

LEGISLATIVE COUNCIL BRIEF

PROPOSED SPECTRUM POLICY FRAMEWORK – OUTCOME OF CONSULTATION

INTRODUCTION

A At the meeting of the Executive Council on 24 April 2007, the Council **ADVISED** and the Chief Executive **ORDERED** that the radio spectrum policy framework (“framework”) at **Annex A** should be adopted and promulgated.

JUSTIFICATIONS

2. Our proposed spectrum policy framework which was the subject of a recent consultation exercise covered six areas, namely, spectrum policy objectives, guiding principles in spectrum management, spectrum rights, supply of spectrum (including spectrum trading and liberalisation), spectrum for government services, and spectrum pricing. 20 submissions have been received. In general, the views of incumbent spectrum users largely align with their commercial interest, and the opposing views expressed in the submissions represent the underlying conflicting commercial interest of different parties.

3. Most submissions agree that factors such as future development of the communications market locally and internationally, the need to encourage investment to achieve strategic objectives and to compensate the community fairly for the use of spectrum, should be taken into account in formulating the spectrum policy framework. Some respondents put forth other factors that should likewise be considered, eg, consumer interest, regulatory consistency and predictability, fair competition, and interference management. Taking into account these factors, and considering the views expressed on the specific areas of the proposed spectrum policy framework, we set out our considerations below and the policy framework at Annex A.

FRAMEWORK : CONSIDERATION AND PROPOSAL

Spectrum Policy Objectives

4. The spectrum policy objectives are set out in Part 2 of Annex A. The purpose of publishing the spectrum policy objectives is to provide the industry with greater clarity and predictability of spectrum management decisions, as well as to facilitate their understanding of the underlying basis for those decisions. The submissions are supportive of this approach.

5. Most submissions consider the proposed objectives to be appropriate, ie, to achieve efficient use of spectrum, fulfil Hong Kong's international obligations and reserve sufficient spectrum for government use. While most agree to the objective of strengthening Hong Kong's strategic position as a world city and the gateway between the Mainland and the world (paragraph 2.1(d) of Annex A), a few mobile carriers and an industry association representing one of the mobile technology standards considered this not necessary as the market should be able to adjust itself to achieve such outcome. They are concerned that this objective could be used as the basis for the regulator to intervene in the market. In particular, a mobile carrier questioned the proposal of the Telecommunications Authority (TA) to release spectrum, from November 2008, to enable the provision of third-generation (3G) mobile telecommunications services based on the CDMA2000 standard, arguing that the provision of 3G services based on different standards could lead to a fragmentation of the Hong Kong market. However, another submission from an industry body representing another mobile technology standard commends this spectrum policy objective, arguing that it could lead to greater choice of access technologies as well as spur more innovative applications for Hong Kong users.

6. With increasing economic integration with the Mainland, and to maintain Hong Kong's strategic positioning as a world city, it is essential that our spectrum policy, in concert with policies on other infrastructure development, plays its part to help Hong Kong achieve its strategic goals. If left entirely to the market, there is a definite risk that some operators would put their short-term financial benefits above Hong Kong's wider economic well-being, in respect of, for example, development and applications of innovative technology, consumer choice etc. This is not desirable. In any case, under the market-based approach¹ in spectrum management (see paragraph 8 below), the so-called "regulatory

¹ "Market-based approach" for spectrum management means methods relying on market forces to ensure the efficient use of spectrum as a public resource.

intervention” is merely to release the spectrum to the market to afford potential investors the opportunity to launch such services. Ultimately, it would be up to the market to decide whether there is a business case, and to bid for the necessary spectrum. Indeed, such “intervention” is also in line with one of the objectives of the current telecommunications policy that the widest range of quality telecommunications services should be available to the community at reasonable cost.

7. A submission points out that since these potentially conflicting objectives have not been prioritised, there could be a lack of certainty in regulatory decision-making. Our response is that these objectives provide policy guidance for the regulator who would have to examine the circumstances of each case before making a regulatory decision.

