

NEW T&T HONG KONG LIMITED

**Submission in relation to
Licensing Framework for Third Generation Mobile Services**

**An Industry Consultation Paper dated
3 October 2000**

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3 October 2000 (the "Consultation Paper")**

1 INTRODUCTION

- 1.1 New T&T welcomes the further Consultation Paper from the Telecommunications Authority ("the TA") in relation to licensing framework for third generation mobile services (3G) and the opportunity to further present its views on the framework under which the licence allocation process will take place.
- 1.2 We note that the TA has formed some preliminary views on certain issues and that the TA's intention to invite further comments from the industry on these views and the remaining issues.
- 1.3 We support the TA's intention to finalise the licensing framework for the 3 G services and invite applications for licences towards the end of 2000 and early 2001 in a timely manner. Nevertheless, given the enormous impact of 3G services is to have on the life of the general public and the development of the industry, we suggest that all key issues should be resolved and elaborated *before* the finalisation of the licensing framework.
- 1.4 This submission sets out New T&T's response to the following views and issues raised in the Consultation Paper:
- TA's proposed licensing approach (section 3)
 - Pre-qualification (section 3.1)
 - Auction option (section 3.2)
 - Open network requirement (section 3.3)
 - Wholesale price of the 3G licensees (section 3.4)
 - Auctioning process (section 3.5)
 - Auctioning rules (section 3.6)
 - TA's proposed spectrum width and number of licences (section 4)
 - TA's views on other regulatory issues (section 5)
 - Treatment of new entrants (section 5.1)
 - 3 G standard (section 5.2)
 - Availability of 3 G Spectrum (section 5.3)

- 3G Services in 2G Spectrum (section 5.4)
- Mandatory 3G Mobile Number Portability (section 5.5)
- Numbering Requirement (section 5.6)
- Domestic Roaming between 3G and 2G networks, and between 3G and 3G networks (section 5.7)

1.5 We agree with a number of key elements set out in the TA's proposal in his second round of consultation paper. In particular we support the TA's view that 3G services should be promoted to the public and that innovative 3G services should be encouraged. Our primary view is that the new entrants should be given concrete encouragements to enter into the 3G market as a 3G licensee. With the above in mind we set out below a summary of our position on and of possible suggestions to the key issues in the consultation paper.

- We support a pre-qualification stage but further clarification on the necessary requirements and minimum threshold of the requirements are required.
- We support the Auctioning option approach but we urge the TA to encourage the entrance of new entrants into the 3G market by introducing a "Premium Discount" as explained in section 3.2.7.
- We agree with the "Open Network" requirement, which requires a strong and stringent regulatory environment to be effectual. We encourage the TA to take all factors into account to determine a reasonable percentage of the open network.
- We strongly support commercial negotiation to determine wholesale pricing. Should the commercial negotiation fail we advocate the "Cost Plus" approach
- We argue for the adoption of Royalties auction approach on the basis that it is the fairest approach to all interested parties.
- We argue for the adoption of "Descending auction" mechanism.
- We urge the TA to reconsider his position on the spectrum allocation to the new entrants. We believe the new entrants should be allocated more spectrums to create a level playing field.
- We fully support the TA's view of mandatory roaming from 3G to 2G networks and also advocate the mandatory roaming from 3G to 3G networks to promote effective competition between the new entrants and incumbent 2G/3G operators.

2 BACKGROUND

In response to the last round of consultation New T&T submitted that there should be some tangible encouragements for the new entrants to enter into the 3 G services on the principles of equity, efficient allocation of spectrum resources and further competition. The tangible encouragements that were suggested come in the form of mandatory requirements for the incumbent operators to provide roaming services to the new entrants and reservation of part of the 3 G spectrum to new entrants only. Those suggestions continue to be valid. However, in the event that the TA decides not to accept those suggestions the view that New T&T presents in relation to this second round will continue to derive from the principles of equity, efficient allocation of spectrum resources and further competition and to propose further tangible encouragements for the new entrants.

3 TA'S PROPOSED LICENSING APPROACH

We note that the TA proposed view is to introduce a hybrid option which includes the elements of pre-qualification, spectrum auction and "open network" requirement.

