



**Licensing of Spectrum in the 850 MHz Band
to Enable the Provision of CDMA2000 Service
Submission of SUNDAY**

SUNDAY comprising Mandarin Communications Limited (2G licensee) and SUNDAY 3G (Hong Kong) Limited (3G licensee) (“SUNDAY”) is pleased to provide comments on the consultation paper (“Paper”) issued by the Telecommunications Authority (TA) on 27 October 2006 regarding the Licensing of Spectrum in the 850 MHz Band to Enable the Provision of CDMA2000 Service.

I Introduction

1. The Paper proposes, for “strategic” reasons, to license a fifth 3G operator to specifically use CDMA2000 technology. While apparently well meaning this proposal is unnecessary and very clearly inconsistent with established Government policies. As such, it should be reconsidered. The proposal to license a new operator to deploy a specific technology is inconsistent with:
 - the evolving mobile market;
 - past analysis of the mobile market;
 - the Government's technology neutral approach;
 - the Government’s market driven approach; and
 - the Government’s “Policy First” principles

2. The proposal has the appearance of a political exercise to license CDMA2000 (and later TD-SCDMA) networks without regard to anticipated market requirements and Government policies, and without regard to the potential impact on the existing Hong Kong mobile operations. If there is a demand for

CDMA2000 and/or TD-SCDMA networks, then market forces will demand that result. As OFTA is very much aware, there is no shortage of licensees in Hong Kong to meet any CDMA2000 and/or TD-SCDMA requirements (including roaming) if indeed such demand will exist. Indeed this CDMA proposal is a major step backwards to the discarded command and control regulation, and turns well established and user-friendly policies on their heads.

3. Further, the use of this spectrum in such a controversial manner should be considered within the broader Spectrum Policy Review (SPR). SUNDAY cannot see how prescribing a CDMA2000 (and then a TD-SCDMA) network can co-exist with global best practices relating to spectrum management and liberalized spectrum use. Absent an emergency, ad-hoc policy making should be avoided. Consistent with the SPR, a Policy First approach should be employed.
4. Section II of this Submission questions the actual need for a CDMA2000 licence in terms of technology and the market. Section III reviews the regulatory principles noted above in relation to the introduction of CDMA2000 services in Hong Kong. Section IV of the Submission responds to the specific proposals raised in the Paper.
5. With respect, SUNDAY would ask that the Government and OFTA to reconsider this proposal.

II The Market Does Not Require a Specific CDMA2000 Assignment

6. The Paper proposes, for strategic reasons, to issue another 3G licence in the spectrum vacated from the present CDMA licensee after November 2008. The Paper considers a mandated CDMA2000 service to be necessary to maintain Hong Kong's strategic position as a world city and the gateway between the Mainland of China and the world. In another words, it is simply to enable visitors with CDMA handsets traveling to Hong Kong to enjoy roaming service locally. However, this proposal appears to be based on the perception that such visitors will be substantially inconvenienced if no CDMA2000 network is constructed in Hong Kong. This is not, however the case.

7. First, OFTA will be aware that there are multi-mode handsets available in the market, which support both CDMA and GSM technologies. With such multi-mode handsets, CDMA subscribers from overseas and the Mainland of China traveling to Hong Kong can enjoy roaming service supported by 2G and 3G mobile operators locally. Over the next two years such handsets will no doubt become even more common. This arrangement is similar to existing domestic roaming between 2G and 3G services. In addition, a large number of users already have second handsets.

8. Second, substitutable services exist in Hong Kong which are extremely inexpensive. Such substitutes range from traditional IDD to IDD-like services such as VOIP, and from Internet access/email to Wifi as well as extensive prepaid mobile services. OFTA should consider this issue more broadly than just CDMA2000 even if these services may not be perfect substitutes.

9. Third, other “world cities” and financial centres, like London, Paris, Frankfurt and Singapore,¹ do not yet have CDMA2000 networks in operation and as far as SUNDAY is aware there are no mandatory requirements that such networks be constructed.

