Hong Kong CSL Limited submission

In response to the industry consultation paper issued by the Telecommunications Authority entitled:

"Guidelines on the Principles and Methodologies for the Interconnection Charges to Mobile Virtual Network Operators and Tariffs for Content or Service Providers by Mobile Carrier Licensees Operating in the 1.9-2.2 GHz Band"

9 October 2004

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Chapter 1: Introduction

1 On 6 August 2004, the Hong Kong Telecommunications Authority (**TA**) issued an industry consultation paper entitled, "Guidelines on the Principles and Methodologies for the Interconnection Charges to Mobile Virtual Network Operators and Tariffs for Content or Service Providers by Mobile Carrier Licensees Operating in the 1.9-2.2 GHz Band" (the **Industry Consultation Paper**). Hong Kong CSL Limited (**CSL**) is pleased to submit comments based on an analysis of the ideas presented in this Industry Consultation Paper.

2 The first chapter of this submission discusses the general approach that the TA appears to be taking in regulating third generation Mobile Network Operators (**MNO**).[1] CSL appreciates the need for the TA from time to time to provide clear signals as to how regulation will affect firms and hence reduce regulatory risk, however given the vibrant and healthy state of the existing 2G infrastructure access market, it is unnecessary to provide such signals at this time with respect to 3G infrastructure. CSL considers that signaling how the TA intends to make determinations can impede commercial negotiations and result in reliance toward regulatory (rather than commercial) outcomes. The reliance on regulatory outcomes will come at a cost to the Hong Kong economy, and not only resource costs for the TA. This cost will be potentially large given that in such a market as this (four MNOs each required to make available 30% of their network) there is no reason why unimpeded commercial negotiations would not result in competitive outcomes, as has been, and should continue to be, the case in the 2G environment.

3 CSL also points to international precedent where regulators tend to adopt a hands-off approach in setting access prices in 3G telecommunications markets.

4 CSL responds to the TA's principles set out in the Industry Consultation Paper in chapter 3.

5 Finally, in chapter 4, CSL proposes that the TA consider issuing statements that are designed to limit the extent of regulatory gaming.

[1] For clarification, CSL uses "**MNO**" to refer to 3G operators (i.e. holders of mobile carrier licences in Hong Kong, only).

Chapter 2: Ensuring Open Network Access

6 In the Industry Consultation Paper, the TA refers to the following objectives in relation to the Open Network Access (**ONA**) policy:

- to provide fair and adequate compensation to MNOs for the network resources consumed under ONA;
- to maintain commercial incentives for mobile network investments;
- to establish a level playing field between network-based and service-based operators; and
- to promote the development of content, applications and services in the mobile communications market.[2]

7 CSL considers that, in the interests of market-wide competitive neutrality, these objectives be expanded to promote a level playing field between mobile, other wireless and fixed communication service providers. This is most important given the convergence of broadband customer access networks, content, and applications over these different delivery platforms. In particular, to ensure market-wide competitive neutrality and efficient incentives to invest and expand the capacity of 3G networks, it is important to ensure that MNOs are not at a regulatory disadvantage relative to fixed and other wireless service providers.

8 CSL considers that these objectives will be best met when competitive forces are allowed to operate, and only when there are demonstrable and substantial market failures should regulation be required. This appears to be consistent with the TA's earlier thinking regarding application of the ONA policy:

> "The regulatory regime surrounding the ONA framework is intended to be relatively light. Ordinarily, the TA will only intervene to resolve disputes and Licensees will only be required to report measurements of usage of the Network in the event of a dispute over access."[3]

Such a policy would also conform to common regulatory practice, which refrains from regulating new services so as to allow the market some time to develop its own approaches to the particularities of the emerging products.

9 However, CSL questions whether such a light-handed approach remains a priority for the TA. It appears, among the ideas presented in the Industry Consultation Paper, that the TA intends to apply an ex-ante approach to regulation by determining, in detail, the costing exercise that will take place in the advent, and prior to a commercial negotiation, of 3rd party access failing. CSL would like to highlight some potential issues with an ex-ante approach to regulating MNOs.

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2 Industry Consultation Paper, at paragraph 7.