New T&T generally supports the TA's proposal as set out in paragraph 2.3.1 of the Consultation Paper. Whilst we agree with the TA's consideration that there are significant risks and drawbacks in adopting any of the "purist" option, whether by spectrum auctioning based on cash, selection by "beauty contest" or a "reverse auction" on the wholesale prices of 3G services, we strongly urge the TA to consider all the significant issues and sets out clear requirements before the finalisation of the regulatory framework.

3.1 Pre-qualification

We support the TA's proposal for setting out a pre-qualification stage but strongly advise the TA to clarify what the necessary requirements are and a minimum threshold of the requirements.

3.1.1 We generally support the TA's proposal for setting out a pre-qualification stage as a prerequisite for proceeding to the "Auction" stage. However it is in the interest of clarity of the licencing framework that the TA will need to clearly spell out the threshold of the requirements in the pre-qualification stage, which should be minimal to encourage bidding. Specifically the TA should spell out the extent of financial and technical capacity that an applicant is required to demonstrate to the TA.

3.1.2 We understand that it is the TA's policy to promote the development of the telecommunication industry and maximising consumer's benefits.¹ The TA will need

¹ Consultation Paper paragraph 2.3.1.

to explicate what would be the minimum degree of network rollout, the level of services and coverage. We argue that a low degree of network rollout, and equally speaking, or a low level of service and coverage will not best serve the interest of the consumers, and the development of the telecommunication industry.

- 3.1.3 The TA will also have to consider the level of financial guarantee that a potential bidder is required to make to the TA to support the minimum rollout conditions. We argue for a balanced view which, on the one hand, is to set a considerable level of guarantee to ensure the eventual successful bidder will have the required financial strength to rollout the 3G network, and on the other hand, is to set a fairly practical level of guarantee to encourage more interested parties to enter into the bidding process so as to encourage competition.
- 3.1.4 The TA will need to clarify what is the "specified amount of deposit" required to be lodged with the Government. This involves consideration of setting a minimum level that will ensure the eventual successful bidders will not fail to take up the licence subsequently. Our view is that the deposit lodged should become part of the settlement for the licence auction fee, whenever the auction fee becomes due, in order that it will not be an additional cashflow burden on the bidders.
- 3.1.5 We strongly agree with the TA's concept of "the open network" requirements. This will promote further the 3G services to the public and will encourage the innovative services which will benefit the general public. However this would have to take into account the licensees' incentive to rollout this 3G network. Please refer to section 3.3 for further elaboration on this requirement.

3.2 Auction option

We support the Auctioning option approach but we urge the TA to encourage the entrance of new entrants into the 3G market by introducing a "Premium Discount" as explained in section 3.2.7.

- 3.2.1 We note the TA's position that applicants who have been pre-qualified would be invited to bid for a 3G licence. The bidders who offer the highest payment to the Government would be granted a 3G licence.²
- 3.2.2 The auction process ensures that those who value and could pay the most for 3G licences will acquire the licences. We acknowledge that this is the most objective and transparent allocation approach, and is the fairest approach to all interested parties.
- 3.2.3 However, we argue that this approach has not taken the view that new entrants to the mobile market will have *significant* comparative disadvantages over the incumbents. The disadvantages come in the form of:

² Consultation Paper paragraph 2.3.4.