Guiding Principle in Spectrum Management

8. The guiding principle in spectrum management is in Part 3 of Annex A. The guiding principle to adopt market-based approach in spectrum management when there are competing demands from providers of non-government services (paragraph 3.1 of Annex A) is supported by most submissions as they provide the most efficient means to resolve such demands. One submission suggests that spectrum auction would favour those with deep pockets and may deter new operators from entering the market. A mobile carrier argues that the market-based approach would result in economic and technical risks, legal issues due to a change of regulatory approach, and the possibility of market failure.

9. A public utility company considers that it does not make profit from the spectrum resources but only use them to serve the general public and thus its spectrum assignments should be exempted from the application of market-based approach as for those for government services. A domestic free-TV licensee considers that since it needs to carry government-mandated services for the public, and that free-TV is for public interest, it should be accorded similar arrangement as government services. A radio broadcaster suggests that where substantial public interest and social needs prevail, existing spectrum assignees should be given priority to continue service delivery with new technologies.

10. We remain of the view that, as a guiding principle in spectrum management, the market-based approach would be appropriate for spectrum wherever there are likely to be competing demands from providers of non-government services. Cases warranting departure from

the market-based approach due to public policy reasons would not be precluded (paragraph 3.2 of Annex A).

Spectrum Rights

11. The spectrum rights are set out in Part 4 of Annex A.

Before expiry of spectrum assignment

12. All submissions support our proposal of generally not varying or withdrawing spectrum assignments before their expiry, and to state the circumstances under which a spectrum assignment may be varied or withdrawn, ie, where public interest, government policies, international obligations or interferences between legitimate spectrum users so require. Some submissions consider the grounds of “government policies” and “public interest” too vague and sought an exhaustive list of triggering circumstances. Some existing spectrum users also raise the issue of compensation should the assignment be withdrawn before expiry. On the appropriate notice period to be given to the affected parties in such a case, a couple of submissions suggest five years for spectrum assignment for carrier licences.

13. Even though the TA has the power under section 32H of the Telecommunications Ordinance (Cap. 106) (TO) to vary or withdraw spectrum assignments by reasonable notice, he has never done so for spectrum assigned under long duration licences, such as carrier licences, for the provision of public radiocommunications services. For short term spectrum assignments, the TA has from time to time varied or withdrawn spectrum assignments before and upon their expiry in order to make available spectrum for other uses. In view of the generally exceptional nature of circumstances requiring such drastic measures, we do not consider it possible to list out all triggering circumstances exhaustively. However, since “government policies” are invariably made to serve public interest purposes, we consider that it could be subsumed under “public interest” grounds in the policy framework, as set out paragraph 4.1 of Annex A.

14. Aside from the fact that the TO is silent on the issue of compensation, section 34(5) provides that no part of any fee or sum paid, including any spectrum utilisation fees paid pursuant to section 32I of the TO, shall be refunded in the event of any cancellation, withdrawal or suspension of any licence etc. Furthermore, for all telecommunications licensees which are subject to the powers of the TA to vary or withdraw any of the assigned spectrum by reasonable notice under sections 32H(3)

and (4) of the TO, the holders of such licences cannot claim any compensation or other remedies pursuant to the Basic Law against the Government or the TA for any variation or withdrawal of frequencies which they have been using, whether the variation or withdrawal is intended to take place before or upon the expiry of their licences and irrespective of the reason for the variation or withdrawal, provided that the notice to be given by the TA under section 32H(4) of the TO is reasonable in the circumstances of each case.

