

By eMail (panel_itb@legco.gov.hk) and Post

Dr Hon Junius HO Kwan-yiu, JP
Chairman, Panel on Information Technology and Broadcasting
Legislative Council
Legislative Council Complex
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30 December 2020

Dear Sir,

Development of 5G Mobile Services in Hong Kong

Thank you for your letter dated 14 December 2020 to our Ms. Susanna Hui, inviting Hong Kong Telecommunications (HKT) Limited (“HKT”) to provide its views on the development of 5G mobile services in Hong Kong so that the Panel on Information Technology and Broadcasting (“Panel”) may continue its deliberations on the measures undertaken by the Administration to facilitate operators in extending their mobile network coverage. I am writing on behalf of Ms. Susanna Hui to express our views.

As you are aware, 5G mobile services were launched in Hong Kong in April 2020. Since then, all four major mobile operators, including HKT, have been working hard to increase their network coverage. However, HKT’s efforts to roll out its mobile network have been hampered by the following factors:

- 1. Current rules and regulations make it hard for mobile operators to install Radio Base Stations (“RBS”) in/on buildings due to lack of rights granted to mobile operators under the current legislative framework.**

Mobile operators, including HKT, have encountered various difficulties and even resistance from property owners when requesting access to buildings in order to install equipment for the provision of mobile services. The issue boils down to the fact that mobile services are considered as a “commercial service” instead of an essential utility and therefore current rules and regulations cause difficulty for mobile operators to gain entry to land and buildings to install their equipment.

While the Telecommunications Ordinance (“TO”) (Section 14) provides some assistance to mobile operators in gaining access to land and buildings where

agreement cannot be reached with the building owner/landlord, there are shortcomings. Unlike fixed line operators who have an enforceable statutory right of access to land (including buildings) to install and maintain telecommunications lines, mobile operators are required to negotiate access and charges for access with the building owner/landlord and, in the end, the negotiations may be in vain. The reasons for this include the following:

- (i) The service provided by mobile operators is regarded as a “commercial service” and not an essential utility but, under many land grants, the installation of equipment for the provision of commercial services is not permitted unless the property owner applies for a waiver of the conditions of the land grant from the Lands Department; and
- (ii) Unlike the installation of equipment by fixed line operators, which is used solely to provide service to the occupants of a building, a rooftop/outdoor RBS installed on a building will serve both residents of the building and members of public in the nearby surrounding area under the radio coverage provided by the installation. This is simply a property of the way in which radio waves propagate. Mobile operators have encountered rejections of their requests to install RBS at buildings by private property owners where the reason provided is that the equipment is also being used to provide service to members of the public outside the building concerned and is therefore providing a commercial service which may be prohibited under the relevant land grant; and
- (iii) The TO provides that the Communications Authority (“CA”) must only grant an authorization to mobile operators to enter a building and install RBS after considering a number of factors including, whether there are any alternative locations to install the equipment, or whether other technical solutions can be used, or if the installation of the equipment at that location is critical to the provision of service by the mobile operator. This merely tries to mitigate situations where a mobile operator and a property owner cannot reach agreement for RBS installation for indoor/underground/bottleneck locations. It does not address all situations. At best, this is a time consuming process which delays the installation of RBS. At worst, mobile operators may spend time and resources and still not obtain authorization from the CA. None of these factors need be considered for the installation of equipment by fixed line operators.

It is clear that mobile operators do not enjoy the same statutory rights to building access as fixed line operators in spite of the fact that the number of mobile service subscribers in Hong Kong today far outnumbers fixed line customers and that mobile services are increasingly essential for participation in daily life.

The coronavirus pandemic has made the public even more reliant on mobile services. The ability to stay connected with each other in spite of social distancing measures, accessing the Internet for work, education, leisure, shopping or simply keeping informed of the latest advice from the Government would not be possible without the development of advanced fixed line, broadband and, most importantly, mobile

networks in Hong Kong. Clearly, mobile operators play an important role in the daily lives of Hong Kong citizens today.

Due to the nature of the spectrum used to provide 5G services, 5G networks require up to 10 times more RBS than previous generation networks. Timely access to land and buildings on reasonable terms to install RBS is therefore crucial for the roll out of 5G networks. It is therefore imperative that the TO is amended to reflect that mobile operators are no longer regarded as “commercial service providers”, making available a non-essential service for those who choose to use it, but are treated the same way as fixed line operators and accorded the same status as utility providers such as the water, electricity and gas companies, so that they have a statutory right of access to all properties to install and maintain telecommunications equipment in order to provide mobile service to all customers regardless of whether the person is inside or outside the building.

2. Limited types of “street furniture” (e.g. bus stop shelters, payphone kiosks, Smart Lampposts) being made available to mobile operators to install RBS, coupled with an administratively burdensome application process and implementation difficulties.

