

Summary of Questions and Answers

1. Introduction and Process

- 1.1 *Will there be an opportunity to comment on a draft report containing detailed proposals following this consultation process, e.g. on the caps and implementation requirement?*

This process informs advice for high level decisions by Government. Detailed design of associated rules and allocation processes will take place later (through mid-2012), and there will be an opportunity to comment on these.

We will consider whether further consultation may be necessary based on the final form of our recommendations, particularly if there are substantial revisions to the high level policies.

- 1.2 *Is it possible for spectrum to be available for use before the December 2013 date?*

This has not been considered in detail at this stage. The current proposal is for national management rights commencing December 2013. However, should there be sufficient interest from industry, it may be possible to access spectrum earlier in some areas due to the regionalised digital switchover process. The Ministry would be interested in receiving input as part of the submission process.

- 1.3 *The Ministry has mentioned that it may look to engage external advice following receipt of submissions. Can you specify what form of advice would be sought – for example, would it be technical, economic, international telecommunications experts?*

We have yet to determine the terms of reference for any external advice. Much will depend on the material provided by industry through the submission process.

- 1.4 *Is there a contradiction between the early allocation of spectrum and the availability of equipment?*

Our goal is to start with a process that enables early deployment of services as soon as the spectrum is free in late 2013. However, uncertainty is present in all high-tech areas. If in April, when we are expecting to report to Government, there is still too much uncertainty around equipment availability and the APT band plan, we may need to advise that decisions be delayed.

- 1.5 *How will the Ministry measure the uncertainty? Do you have any criteria?*

The Ministry is expecting that submitters will identify the key criteria relating to uncertainty from their perspective. Ultimately, this will be a judgement call.

- 1.6 *Does the Ministry have any processes in place to manage confidential information over and above the Official Information Act, e.g. a deed of undertaking between parties to share certain information?*

Any information provided to the Ministry becomes official information, subject to the provisions of the Official Information Act. There are provisions for withholding information, for example commercially sensitive information, but an absolute guarantee cannot be given.

- 1.7 *Would the Ministry consider delegating the competition assessment process to the Commerce Commission in order that it could be conducted with the benefit of the confidentiality provisions provided under the Commerce Act?*

The Ministry does not consider that it would be appropriate to attempt to evade the Official Information Act in developing policy proposals (as opposed to investigating pricing regulation for example). Furthermore, such an approach would limit the information that the Ministry is able to draw on when advising Government.

2. Technical Developments

- 2.1 *The Ministry has proposed 5 MHz blocks for allocation, but later in the document notes that 5 MHz may be an inefficient allocation. Has any consideration been given to setting a minimum allocation size (for example, following the approach taken by Ofcom in the UK)?*

The proposal that 5 MHz be the block size is in order to enable more variations in how the spectrum is allocated. The Ministry hasn't given consideration to setting a minimum allocation; the minimum spectrum requirements of parties looking to acquire spectrum are a business decision. Further input on this is welcome as part of the submission process.

- 2.2 *Given the traffic efficiencies of TDD, shouldn't TDD have a greater focus? Particularly if China and India are looking to adopt TDD?*

Both FDD and TDD modes have upsides and downsides from a technical efficiency perspective. A choice must be made when selecting the band plan. The Ministry's understanding is that industry generally prefers FDD and our recommendation has been made on that basis. TDD is not excluded, but it would be the responsibility of the TDD user to ensure that they made adequate provision not to interfere with adjacent users.

- 2.3 *The Ministry mentioned (in its presentation) three potential Band Plans for the APT region. Can you provide some sense of the expected uptake of each form of the band plan?*

The three versions of the band plan proposed for use in the APT are the FDD plan (promoted as an APT Common View to the ITU), the TDD plan, and a hybrid FDD/TDD band plan. The latter band plan does not appear to have much support and is unlikely to be approved. The FDD 2x45 MHz band plan is considered to be the best option from a spectrum utilisation perspective, and the most likely to be widely adopted.

2.4 *Which international markets does the Ministry anticipate New Zealand will follow from an equipment perspective?*

This will be determined by the selection of a band plan. As set out in the document, the Ministry's preference is to adopt the FDD band plan promoted by the APT Common View ("APT Band Plan").