15. We consider that the appropriate minimum notice periods for variation or withdrawal of spectrum assignments before expiry should be determined by the TA having regard to his judgement on the typical economic life of the equipment installed, the timeframe to migrate existing customers and the duration of the spectrum assignments. Those minimum notice periods should be published by the TA for public information and would be given by the TA to affected parties insofar as it is practicable in the circumstances, as set out in paragraph 4.3 of Annex A. For spectrum assignments to a carrier licensee for the provision of mobile or wireless carrier services, to provide comfort to those licensees, we consider that a minimum notice period of 3 years would be appropriate. This notice period is in line with the time horizon for the proposed spectrum release plan (see paragraph 21 below), and is also consistent with the migration periods given to the two mobile carrier licensees when their second-generation (2G) mobile carrier licences were not renewed in 2005. Affected spectrum assignees will be advised by the TA in accordance with sections 32H(3) and (4) of the TO well before the changes are to take place.

At the end of spectrum assignment

16. Most existing spectrum assignees (including fixed carriers, mobile carriers, satellite operators and a TV broadcaster) disagree with our view that there should be no legitimate expectation for renewal of spectrum assignments. They argue that the longer the period of assignment, the greater the expectation for renewal upon expiry. They also claim that the proposal departs from international best practice and could undermine the incentives of investors to invest after the initial licence period. One assignee argues that if spectrum was fully liberalised, the market would lead the assignee to dynamically reallocate spectrum to an alternative, more economically efficient, use, without involving the TA in another re-allocation or re-assignment exercise. Some suggest that the circumstances where spectrum assignment is not renewed should be limited to exceptional circumstances and prescribed explicitly, similar to withdrawal of assignment before expiry. Others suggest that a “right of

first refusal” should be given to the licensees, in line with the practice for the renewal of 2G mobile carrier licences in 2005 and 2006.

17. We maintain our view that, at this stage, there should be no legitimate expectation for renewal at the end of spectrum assignments and have made this clear in paragraph 4.2 of Annex A. The TA should decide whether a new spectrum assignment, with the same or varied radio frequencies, should be given to the licensees. To provide greater transparency, we make it clear in the policy framework that the spectrum policy objectives and public interest grounds should be considered when the TA makes such decisions. Indeed, the TA considered, among other factors, public interest grounds when he decided to offer the “right of first refusal” to 2G mobile carriers whose licences expired in 2005 or 2006. Since public interest would have to be considered in each case, we do not deem it appropriate to give existing spectrum assignees, as a matter of course, the right of first refusal. We accept that the absence of automatic right of renewal may affect the value of spectrum when auctioned, and potentially hamper the effectiveness of spectrum trading and spectrum liberalisation as possible market tools. Once spectrum trading and/or spectrum liberalisation is implemented, the issue of spectrum rights at the end of a spectrum assignment should be revisited.

Spectrum refarming

18. All submissions support the proposal that impact appraisals should be carried out before spectrum refarming (which refers to the TA varying or withdrawing spectrum assignment to vacate existing spectrum users to enable the vacated spectrum to be used more efficiently or allocated to another higher value use) is to take place. This is now set out in paragraph 4.4 of Annex A. A couple of submissions raise the issue of compensation for affected parties. Since spectrum refarming will unlikely take effect before the relevant spectrum assignments expire, the issue of compensation should not arise if there is no legitimate expectation for renewal of spectrum assignments (paragraph 17 above).

Spectrum rights for non-licensees

19. For spectrum users who currently are not subject to any licensing requirement (eg, those who use equipment that operate in spectrum designated for receiving signals from satellite), the majority of submissions agree that there would be no need to develop spectrum rights for these non-licensees at this juncture. A satellite operator considers that the spectrum rights regime for non-licensees in the UK would add burden to satellite operators. However, it also argues that the Government has an obligation to protect the satellite services from

interference from other telecommunications services. Others hold the view that there should be no or limited rights for such non-licensees. We consider that the TA could bear in mind the non-licensed use of spectrum in formulating and updating the overall spectrum allocation plan and developing the spectrum release plans, but no right should be accorded to non-licensees.