HKT appreciates the CEDB and OFCA’s support in opening up several types of street furniture for the installation of RBS to facilitate the provision of mobile services. However, HKT would note that, while mobile operators are currently permitted to install RBS on bus stop shelters and the installation of RBS on Smart Lampposts is being trialed/under pilot implementation, HKT still awaits Lands Department’s approval of the application submitted by HKT in December 2017 to permit the installation of RBS on payphone kiosks under the relevant licence issued by the Lands Department. Until approval is granted, no RBS can be installed on payphone kiosks.

There are, in any case, practical difficulties associated with both the installation of RBS on bus stop shelters and Smart Lampposts.

For bus stop shelters, cumbersome application procedures need to be adhered to (which is partly due to the fact that mobile service is still regarded as a “commercial service”, as discussed above), sometimes involving several Government Departments, and which result in a long lead time for the installation of RBS on such facilities.

As for Smart Lampposts, there are implementation issues which have still not been satisfactorily resolved, particularly those regarding shared use of the power supply between street lighting and mobile services. This has meant that, today, the mobile operators have still not managed to make fruitful use of such street furniture to extend their mobile coverage.

On this basis, and bearing in mind that, as mentioned above, 5G networks require many more base stations than previous networks, HKT would respectfully request that the Government also look to open up other public “furniture” for the installation of RBS such as footbridges, pedestrian tunnels, road signs, etc. so that mobile operators

have an even greater choice of locations to place their equipment in order to increase mobile coverage. HKT would also respectfully request that the Government considers how the practical implementation issues referred to above may be addressed. In most cases these issues seem to arise from the necessity to obtain approvals or permits from many different Government Departments and the additional administrative burden and consequent delay that creates for all involved in the process.

3. Long lead time for approval to install RBS in Government premises and applications being rejected due to unspecified “user” reasons with no opportunity for mobile operators to appeal the decision.

The Government has made available more than 1,000 of its premises for the installation of RBS by mobile operators. While HKT welcomes this initiative by the Government, it would note that many of these premises are not in locations which are useful for extending mobile coverage. This would explain why the Government has only so far received around 130 applications for installation of RBS on its premises since the scheme was introduced in March 2019. In this regard, the mobile operators have already provided OFCA a wish list of desired Government premises for consideration.

In any case, despite the fact that the average time for vetting and approval of each application has now been significantly reduced to around 6 months, this still represents too long a lead time to assist the mobile operators in rolling out their 5G mobile networks.

Furthermore, in certain instances, applications are being rejected due to unclear or unsubstantiated user reasons without the mobile operators being given an opportunity to appeal the decision. For instance, in some cases, the application is rejected due to unfounded user concerns regarding the level of radiation emitted from RBS which are proposed to be installed on or near their premises.

This is not just a waste of time for both the mobile operators and the Government but also a waste of financial resources since each application requires the mobile operator to obtain a structural safety report from a Registered Structural Engineer (“RSE”) (which incurs time and cost) before submitting the site application.

It is clear that the existing list of Government premises needs to be carefully vetted to ensure that the locations are genuinely open for RBS installation before being released for application by the mobile operators, and a process implemented to allow mobile operators to appeal any initial site application rejections, otherwise this exercise does nothing more than pay lip service to the mobile operators’ request for more RBS sites to be made available on Government premises. At the same time, OFCA should provide more education on the radiation safety limits within which the RBS operate in order to reassure members of the public that there are no proven health hazards associated with the installation of RBS.

It would also be most helpful if the Government would accept applications from the mobile operators based on their own in-house technical safety assessments, with a more formal RSE structural safety report only required to be submitted after the Government has given its “Approval In Principle” to the mobile operator’s application.

