Dear Sirs,

On behalf of Go Wireless NZ Limited. The views here expressed are representive of Go Wireless NZ Ltd.

This email is a submission in response to the Managed Spectrum Park Review and Regional/Non-National Allocation Discussion document, June 2021.

We understand that the Managed Spectrum Park (MSP) is a block of radio spectrum between 2580-2620 MHz set aside in order to allow users to supply a diverse range of services. Radio Spectrum Management (RSM) grants licences in this spectrum subject to Licence Agreements which comply with the Managed Spectrum Park Rules. Since its establishment, Licensees of the MSP have used it to provide diverse services such as wireless broadband, road traffic monitoring, voice telephony, and the control of traffic signals.

Question 1: Do you think that co-operation in feasible in the Managed Spectrum Park?

1.1 Co-operation or coordination is feasible if users of the spectrum are required to publish complete and accurate records of their transmitters and antennas.

1.2 MSP areas are based on Territorial Local Authority (TLA) boundaries, which do not align well with rural coverage demands or geography. Exclusive allocation of spectrum to licensees on a TLA geographical basis could lead to inefficient use of the spectrum. It should be possible for several licensees to operate within a single TLA without interfering with each other.

1.3 New applications to the MSP should not require an existing licensee to reduce their utilisation of the spectrum to less than one contiguous 20 MHz channel across any geographical area.

Question 2: When considering MSP spectrum allocations, what allocation method(s) would be preferable to you?

2.1 First in, first served should remain as the basis for MSP allocations to eligible applicants where there is no incumbent. An administrative allocation process should be used when a new eligible applicant enters an area where an incumbent is present and claiming the entire 40 MHz allocation.

2.2 Eligibility requirements for applicants should be adjusted to include only existing radio network operators who are not associated parties. The limitation should apply because historic success rates for MSP implementation show that the MSP is poorly suited to new entrant organisations.

As illustrated in Appendix A, since inception 4281 MSP licence IDs have been created

by 42 applicants. 36 applicants were existing radio network operators, including ISPs, councils, and utility operators. One applicant was a private company. One was a confederation of Maori iwi and hapu. The remaining four applicants, who were new entrant organisations (not existing network operators) at the time of their applications, were responsible for 1,882 license ids, all of which were declined, cancelled, or expired without implementation.

2.3 The definition of associated parties should be amended to exclude commercially unrelated companies who might have a common shareholder.

2.4 Implementation requirements should be met by users within one year of granting of a licence. The equipment required for establishing a fixed or mobile wireless service in the MSP band is now a commodity, available from a large number of manufacturers and distribution channels. Co-siting is available on a commercial basis throughout the country, including subsidised rates on government-funded rural broadband initiative towers. Neither availability or equipment nor co-siting issues mentioned in the discussion document point 16 are valid or legitimate reasons for failure to meet implementation requirements.

Question 3: What are your thoughts on the level of technical requirements/rules in relation to MSP licences?

3.1 Cooperation and coordination of services requires a level of detail that could be captured by the register of radio frequencies, but is not currently required by RSM. Accurate details should be recorded for all existing and future licences and should include, at a minimum, on a per-transmitter basis:

- Transmitter make and model

- Transmitter emission

- Transmitter power level

- TDD synchronization pattern

- Antenna make and model

- Antenna azimuth

- Antenna elevation

3.2 The range and technical characteristics for fixed and mobile services are very different. Mobile antennas are necessarily low gain and omnidirectional, and typically are only used within a few kilometers of a tower. Fixed antennas are typically higher

gain, and can be used tens of kilometers from a tower.

Receive protection areas should be separately defined for use with either fixed or mobile subscribers. Receiving antennas and receivers accurately defined in either case. In cases where a base station transmitter is used for both fixed and mobile subscribers, separate protection areas should be defined and recorded on the licence, with the expectation that a mobile receive area will be far smaller than a fixed wireless receive area.

3.3 RSM should ensure that licences as granted only cover serviceable geographic areas.

Question 4: What are your thoughts on the best method(s) for future regional/non-national spectrum allocations?

4.1 Additional blocks of spectrum should be made available on a regional basis both on an MSP-style allocation basis, and via competitive tender.