Spectrum Supply

20. Issues related to spectrum supply are set out under the policy framework in Part 5 of Annex A.

Spectrum release plan

21. All submissions support in principle the proposal to publish annually a spectrum release plan showing the intended supply of spectrum through open, competitive processes in the following three years, as now set out in paragraph 5.1 of Annex A. Some argue that spectrum released by non-market means (such as those for government uses) should also be covered in order to provide the industry with a full picture of spectrum availability in order to make informed decisions. An external fixed carrier considers that the plan should not cover all spectrum already assigned for previously agreed periods, even though such assignments may bear an expiry date sometime in future.

22. We consider that the purpose of publishing the spectrum release plan is to increase the transparency of spectrum supply. For spectrum for the provision of public radiocommunications services, such as mobile carrier services, there should be competing demand. Thus, under the guiding principle in paragraph 10 above, market-based approach such as auctions should always be used unless there are overriding public policy reasons. On the other hand, there are other spectrum bands for which the supply of spectrum exceeds market demands. The TA would assign such spectrum on application. The release of such spectrum by non-market means could not be projected and thus should not be included in the spectrum release plan. However, to increase transparency, the policy framework makes clear that the availability of such spectrum will be made known to the public by OFTA, as set out in para. 5.2 of Annex A. On spectrum already assigned with an expiry date, since there should be no legitimate expectation of renewal upon expiry (paragraph 16 above), we consider that the TA should be able to consider their future use after expiry and include them in the spectrum release plans, if appropriate.

Spectrum trading

23. There is general support for the introduction of spectrum trading whereby a spectrum assignee may, through bilateral negotiations, allow another party to use all or part of the spectrum for the duration of spectrum assignment. Respondents consider this an important means to ensure the most efficient use of spectrum and further stimulate growth and innovation. Most mobile carriers would like this measure introduced as soon as practicable. They are of the view that the existing competition provisions in the TO should be sufficient to guard against anti-competitive behaviour if trading is allowed. A couple of submissions consider that trading gains should be treated as any gains from the sale of business assets.

24. In the light of the support received in the submissions, we have indicated in the spectrum policy framework the policy inclination to introduce spectrum trading in Hong Kong in the long term (para. 5.3 of Annex A). We will proceed to undertake a feasibility study on the many implementation issues identified by the consultant, including the licensing arrangements, the question of financial gains from trading, and regulatory measures to prevent anti-competitive practices (e.g. hoarding of spectrum by operators with means).

Spectrum liberalisation

25. Spectrum liberalisation generally refers to allowing a spectrum user to change the technologies and/or use of the assigned spectrum. Some submissions agree with the proposal that the Government should continue to monitor developments in other jurisdictions before deciding whether spectrum liberalisation should be introduced. Other submissions consider spectrum liberalisation to be an important market mechanism and should be pursued as soon as possible.

26. While we appreciate that spectrum liberalisation is a valuable market mechanism, the circumstances of Hong Kong (small, densely populated place) mean that the feasibility of spectrum liberalisation is highly doubtful and, as the consultant pointed out, not yet proven internationally. We maintain our view under the policy framework in paragraph 5.4 of Annex A that spectrum liberalisation will not be introduced in the short term, but the Government will continue to monitor developments in other jurisdictions.

Spectrum for Government Services

27. On the proposal that spectrum for providing government services should continue to be managed by the TA based on centralised planning and administration (a command and control approach), but be subject to a triennial administrative review, most submissions recognised the special nature of government services and support this proposal. Some submissions consider that the command and control approach should only be applicable to emergency services or services related to national security, and that other government services should be subject to the market-based approach, and be required to pay spectrum utilisation fees. We maintain our view that, for the time being, all spectrum for providing government services should continue to be subject to the command and control approach but be subject to regular administrative review by the TA (Part 6 of Annex A).