- 3.2.3.1 A significantly higher 3G infrastructure investment is required by the new entrants to roll out the 3G networks, whereas the incumbent will only need to upgrade its existing 2G network.
- 3.2.3.2 The cost saving to incumbent operators in rolling out a 3G networks and the speed in which to do so.
- 3.2.3.3 The new entrant's lack of an established subscriber base, distribution channels, and the market expertise, as opposed to what the 2G incumbents have already established.
- 3.2.4 These comparative disadvantages will translate into additional financial burdens to new entrants. The Auction approach will therefore, in another sense, place those new entrants in a "handicapped" position. The experience in the U.K., where all the four incumbents have succeeded in winning the licence, has vindicated the disadvantageous position of new entrants in a spectrum auction.
- 3.2.5 Given "Auction" approach is one of the most objective and transparent ways of the licences allocation, we acknowledge that it is what the TA should adopt. Our view is that the TA should introduce some remedial measures into the licensing framework to ensure that the new entrants will not be placed at a disadvantageous position than the 2G incumbents. This will be consistent with the TA's policy of creating an open and competitive telecommunications market.
- 3.2.6 We propose a remedial measure that could be introduced to the "Auction" process. The proposed remedial measure is that all the new entrants will have the benefits of receiving a "premium discount" in the Auction process. The modified process will be that the bidder who makes the highest bid will win the licence. The financial amount that the new entrants are required to pay over to the Government will have to be lower than what they have bid for. The reduction will represent a "premium discount" on the bidding price.
- 3.2.7 The "premium discount" will not be more than the "disadvantages" being translated into monetary terms that the new entrants have. The TA or the TA's appointed external consultant should conduct the determination of such "premium discount". The basis of the determination, we suggest, will take into account of:
 - 3.2.7.1 The estimated difference in the amount of capital expenditure on rolling out a completely new 3G network by the new entrants and the migration of 2G to 3G network by the 2G incumbents.
 - 3.2.7.2 The estimated cost of "luring" the existing 2G subscribers from the incumbent 2G operators, taking the present industry "churn rate" into account.
 - 3.2.7.3 The estimated unavoidable set up cost, such as billing and switching center costs.

3.3 Open Network Requirement

We agree with the TA's proposed open network requirement. The TA should take all factors into account in reaching his final decision on the "reasonable percentage" of the open network. We urge the TA to set a strong and stringent regulatory environment to support an effective opening network requirement.

3.3.1 We agree with the TA's proposed requirement of a mandatory provision of 3G network capacity to MVNO operators. This will promote competition amongst the 3G operators, content and service providers and provides opportunities for growth in other service sectors, with further competition this would ultimately benefit the consumers in many ways.

3.3.2 In order to encourage market participation and to remove uncertainties, we request the TA to clarify his views on the followings:

3.3.2.1 What are the licensing requirements for MVNOs? What are the infrastructure requirements for MVNOs? Will the issuance of MVNO licences be based on a "quota" system?

3.3.2.2 "The network licensees will be required to open a minimum amount of network capacity to non-affiliated services providers".³ Whether this refers to the available network capacity at a particular point in time during the network rollout or this refers to the total eventual available network capacity as stated in the business plan submission warrants further clarification. In a scenario where non-affiliated MVNOs require more capacities than what the 3G network licensees could offer, how would the residual capacity be allocated to MVNOs and to 3G network licensees? Is there any obligation on the 3G licensees to increase capacity to meet the requirement? This is important in the early stage of the 3G services where 3G licensees would need to know how much capacity and when they should be made available. On the other hand the MVNOs will need to assess the amount of capacity that they will offer to the public in order to develop their subscriber's base.

3.3.2.3 Will the MVNOs be prohibited from hosting more than one 3G network concurrently and thus the services that the MVNOs provide to the public could be roamed among different 3G networks. This will inevitably enhance the network coverage of the MVNOs, and place them at a better position than the network licensees and will remove the incentives for network licensees to invest in network coverage for say, urban location, where additional revenue generated will not recover the additional network investment cost.

³ Consultation Paper paragraph 2.3.12.