Question 5: Should priority be given to incumbents over new entrants?

5.1 New Zealand supports more than 100 radio network operators who could be considered incumbents. Historically new entrants to the market have failed to implement. In the Managed Spectrum Park cases include BWA4U, Kiwimax, Korderas, and Travel Network. In the 2.5 GHz bands, cases include Cayman Spectrum and Blue Reach. Priority should always be given to incumbents over new entrants.

Question 6: Is the market big enough to support sub-regional competition?

6.1 Every region of New Zealand already supports sub-regional competition for fixed wireless access, so yes, the market is big enough to support sub-regional competition.

Question 7: Should spectrum allocation rules be used to limit consolidation (mergers or take-overs) of regional players?

7.1 Yes, spectrum allocation rules should be used to limit consolidation of regional players.

Question 8: What are your thoughts on how to protect regional rights for regional use?

8.1 Existing rules for the MSP limiting the geographic coverage of networks have effectively served to protect regional rights for regional use, and do not need alteration.

Additional Feedback: Resource Rental Calculation

9.1 The policy objective of the MSP is to "encourage the efficient use of the spectrum, innovation, and flexibility, and to provide for low-cost compliance and administration". The RRF is calculated based on the census population of the Territorial Local Authorities (TLA) of a licence divided by the population of the country. It is not fit for this purpose as it discourages use of the spectrum to cover small communities in populous TLAs, and enables creation of large licence areas that use the spectrum in an inefficient

manner.

In the Auckland TLA, licence ID 220830 covers 600 km2 of Auckland from a single tower at Waitarua. The annual RRF for the use of 10 MHz in the Auckland TLA, covering hundreds of thousands of addresses, is $4,268.40.

A proposed new licence from a WISP (illustrated below, to the left) would cover 1,100 addresses from Anawhata to Karekare. Their annual RRF for use of 10 MHz of spectrum would also be $4,268.40 - because their licence is in the Auckland TLA. By providing a small amount of coverage to a few rural villages the WISP is financially penalised in comparison to the holder of licence 220830.

9.2 The proposed change to the RRF would consider the number of addresses covered by a licence, divided by the total number of addresses in New Zealand. Address data would be sourced from the publicly available LINZ data service. Given around 2.1 million addresses in the LINZ database today, the new RRF would be around $0.006/MHz per address covered per annum. While fees for large urban networks might remain essentially unchanged, fees for smaller and more remote networks would be drastically reduced. This could change the equation about whether investing in new coverage options for small communities is viable or not. It could make a material difference to Internet access in these smaller communities.

Appendix A

Summary of all licence identifiers issued in MR258, by organisation name and licence status, with a numeric count of each, based on a registry extract made 29th June 2021.