Spectrum Pricing

28. Views in the submissions on spectrum pricing are divergent. Some mobile carriers, who are currently subject to the payment of spectrum utilisation fees (SUF), generally agree that SUF should be applicable to commercial use of spectrum irrespective of whether there is competing demand from providers of non-government services. Some further argue that SUF for new entrants should be set having regard to the effect their entry would have on the market, or that their (ie, existing operators') SUF should be reviewed in the light of market developments and the trend of convergence. A public utility company, and a TV broadcaster opine that their use of spectrum should warrant special consideration in that they are providing public services. A sound broadcaster similarly considered that it does not charge the public for its services and has already compensated the community for its use of spectrum. A satellite operator cites the heavy cost of establishing satellite networks and suggests that frequencies used for satellite communications should only be charged on a cost-recovery basis, similar to many other jurisdictions. One submission considers that in view of the practical difficulty in determining the "right" level of SUF, which could become a burden on spectrum users, an initially cautious approach should be adopted.

29. The purpose of including spectrum pricing in the spectrum policy framework is to establish the basic principles. Detailed arrangements need to be further studied and debated. We maintain our view in paragraph 7.1 of Annex A that, in principle, all commercial use (by which we mean non-government use) of spectrum, irrespective of whether there is competing demand, and whether the use of spectrum is to deliver services to customers direct or to support back-end operation of a public

utility company, should be subject to some levels of SUF. If the spectrum is not released through market means, we believe that the principle of setting SUF to reflect the opportunity cost would be appropriate as it would largely reflect the value of spectrum to the users and the community. Nevertheless, we accept that if spectrum is assigned to an operator wholly or significantly to support public interest purposes at the request of the Government, the SUF should reflect the nature of such spectrum use (paragraph 7.2 of Annex A). This requires special consideration on a case-by-case basis. In any event, any new SUF to be implemented should not be applicable during the course of an existing licence.

30. On the concern expressed by some mobile carriers about potential effect of spectrum pricing for new entry on the market landscape, we believe that they were suggesting that new entrants with potentially lower SUF levels could enjoy an unfair advantage over them, hence their suggestion that the new entrants should be charged the same SUF as existing operators, or the SUF for existing operators should be reviewed and lowered to the levels of the new entrants. We disagree with such views. When spectrum is released for auction, bidders should have assessed the value of spectrum in the context of the projected business opportunities in order to decide the levels of their bids. The market values of their assigned spectrum at any juncture during the assignment period would naturally depend on the remaining period left in the assignment and whether the business opportunities turn out to be rosier, or gloomier, than their original forecasts. As a matter of principle, reserve price for spectrum to be released for auction should always be set having regard to the prevailing market environment. The SUF for a new entrant as determined through an auction process should not be used as a reason to adjust the SUF for existing operators which were previously determined also through auction processes.

Other Issues

31. A few submissions argue that any further release of spectrum should be put on hold until the completion of the spectrum policy review. We are of the view that the announcement of the spectrum policy framework would provide the industry a clear understanding of the foundation of the spectrum policy in Hong Kong. It is not necessary or desirable to delay the release of spectrum, as this could hamper the introduction of advanced and innovative communications services in Hong Kong. Potential investors should have regard to our published spectrum policy framework, including the direction for further spectrum measures (such as spectrum trading) and decide whether there is a business case to bid for the spectrum. In reforming its spectrum policy,

the regulator in the UK also adopted a phase-by-phase approach in its various studies and reviews, but also released spectrum to the market in the meanwhile.

32. A submission raises concern on the current dominance of the commercial broadcasting market by one or two big corporations which could exercise monopolistic control over the broadcasting sector. That submission suggests that the spectrum policy should aim at upgrading the technologies for radio and television broadcasting, through financial allocations if necessary. Another submission points out in some overseas jurisdictions, spectrum is made available for the provision of community radio.

33. As explained in the consultation paper, the spectrum policy is to support higher level telecommunications and broadcasting policies. We therefore consider that new broadcasting services or the competition landscape of the broadcasting market is a matter for the broadcasting policy to address, and outside the remit of the present review of spectrum policy.

