QUESTIONS FOR TELECOMMUNICATIONS INDUSTRY

1. **What are the wholesale services Telecom will be offering?**

Telecom will be offering the following wholesale services:

- **DSL:** Telecom will deliver broadband services with a minimum peak download speed of 5Mbps to 57% of Zone 4 homes over Telecom's extended FTTN network. DSL services with a minimum peak download speed of 10Mbps will be available to 50% of homes in Zone 4 and 34% of Zone 4 homes will receive minimum download speeds of 20Mbps or greater.

- **Fibre:** FTTP connections will follow the new fibre footprint. Telecom will be adding approximately 3,100kms of open-access fibre and will also provide dark fibre over all newly laid fibre. Telecom will offer comparable FTTP products as those offered in the UFB. Other RSPs may also co-locate in Telecom's cabinets, exchanges and/or purchase Telecom wholesale products operating over the RBI fibre.

- **Backhaul:** Telecom will be extending the capacity and reach of their backhaul network through the installation of approximately 3,100 kms of new fibre routes and a number of digital microwave radio links.

- **Co-location services:** Telecom will be required to offer co-location services at each of the 986 cabinet sites that the RBI will fund.

2. **What are the wholesale services Vodafone will be offering?**

Vodafone will be offering the following fixed wireless wholesale services:

- **Naked Broadband:** Broadband-only (without telephone) service with a minimum peak of at least a downlink speed of 5Mbps.

- **Broadband and Voice:** Broadband plus a phone service product the same as the 'naked product' above but with an additional wireless voice service delivered as a separate GSM channel. (This voice channel will not be suitable for supporting fax services).

- **Enhanced Broadband service:** A broadband product that is the same as the 'naked product' above but, in addition it will support a real time voice over Internet Protocol service.

3. Are there any differences between the services Telecom and Vodafone are offering and that which was asked for in the RFP?

The Telecom product set fully complies with the RFP requirements and the fibre products exceed what the RFP asked for such as enabling FTTP en route.

Vodafone will offer a dedicated voice channel on top of its broadband service which will provide end users/customers with the opportunity to replace their fixed line service. As a result, Vodafone will not be required to offer higher speed enhanced broadband products initially, however, they will offer a enhanced broadband product that supports VOIP.

This product set was chosen because it matches current and projected national market demand. Vodafone has a requirement in its RBI contract to further improve its enhanced broadband service over time.

4. How can Access Seekers find out more about the wholesale services?

Refer to the Telecom and Vodafone websites at the following websites:

www.telecom.co.nz/rural-broadband

http://www.vodafone.co.nz/rural-broadband

5. What pricing has been proposed for wholesale Telecom services?

Telecom will offer comparable wholesale FTTP prices to urban end-users. The final wholesale FTTP prices will be settled once CFH has entered into agreements with Local Fibre Companies.

Wholesale backhaul prices from RBI funded cell sites to Regional Points of Presence will be the same as the FTTP price for schools and hospitals.

All other wholesale prices will be available according to the relevant Commerce Commission Standard Terms Determination or the commercial price.

6. What pricing has been proposed for wholesale Vodafone services?

The following table illustrates Vodafone's proposed wholesale service prices.:

Product	Price	Datacap**
Naked Broadband	$44.35	10 GB on-peak 50 GB off-peak
Clothed Broadband	$52.17	10 GB on-peak 50 GB off-peak
Enhanced Broadband (40)	$64.40	N/A

*Off Peak – 12am to 6am.

**Additional GBs will be charged at $1.50 per GB.

7. Why are data caps used in Vodafone's wholesale broadband services?

The data caps which Vodafone has in place are set at high levels. The majority of broadband customers do not currently use more than 10GB on peak and 50GB off peak.

The rationale behind Vodafone offering customers higher amounts of data during Off Peak times compared to lower amounts of data during Peak times arises from its need to efficiently manage the traffic at its cell sites.

The bandwidth available on a cell site is a contended resource which is shared between all users online at any given time. In order for Vodafone to ensure that all customers on any given cell site receive a fair user experience, Vodafone has chosen to use data caps as a tool to efficiently manage traffic.