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org_name status n
1: AMURI NET LIMITED Current 157
2: BLUE DOOR CORPORATION LIMITED Declined 6
3: BLUE DOOR CORPORATION LIMITED Planned 6
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 4: BWA4U LIMITED Cancelled 24
 5: BWA4U LIMITED Certificate Expired 4
 6: BWA4U LIMITED Declined 12
 7: CHORUS NEW ZEALAND LIMITED Expired 20
 8: CHRISTCHURCH CITY COUNCIL Cancelled 8
 9: CHRISTCHURCH CITY COUNCIL Current 24
10: CHRISTCHURCH CITY COUNCIL Expired 22
11: COMPASS COMMUNICATIONS LIMITED Cancelled 142
12: COMPASS COMMUNICATIONS LIMITED Current 26
13: COMPASS COMMUNICATIONS LIMITED Declined 3
14: DELTA UTILITY SERVICES LIMITED Cancelled 6
15: DELTA UTILITY SERVICES LIMITED Certificate Expired 4
16: Downer EDI Works Ltd Certificate Expired 38
17: ENHANCED SOLUTIONS LIMITED Cancelled 10
18: ENHANCED SOLUTIONS LIMITED Current 154
19: ENHANCED SOLUTIONS LIMITED Declined 37
20: GISBORNE.NET.N.Z. LIMITED Cancelled 6
21: GISBORNE.NET.N.Z. LIMITED Current 18
22: HAMILTON CITY COUNCIL Certificate Expired 2
23: HAURAKI DISTRICT COUNCIL Cancelled 6
24: INSOMNIA SECURITY GROUP LIMITED Expired 4
25: INSPIRE NET LIMITED Cancelled 2
26: INSPIRE NET LIMITED Certificate Expired 2
27: INSPIRE NET LIMITED Declined 2
28: KIWIMAX LIMITED Cancelled 317
29: KIWIMAX LIMITED Certificate Expired 30
30: KIWIMAX LIMITED Declined 63
31: KORDERAS LIMITED Cancelled 752
32: KORDERAS LIMITED Certificate Expired 6
33: KORDERAS LIMITED Declined 614
34: LIGHTSPEED TECHNOLOGY GROUP LIMITED Certificate Expired 2
35: LIGHTSPEED TECHNOLOGY GROUP LIMITED Current 8
36: LIGHTSPEED TECHNOLOGY GROUP LIMITED Declined 2
37: LIGHTWIRE LIMITED Cancelled 112
38: LIGHTWIRE LIMITED Current 146
39: LIGHTWIRE LIMITED Declined 6
40: MARLBOROUGH DISTRICT COUNCIL Cancelled 22
41: MARLBOROUGH DISTRICT COUNCIL Current 8
42: MOUNT CAMPBELL NETWORKS LTD Cancelled 20
43: NETSMART LIMITED Cancelled 158
44: NETSMART LIMITED Certificate Expired 70
45: NETSMART LIMITED Declined 36
46: NEW ZEALAND TECHNOLOGY GROUP HAWKES BAY LIMITED Current 60
47: New Zealand Transport Agency Cancelled 12
48: New Zealand Transport Agency Expired 24
49: NORTHPOWER LIMITED Certificate Expired 6
50: PRIMOWIRELESS LIMITED Cancelled 44
51: PRIMOWIRELESS LIMITED Current 62
52: QUEENSTOWN LAKES DISTRICT COUNCIL Certificate Expired 4
53: SMARTLINX 3 LIMITED Cancelled 8
54: SMARTLINX 3 LIMITED Certificate Expired 2
55: SMARTLINX 3 LIMITED Declined 4
56: TE RUNANGA O NGATI WHATUA Declined 4
57: THEPACIFIC.NET LIMITED Cancelled 30
58: THEPACIFIC.NET LIMITED Certificate Expired 38
59: THEPACIFIC.NET LIMITED Current 14
60: THEPACIFIC.NET LIMITED Declined 2
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61: THEPACIFIC.NET LIMITED Expired 4
62: THEPACIFIC.NET LIMITED Planned 6
63: TRAVEL NETWORK LIMITED Cancelled 40
64: TRAVEL NETWORK LIMITED Certificate Expired 20
65: TRUSTPOWER LIMITED Planned 2
66: Uber Group Ltd Cancelled 12
67: Uber Group Ltd Current 42
68: Uber Group Ltd Declined 20
69: UBER NETWORKS LIMITED Declined 40
70: ULTIMATE MOBILE LIMITED Current 198
71: ULTIMATE MOBILE LIMITED Expired 28
72: ULTIMATE MOBILE LIMITED Planned 2
73: Unifone New Zealand Limited Current 40
74: Unifone New Zealand Limited Declined 24
75: VELOCITYNET LIMITED Cancelled 4
76: VELOCITYNET LIMITED Current 18
77: VELOCITYNET LIMITED Declined 2
78: VITAL LIMITED Cancelled 186
79: VITAL LIMITED Certificate Expired 4
80: VITAL LIMITED Declined 41
81: WASP NEW ZEALAND LIMITED Cancelled 4
82: WELLINGTON INTERNATIONAL AIRPORT LTD Current 8
83: WELLINGTON REGIONAL COUNCIL Declined 10
84: WIZWIRELESS LIMITED Cancelled 36
85: WIZWIRELESS LIMITED Certificate Expired 2
86: WIZWIRELESS LIMITED Current 22
87: WIZWIRELESS LIMITED Declined 11
88: ZELAN LIMITED Current 24
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