

For information on 29 May 2001

**Subcommittee on Draft Telecommunications (Method of Determining
Spectrum Utilization Fees)(Third Generation Mobile Services)
Regulation**

“Open Network Access” for Third Generation (3G) Mobile Services

Background

In making submissions to the meeting of the Subcommittee on Draft Telecommunications (Method of Determining Spectrum Utilization Fees)(Third Generation Mobile Services) Regulation on 19 May 2001, representatives of the six mobile network operators requested the Administration to provide more information on the aspects of the auction process and regulatory framework for 3G services that would affect their business plans.

2. On 13 February 2001, the Administration has provided the Legislative Council with a brief on the future licensing framework for 3G services. This brief has provided an outline of the regulatory framework for 3G services. The Telecommunications Authority (TA) has since consulted the industry on the rules of “connected bidders”. A TA Statement summarizing the findings and conclusion of the consultation was issued on 25 May 2001 (see another paper submitted to the Subcommittee meeting on 29 May 2001).

3. This paper provides further information on the requirement of “Open Network Access” (ONA). The ONA requirement is to achieve the following objectives:

- (a) To promote competition for the provision of content and services over the 3G networks;
- (b) To enable operators who do not have the resources to bid for, or who have failed to obtain, the 3G spectrum opportunity to participate in the 3G business.

ONA Requirements

4. The terms of the future 3G network licences require that the licensees, who are the 3G mobile network operators (MNO), should open their networks to non-affiliated service providers (NSPs). There are two types of NSPs - non-affiliated mobile virtual network operators (MVNOs) and non-affiliated content or service providers (CSPs).
5. Each MNO is required to open 30% of the capacity of its 3G network to NSPs and must provide access up to this threshold on a non-discriminatory basis.
6. NSPs should have access to the same transmission capabilities as the host MNO has made available to serve its own subscribers or affiliated content or service providers.
7. Traffic associated with the MVNO is to be treated on a non-discriminatory basis compared to that of the MNO in all respects unless otherwise agreed between the parties concerned.
8. The mechanism for measuring the degree of openness may be developed, subject to the TA's satisfaction, by the MNO itself. Once a MNO has reached the ONA threshold, it has no further obligation under the ONA Special Condition to provide access to NSPs, or to provide additional capacity for NSPs already connected.
9. If the MNO subsequently increases its network capacity, it would have to meet any additional calls for capacity until the ONA threshold is reached for the expanded network.
10. The regulatory regime surrounding the ONA framework is intended to be relatively light. The TA will only intervene to resolve disputes between MNO and NSPs concerning interconnection and access. MNO will only be required to report on network usage in the event of a dispute.
11. MNO will be required to separate their operations and accounting between network and content/service provision.
12. MNO will be obliged to publish a reference MVNO contract, and to file copies of all contracts entered into with MVNOs with the TA.
13. MNO will be obliged under the terms of their licences to publish wholesale tariffs available to CSPs. In setting the tariffs, the MNO must not discriminate between its affiliated content or service providers and other non-affiliated CSPs.

Forms of Non-Affiliated Service Providers (NSPs)

Mobile Virtual Network Operators (MVNOs)

14. An MVNO is an operator providing mobile services to subscribers through access to, and interconnection with, the radio access networks operated by a MNO. In the market, an MVNO competes at the same level as the service provision arm of a MNO but without its own allocation of spectrum and its own radio access network. It is anticipated that a variety of MVNOs might exist, replicating different levels of the host MNO's infrastructure.

15. The ONA Special Condition provides regulatory support to a class of MVNOs which is not affiliated with the MNO (non-affiliated MVNOs). This class of MVNOs is expected to replicate a large part of the host MNO's infrastructure (excluding the radio access network).

16. Other forms of operators may exist (e.g. parties who resell services over the 3G network and do not operate any network infrastructure), but the arrangements concerning their access to and interconnection with the MNO would need to be reached on a commercial basis.

17. As well as owning and operating a significant amount of network infrastructure, the MVNO is also expected to enter into an agreement to buy a minimum amount of network capacity (in terms of airtime used or volume of data sent) from the MNO over a significant period of time. It would therefore be reasonable for MNOs to require some commitments from MVNOs in their interconnect agreements.

Content or Service Providers (CSPs)

18. A CSP provides content and value-added services to a range of subscribers. These subscribers will primarily receive their billing for the information received or service used from their content or service provider, likely to be bundled with the charges for the airtime used or data volume sent.

19. Subscribers of a MNO will have access to the content or service of any CSP, affiliated or not affiliated with the MNO, connected to the MNO's network.