During Peak times there is the greatest amount of traffic on the network and so, in order to run mobile sites effectively, Vodafone must restrict the amount of data that customers can use during Peak times. During Off Peak times, there is much less demand on mobile sites and so Vodafone is able to offer higher amounts of data to customers without putting strain on the network.

Should customers want to use more than the capped data amounts during either Peak or Off Peak times, Vodafone will charge additional amounts per GB in the interests of managing demand and enabling Vodafone to manage its traffic effectively.

Vodafone's wholesale overage rates are $1.50 per GB.

RSPs will create their own packages of services taking into the behaviour of their users and the wholesale and international data charges that they will have to meet.

Vodafone will not be restricting data traffic flows such as Skype, peer-to-peer and other file sharing traffic flows.

8. **Will other service providers have a fair chance to compete with Vodafone for retail customers?**

Yes. Vodafone will be required to maintain a percentage margin on its wholesale products ensuring that it does not implement a 'price squeeze' between retail and wholesale prices. This is in line with the proposal which MED sought public comment on recently.

9. **What is going to happen over time with the caps?**

The Vodafone agreement has a process for product review to ensure that Vodafone continues to meet customers' services expectations, its services keep pace with comparable urban services, and it commits to new technology in a timely and effective manner (such as changing the data caps and migrating towards 4G LTE).

Product reviews will occur annually and Vodafone is to provide a report to MED's authorised representative on its services to review. If the report is not accepted by the MED's authorised representative, then the Chief Executive of the MED will review the report.

If MED's Chief Executive does not accept the product review then the parties will enter into arbitration.

10. **What happens to an RSP if the data cap is exceeded?**

The majority of end users do not currently exceed 10GBs per month (on peak and off peak combined). However, RSPs will be charged an overage rate at $1.50 per GB.

11. **How are prices for regulated services affected by the RBI?**

The Commerce Commission will continue to set the prices for price-regulated services (i.e.: Designated Services as defined by the Telecommunications Act 2001).

RBI funding has been used to achieve lower prices for the following services provided by Chorus:

- RBI Layer 1 Inter-Exchange Backhaul Service;

- RBI Direct Fibre Access Service (specified Layer 1 service);
- RBI Sub-Loop Co-location in Grant Funded Cabinets;
- RBI Fibre Bitstream Service for Priority Users (specified Layer 2 service);
- Premium RBI Fibre Bitstream Service for Priority Users (specified Layer 2 service); and
- RBI Community Fibre Bitstream Service (community FTTP Layer 2 service).

12. Will Vodafone's Wholesale service just be a rebadged Vodafone Retail service?

Vodafone's broadband data services are new services that will be provided on a non-discriminatory basis. The voice service will be a resold Vodafone GSM service.

13. Why did MED prefer the Vodafone solution over others proposed?

Vodafone was the only company that provided MED with the necessary guarantees that it could meet the RBI's community coverage objective (80% of Zone 4 houses and enterprises to have access to minimum download broadband speeds of 5Mbps or better).

The Vodafone RBI contract only requires funding for towers, enables infrastructure competition and allows any access seekers to deploy any technology that they wish to use. Vodafone's solution also enhances mobile coverage.

Vodafone's 3G technology can and will be readily upgraded to 4G in coming years.

14. Why Telecom and not a company with newer fibre?

Telecom offered a solution that meets the RBI's coverage goals of increased fibre reach and Telecom maximised the use of existing fibre infrastructure and offered fibre connections to more schools than any other bidder.

15. How long will services be available under the contracts?

The term of the services vary based on, amongst other things, the design life of the assets. For example: fibre assets and towers must be made available for the provision of services for a period of 25 years on an open access and non-discriminatory basis. Wholesale bitstream services are required to be provided for eight years. The Government has incentivised Vodafone to create workable competition in the rural wholesale market which will reduce the term to 5 years if they prove workable competition in the rural wholesale Layer 2 bitstream access services market.

16. When will funding be paid out to Vodafone and Telecom?

MED will only pay grants to Vodafone and Telecom upon completion of agreed milestones.