10. Fourth, there is no market or economic analysis to support this proposal. In 2004, when the issue of re-farming this spectrum was first addressed, the TA decided not to issue a fifth 3G licence. This was based on the status of the 3G market in terms of investment, network rollout, content/applications and take up rates. It was also based on the knowledge that four 3G operators would create a very competitive market with very high levels of user benefits. This conclusion was supported by independent economic analysis and study². In addition, this report in November 2004 indicated that CDMA roamers account only for 1/7th of the total inbound roaming market. This may unfortunately imply that any regulatory action can be justified under the heading of ‘strategic’, but given the recent global growth of GSM based 2G and 3G networks vs CDMA this may well be lower by now.

11. The 3G market in Hong Kong, after a period of hesitation, is only now beginning to develop. The 3G networks are still new and indeed not fully completed. The 3G licensees have started rolling out 3G services to the public but the primary service is still voice. The introduction of a fifth 3G licence into a saturated and competitive market needs to be carefully analyzed. 3G services are just gaining traction among users although as noted above the overwhelming use is for voice

¹ Information extracted from the “www.cdg.org” website.

² Spectrum Strategy Consultants commissioned by OFTA in 2004 to study the Hong Kong mobile market for 2G licence renewal: Prospect for a new mobile licence in the 800MHz spectrum band.

rather than for other services or applications. Price levels and revenues reflect this. Before a fifth licence is granted there should be clear analysis that Hong Kong users will not be harmed by a loss of critical mass in the market. That is, that the mobile market will not become too fragmented to support needed investment and innovation.

12. The Paper states at para 11 that since the previous decision not to license a fifth 3G operator in 2004: "*The market has since moved on.*" The Paper indicates that WCDMA technologies have matured, the four 3G networks have been rolled out and that the cost arguments raised in 2004 "*would be irrelevant to this consultation.*"

13. In reality, the 3G business is just as tenuous now as it was then. To simply state without economic analysis that considerations that were convincing two years ago are today irrelevant is intellectually very unsound. Substantial network investments are a long way from being recovered, especially in a market characterized by voice services, price competition and minimal margins.

III A Decision to License a Specific CDMA2000 Network Is Contrary to Established Government Policies

A. Specifying CDMA2000 is Not a Technology Neutral Approach

14. The Paper proposes to specify CDMA2000 services for deployment in Hong Kong after November 2008. This is obviously not consistent with the technology neutral policy that the Government and the TA have consistently advocated and employed in formulating telecommunications policies for Hong Kong. In the licensing of 3G spectrum, the TA did not mandate that the successful bidders deploy certain 3G technologies. Instead, the TA specifically let each winning bidder deploy whichever technology it felt appropriate for the market. The TA should not mandate certain technologies for deployment. Rather the TA should, assuming that a fifth licence would be issued, let each licensee decide the appropriate 3G technology for deployment.

B. Specifying CDMA2000 is Not a Market Driven Approach

15. Specifying a particular 3G technology for deployment is not a market driven approach. If there is a market demand for CDMA2000 (or TD-SCDMA) services, the market will drive a licensee to adopt that 3G technology³. The role of a telecommunications regulator is to create a fair and equitable regulatory environment in which the industry players can invest, innovate, roll out new services and compete to meet the telecommunications needs of the public. Absent a demonstrated market failure, the TA need not do more than that. The market will

³ DG of Telecommunications in Jan 07 states in an article entitled “Looking Ahead at Telecommunications Regulatory Policy in the New Year”:

“The regulatory policy of Government has always been “market-driven” and “pro-competition”. Investment in telecommunications network infrastructure is undertaken by the private sector. The role of the Government is to facilitate investment and to maintain fair competition.”

then determine the technologies (as well as winners and losers). Whether CDMA2000 service should be introduced, and if so when and how, should be entirely decided by the market.⁴ To dictate a result for "strategic" reasons is a very slippery slope, could obviously lead to a TD-SCDMA licensee and other market interventions.

16. The Paper correctly states at para 9 that:

"The Government has all along advocated the market driven/led approach. The TA will refrain from regulatory intervention so long as there is no market failure."