- 3.3.3 We believe that a clear and strong regulatory environment will be necessary to support an effective opening network requirement which protects the investment by 3G operators and at the same time encourage participation of MVNOs. In particular a set of sound auditing methodology is required and a strong monitoring framework to ensure the 3G networks are opened up to the required mandatory level, though we believe it is technically difficult to control the percentage of opening up. The auditing methodology will encompass a set of definitive rules and procedures for measuring and management of bandwidth assigned and used by MVNOs and 3 G licensees alike.
- 3.3.4 While we note that the TA's preferred approach is to encourage commercial negotiations between the 3G licensees and MVNOs on the terms and conditions for MVNOs operating upon the 3G networks, we urge the TA to set out specific regulatory requirements as to when the matter can be referred to the TA for determination and under what circumstances would the TA accept the request for determination. Consideration to such regulatory requirement could include:
- 3.3.4.1 Paragraph 2.3.6 of the Consultation paper refers to the importance of non-discriminatory process. Under what circumstances and conditions could 3G network licence holders refuse the provision of the network capacity to MVNOs?
- 3.3.4.2 Whether MVNOs are required to be committed to and liable to pay for a "block" of network capacity, irrespective of what the actual usage by the customers of MVNOs are?
- 3.3.4.3 What monitoring framework will be put in place to ensure that the service quality of 3G network is maintained and to ensure that 3G network licences are meeting the regulatory requirements for the provision of services to MVNOs.
- 3.3.5 The concept of "open network" assumes that service provision is separated from network operation, both of which should be treated as separate independent business units. All the transactions between the service provisions should therefore be at "arms-length" basis. The absence of the "arms-length" element could give rise to a situation where the network provision cross subsidise the service provision. Given that MVNOs will have to compete with the 3G network licensee on pricing and among other elements, we propose that the TA introduces some very stringent regulatory requirements to eliminate such cross subsidies and any other anti-competitive practices. The regulatory requirements could involve the followings:
- 3.3.5.1 The requirement of an Accounting Separation. The main feature is that the revenue cost and other accounting transactions attributed to a business unit should be the "true" element of that business unit. This means that network operation business unit should only take up accounting transaction entries that are solely attributed to it.

- 3.3.5.2 The TA could enforce an annual external audit of the financial results produced under Accounting Separation basis. These results could be reviewed on an annual basis to detect any unfair cross subsidies by say reviewing the profitability of new subscribers.
- 3.3.5.3 We acknowledge that there are certain limitations for Accounting Separation. The most concerning ones are the allocation of common cost and the subjectivity of the accounting cost drivers. These however should be resolved within the accounting profession. The U.K. experience is that external auditors have been able to conduct external audit on BT's Accounting Separation Statements.
- 3.3.6 We welcome that the TA invites feedback from the industry "on what they consider as a reasonable percentage is sought to assist the TA in making a final decision".⁴
- 3.3.7 Our view is that considering the uncertainties of the demand for 3G and the lack of objective estimate of the potential usage, as well as a lack of clear definition of "open network" we are not in a position to make a justifiable suggestion to the TA as to specifically what a reasonable percentage should be.
- 3.3.8 However, we consider that there is a number of factors and reference that the TA could take into account in reaching his final decision. These factors and reference are likely to be:
- 3.3.8.1 Based on the indicated likely demands for usage of 3G and the proposed constructed network capacity set out in the business plans of the applicants in the pre-qualified stage, the TA will be in a position to form a preliminary assessment of the spare capacity of 3G network that could be made available to MVNOs, and whether the amount of spare capacity will be able to satisfy the likely demands of MVNOs.
- 3.3.8.2 Based on the statements submitted in the pre-qualified stage, what will be the likely additional expenditure on and whether it is technically feasible for building up additional capacity and how long this would take?
- 3.3.8.3 New entrants should be allowed to open up less network capacity or none at all in the initial years when the 3G network is not fully developed. This will reduce capacity burden on the new 3G entrants.
- 3.3.8.4 The "reasonable" percentage should not be set at a level where it will diminish the investment incentives for 3G services in Hong Kong. The lack of investment incentives will, in the long run, have an adverse effect on the telecommunications market as a whole.

⁴ Consultation Paper paragraph 2.3.14.

3.3.9 We urge the TA not to set a specific percentage, until and unless, the TA is in a position to estimate the likely demand for 3G usage by MVNOs and to determine whether the total available 3G network capacity will meet the demands of the 3G licensees and MVNOs.

3.3.10 We also urge the TA to set a framework in which an ongoing review of the percentage will be carried out in order to reflect the demand of the ever evolving 3G services.

3.4 Wholesale price of the 3G network licensees to MVNOs

We support the TA's preference for commercial negotiations to determine the wholesale pricing. Where the commercial negotiations fail we advocate the "Cost Plus" approach as the basis of determination.

3.4.1 We note that the TA "prefers to leave the wholesale price first to commercial negotiations among the parties. The TA will only intervene when such negotiations failed and he is requested to make a determination".⁵

3.4.2 We welcome the TA's invitation of comments on the preferred approach of the determination as set out in paragraph 2.3.14 of the Consultation Paper.