Transitional Arrangements

34. The TA needs time to align the existing spectrum management arrangements with the guidance from the spectrum policy framework. In particular, he needs about two years to examine by phases the individual frequency bands, whether there are competing demands from providers of non-government services for those frequencies having regard to the radiocommunications technologies and services that may be supported by those frequencies and whether there should be exceptional policy considerations, in order to decide whether market-based approach should be adopted for the release of the concerned spectrum, and to develop the necessary rules and procedures to support market-based approaches for spectrum supply. In the interim, the TA would continue to discharge his spectrum management responsibilities under the TO with a mix of the existing “command and control” approach and the new market-based approach under the spectrum policy framework as appropriate in his reasonable opinion. This is set out in Part 8 of Annex A.

OTHER OPTIONS

35. An alternative to the promulgation of a spectrum policy framework is to retain the existing “command and control” approach in spectrum management. This approach cannot keep up with the rapid technological and market developments in the communications markets

for much longer, with the potential consequence that Hong Kong would lag behind in the deployment of new and innovative technologies beneficial to our economy. This is not desirable.

36. Another option is to further engage the industry with a view to reaching consensus with them on the details of the policy framework before implementation. However, as seen in the submissions, different industry players have different views that align with their own business interests. It is doubtful that full consensus could be reached with all industry players. Furthermore, a delay in the promulgation of the policy framework will have knock-on effect on the proposed release of spectrum to enable the provision of CDMA2000 services, possibly resulting in a gap in the provision of CDMA services in Hong Kong, with inconvenience to many of our visitors (see paragraphs 5 to 6 above). The delay could also defer the release of spectrum for Broadband Wireless Access services, a promising wireless Internet access technology that would complement other platforms of wireless Internet access such as Wi-Fi and 3G. This is not desirable from the point of view of developing Hong Kong as a leading digital city.

IMPLICATIONS OF THE PROPOSAL

Economic Implications

37. The spectrum policy framework is expected to bring about net economic benefits to the community. A spectrum policy framework would lay the foundation for improving the clarity, consistency and predictability of the regulator's decisions related to spectrum management. It should increase the confidence of the industry in making informed investment decisions, hence helping them to introduce new and innovative communications services in Hong Kong, for the overall benefit of the community. By increasing reliance on market-based approaches in spectrum management, enhancing flexibility to spectrum supply, and creating financial incentives to seek optimal use of spectrum, the policy framework should ensure that spectrum as a public resource would be used more efficiently. While the additional fee for the use of spectrum will increase the operating cost for certain affected industries, this reflects the genuine cost of doing business that should be internalised to ensure fair competition and achieve market efficiency.

Financial and Civil Service Implications

38. The use of more market mechanisms in spectrum assignment and the application of SUF to all commercial spectrum users should generate additional revenue for the Government. OFTA may need to

expend more resources to conduct more cost-benefit analysis and meet other requirements laid down in the policy framework. OFTA as a self-financing trading fund will absorb the additional funding required for taking forward the proposals under the new spectrum policy framework. The spectrum policy framework will have civil service implications as OFTA will need additional staff for conducting cost-benefit analysis and implementing the spectrum policy framework. We will further assess the staffing implications when we finalize the implementation plan and seek additional staff resources, where necessary, according to established procedures.

Other Implications

39. The spectrum policy framework is in conformity with the Basic Law, including the provisions concerning human rights. It has no environmental implication. It is in line with the sustainability principle of achieving a market-based economy which provides the resources to meet the needs and aspirations of the population, both now and in the future. Depending on the outcome of the feasibility study to introduce spectrum trading, legislative amendments may be necessary.

PUBLIC CONSULTATION

40. A three-month public consultation exercise was launched on 25 October 2006. The Information Technology and Broadcasting Panel of the Legislative Council generally supported our proposed spectrum policy framework.

PUBLICITY

41. A Legislative Council brief and a press release will be issued and a press briefing will be arranged. The framework will also be published on the websites of Commerce, Industry and Technology Bureau and the Office of the Telecommunications Authority. We will write to relevant organisations and individuals to inform them of the outcome of the consultation.