SUNDAY interprets this to mean that absent a market failure the TA would not license a fifth 3G mobile operator. Yet the Paper presents no evidence that there is or likely will be a market failure after 2008. Indeed, it is clear that the mobile market in Hong Kong is hyper-competitive and is producing globally recognized user benefits. Nevertheless, OFTA seems to suggest that introducing a fifth 3G licensee which would be required to employ a designated technology is market driven and is required to prevent a market failure.

17. The question logically arises whether the lack of a CDMA2000 mobile service would represent a market failure. Under a market driven approach (and a

⁴ DG of Telecommunications in Jan 07 states in an article entitled "Looking Ahead at Telecommunications Regulatory Policy in the New Year":

"In my view, the Government should not lightly change the proven "Big Market, Small Government" policies just because of the situation in individual services. The effect of the policies should be observed from a global perspective. If there is market demand for individual services and the revenue can enable a reasonable return to the investors, investment will come sooner or later."

technology neutral approach) the answer would clearly be "NO". It would not be correct to say that the absence of a CDMA2000 network is a market failure as that term is understood by economic and legal commentators and the relevant case law (or by OFTA itself).

C. The Government Should Continue to Uphold the “Policy First” Principle

18. In 2004, the TA considered that there was no urgency to introduce a new system to operate in the spectrum vacated by the IS-95 CDMA system, and that the allocation and assignment of the vacated spectrum could be deferred until the SPR⁵. Since then, there have not been any substantial changes in the telecommunications operating environment in Hong Kong including the mobile market, other than as described above. Consistent with its previous statement, the TA should not re-farm the 2G bands vacated by the current CDMA licensee for the 3G deployment. Instead, finalisation of the overall spectrum re-farming and re-use guidelines should be fully addressed as a policy matter in the SPR.

19. The SPR will address and formulate relevant guidelines as to spectrum re-farming for both scenarios, (a) from the vacant 2G bands, and (b) from the occupied 2G bands. Changes to the 3G Spectrum Utilization Fee (SUF) structure, required coverage areas and other licence terms are also best addressed in the SPR rather than on an ad hoc basis. Without resolving these and other policy issues, it is not appropriate for the TA to implement spectrum re-farming on an ad-hoc basis for

⁵ The TA in November 2004 stated:

“The TA will then determine the way forward for the allocation and assignment of the spectrum vacated by the existing IS-95 CDMA system and other available spectrum for mobile and other telecommunications services. If any operators or parties have any plan to use the spectrum for the deployment of advanced mobile network, they may submit their proposal to the Government during the spectrum policy review. The Government will consider such proposals in the context of the policy review.”

the “strategic” provision of CDMA2000 service in Hong Kong.

20. Re-farming the vacant 2G bands to 3G bands for introducing CDMA2000 services on an ad-hoc basis sets a dangerous precedent for existing and future licence investors. This group would certainly include existing 2G operators considering the re-farming of their occupied 2G bands for 3G deployment. Regulatory uncertainty, which the Government desires to limit, is actually heightened by ad-hoc decisions that are inconsistent with established regulatory principles and announced processes. Moreover, the SPR (like similar reviews in the Europe and the United Kingdom) is likely to move toward spectrum usage liberalization. It is totally unclear how a liberalized spectrum usage/trading regime could co-exist with a decision which mandated specific technologies and uses such as CDMA2000 and TD-SCDMA. The “Policy First, Allocation Next” principle should be respected and employed, in particular when there is no market failure that must be addressed by a new 3G CDMA2000 network in Hong Kong.

21. The SPR has been initiated and is now running in parallel with this consultation. In these circumstances SUNDAY can see little justification for an ad hoc CDMA2000 decision. The SPR is the accepted best place to look at spectrum generally, are certainly including the re-farming of spectrum, SUF arrangements, bandwidth allocations, technology options such as CDMA2000 vs WCDMA to the extent that specific technologies should be studied, licence terms, market needs, Government policies, etc. To the extent that some overwhelming “strategic” issue exists, which SUNDAY very much doubts, the SPR can address it by looking at multiple options ranging from spectrum re-farming to merely extending the existing licence arrangements.