3 OFTA (2001), *Hong Kong Third Generation Mobile Services Licensing Information Memorandum*," July 2001, (the **Information Memorandum**), in section 2.2.3.

Signalling the default (regulatory) price will reduce the incentives to resolve negotiations commercially

10 If the TA was to provide strong signals to the market regarding the default regulated access price, then parties to commercial negotiation, rather than agreeing to competitive terms, will consider whether they believe they can achieve a more profitable outcome if they revert the negotiation to the TA and the principles *a priori* determined. Even signalling the precise methodologies and principles that will be applied when determining the regulated access price, prior to commercial negotiation, will have a similar effect as parties will build and rely on expectations of the regulated prices.

11 Thus, such strong signals from the TA will create incentives for one or the other of the parties to a potential interconnection agreement to fail to agree to a competitive and efficient outcome. Parties might fail to agree because they would prefer their expected regulatory outcome and in such a situation, the costs to the economy are potentially high not only in terms of resource costs for the parties and the TA (and a drain on public funds) but also because inefficient access prices can create disproportionately large impacts on investment incentives and costs to the economy.

12 Even if negotiating parties pay no heed to the TA's signals, competition between MNOs effectively **caps** the prices they can charge for access to their network to competitive levels. If the TA were to set a higher price, no MNO could secure that price, as competition would bid it away. As a result, the only direction in which the regulator can affect prices is down and notably, by creating expectations of prices that are below the competitive level. These expectations are created by early, strong signals on the direction OFTA will take in any interconnection proceeding. This would chill investment and impose substantial social costs.

13 The same forces of competition will also ensure that prices are structured efficiently. Here too, the risk is that the regulatory process will undermine that efficient structure – for example, by preventing price discrimination. This too may reduce potential welfare from what may be attainable with a more open approach to pricing.

Commercial negotiations are likely to lead to competitive outcomes absent strong regulatory signals

14 Without the incentives for parties to revert to a default regulatory outcome, commercial negotiation is likely to result in competitive outcomes. Consequently, any distortions to the negotiation process are unlikely to provide any benefit to the economy (since the competitive outcome is likely to arise absent the distortion).

15 Competitive outcomes are likely to result from commercial negotiation with MNOs, since without an agreement on reasonable terms with an MNO, mobile virtual network operators (**MVNOs**) and content or service providers (**CSPs**)[4] have a number of

[4] A reference to a MVNO or CSP in this paper is a reference to a Qualified MVNO or CSP (as defined in Special Condition 12.16 of the Mobile Carrier Licence for CSL issued on 22 October 2001) which is not affiliated with a MNO (unless otherwise expressly stated).

substitute alternatives with which they can deliver their services. In particular, in Hong Kong there are currently:

- six mobile network operators, collectively holding eleven licences, and utilising wireless technologies with progressively faster data speeds (ie. GSM, GPRS and Edge);
- three other MNOs who have launched, or will soon launch, WCDMA as their chosen 3G technology; and
- seven entities holding a Public Non-Exclusive Telecommunications Service Licence for Mobile Virtual Network Operator services[5], utilising the networks of one or more of the 2G or 3G operators (the TA does not seem to recognise that CSPs may acquire access from MVNOs).

16 Additionally, MNOs such as CSL have strong incentives to increase demand on their networks, to reduce their average total cost, by attracting MVNOs and CSPs with competitive access prices. If they fail to attract demand, they will need to recover their fixed costs from a smaller group of customers.

If rents are earned by MNOs these have already been appropriated by the Government through the spectrum auction

17 Even without regulatory signals on default access pricing and methodology, if MNOs are able to earn supra-normal profits from MVNOs and CSPs and expected to at the time of the competitive spectrum auction, then these profits have already been appropriated by the Hong Kong Government through the spectrum royalty payments. CSL has committed to pay substantial spectrum royalties to the Government.[6] Given that these royalties were determined in a competitive auction they are likely to reflect the economic value of expected profits earned from 3G services sold to final consumers and access seekers.

18 Furthermore, these royalties are lump sum annual payments or transfers (at least for the first 5 years of the license) and therefore they are unlikely to result in economic inefficiency, since they do not affect marginal costs and/or profit maximizing prices.[7] To the contrary, providing strong regulatory signals to the market might impact the behaviour of MNOs, MVNOs and CSPs in a distortionary way, as discussed above.