3.4.3 We agree with the TA that the wholesale price should be left to the market forces and determined by commercial negotiations. This will be consistent with the TA's long-held policy of "light-handed approach" and "open market competition". We caution that in the initial periods where the 3G market has not matured and the subscribers bases have not fully developed, the TA should set a strong regulatory framework in which such determination will be dealt with fairly and expediently. The TA will need to set clear guidelines on when he will make determination and on the likely terms and conditions for providing 3G network capacity where the commercial negotiations fail. This provides certainty to 3G operators and MVNOs.

3.4.4 Cost Plus.

3.4.4.1 Our view is that Cost Plus approach is the more appropriate approach to determine wholesale prices in a situation where commercial negotiations fail between the MVNOs and 3G operators and the TA decides to determine.

3.4.4.1.1 We believe that the wholesale price under "Cost Plus" will be lower than that under "Retail Minus" in the long run. The effect of this would be to drive down the retail pricing in general.

3.4.4.1.2 The MVNO will likely to achieve a better margin under "Cost Plus" than it would under "Retail Minus" which will create

⁵ Consultation Paper paragraph 2.3.15.

sufficient surplus to channel into the development of innovative services.

3.4.4.1.3 Whether MVNOs will be a viable alternative to 3G licensees to customers in the long-run will depend on their ability to achieve a certain margin. MVNOs could achieve it through the use of other operators' facilities more economically and through cost efficiency under "Retail Minus" approach. We acknowledge that Cost Plus will not give the same effect.

3.4.4.2 We suggest that "Retail Minus" approach has its practical limitations. A number of consideration are set out below to clarify its limitations:

3.4.4.2.1 Under "Retail Minus" approach the 3G licensees will enjoy a economies of scale in the already established 2G market. For instance 3G licensees have already established a well run marketing and billing function, as well as brand loyalty and a subscriber base. This would make it difficult for MVNO to survive in the initial period of years where they are unlikely to achieve any margin until they introduce innovative services.

3.4.4.2.2 Retail Minus approach cannot be achieved unless the service provision and its associated costs and revenue can be identified from the network provision, in order that the "minus" element, can be identified and quantified. The process by which the service provision can be distinguished from the network operation could be an "Accounting Separation" process. The process will involve a number of subjective elements as set out in section 3.3.5.3.

3.4.4.2.3 Following on from 3.4.4.2.2, the "minus" element is also a subject of debate. The "minus" element will represent the costs elements that are not used by MVNOs. Examples would be retailing costs, selling and marketing costs and even billing costs. To what extent and what principles upon which the common costs could be allocated fairly to service provision and network provision, should be set out clearly at the outset. In addition, what other costs will need to be included in the "minus" element. It is contentious to state categorically that "Subscriber Acquisition Costs" should be included in the "minus" element, and therefore be deducted from the wholesale price. One argument would be that the 3G licensee effectively subsidies the MVNOs, whereas the counter argument would be that this will eliminate any cross subsidies from network operation to service provision in the 3G licensee's separation.

3.4.4.2.4 The notion of "Retail-minus" is based on the retail price of a particular service. It is likely that the MVNOs will develop its own specified 3G services which will not be identical or similar to any of the services offered by the hosting 3G licensee. Will it be fair to adopt the retail price of the not so similar service offered by the 3G licensee to arrive at the wholesale prices?

3.4.4.2.5 Following on from 3.4.4.2.4, the 3G industry will offer different services and as such there should be a different retail price and "minus elements" for each service. In an ideal world where there is no resource constraint and no administration cost, we will expect that each service will be calculated individually whenever there is a change in retail price plan and a change in cost status. At present the 2G market is a fairly price elastic market and operators do change their price plan from time to time and from customer to customer. For every time these prices change the wholesale prices will have to be recalculated accurately and expeditiously.

3.4.5 We support the Retail Minus approach as the best approach subject to a thorough review of practical elements of implementing it.

3.5 Auctioning process

We argue for the adoption of Royalties auction approach on the basis that this is the fairest approach to all parties.

3.5.1 We note that there are four methods put forward in paragraph 2.5.1. of the Consultation Paper and we welcome the TA's invitation to comment upon the preferred method.