BACKGROUND

42. The Commerce, Industry and Technology Bureau (CITB) issued on 25 October 2006 the public consultation paper on the proposed spectrum policy framework for a 3-month public consultation. A total of 20 submissions were received.

ENQUIRIES

43. For any enquiries relating to this Brief, please contact –

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Communications and Technology Branch
Commerce, Industry and Technology Bureau
24 April 2007

**Radio Spectrum Policy Framework
(April 2007)**

1. Introduction

- 1.1 A 3-month public consultation has been conducted by the Commerce, Industry and Technology Bureau on the proposed spectrum policy framework. This document sets out for general information of the public the current policy thinking and key issues identified by the Government in relation to the management of radio spectrum in Hong Kong as a result of the public consultation.
- 1.2 This document is a living document and will be reviewed, revised, modified and updated from time to time by the Government as it thinks fit having regard to all relevant circumstances including but not limited to the latest technological, market and societal developments in Hong Kong and internationally, as well as further deliberations in key issues related to spectrum policy and management.
- 1.3 Readers of this document should seek independent professional advice in relation to the contents of, and any matters arising from, this document. Nothing in this document shall be construed or be relied upon by any person against the Government (including but not limited to all public officers) and the Telecommunications Authority (TA). All rights, powers, remedies and interests of the Government (including but not limited to all public officers) and the TA are hereby expressly reserved.

2. Spectrum Policy Objectives

- 2.1 Without prejudice to section 32G(1) of the Telecommunications Ordinance (Cap. 106) (TO), Hong Kong's spectrum policy and management aims to –
 - (a) facilitate the most economically and socially efficient use of spectrum with a view to attaining maximum benefit for the community;
 - (b) achieve technically efficient use of spectrum to facilitate the introduction of advanced and innovative communications services and strengthen Hong Kong's position as a telecommunications and broadcasting hub;
 - (c) fulfil Hong Kong's regional and international obligations relating to the use of spectrum;

- (d) strengthen Hong Kong's strategic position as a world city and the gateway between the Mainland of China and the world by facilitating the provision of key services in Hong Kong which are deployed, or will be deployed, globally or in the Mainland of China; and
- (e) ensure that necessary spectrum is reserved for services to be provided by or on behalf of the Government ("Government services").

3. Guiding Principle in Spectrum Management

- 3.1 The policy inclination is that a market-based approach¹ in spectrum management will be used for spectrum wherever TA considers that there are likely to be competing demands from providers of non-Government services, unless there are overriding public policy reasons to do otherwise.
- 3.2 If the market-based approach for managing spectrum with competing demands from providers of non-Government services will not be used, the relevant public policy reasons will be published.

4. Spectrum Rights

- 4.1 TA is empowered to vary or withdraw any spectrum assigned by reasonable notice under sections 32H(3) and (4) of the TO. Without affecting the generality of the powers which TA has, the policy inclination is that the said statutory power will be exercised only in exceptional circumstances before the expiry of a spectrum assignment under the TO, including where the public interest or international obligations of the Government so require, there is a serious breach of spectrum assignment conditions or serious interference between legitimate spectrum users has to be resolved or minimised.
- 4.2 There is no legitimate expectation that there will be any right of renewal or right of first refusal of any licence or spectrum assignment upon the expiry of a licence or spectrum assignment under the TO. The decision whether a new spectrum assignment, with the same or varied radio frequencies, should be given to the spectrum assignee would be made and notified to the spectrum assignee within a reasonable time before the expiry of its spectrum assignment or after receipt of its application by TA as it is

¹ "Market-based approach" for spectrum management means methods relying on market forces to ensure the efficient use of spectrum as a public resource.

applicable in the circumstances, after taking into account the spectrum policy objectives set out in paragraph 2 of this document as well as all other relevant factors, including but not limited to any other public interest considerations.