17. What role will the Commerce Commission have in monitoring Vodafone and Telecom?

The Commerce Commission monitors Telecom's Operational Separation undertakings, relevant Standard Terms Determinations and Part 2 of the Telecommunications Act 2001, and Vodafone's Non-Discrimination undertakings (once the Telecommunications (TSO, Broadband, and Other Matters) Amendment Bill is enacted and the undertaking approved by the Minister).

18. Will regulatory forbearance apply to RBI infrastructure?

No.

19. Why is Equivalence Of Inputs not being applied to Vodafone?

Non-discrimination is a proportionate and appropriate remedy given that Vodafone will face wholesale competition in rural areas from DSL and fibre services. Non-discrimination better reflects the higher cost and implementation risks in non-urban areas while continuing to promote competition.

20. What would have happened if the RBI didn't offer subsidised fibre infrastructure?

Telecom would not have offered to provide the FTTP service in addition to the services asked for in the RFP.

Prices in the RBI contract would have been significantly higher which would have discouraged FTTP uptake in rural areas.

21. What would have been the price difference had the Government not accepted Telecom's recent Operational Separation Undertaking Variation 5?

If the government had not negotiated subsidised pricing the prices for Telecom's RBI fibre services would have been significantly higher and a disincentive to take up.

22. What will the cost for FTTP Lead-ins be?

Telecom has proposed a series of fully costed lead-in prices from the boundary of the property to the house where it connects to the start of the internal wiring (including electronics).

Telecom will provide three different deployment options for RSPs:

- Price on application for non-standard lead-ins;
- 100m lead-in for "dig your own" open trench; or
- 15m lead-in.

The following table illustrates Telecom's proposed community FTTP standard connection price caps. These are available to premises on the route of RBI fibre where the density is greater than 20 houses per km. Where density is less then 20 houses per km the price will be Price On Application;

Density	**Characteristics**	**FTTP New Connection Price**	
		25% discount	**Regular price cap**
Urban	• Road frontage is 20m per premise. • Fibre is laid down one side of the road. • Road crossings shared by 2 premises on other side of road, one breakout per four premises. • Urban efficiency in splitter and common infrastructure.	$607	$810

Density	Characteristics	FTTP New Connection Price	
		25% discount	Regular price cap
Medium Rural	• Road frontage is 50 to 100m per premise. • Fibre is laid down one side of the road. • Road crossing per premise on other side of road, one breakout per premise. • Lower efficiency in splitter and common infrastructure.	$1,485	$1,980

23. Will Telecom stop farmers from digging their own trenches or contracting others to dig their trenches for FTTP services?

No.

24. Can rural businesses purchase the same higher grade services that priority users like a school can purchase?

Comparable urban prices will be available for business grade FTTP services. However, rural businesses will be unable to purchase these services at the same price as the services that schools and other priority users can connect to under the RBI.

25. Why are Layer 1 services not being offered on the existing Telecom fibre network?

The RFP was focused on attracting proposals that would build new infrastructure that extended the reach of existing networks. Access to existing assets of Telecom is a matter for regulation under the Telecommunications Act.

26. Is dark fibre available on the Telecom network?

Yes, on the new RBI routes. The RFP required Layer 1 and 2 services to be provided on new fibre.

27. **Are wavelengths available on the Telecom network?**

Wavelength services may be available from Telecom on commercial terms but this service was not a mandated service in the RFP and falls outside the scope of the contract.

28. **Will access seekers still have access to regulated services over the subsidised network?**

Yes.

29. **How can we ensure that Telecom is deploying its fibre effectively?**

Telecom is required to undertake a competitive tender process for its fibre deployment contracts.

30. **Why is backhaul from the RBI cell towers subsidised when backhaul for fixed wireline cabinets isn't?**

The purpose of the RBI's Community Objective is to meet the 80% community coverage objective and the best way to do this is with a fixed wireless solution.

Fixed line access seekers will have access to an expanded backhaul network, subsidised co-location prices at the new cabinets, and continued access to sub-loop and UCLL backhaul pricing set by the Commerce Commission.

31. **What liability will Vodafone have if it doesn't meet the 80% rural household target?**

Vodafone has contracted to meet the 80% target regardless of cost. The government will insist on Specific Performance of Vodafone's contractual obligations through remedies such as Step-In.