3.5.2 We have always argued for an open and fair market where individual operator's dominance should be limited where possible. As a new entrant with no existing network coverage and subscriber base, it will have higher perceived business risks, we therefore argue for the Royalties auction to be used. The Royalties auction could be based on a turnover and profit percentage over the licence term.

- 3.5.3 We believe this approach is the fairest to all bidders, yet it will give a vast incentive to new entrants to bid for the 3G licence. Under this approach the perceived business risk confronted by the new entrants will be reduced thus making the bidding process more competitive, which we believe, will eventually drive up the bidding revenues for the Government.
- 3.5.4 We believe the Royalties auction approach will enable the 3G licensees, in particular the new entrants, to increase the 3G network infrastructure investment while the impact on the consumer pricing is limited. The argument is that under the lump sum approach and deferred payment approach there will be a significant impact on the cashflow and the available fund for 3G network rollout. Given that potential 3G licensee, which we believe, will not have unlimited resource, in particular in the case of new entrants, to invest in the 3G network infrastructure, the license fees under the two approaches could be used to further finance the 3G infrastructure rollout. The ultimate economic benefit will be reaped over the term of the licence and be translated into royalties fee to the Government. We do not agree that the licence fee under the lump sum and deferred payment approach is an element of sunk cost that will not be passed onto the public through retail pricing. The licence fee under the Royalties approach will not be an additional retail pricing increment being imposed onto the public.
- 3.5.5 We fully appreciate the fact that under the Royalties approach, the Government will, along with the 3G operators, share the upside and downside of the 3G opportunity and effectively share the business risks that the industry has, given the uncertainty surrounding the future of 3G. However one needs to consider a fundamental question as to who should benefit from the 3G services and what drives the innovation of 3G services.
- 3.5.6 We believe the consumers should be the primary party to benefit from the 3G services. This is not to say that the telecommunication operators should not be rewarded for the investment that they make and for the investment risks that they take. A fundamental issue is whether or not it is fair to the consumers and to a certain degree the telecommunication operators that the Government should be in a position to reap the benefits of 3G services without sharing the business risks associated with the 3G services. Under the lump sum and deferred payment approach this will be the case, whereas the Royalties approach will render the Government to share the uncertainty of the 3G services. Nonetheless the Government will not stand to lose out in monetary terms, as opposed to the telecommunication industry that is to invest a vast amount in the 3G services.
- 3.5.7 Another consideration is that 3G innovation has been a commercially driven process. While one should not overlook the role of the Government in the process, the rewards, we believe should rest with the consumer and with those who have a commercial viable belief in it. Adopting the "Royalties approach" ensures that the benefits will be fairly distributed to all parties in equal priorities.

3.6 Auctioning rule

We propose that the TA considers the descending approach.

3.6.1 We welcome the TA's deliberation on the best Auctioning Rules as set out in paragraph 2.6 of the Consultation Paper .

3.6.2 Whilst we agree that multi-round Ascending mechanism will enable the market to determine the value of the licences, there are other considerations that the TA should take into account in making a final decision. The considerations are as follows:

3.6.2.1 Experience in the U.K. has suggested that successful 3G bidders have been put into a substantial financial constraint position. This will discourage potential new entrants with higher perceived business risks from coming into the market in view of incurring a potentially unlimited sum for the licence.

3.6.2.2 We suggest that the hybrid approach that the TA proposes could take the form of imposing a descending auction mechanism coupled with a more stringent selection criteria in the pre-qualified stage. In a situation where two bidders have met with the highest price the selection criteria for the licence will be based on the assessment of the financial and technical capabilities of the bidders submitted in the pre-qualified stage. We believe this approach will enjoy the best of both worlds, by taking the financial rewards for 3G yet enable the most capable operator to obtain the licence. The maximum cap could be set at a higher than perceived level to reduce the possibility of having more bidders reaching the cap price.

3.6.3 We propose that the TA considers the descending approach.

4 TA'S PROPOSED SPECTRUM WIDTH AND NUMBER OF LICENCES

We urge the TA to reconsider his position on the spectrum allocation to the new entrants. We believe the new entrants should be allocated more spectrum to create a level playing field.