- 4.3 If a spectrum assignment is to be varied or withdrawn before the assignment expires, the spectrum assignee to be affected will be notified before the variation or withdrawal is to take place in accordance with sections 32H(3) and (4) of the TO. For this purpose, the TA may state minimum notice periods for different types of spectrum assignments. In the case of spectrum assignment to a carrier licensee for the provision of mobile or wireless carrier services, a notice period of not less than three years before the date of variation or withdrawal would be given insofar as it is practicable in the circumstances. If a spectrum assignment is to be renewed with different radio frequencies assigned, or not renewed upon the expiry of an assignment, notification would be given as mentioned in paragraph 4.2 above. If the circumstances permit, the minimum notice periods to be stated by TA would also apply in relation to these changes or non-renewal.
- 4.4 Before the conduct of a spectrum reforming exercise, an appraisal of the impacts of different options, including an option of “do nothing”, will be undertaken by TA before a decision is taken. The same minimum notice periods described in paragraph 4.3 above will be given to the affected spectrum assignees insofar as it is practicable in the circumstances.

5. Supply of Spectrum

- 5.1 A spectrum release plan (about the potential supply of spectrum from the TA through an open, competitive bidding or tendering process in the following three years) taking into account all relevant considerations, including spectrum policy objectives set out in paragraph 2 of this document, availability of spectrum for assignment primarily for non-government use, international spectrum allocation guidance, regional spectrum allocation decisions, technology and equipment availability, proposals from the industry, will be published annually. Such plans will be updated every year on a rolling basis or as required taking into account the latest developments. Pursuant to section 32I(1) of the TO, TA will designate by order the frequency bands in which the use of spectrum is subject to the payment of spectrum utilization fee by the users of the spectrum. Pursuant to section 32I(2) of the TO, Secretary for Commerce Industry and Technology (SCIT) will prescribe the method for determining the spectrum utilization fee payable for the use of such spectrum.

- 5.2 Information on unassigned spectrum for which supply exceeds demand, and can readily be made available for assignment upon application will be published and updated regularly by the TA.
- 5.3 The policy inclination is to introduce spectrum trading in Hong Kong in the long term, subject to a feasibility study and resolution of various implementation issues.
- 5.4 The policy inclination is not to introduce spectrum liberalization in the short-term. Developments in and effectiveness of spectrum liberalisation in jurisdictions with comparable circumstances to Hong Kong will be closely monitored for re-consideration in future whether spectrum liberalisation should be introduced in Hong Kong.

6. Spectrum for Government Services

- 6.1 Spectrum to be used by or on behalf of government will continue to be managed administratively. The market-based approach will not be applied.
- 6.2 The efficiency of the use of those spectrum will be reviewed by TA every three years.

7. Spectrum Pricing

- 7.1 In principle, Spectrum Utilisation Fee (SUF) will be applicable to all non-government use of spectrum.
- 7.2 For spectrum not released through auction or other market mechanisms prescribed by SCIT, SUF will be set by the SCIT under section 32I(2) of the TO. Without affecting any of the powers of SCIT, such SUF may be set to reflect the opportunity costs of the spectrum. Where a frequency band is assigned to a spectrum assignee wholly or significantly to support public interest purposes agreed by or at the request of the Government, SUF may be adjusted in the sole discretion of SCIT to reflect the nature of such use.

8. Transitional Arrangements

- 8.1 TA needs time to align the existing spectrum management arrangements with the content of this document. In the interim, the TA would continue to discharge his spectrum management responsibilities under the TO with a mix of the existing command

and control approach² and the market-based approach as appropriate in his reasonable opinion.

**Communications and Technology Branch
Commerce, Industry and Technology Bureau**

² “Command and control approach” for spectrum management is one where

- (a) the Government, or its agency, makes (or accepts from an international body) the allocation of a frequency band for a particular purpose;
- (b) spectrum within the band is assigned to a licensee or licensees via an administrative process;
- (c) a charge may be levied on licensees, normally to cover administrative costs; and
- (d) the licence usually authorizes the licensee to utilize spectrum-using equipment specified as to location, power and other variables, the restrictions being designed to avoid interference with other licensees in adjoining geographical areas or frequency bands.