International precedence

19 It is worth noting that it follows international precedent to adopt a light-handed approach to regulating 3G markets. For example:

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5 As at March 2004. TA (2004), *Hong Kong: The Facts*, May 2004, http://www.info.gov.hk/hkfacts/telecom.pdf.

6 See Schedule 4 of the Mobile Carrier Licence for CSL issued on 22 October 2001.

7 In the following years, royalty payments are the greater of a revenue share or fixed amount. If royalties are set as a share of revenue, then they are likely to affect marginal cost and prices, to the detriment of efficiency. However, this does not detract from the point that expected MNO profits have already been captured by the Government.

- In the United Kingdom, the Director General of Oftel, David Edmonds, notified the European Commission of his proposal for "no regulation on the 3G market as these are new and innovative services and regulatory controls would be disproportionate while the market is developing."[8]
- The Australian Competition and Consumer Commission has recently conducted a review of its mobile regulations and has not regulated access to 3G networks, other than for mobile termination and origination services to free call (1800) numbers.[9]
- The New Zealand Ministry of Economic Development recommended that 2½G mobile wholesale services be specified (meaning that access obligations apply but pricing principles are not regulated), however, "all other wholesaling of mobile services [including 3G services] would remain free from regulation."[10]
- The European Commission recently concluded: "as most future 3G service markets can be characterised as 'emerging markets' under the new Telecom package, they will not be subject to so-called 'ex-ante' regulation."[11]

20 As such, the TA's insistence upon pursuing an ex-ante approach to regulation is contrary to his office's previous statements about adopting a light-handed regulatory approach[12] and opposite to the positions of internationally recognized regulators. It is not clear why such an arbitrary approach has been taken.

Local precedence

21 Currently in Hong Kong, there are at least six MVNOs and numerous telecommunication service resellers operating in a healthy, robust and vibrant 2G infrastructure access market. As previously mentioned, MVNOs and CSPs have access to a large number of alternative network suppliers. No regulatory intervention has been necessary in the existing market and it is CSL's experience that commercial negotiation has resulted in competitive outcomes for access to CSL's 2G infrastructure.

22 This calls into question the TA's preoccupation with his intention to prematurely regulate access to the 3G infrastructure market. As the TA frequently champions a technology neutral approach, it is disappointing that he seems to intend to take such a heavy-handed stance to 3G MVNO/CSP access, given there is little difference between the 2G and 3G access markets besides the technology. By seeking to establish pricing guidelines for 3G access, the TA will be creating an environment for regulatory

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8 Ofcom (2003), "Oftel notifies EC of proposals for mobile regulation", press release dated 19/12/2003, http://www.ofcom.org.uk/media_office/news_archive/nr_20031219?a=87101.

9 See http://www.accc.gov.au/content/index.phtml/itemId/333898/fromItemId/356715.

10 Minister for Economic Development (2000), *Ministerial Inquiry into Telecommunications*, 27 September 2000, at section 8.3.2, http://www.teleinquiry.govt.nz/reports/final/index.html.

11 Speech by Mr Erkki Liikanen Member of the European Commission, responsible for Enterprise and the Information Society "3G Communication" Press conference Strasbourg, 12 June 2002, http://europa.eu.int/rapid/pressReleasesAction.do?reference=SPEECH/02/281&format=HTML&aged=0&language=EN&guiLanguage=en.

12 See above n3.

intervention, where no regulation has been shown to be needed to date. Since no impediments to access exist, creating a climate of regulation will not promote more growth in a healthy environment, but rather unbalance it. As such, before seeking to intervene in this functioning, active market, the TA must set a high bar and it should be necessary for any complainant (or the TA) to demonstrate market failure prior to utilising scarce public resources and proceeding to determination.

Chapter 3: Specific Costing Issues

23 As stated in the previous chapter, CSL does not believe it is necessary to regulate access to 3G infrastructure at this time and does not agree with the need for detailed guidelines, however in the event the TA pursues his desire to issue finalised guidelines, this section reviews a number of specific issues that arise in the TA's discussion of costing options.