D. The Proposal Mis-Prices a Scarce Public Resource and Upsets a Level Playing Field

22. Restricting the use of the vacated bands to CDMA2000 will diminish the value of the frequency. As such, even under open auction approach, the restriction will result in a price which might not adequately reflect the true value of the frequency.⁶ This fundamental flaw will lead to lowering of the SUF payable as compared with the other 2G and 3G equivalent SUF payments. Thus the public purse will obtain less revenue and already licensed mobile operators will need to compete with an entrant that essentially has received a subsidy from the public. This would not have the appearance of a level playing field. Again, this type of issue (along with a limited coverage area) should be addressed in the parallel SPR.

⁶ DG of Telecommunications in Jan 07 states in an article entitled “Looking Ahead at Telecommunications Regulatory Policy in the New Year”:

“Spectrum is an essential resource to support the new wireless technologies. The Government has already in 2006 commenced a comprehensive review on the spectrum management policies and the review should be concluded in early 2007. OFTA will make available spectrum to the market in accordance with the policy decided by the Government. The market should determine which technologies should be allowed to enter the market, and when.”

IV SUNDAY's responses to the issues and questions raised in the Consultation Paper

[Proposal 1: The TA should make available to the market spectrum which enables the provision of a CDMA2000 mobile service after 20 November 2008.]

23. In granting four 3G licences the TA has already made available to the market enough spectrum to create a competitive market. The grant of a fifth licensee is unnecessary and could deter investment and innovation. The TA found in 2004 that an additional licensee would not be in the public interest. SUNDAY is not aware that anything substantial has occurred to change that analysis.

24. The TA has long advocated and adopted a technology neutral policy and a market driven approach in formulating telecommunications policies for Hong Kong. Prescribing CDMA2000 for use by a new licensee undermines both of these policies. Until the finalization of the SPR, the TA should not make available to the market spectrum which enables the provision of another 3G service. The TA should not prescribe a specific technology, including CDMA2000. Hong Kong has a highly competitive mobile market already with four 3G licensees and six 2G licensees in operation. In these circumstances, there is no need to disregard existing policy approaches and return to heavy-handed command and control regulation. See sections II and III above.

[Proposal 2: Auction should be used to determine to whom the spectrum released

should be assigned.]

25. Per the above, no fifth 3G licence should be authorized and thus no auction needs to be held. Without prejudice, an auction is a fair and appropriate way to reflect the latest value of vacated spectrum. However, restricting the use of the frequency to CDMA2000 will likely diminish the value of the frequency and thus the monies received. As such, even under open auction approach, the restriction will result in a price which will not adequately reflect the true value of the frequency. This should not be the result when dealing with a "scarce public resource". Further, this fundamentally flawed approach will lead to a SUF lower than that paid by other 2G and 3G operators. It may therefore upset an existing competitive market. See paragraph 22 above.

[Proposal 3: The proposed band plan in the 850 MHz band as depicted in Figure 3 should be adopted. While the frequency block from 825 to 835 MHz paired with 870 to 880 MHz may be made available to enable the provision of a CDMA2000 mobile service, views on the optimal amount of frequency spectrum are welcome.]

26. The TA should adhere to the technology neutral approach to allocate spectrum. SUNDAY does not consider it appropriate for the TA to specify the use of spectrum restricted for the provision of CDMA2000 only. The TA should consider re-farming the vacated spectrum in the SPR. No ad-hoc re-farming should occur here.

27. In fact, three options are open to the industry on the use of 850MHz frequency band.

Option 1: to allocate 5MHz x 2 frequencies to the CDMA2000 successful bidder, and the remaining frequencies in the 850 MHz band are reserved for future expansion of other 3G applications.

Option 2: to allocate 10MHz x 2 frequencies to the CDMA2000 successful bidder.

Option 3: for user benefits reason, to issue two CDMA2000 licences with 5MHz x 2 frequencies allocated to each licensee.

Which option is more appropriate to achieve user benefits and better use of scarce public resources should be studied and addressed in the SPR before the actual implementation.