4. Insufficient assistance from Government to roll out network to rural areas.

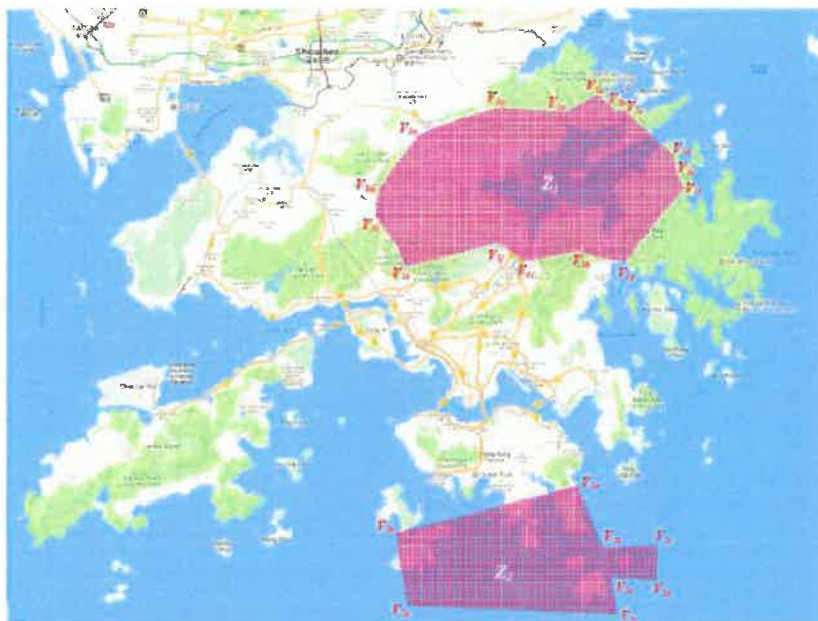
The Government has implemented a subsidy scheme to encourage fixed line operators to roll out their fibre networks to a list of specified villages in the New Territories and on the outlying islands. While this should pave the way for the mobile operators to ride on the newly established fibre network to extend their 5G mobile coverage to these rural areas, no assistance has been provided by the Government to establish RBS at or near these villages to enable the provision of mobile services.

In the past, mobile operators have experienced difficulties setting up RBS in rural villages due to opposition from the village residents. It would be useful if the Government could assist in establishing “towers” in rural areas, not just near villages, on which the mobile operators would be permitted to set up their own RBS in order to increase mobile service coverage. Again, here, OFCA’s assistance in providing more proactive public education on the radiation safety limits within which RBS operate should allay not just villagers’ but also the general public’s concerns regarding the installation of RBS in vicinity of their villages/property.

HKT understands from the discussion at the previous Panel meeting that assistance to construct towers in rural areas for the installation of RBS is already being provided by the Mainland Chinese Government to mobile operators in China, so there is no reason why the Lands Department in Hong Kong cannot find suitable land in Hong Kong to enable such base station towers to be erected. In this regard, HKT would note Lands Department’s recent success in identifying land for the relocation of satellite earth stations from Tai Po to Chung Hom Kok.

5. Imposition of vast Restriction Zones limiting 5G mobile network rollout.

The Panel has previously been briefed by the CEDB/OFCA on the 5G Restriction Zones covering large areas of Tai Po and Stanley (as highlighted in purple in the map below) in which the mobile operators are not permitted to use the 3.5 GHz band to provide mobile services as this would interfere with the transmission signals of satellite operators located in these two specific areas.



Source: *Guidelines for Installation of Radio Base Stations Operating in the 3.4 - 3.6 GHz Band within the Restriction Zones Delineated by the Communications Authority (19 July 2019)*

The 3.5 GHz band is currently the main band being used around the world, including Hong Kong, for 5G mobile services. In fact, the 5G handsets being sold in Hong Kong adopt this band as the main band for accessing 5G mobile services. As can be seen from the map above, the imposition of the two Restriction Zones significantly hinders the ability of mobile operators to provide 5G mobile services to a large population of Hong Kong residing or working within these two areas. Mobile operators are forced to make use of other frequency bands if they wish to provide 5G mobile services in the Tai Po and Stanley areas, thereby rendering these two regions of Hong Kong inconsistent with the rest of the territory and requiring special network adjustments to be undertaken.

While it is understood that the Tai Po Restriction Zone will be released for mobile service using the 3.5 GHz band in 4 years' time after the relevant satellite facilities have been relocated to Chung Hom Kok, this is too long a wait. HKT would like the Government to consider whether it is possible to enforce technical measures within the Tai Po Restriction Zone in order to mitigate the extent of the signal interference in this area and hence narrow the size of the Restriction Zone so that a compatible 5G spectrum band can be used to serve customers working and residing in this part of Hong Kong.

Conclusion

It is clear from the foregoing that the Government's support to facilitate the ongoing rollout of mobile networks plays a crucial role in the development of innovative, fast and reliable 5G mobile services in Hong Kong. However, mobile operators continue to face many practical obstacles which prevent them being able to take advantage of the Government's initiatives. In particular it is clear that changes to the TO are required in order to grant statutory rights of access to land and buildings to mobile operators equivalent to the rights already granted to

fixed line operators. Furthermore, support for the Government's initiatives not only needs to come from the Government Department directly involved in regulating the provision of telecommunications services, i.e. OFCA, but all Government Departments involved in the various approvals required to facilitate mobile operations whether it be use of land to install mobile facilities, road opening to lay network or granting of trial applications to test new services.

HKT would be happy to provide you with any further information in relation to the above matters in order to assist your understanding.

Yours faithfully,



Veronica Lockyer
Head of Group Regulatory Affairs

cc. Ms. Susanna Hui, Group Managing Director