32. **Will non-RBI funded towers get access to RBI cell-site backhaul prices?**

No. Existing commercial arrangements will apply.

33. How is co-location on the new towers going to be managed?

Vodafone will supply the Co-location Services on the RBI Infrastructure to Access Seekers as though it were existing infrastructure, on the terms set out in the Commerce Commission's Mobile Co-location Standard Terms Determination (**STD**) dated 11 December 2008 (including any subsequent clarifications or amendments to that STD). However, Vodafone must take reasonable steps to ensure that access seekers who participate in the design of the RBI Infrastructure are not prevented by the co-location process from installing their equipment at the relevant site contemporaneously with Vodafone. In addition, it must not reserve capacity on the basis of its forecast requirements, for anti-competitive purposes.

34. Do Vodafone's co-location undertakings as part of its RBI contract go further than the Commerce Commission STD on co-location?

Yes. Vodafone must extend the benefit of its obligations under the STD to access seekers who are not mobile cellular operators. Restrictions have also been placed on Vodafone's ability to reserve space based on its forecast use.

35. What will co-location cost on RBI funded towers?

Operating costs of the towers will be shared by all access seekers on the towers.

36. Can tower co-location access seekers get backhaul from RBI funded towers?

Yes. A layer 2 service will be offered from the cell site to the Regional Point Of Presence where a commercial service can be provided through the desired handover point. The maximum price for a 100Mbps backhaul connection will be $343 per month.

37. Can mobile companies co-locate on Vodafone or Telecom's existing rural towers?

Yes. The Commerce Commission STD covers the non-price terms for co-location at these sites.

38. Will XT co-locate on Vodafone's RBI towers?

XT, like any other wireless operator, may co-locate on any RBI funded towers.

39. Can tower co-location access seekers get handover points before the RPOP (such as the local exchange)?

Yes.

40. Why won't all RBI towers be automatically built with two headframes?

Access seekers do not require a second headframe to co-locate on a tower – they can use a band attachment. Access seekers also have the option of retrofitting a second headframe, should they consider it necessary. Furthermore, an RBI tower may be built with two headframes if sufficient numbers of access seekers participate in the design and build process. In other cases, attempting to construct all RBI towers with two headframes ignores the challenges of obtaining Resource Management Act consent and landowner authorisation for extensions that may never be used.

41. What about antennae sharing?

Antennae sharing poses technical challenges including interference and reduction of the power available to each operator, a consequential impact on coverage and quality of service. MED is not aware of antennae sharing having been widely and successfully deployed abroad.

42. Can 4G be deployed on the RBI funded towers now?

Yes. Tower co-location access seekers are free to deploy 4G technology on RBI funded towers.

43. Has Vodafone committed to upgrading to LTE?

This solution from Vodafone and Telecom enables the design, build and delivery of future-proofed infrastructure, designed to enable FTTP and the adoption of new technologies such as LTE.

If Vodafone begins a commercial roll out of 4G technology such as LTE then under the RBI contract Vodafone will deploy LTE on all unbuilt RBI funded sites and its existing sites that have not been upgraded to HSPA+ . This is subject to Vodafone getting spectrum in the 700-900MHz band.

44. What incentives does Vodafone have to upgrade to LTE?

Vodafone sees big benefits for the wholesale services it will be offering in rural New Zealand if it upgrades to LTE.

Vodafone is incentivised to continue to provide cost-efficient high speed services, such as LTE, to rural communities.

Successful LTE deployment in rural areas requires spectrum in the 700-900 MHZ band. This spectrum will not be available until the release of the current analogue television spectrum. While higher frequency spectrum can be used for LTE it is much more effective in urban areas than rural areas.

45. Will Vodafone be given preferential access to the 700MHz spectrum under its RBI contract?

No.

46. Why isn't mobile national roaming part of the RBI contract?

Mobile Cellular services are not the main focus of the RBI.

National roaming is already a 'specified service' under the Telecommunications Act 2001 and the Commerce Commission is free to re-investigate this market at any time, however, 2Degrees recently requested that the Commerce Commission not investigate the national roaming market.