LRAIC or FDC

24 In this specific case, CSL does not think that the choice between the use of a long-run average incremental costing standard or a fully distributed cost standard is particularly significant given the newness of the technology. However, it is noted that a LRAIC approach is more consistent with efficient forward-looking pricing practices and has a great deal of international precedence (see below). In CSL's view, LRAIC plus certain items of common mobile network and business costs, is the better cost-based approach for the TA to apply in determinations. Common mobile network (2G/3G) costs should be included because 2G subscribers should not subsidise 3G subscribers and common business costs, such as marketing and customer service costs, should be included because they are essential for a wholesale 3G business.

25 While CSL considers that it is important to consider LRAIC, it is noted that having regard to **only** LRAIC (or FDC) might result in the stifling of innovative pricing and, in particular, efficient price discrimination. It is worth understanding that from an economic perspective, price discrimination is an excellent means of achieving an efficient allocation of resources in many industries. One of the most common examples is one that readily shows the efficiency gain: in modern airlines, it is very common to employ differentiated ticket prices that depend on the buyers' individual needs to travel. The widespread application of price discrimination in the airline industry in the United States has been credited with increasing average load factors from 49.8% over the period from 1954 to 1978 to 55.2% post 1978.[13] Also, in competitive telecommunications markets such as 2G mobile, data and Internet access markets, firms often employ price discrimination with efficient effect. In the case of 3G mobile services, it is highly likely that differentiated pricing for interconnection will have efficient outcomes given the variety of content and application types that are potentially going to be transmitted over this medium.

26 The economic benefits of price discrimination are almost surely going to be stifled if the TA considers only a uniform interconnection tariff based on LRAIC for all interconnecting firms. In the airline analogy alluded to above, this is equivalent to insisting that all passengers pay the same fare for a flight from, say, Hong Kong to Los Angeles. In such circumstances, it is likely that the plane either will have a large number of empty seats or will fail to recover its costs even when it is full.

[13] http://www.bts.gov/programs/airline_information/indicators/top.html.

27 In some situations, a retail-minus approach is more likely to allow MNOs, MVNOs and CSPs the flexibility to adopt more efficient retail pricing practices than a flat tariff across all interconnecting firms and services. Additionally, given the competitive structure of this market (see section above), the retail-minus approach is unlikely to result in MNOs earning supra-normal profits from its 3G network investments

28 To prevent the stifling of efficient retail pricing practices, CSL considers that the TA should have regard to the greater of the LRAIC plus common costs approach and the retail-minus approach, in the event it needs to intervene in an ONA dispute. It is important for the TA to take the greater of these two options for the following reasons.

29 First, there is often difficulty in relating a retail price to a wholesale price given the numerous retail service plans in the market. Each retail plan is a combination of basic services and value-added services, most of which have components which are unrelated to access, coupled with blended cross-subsidies, thereby making it difficult to distil an access price out of retail packages. Second, CSL will not offer services to MVNOs and CSPs at below cost (including an allocation of common costs). This is particularly important as CSL will be required to build additional capacity to satiate the demands of MVNOs and CSPs. If the access price is below the LRAIC of the additional investment and does not adequately recover common costs, then CSL will not make that additional investment. Third, it is not certain that an MNO will indeed retail 3G services**.** Retail businesses may be managed independently of the MNO by one or more of its affiliates (i.e. affiliated MVNOs).

For further reference

30 CSL notes again that international precedence shows a tendency toward a light handed approach to regulating access pricing for 3G networks. There are few (if any) examples of cost-based pricing principles being applied to 3G (or 2G) mobile network access. For other markets, where the regulator has demonstrated a market failure, there are a number of examples where regulators in other countries have signalled a preference for the LRIC standard. For example:

- Intven, H and Tetrault (2000), *Handbook for Telecommunications Regulators*, INFODEV, World Bank, 2000[14];
- Australian Competition and Consumer Commission (2003), Final Determination for model price terms and conditions of the PSTN, ULLS and LCS services, October 2003;
- Directive 97/33/EC of the European Parliament and Council, 30 June 1997,[15] states that: "the level of charges should…not be below a limit calculated by the use of long-run incremental cost and cost allocation and attribution methods based on actual cost causation";