[Proposal 4: The use of spectrum by the licensee should be subject to the payment of one-off SUF the amount of which will be determined through open auction.]

28. Without prejudice and irrespective of the auction, SUNDAY welcomes the proposal of a one-off SUF payment, and suggests a review of the existing “Royalty Percentage” to create a level playing field. Over the last few years, 3G operators have paid several hundred million dollars in spectrum fees to the Government. The TA should be fair and equitable, and align the amount of SUF paid by existing 3G operators with the same cumulative licence fee to be paid by the new 3G player, or refund the cumulative difference to the existing 3G players.

[Proposal 5: It is proposed that a simple MRAA should be adopted in the licensing of the relevant frequency block. Bidders should place open bids in multiples of the bid price increment, starting from the reserve price. Both the reserve price and the bid price

increment will be announced by the Government nearer the time of the auction.]

29. SUNDAY does not consider there is a need to introduce a fifth 3G licence into the mobile market in Hong Kong. Without prejudice, transparent and fair auctions are to be supported. However, to maintain a level playing field the SUF terms and conditions, including the royalty scheme, should be the same employed in the previous 3G auction.

[Proposal 6: Incumbent 2G and 3G licensees should be permitted to take part in the open auction for spectrum in the relevant frequency block provided that they meet the pre-qualification requirements. In this exercise, there will not be any bidding restriction in the form of a spectrum cap i.e. an upper limit on the total amount of spectrum which will disqualify an incumbent 2G/3G licensee from bidding the spectrum. An individual company or group of companies may not enter more than one bid.]

30. As discussed above, the current mobile market is hyper-competitive. It is not necessary to introduce a fifth 3G licence based on CDMA2000 technology into the market. Instead, the TA should consider re-allocating the vacant spectrum to existing 3G operators for their service expansion.

[Proposal 7: The new licensee using spectrum in the relevant frequency block should not be subject to the Open Network Access requirement. Also, the Open Network Access requirement as applicable to the existing 2G and 3G licensees should be withdrawn altogether.]

31. Existing 2G/3G licensees have all been burdened with the Open Network Access (ONA) requirement and have had to partition 30% of their network capacity to meet the ONA requirements. The TA proposes not to impose this requirement on the new 3G licensee. To maintain a level playing field, the TA also proposes to lift the ONA requirements on all existing 2G/3G licensees. Irrespective of the auction, SUNDAY welcomes the proposal as it is in line with the market driven/led approach. To also maintain a level playing field, the SUF scheme also needs to be similar: either any new 3G auction being the same as previous 3G auctions, or SUF modifications made going forward for existing 3G licensees.

[Proposal 8: The new licensee should be subject to the following special licence conditions:-

- Network and Service Coverage Obligation*
- Performance Bond*
- Denial of Service to Suspected Stolen Handsets*

The new licensee will NOT be subject to the Domestic Roaming Requirements.]

32. Given that there are already four 3G licensees operating in Hong Kong, SUNDAY does not support to introduce a fifth 3G licence into Hong Kong. Nevertheless, if the TA decides to go ahead with the fifth 3G licence, SUNDAY agrees that the new 3G licensee should be subject to full network and service coverage obligations, performance bond, denial of service to suspected stolen handsets. To guarantee satisfactory service levels to mobile users, in particular in the early stage of service introduction on CDMA, the TA should consider imposing the Domestic Roaming

Requirements on the successful licensee, similar to the requirement being imposed on existing 3G operators.

V Conclusions

- The Consultation Paper's proposal should be reconsidered as it is unnecessary to meet the needs of visitors to Hong Kong.
- There is no market failure or demand for a specific CDMA2000 network.
- The Consultation paper's proposal is inconsistent with current telecom policies such as technology neutral and market driven solutions.
- The ad-hoc proposal to license a specific technology is inconsistent with the pending SPR and global best practices and pre-empts the outcome of the SPR.
- Policy First: The SPR should come before an ad-hoc implementation issue.
- Heavy-handed command and control regulation is well passed its use-by-date in Hong Kong, creates regulatory uncertainty and reflects poor policy making.

Respectfully Submitted by

SUNDAY

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