquisition will have net procompetitive effects and, conversely, will not substantially lessen competition in the relevant markets.</p>

²² Brattle Group Report, p 39.

		<p>To conclude otherwise would be inconsistent with the Commission’s decision in <i>Spark/Craig Wireless</i> where the Commission cleared the acquisition by Spark of 70 MHz of the 2.3 GHz band in 2016 against a counterfactual in which Craig Wireless would have launched a competing FWA service.²³ In that case, the Commission found that consumers already benefited from significant competition between Spark and a number of other broadband providers.²⁴ It remains true today that there is vigorous competition between a number of different broadband providers. The difference between the <i>Spark/Craig Wireless</i> case and the present case is that the Proposed Acquisition by One NZ of DANZ’s spectrum will enable One NZ to impose a stronger constraint on the current leading market player (Spark), which will result in significant procompetitive outcomes.</p>
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²³ *Spark New Zealand Trading Limited/Craig Wireless New Zealand Spectrum Operations Limited* [2016] NZCC 7 at [43].

²⁴ At [63].