[14] http://wbln0018.worldbank.org/ict/resources.nsf/InfoResources/F76ED733371D080985256E75006495A5

[15] http://www.icp.pt/template20.jsp?categoryId=59481&contentId=94328

- The first-ever WTO Panel decision to consider telecommunications services, issued recently, has advocated a long-run incremental cost approach to pricing international termination rates for fixed telecommunications providers with essential facilities or with substantial market power: "We find therefore that the increasing and wide-spread usage of incremental cost methodologies among WTO Members supports the interpretation of the term 'cost-oriented' as meaning the costs incurred in supplying the service, and that the use of long term incremental cost methodologies, such as those required in Mexican law, is consistent with this meaning."[16]

Short or Long Run Costs and Corporate Overheads

31 In the interests of establishing a level playing field between network-based and service-based mobile operators, we agree with the TA that MNOs should recover long-run costs.

32 Similarly, we agree with the TA's recognition that MNOs should recover overhead costs, which effectively are part of long-run costs. We note that both of these costing principles are well established in international regulatory practice. Regulators generally recognise the validity of the long-run cost standard, since it sends appropriate signals regarding the decision to invest in infrastructure capital to both parties to an interconnection agreement.

33 With respect to paragraph 21 of the Industry Consultation Paper, CSL is aware of the network interface technology that would allow an MVNO to interconnect at only the radio access network (RAN) level of its network, however it is not available, and has not proven to be an appropriate solution, at the present time. CSL expects all MVNOs to contribute to CSL's cost of the core network and the RAN.

The Reference Carrier – Efficient, mean, marginal or individual

34 The TA presents a concise discussion of the arguments surrounding the use of reference carriers for the purpose of calculating cost. We agree strongly with the TA that the cost should be based on the carrier for which third-party access is being negotiated, and not a standard hypothetical reference carrier. Each MNO operates subtly different networks and thus their cost, quality and performance will differ too. MNOs should be allowed to recover their investments in higher quality provided access seekers are willing to pay for it.

35 Preventing MNOs from recovering their investments in higher quality networks, by standardising the reference carrier, will result in the MNOs facing incentives to build low quality networks and/or decrease the quality of existing network. Furthermore, competition will prevent any abuses of this standard.

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[16] World Trade Organisation (2004), *Mexico – Measures Affecting Telecommunications Services: Report Of The Panel*, 2 April 2004, http://www.sice.oas.org/dispute/wto/ds204/ds204r1e.asp.

Current or Historic Costs

36 Due to the newness of the 3G technology, in practice there is likely to be little difference between current and historic costs for at least the early part of the life cycle of this technology. However, a current costing approach is likely to impose a large reporting burden on MNOs relative to a historic cost approach. Thus, we would encourage acceptance of a historic cost principle, at least until there is a clear divergence between the likely results of the two costing exercises.

Revaluation or Replacement

37 We agree with the replacement cost standard as proposed by the TA. This standard is at least partly consistent with economic notions of long-run forward-looking costs.

Scorched Node or Scorched Earth

38 After a brief review of the discussion which has taken place around the world concerning the choice between so-called scorched node and scorched earth cost model standards, the TA in our view has correctly sided with scorched node. We would add to the support for the TA's recommendation by noting that we understand that some of the providers of 3G services in Hong Kong are overbuilding their networks on existing 2G infrastructure. Thus, establishing a scorched earth standard would, in fact, not be optimising for the purposes of determining long run economic cost since all the existing scorched earth models work on the assumption of a network dedicated only to the service technology in question. For example, LECOM, one of the better-known scorched-earth models in the public domain builds a network for either POTS or ISDN, but does not overlay 2G or 3G services, although it is possible to use the model to design standalone specialty networks (like all-private-line). [17]

Physical or Economic Life

39 CSL agrees with the TA's recommendation for using the economic life approach. Rather than using physical life, which is sometimes considerably greater than the economic life, the life of the asset should reflect the period during which the market 'values' that asset. Using a physical life to depreciate assets in a high technology market is likely to result in assets being under-depreciated in early years and over-depreciated in later years. A proper evaluation of the economic life of an asset should eliminate issues of holding gain or loss, since economic life takes into account the market value of the asset.