4.1 We note that "TA consider that 4 licences should be granted in this round of licensing. Each licence is awarded 2 x 15 MHz paired spectrum plus 5 MHz unpaired spectrum".⁶

4.2 We fully appreciate the reasons given in paragraphs 3.2.1 to 3.2.5 of the Consultation Papers. However we maintain that the TA should encourage new entrants to the 3G market and create a level playing field among all players. We believe new entrants

⁶ Consultation Paper paragraph 3.3.1.

would be able to bring in further competition and innovation to the industry compared to the incumbents. Indeed this is recognised by the TA in his first consultation.

- 4.3 In our submission to the industry consultation paper dated 21 March 2000 we stated that a new 3G operator will need 2 x 25 MHz paired spectrum in order to allow the implementation of three-layer hierarchical cell structure and the provision of full range of 3G services including high speed multimedia services at 2 Mbps in an indoor environment. For incumbent operators, less spectrum would be required because they can upgrade their 2G systems and use them to provide the macro layer. In this case, the minimum spectrum per existing operator is 2 x 10 MHz.
- 4.4 In the light of section 4.3, the TA's proposal for 4 licences with equal spectrum to be granted will give no advantage to the new entrants as compared with the incumbent 2G operators. This is not consistent with the TA's view that "*[i]n view that 3G technologies may provide the scope for innovative service developments and, as a new entrant would not be constrained by any legacy network elements, it would have more flexibility in developing its network for new service applications and providing new input to the benefit of the industry and consumers. The TA therefore considers that the introduction of new entrants to the 3G market will be beneficial to market development and to consumers.*" as set in paragraph 4.3 of the Consultation Paper dated 21 March 2000.
- 4.5 The U.K. experience has also suggested that new entrants should be given more spectrum allocation to compete with the 2G incumbents.
- 4.6 To conclude we urge the TA to reconsider his position on the spectrum allocation to the new entrants.

5 TA'S VIEW ON OTHER REGULATORY ISSUES

We urge the TA to consider various options that are suggested in section 5.1.5 to encourage the participation of new entrants in 3G market.

5.1 Treatment of new entrants

- 5.1.1 We strongly support the TA's view that the introduction of new entrants to the 3G market will be beneficial to the market. New entrants should be allowed to enter the market so as to minimise the effect of market dominance and anti-competitive conduct by incumbent operators.
- 5.1.2 We maintain that the incumbent operators will enjoy economies of scale and efficient migration paths between 2G and 3G mobile networks. Further the incumbent 2G operators will have inherent advantages over the new entrants in many aspects including established cell sites in physically constrained space, established customers,

network, operation, customer servicing and superior information. This immediately creates an unlevelled playing field for new entrants.

- 5.1.3 Following on from section 5.1.2. that it will be even more difficult for new entrants to go into 4G market when it becomes available in a not too distant future.
- 5.1.4 New entrants will likely construct a completely new full-layer network and offer full range of 3G services including high speed multi-media services at 2 Mbps in an indoor environment. Unlike the incumbent operators who are, to a certain extent, constrained by their legacy networks, the new entrants will be free to develop a full range of innovative 3G services that will not be constrained by any legacy network problems. This allows flexibility in developing their networks for new service applications that would bring benefits to the industry and the consumers as a whole.
- 5.1.5 Given sections 5.1.1. to 5.1.4., we encourage the TA to consider the following possible options to provide incentives to the new entrants:
 - 5.1.5.1 Introduction of "Premium Discount" in Auction process as suggested in sections 3.2.6 to 3.2.7.
 - 5.1.5.2 Adoption of Royalties auction mechanism as suggested in section 3.5.
 - 5.1.5.3 Adoption of Descending Auction mechanism coupled with an assessment of financial and technical capabilities in pre-qualified stage as set out in section 3.6.
 - 5.1.5.4 More spectrum allocation as suggested in section 4.
 - 5.1.5.5 Mandatory roaming among 3G networks and for 3G to 2G networks, as set out in section 5.7.

5.2 3G Standard

We agree with the TA's views that the prospective operators should be permitted to use any IMT-2000 standards adopted by the ITU within their assigned 3G frequency bands for 3G mobile services, subject to the TA being satisfied that the various technical standards are compatible with each other from the users' point of view.⁷

5.3 Availability of 3G Spectrum in Hong Kong

We agree and welcome the TA's future consultation on this.