20. Under the published tariffs of the MNOs, a non-affiliated CSP may be required to enter into an agreement to buy a minimum amount of network capacity (in terms of the airtime used or volume of data sent) from the MNOs over a specified period of time.

21. The traffic of non-affiliated CSPs of a certain class or type will be treated on a non-discriminatory basis compared with CSPs of the same class or type affiliated with the MNO.

22. A MNO has the obligation to supply capacity to a non-affiliated CSP until its own ONA threshold is met, irrespective of whether the non-affiliated CSP has access to other MNO's networks.

Definition of “Non-affiliated”

23. For the purpose of defining “non-affiliated”, a person is regarded as “affiliated” with a MNO (the Licensee) if:

- ◆ the Licensee has, directly or indirectly, 15% or more of the shares of the person or has influence over the person equivalent to a shareholding of 15% or more; or
- ◆ the party has, directly or indirectly, 15% or more of the shares of the Licensee or has influence over the Licensee equivalent to a shareholding of 15% or more; or
- ◆ any other person has, directly or indirectly, 15% or more of the shares in both the Licensee and the person, or has influence over both the Licensee and the person equivalent to shareholding of 15% or above.

Intervention by the TA

Mobile Virtual Network Operators

24. The TA's intervention will be based on the:

- ◆ ONA Special Condition in the 3G network licence; and
- ◆ powers under section 36A of the Telecommunications Ordinance to determine the terms and conditions of interconnection.

25. In the event that a non-affiliated MVNO cannot agree on the terms of interconnection with a MNO, it may call upon the TA to intervene in the dispute and to determine the terms of interconnection or access.

26. When making a determination, the TA may determine the interconnection charges based on Long Run Average Incremental Cost (LRAIC) which includes an appropriate cost of capital to be determined by the TA. LRAIC includes all variable costs and fixed costs which are directly attributable or related to the provision of the service in question (in other words, which would be avoided if the

service in question were not provided) and is calculated by reference to forward looking costs and includes the appropriate cost of capital that commensurate with the risk of investment in a 3G network. The TA's current view is that a rate-of-return in the order of 20% would be appropriate for the first three years after licensing.

27. LRAIC will not include indirect fixed costs which are not incremental to the service concerned. Capital cost for the network investment necessary for the provision of the service will be included as the long-run incremental cost is determined over the project period. In particular, the spectrum cost which is necessary for the network investment will be included as part of the long-run incremental cost.

Content or Service Providers

28. The TA expects that MNO and non-affiliated CSPs will reach agreement on the terms of access, based on the published tariffs, without the need for intervention from the TA. However, in the event that agreement is not reached, the TA may intervene if he receives a request or if he considers that the tariffs are discriminatory, unfair or anti-competitive.

29. In the intervention, the TA would first compare the published NSP tariffs with charges for corresponding services imposed on the MNO's own affiliated service providers so as to ensure that the MNO is not discriminating against the non-affiliated CSP. If no such discrimination exists, but the published tariffs for the non-affiliated CSP are nevertheless considered to be unfair or anti-competitive (due to, for example, excessive prices for the use of the network so as to "squeeze the margin" of the service provider), the TA may review and set the tariffs applicable to non-affiliated CSPs.

30. The cost basis to be applied in setting a tariff will be set out in guidelines to be issued by the TA in due course. The current approach is that the TA applies a tariff based on the Fully Distributed Cost (FDC). FDC allocates all costs across services offered by the Licensee. These costs include all historic variable, fixed and common costs of the services offered and common costs incurred by the MNO.

31. The TA will not intervene to provide ONA for a CSP affiliated to another MNO. However, if this was commercially negotiated, the capacity taken up or reserved for a non-affiliated CSP (in relation to the MNO in question) which is affiliated to another MNO would count towards the ONA requirement.

Licensing Requirements for NSPs

32. MVNO will be required to apply for a public non-exclusive telecommunications service (PNETS) licence for the establishment and maintenance of the MVNO network infrastructure and to provide telecommunications services.

33. Depending on the nature of services the NSP is proposing to offer, it may be required to be licensed for establishing or maintaining means of telecommunications and providing public telecommunications services under the Telecommunications Ordinance. If the audio and video service transmitted by the 3G networks is provided on the “mobile Internet” platform, such content will not be regarded as television programme service and the provider does not therefore need a licence under the Broadcasting Ordinance (Chapter 562).

34. Content provision, however, is not a public telecommunications service and is not subject to licensing under the Telecommunications Ordinance.

35. Simple resellers who do not establish or maintain any means of telecommunications (and which are not entitled to regulatory intervention under the ONA) will be licensed under class licences to be created by the TA under section 7B(2) of the Ordinance.

Office of the Telecommunications Authority

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