2.5 *What timeframe is the Ministry anticipating for the availability of devices, and what modes/bands are these expected to cover?*

The Ministry expects that the APT Band Plan will be finalised in November 2011. Development of applicable standards by 3GPP has already begun, and is expected to be completed in early 2012. We anticipate that handsets/devices would be available about a year after this, in early 2013. Availability will be contingent on uptake of the band plan, and demand from carriers for devices.

2.6 *What is considered "large scale adoption" when discussing ensuring that there are the required economies of scale for equipment/handset production for New Zealand to adopt the APT band plan?*

No specific criteria have been developed. It is unlikely that New Zealand and Australia together would give sufficient scale. However, the Asia-Pacific region contains 50 percent of the world's population, so there is potential for large-scale adoption of the APT plan. We expect to see developments over the coming months. It is an area that the Ministry will continue to watch closely.

2.7 *If "large scale adoption" of the band plan does not take place, how would this consultation process be affected?*

That would need to be considered at the time. It is likely that the high level policy intent coming out of this process could be transferred to an alternative band plan. However, if substantial revision of proposals was required, then we would want to seek industry's input on new proposals.

2.8 *Why is the Ministry running this process in advance of other major markets?*

The allocation of the digital dividend spectrum has already occurred in many major markets, including the United States and several European states. It is currently underway in Canada, Australia, the UK, and France to name a few. It is important for New Zealand to keep up with international developments. While there remains some uncertainty around the APT band plan and equipment availability, the Ministry expects that these will be largely resolved within the next year, before the spectrum is allocated. It is important to begin this process now to ensure that the spectrum is able to be used as soon as it is available in December 2013.

3. Potential Reservations

3.1 *How much weight does MED give to the Australian PPDR debate, where they are considering allocation of some spectrum in the 800 MHz band for a public safety broadband network?*

The Ministry is watching what happens in Australia. Interoperability with Australia may be an important factor for the emergency services organisations. The Australian committee looking at spectrum for public safety broadband, which includes emergency services agencies and officials, is reporting back in late-February 2012 on the feasibility of using the 800 MHz band. This coincides well with our planned report-back to Government.

3.2 *What is the Ministry's definition of a 'new entrant'?*

We have not yet developed a formal definition for these purposes, though it is not expected to include the three existing mobile network operators. The underpinning idea is that the allocation of the 700 MHz band is proposed for an 18-year period, during which the state of the market can change considerably. There may be some sense in holding some spectrum back – but at this stage it is hard to predict what a 'new entrant' might look like.

3.3 *How would a spectrum set-aside for a new entrant work? Will there be a defined period of time after which it will be released?*

Government is not likely to 'bind' itself from the start, when future developments are unknown. The mechanics of a potential reservation have not yet been finalised.

3.4 *Is spectrum being set-aside for new entrants in other markets, for example Europe?*

We are not aware of any other countries looking to reserve digital dividend spectrum at this stage.

3.5 *What has led to the consideration of a set-aside for a new entrant? Is it based on competition assessment of the market?*

The idea is based on experience, following the difficulty a few years ago in securing sub-1-GHz spectrum for New Zealand Communications to enter the market.

4. Competition Considerations

4.1 *The document suggests that 2x20 MHz is more efficient than 2x15 MHz – this implies some efficiency loss if a party only gets 2x10 MHz. How do you assess the trade-off?*

The idea is to ensure that one party has the option of accessing 2x20 MHz to offer the full benefits of the technology to end-users, should it be desired. The final shape of allocations, and the trade-offs in securing different quantities of spectrum, would be a matter for the market players to determine.

4.2 *What is meant by '4G,' as there is not yet a true '4G' IMT-Advanced technology?*

The 4G referred to in the document will mean LTE or WiMAX in their current states. The term is applied loosely in the document, and will be carefully defined (if necessary) in the auction rules.

4.3 *What is the rationale behind linking the bands below 1 GHz?*

These bands have similar radio wave propagation characteristics and can therefore be considered as near substitutes for providing coverage. Deploying a network using only higher frequency bands requires a greater number of cell-sites, and consequently is much costlier.

4.4 *Is setting a cap that can be exceeded contradictory?*

We are attempting to find a middle ground, ensuring that at least three parties can acquire spectrum, and that one 2x20 MHz carrier may be deployed in the 700 MHz band. An alternative approach, for example, would be to put up three defined blocks for auction, of 2x20 MHz, 2x15 MHz, and 2x10 MHz.

4.5 *Why is the Ministry proposing to allow a 2x20 MHz block when it states in the paper that this may lead to a non-competitive outcome?*

The paper states that setting a general acquisition limit of 2x20 MHz may result in a non-competitive outcome, as such an approach would allow two parties to acquire 2x20 MHz each, with only 2x5 MHz remaining for a third player. We consider this risk to be mitigated by only allowing one party to acquire 2x20 MHz.

4.6 *If an operator seeks to acquire 20 MHz and is unable to sell-down its 800/900 MHz spectrum holdings, what happens? Will they need to return it to the Crown?*

We have not yet considered that outcome in detail, although we would consider it unlikely as the question is more about settling an appropriate price.

4.7 *Have MED done work to assess the likelihood of different outcomes?*

The ultimate outcome of an auction, following the design of associated rules, is one for the market to decide. We may look at potential outcomes as part of the analysis following receipt of submissions.

4.8 *MED has mentioned that it has 'heard' that 2x20 MHz is the most efficient size. Is this coming from any particular parties?*

These statements are based on a general understanding of the potential of LTE technology.

4.9 *Would the 2x30 MHz 'sub-1GHz' cap apply to any future allocations of spectrum?*

The cap would be set for a determined period of time, in line with past practice, and would apply to holdings in the 700, 800 and 900 MHz bands. Should new bands become available for allocation to mobile broadband uses, they would not be subject to this particular cap.

- 4.10 *Under the proposals, if a party purchases 2x15 MHz or less, then would there be a cap on any spectrum held in other bands?*

The proposed 2x30 MHz sub-1 GHz cap only applies if an operator seeks to acquire 2x20 MHz of spectrum in the 700 MHz band. If no operator seeks to acquire 2x20 MHz, then existing caps remain in force on a band by band basis.

- 4.11 *If a party acquires a 2x20 MHz block of spectrum, will they be subject to more stringent implementation requirements (i.e., greater than 50% population coverage, or a greater rural focus)?*

This is not part of the 'straw man' proposal. However, we are open to receiving comments as part of the submission process.

- 4.12 *The document references the Rural Broadband Initiative. Has the Vodafone RBI contract been altered to include mobile broadband? Is there a new policy directive for rural mobile broadband speeds higher than those already contracted with Vodafone?*

The contracts have not been altered, nor have the Government's policy objectives or speed targets. The reference simply reflects the potential of the 700 MHz band to be used to cost-effectively provide coverage in rural areas, and offer improved data transfer speeds.

- 4.13 *In the 2000 auction, MED advised bidders to consider wider competition issues such as collocation. Does the Ministry intend to provide guidance of a similar nature for this allocation process?*

No.

- 4.14 *Has there been any analysis on how these proposals might affect the mobile virtual network operator (MVNO) market?*

No.

5. Allocation Methodology

- 5.1 *Will there be a further consultation process to comment on the optimal auction design?*

Yes, we are intending to undergo targeted consultation on auction design and rules in mid-2012.

- 5.2 *Will the Charles Rivers Associates review of the 2.1 GHz auction (held in 2000/1) be considered for the 700 MHz allocation?*

We have used the lessons learned from the 2000 auction and CRA report for all auctions since 2000, and would expect to continue to apply those lessons here.

- 5.3 *Would MED look to apply implementation requirements which would require unused spectrum in other bands (not currently subject to implementation requirements) to also be deployed?*

This has not been considered as part of the 'straw man' proposals, and would likely be difficult to implement. However, we are open to receiving views from industry as part of the submission process.

- 5.4 *What is the rationale for the move from 65% population coverage to 50% coverage in the implementation requirements?*

The implementation requirements in the different bands had different policy objectives. 65% was required cellular services in the 800/900 MHz band, while 50% was required for cellular services in the 2.3 and 2.5 GHz bands. We have identified 50% population coverage for 4G mobile broadband as an effective level to spur investment but not overly distort the market. We are open to input in the submissions on the appropriate coverage requirement.

- 5.5 *Is the Commerce Commission involved in this process beyond their role in providing clearance related to the spectrum acquisition?*

We have been in consultation with the Commerce Commission on competition issues. We may look to invite comment from the Commission on competition issues raised in submissions. These comments would be made available on the Ministry's website.

6. General Q&A

- 6.1 *What level of detail will be provided to Cabinet in the April report-back?*

Cabinet needs to be given sufficient information to make key policy decisions. This does not typically require in-depth technical information. We are likely to provide a similar level of technical detail as contained in the Discussion Document. Where necessary, responsible ministers may be delegated authority to consider more technical details.

- 6.2 *How does the cross-submission process work? Will there be an opportunity to comment on cross-submissions?*

The submissions will be uploaded to the RSM website, and a month provided for cross-submissions. There will not be an opportunity for additional comment, although the cross-submissions will be made available on the website.

- 6.3 *Why limit cross-submissions to submitters only?*

This is designed to ensure a robust submission process. We would not want parties to hold back from putting in a submission, yet use the process to counter others' submissions.

6.4 *Will there be any rules on 'token' submissions?*

This would be difficult to impose. As all submissions will be made public, other parties will be able to see if some are attempting to game the process.

6.5 *How can submitters test the confidential information provided by other parties?*

As commercially sensitive information will not be made public by the Ministry, this will only be possible if voluntarily shared. However, such information will be made available to any independent consultants engaged by the Ministry, should this be deemed necessary.

6.6 *What work has the Ministry completed on the economic benefits that spectrum can provide from mobile use?*

As referenced in the paper, a report prepared by Venture Consulting identified economic benefits in the order of \$1.1 billion - \$2.4 billion over 20 years from the allocation of the 700 MHz band to mobile broadband uses. This is mainly due to the lower cost of deploying mobile services in this band as opposed to higher frequencies. The report is available on the [RSM digital dividend webpage](#).

6.7 *When the original DSO spectrum decisions were made, some spectrum in the UHF TV band (below 594 MHz) was earmarked for rural broadband use. What is happening with this?*

Potential use of 'white space' spectrum in the UHF TV band for rural broadband was considered as an option in 2009. There is no intended allocation at this time. Any potential use of this spectrum will depend on the availability of equipment, and will need to wait until all allocations for digital television have been finalised.

6.8 *Are parties able to make consolidated bids for spectrum, e.g. in rural areas where there could be shared spectrum use?*

We are not aware of any appetite for spectrum sharing from operators. However, we are interested in hearing thoughts from submitters, as this will inform how spectrum caps need to be designed.

6.9 *The document states that parties will be invited to seek Commerce Commission clearance. Should this be obligatory?*

Recent processes required successful bidders to indicate that they meet the requirements of the Commerce Act. Parties are required to provide a statutory declaration that the acquisition either does not involve a breach of section 47 of the Commerce Act, or that clearance or authorisation has been obtained under section 66 or 67 of that Act.

- 6.10 *In the United Kingdom, work is underway to protect digital television from interference from mobile broadband services in the digital dividend. How will the Ministry protect digital television in New Zealand?*
- 6.11 Significant work has been underway in New Zealand through the NZ Radio Sector. A report dealing with this issue is also being prepared by the APT. These studies provide indications that the likelihood of interference to the adjacent digital television services is very low (although it can never be totally eliminated). In addition, further comfort is gained in that New Zealand has a significantly larger guard band than provided in the UK and all existing digital television services will be located at a significant distance from the spectrum boundary.
- 6.12 *Will the Ministry provide additional information and detailed analysis, including benchmarking of the New Zealand telecommunications industry and spectrum holdings with those of other countries?*

We have advised the status of other countries where deemed necessary in the document. Where parties wish to reflect on the arrangements of other countries, we welcome receipt of this information as part of their submission.