⁷ Consultation Paper paragraph 4.2.7.

5.4 3G Services in 2G Spectrum

5.4.1 We understand the reasons for the TA's consideration for allowing the incumbents to make use of the 2G spectrum for 3G services as set out in paragraph 4.4.4. of the Consultation Paper.

5.4.2 However, we maintain that this will give rise to a "guarantee" of rights to the existing 2G operators, and devalue the new 3G licences.

5.5 Mandatory 3G Mobile Number Portability

We support the TA's view stated in paragraph 5.19 of the first consultation paper that MNP should be a mandatory requirement for 3G services.⁸

5.6 Numbering Requirement

We support the TA's intention to allocate the leading digit "6" primarily for 3G services.⁹

5.7 Domestic Roaming between 3G and 2G Networks, and between 3G and 3G Networks

We fully support the TA's view of mandatory roaming from 3G to 2G networks and also advocate the mandatory roaming from 3G to 3G networks to promote effective competition between the new entrants and incumbent 2G/3G operators.

5.7.1 We welcome the TA's affirmation of the view that mandatory roaming from 3G to 2G networks would promote effective competition between the new entrants and the incumbents 2G/3G operators during the initial period when the 3G networks of the new entrants are still being rolled out.¹⁰ We also welcome the TA's intention to include this domestic roaming requirement as an obligation under the 3G licences issued to incumbent operators.¹⁰

5.7.2 We further argue that the domestic mandatory roaming from 2 G to 3 G networks should be extended to those existing 2G operators who offer 3 G services using their assigned 2G spectrums during the term of their existing licences. Their position should not be any different from the incumbents who obtain the 3G licences.

5.7.3 We strongly suggest the TA to consider and set up a strong regulatory environment to ensure that mandatory roaming will take place.

5.7.4 The TA should set out terms and conditions to resolve any protracted commercial negotiation between 3G operators and incumbent 2G operators.

⁸ Consultation Paper paragraph 4.5.1.

⁹ Consultation Paper paragraph 4.6.1.

¹⁰ Consultation Paper paragraph 4.7.3.

- 5.7.5 In order that new entrants could compete with the incumbent 2G operators on an equal basis the TA should not impose any minimum level of coverage of the 3G network being rolled out by new entrants for the purpose of the commencement of the roaming.
- 5.7.6 We encourage the TA to review the sunset date on an on-going basis. The TA should allow the new entrant a reasonable period of time to roll out the 3G network and to catch up with the other migrated 3G networks operated by the 2G incumbent.
- 5.7.7 Where the commercial negotiation fails, the interconnection charging principles should be considered. Our view is that it should be based on LRAIC, where the 2G operators should only charge the 3G network operators for the relevant costs for providing the network roaming.
- 5.7.8 We further propose to the TA that, given that new 3G entrant will unlikely roll out their 3G network to a comparable level to that of the other 3G networks rolled out by the 2G incumbents, there should also be mandatory roaming between the two 3G networks. The argument for this is the same as that for the mandatory roaming from 3G to 2G networks.

6 CONCLUSION

- 6.1 We agree with a number of key elements set out in the TA's proposal in his second round of consultation paper. In particular we support the TA's view that 3G services should be promoted to the public and that innovative 3G services should be encouraged. Our primary view is that the new entrants should be given concrete encouragements to enter into the 3G market as a 3G licensee. The key concrete encouragements, we propose, should be that:

- Introduction of a "Premium Discount" to the Auction pricing
- The adoption of Royalties auction approach
- The adoption of "Descending auction" mechanism.
- TA to reconsider his position on the spectrum allocation to the new entrants
- Mandatory roaming from 3G to 2G networks and from 3G to 3G networks

- 6.2 We believe that new entrants will be at a “disadvantage “position compared with the incumbent 2G operators in terms of costs and speed in rolling out a 3G network. In the interest of devising a fair system to all parties for allocating the licences we urge the TA to consider all the suggested options as set out in our submission. Our belief is that the future 3G-telecommunication market in Hong Kong will only fully develop and open if new entrants could enter into the 3G market.

Submitted by
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Date: 14 November 2000