[17] For a complete discussion of the LECOM model and its relevance to regulators, as well as a discussion of scorched earth versus scorched node models, see W. W. Sharkey, J.-J. Laffont, D. M. Kennet, and F. Gasmi (2002), *Cost Proxy Models and Telecommunications Policy: A New Empirical Approach to Regulation* (MIT Press).

Straight-Line, Accelerated or Flat Annuity Annualisation

40 CSL submits that both straight-line and accelerated depreciation are accepted standards of depreciation. Additionally over the course of any regulation of 3G services, MNOs may choose and change their preferred accounting practice of depreciation. For this reason the TA should have reference to the carrier's and industry standard depreciation methodology at the time of making a determination. For current purposes, the TA should not restrict itself to a particular depreciation standard in advance of a determination, however CSL notes that standard annuity depreciation profiles have been criticised for being inconsistent with the concept of economic depreciation.[18]

Financial or Operational Capital Maintenance

41 We agree that the correct approach is to ensure financial capital maintenance.

42 It would appear that the holding gain or loss would be taken into account if economic depreciation were applied correctly.

Network Capacity

43 In the Industry Consultation Paper, the TA quotes SC 12.11 of the mobile carrier license, which clearly states that:

> "The licensee shall establish a methodology to determine its Network Capacity and the utilization of the Network Capacity by Qualified MVNOs and CSPs"

44 CSL is not yet prepared to submit a methodology to the TA on its determination of network capacity. CSL refers to the ongoing and unresolved industry debates and TA workshops that have been held since 2001 on the matter of measuring capacity and is hesitant to determine such a methodology in the absence of industry agreement on appropriate principles.

45 However, CSL would like to take this opportunity to raise the following points.

46 CSL would expect the TA's foremost guideline for the principles for setting interconnection charges should be to ensure flexibility. To do otherwise could retard investment by MNOs, MVNOs and CSPs, reducing economic efficiency. This is particularly important given the early stage of the 3G market in Hong Kong and the investments that continue to be implemented. The determination of the level of network capacity – the denominator for the LRAIC calculation – is an example of where the TA needs to retain flexibility.

47 CSL submits that any open network subject to regulation must be based on designed utilisation, not on actual utilisation. A scheme which measures actual utilisation at any given time ignores the obligations of accepted and good business practice – network

[18] See Hardin, A., Ergas, H. and Small, J. (1999), "Economic depreciation in telecommunications cost models," *mimeo*, at section 5, http://www.necg.com.au/pappubabstracts/0046.html.

capacity is built based on business plan requirements, and that business plan will call for the consumption of that capacity over a given period of time. Regulatory intervention using calculations based on actual utilisation will introduce unacceptable investment risks into an MNO's business model and unfairly jeopardise MNOs in favour of MVNOs.

48 In developing its business plan, an MNO may assess the market potential for MVNOs which may represent a revenue opportunity, and may choose to take a calculated risk by building additional capacity, in advance of contractual commitments, to serve this market. Alternatively, an MNO may judge the market less optimistically and as such take a more conservative approach by building capacity only to fulfil contracts for which it has firm commitments. Such choices can only be made by the MNO free of regulatory interference, as these decisions will be determined by a wide variety of market indicators and other forces, including availability of technical resources and investment capital, as well as shareholder policies and priorities, at any given time.

49 It is not clear from the choice and application of the 'efficient capacity' and 'actual utilisation' terms used by the TA in paragraphs 44 to 46 of the Industry Consultation Paper, whether it will be necessary for the MNOs to 'over-build' capacity and to let it sit idle. No MNO should be compelled to leave network capacity idling, awaiting demand from MVNOs.

50 CSL is of the view that MVNOs should forecast their capacity requirements, and MNOs will build to the required design, provided the MVNOs agree to pay, and be responsible, for the forecasted commitment. In the event that an MVNO does not use the capacity which has been built for it, it will be responsible for the cost of the idle capacity. MVNOs should not only be responsible for actual capacity used, but the capacity which it has committed to using. