

**REACH LTD.**

**COMMENTS ON THE TELECOMMUNICATIONS AUTHORITY'S  
CONSULTATION PAPER CONCERNING  
LICENSING FRAMEWORK FOR  
DEPLOYMENT OF BROADBAND WIRELESS ACCESS  
OF 20 DECEMBER 2004**

**14 MARCH 2005**

**Reach Ltd.**

**Comments on the Telecommunications Authority's**

**Consultation Paper Concerning**

**Licensing Framework for**

**Deployment of Broadband Wireless Access**

**of 20 December 2004**

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**INTRODUCTION**

- 1.1 Reach Ltd (“**REACH**”) provides this submission in response to the Telecommunications Authority’s (“**TA**”) Consultation Paper “*Licensing Framework for Deployment of Broadband Wireless Access*”, dated 20 December 2004 (“**BWA Consultation**”).
- 1.2 REACH’s comments are made on behalf of its subsidiary, Reach Networks Hong Kong Limited (“**Reach Networks**”). Reach Networks holds, jointly and severally with Reach Cable Networks Limited (“**RCNL**”) <sup>1</sup>, an external Fixed Telecommunications Networks Services (“**EFTNS**”) licence in Hong Kong under which it supplies a broad range of telecommunications products and services to other operators.
- 1.3 Aside from an overarching interest in the further development of regulation within Hong Kong’s telecommunications market, REACH has a particular interest in the BWA Consultation as a provider of wholesale international satellite capacity. REACH’s interest in the BWA Consultation flows from REACH’s position as having established Asia’s largest commercial teleports, with more than 20 operating antennas at its teleport sites in Hong Kong and a further 15 antennas at its teleport sites in Perth and Sydney, Australia. REACH’s

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<sup>1</sup> Reach Networks and RCNL are 100% owned by REACH.

teleport facilities are strategically positioned at REACH's major Asia-Pacific network nodes to leverage REACH's extensive investment in cable capacity around the globe, and provide a full range of teleport services in the Asia-Pacific Region.

## 2 COMMENTS

### *General*

2.1 REACH's principal activity in Hong Kong is that of an international carrier providing global connectivity services to other carriers and service providers. Therefore, REACH provides its comments herein largely from the perspective of a provider of wholesale satellite capacity and services. As such, and as not all the questions raised by the TA in the BWA Consultation are pertinent to the provision of wholesale satellite capacity and services, REACH has addressed only those issues relevant to such wholesale operators.

2.2 Accordingly, REACH comments herein on only three matters in the BWA Consultation:

- Spectrum for broadband wireless access ("**BWA**") in Hong Kong.
- Spectrum sharing between fixed satellite service ("**FSS**") and BWA.
- Application of the BWA Consultation to the fixed service market only.

### *Spectrum for BWA in Hong Kong*

2.3 The TA has proposed that the 3.5 GHz frequency band could be the most appropriate licensed band for BWA deployment in Hong Kong. The TA's main rationale for proposing the 3.5 GHz band appears to be that the Mainland of China and some other economies (the TA identified Australia and the United Kingdom) have allocated the 3.5 GHz band for BWA. However, allocation of the 3.5 GHz band to BWA in these locations does not necessarily mean that such frequency allocation to BWA is commonplace throughout the world, or should be considered as a generally accepted frequency allocation for BWA. In fact, the opposite is true as the International Telecommunications Union ("**ITU**") has issued Radio

Regulations which allocate the frequency band 3.4 GHz - 4.2 GHz to satellite downlink services<sup>2</sup>. If the TA were to proceed with allocation of the 3.5 GHz band to BWA, this would not only have serious interference implications for current satellite downlink operations, but may also have negative implications for satellite related investment decisions which (absent any previous indications otherwise) have been made upon a reasonable assumption that any frequency allocations by the TA would align with ITU regulations – and that ITU designated satellite downlink frequencies would be available for satellite operations in Hong Kong. Such assumptions will have been reinforced by the fact that, to date, the 3.4 GHz – 3.7 GHz band in Hong Kong has been allocated to FSS in the extended C-band. Further, many other economies, in giving recognition to the ITU regulations, have allocated frequencies other than the 3.5 GHz band for BWA.

2.4 Also, as the TA recognises in the BWA Consultation, the economies in which the 3.5 GHz band has been allocated for BWA all represent far larger geographical areas than Hong Kong. Therefore, as there is greater physical separation by distance of satellite earth stations (which historically tend to be situated in fairly remote places) from the likely location of BWA stations in these economies, these economies do not face the same interference issues as a dense location like Hong Kong. Consequently, it would be inappropriate to draw on examples of economies with significantly larger land masses than Hong Kong as justification for allocation of the 3.5 GHz band to BWA in Hong Kong – particularly as the ability to provide adequate physical separation between FSS and BWA stations is a significant consideration.

2.5 REACH has touched on the issue that the availability of the 3.5 GHz band for satellite downlink services may well have been crucial in previous satellite infrastructure investment decisions. Not only is the 3.4 GHz - 3.7 GHz band currently used by satellite service providers, but many satellite systems in the region have expanded C-band transponders and it can be expected that the expansion of existing satellite services and development of new

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<sup>2</sup> ITU - Radio Regulations, Article 8 – Frequency Allocations (“**RR8**”), 1990.

satellite services will use the expanded C-band. The APT satellites and Thaicom's satellites are such systems.

- 2.6 If the 3.5 GHz band is not available to satellite operators in Hong Kong, any new or enhanced services in the expanded C-band will not be available in Hong Kong. This will make Hong Kong less attractive to international operators as a regional satellite operations hub, will mean businesses and consumers alike will be denied these new and enhanced satellite-based services, and will have a detrimental knock-on effect on other industries which are heavily reliant upon satellite communications, for example, broadcasting. As a result, Hong Kong may lose out to regional competitors when competing for future business opportunities – and not just opportunities directly associated with telecommunications.
- 2.7 The TA's other reason for proposing that the 3.5 GHz band be allocated to BWA is that there is already a range of BWA equipment operating in the 3.5 GHz band available on the market. While this may be so, there is equally commercially available equipment working in other bands – and is already used in other jurisdictions - and, as the TA has noted, different brands of 3.5 GHz BWA equipment are not necessarily interoperable. Accordingly, REACH does not believe that just because 3.5 GHz BWA equipment is available makes this a justification for the TA to allocate the 3.5 GHz band to BWA in Hong Kong – there is no compelling evidence that 3.5 GHz based BWA equipment is preferable to equally easily available BWA equipment working in other bands.

#### ***Spectrum sharing between FSS and BWA***

- 2.8 While, for the interference reasons REACH has raised above, the TA has rejected any proposals that, for the time being, there should be co-primary allocation for FSS and BWA in the 3.4 GHz – 3.6 GHz band, the TA is considering that the 3.4 GHz – 3.6 GHz band may be allocated for fixed services (including BWA) on a primary basis and FSS on a secondary basis. REACH, however, is firmly convinced that this proposal is not feasible for FSS. The sharing of the 3.4 GHz – 3.6 GHz band in Hong Kong will not work because of insufficient physical separation between BWA and FSS operations, and assigning this band to FSS operators on a secondary basis while BWA has the primary allocation will only mean that the

provision, integrity, and quality of FSS services in this band cannot be guaranteed – that is if they can be established at all.

***Application of the BWA Consultation to the fixed service market only***

- 2.9 REACH notes that the TA intends that the BWA Consultation applies only to the fixed services market at this time, and does not include the mobile services market. Although the TA regards BWA for the mobile market not to be as mature as for the fixed market - and because of this has excluded the mobile market from the BWA Consultation – REACH believes that it would still be more appropriate for both fixed and mobile BWA to be considered at the same time.
- 2.10 While BWA for mobile may, in the past, have lagged behind BWA for fixed services, mobile has and continues to catch up rapidly. Certainly, advancements in mobile strongly suggest that there will be as much proportionate demand and requirement for mobile BWA as for fixed in the near future. Given the speed at which this mobile/fixed catch up is occurring, it would appear to REACH more appropriate for the TA to consider both mobile and fixed BWA in the BWA Consultation rather than to consider only fixed – and have to follow up shortly after with a separate mobile consultation – when so many of the issues are the same or are closely related.
- 2.11 The acceleration of convergence of fixed and mobile BWA in Next Generation Network (“NGN”) environments is something which the TA has already recognised<sup>3</sup>, as have international telecommunications regulatory bodies like APEC TEL. Extending this recognition to the BWA Consultation would benefit the Hong Kong telecommunications industry by providing clarity and certainty of regulation of mobile BWA as it goes through this period of rapid and significant development – a time when many key investment decisions are being considered by industry players, and such certainty could well be a critical factor in those decisions. Equally, or more importantly from REACH’s perspective, if the

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<sup>3</sup> “Blurring Boundary between Fixed and Mobile Services”, Telecom Perspectives, the TA, dated 23 January 2005.

TA proceeds with separate consultations concerning fixed and mobile BWA, a resolution that fixed service BWA will not be allocated the 3.5 GHz band will do little to remove the concerns and uncertainty which satellite operators and service providers face – as the same frequency allocation issue could well arise again under a later mobile service BWA consultation.

### **3 CONCLUSION**

- 3.1 REACH recognises the importance of BWA as technology develops, NGN's are put in place, and the associated business and consumer benefits which can be facilitated by BWA. However, in the case of allocation of spectrum to BWA, REACH does not believe that it is appropriate that BWA be allocated frequencies which have already been earmarked for FSS. The allocation of the 3.5 GHz band to BWA will have considerable negative consequences for satellite operators and service providers, particularly when competing with others in the Asia Pacific region for new business opportunities which use the expanded C-band. There could also be negative knock-on implications for other Hong Kong businesses which are associated with or use satellite-based services.
- 3.2 REACH believes the TA is correct in seeking to foster the development and growth of BWA – but not, through regulation, at the expense of other, pre-existing, telecommunications businesses. Accordingly, REACH believes that the TA should look elsewhere than the 3.5 GHz band to allocate spectrum for BWA.
- 3.3 REACH also believes that the scope of the BWA consultation should include BWA for the mobile market as well as for fixed services. The issues to be considered in relation to BWA for both fixed and mobile services are either the same or are very closely related. Rather than require a further separate mobile consultation sometime in the near future, the purposes of clarity and certainty for satellite operators and service providers as well as for mobile BWA investment and market development decisions would be better served by incorporating mobile BWA in the current BWA Consultation.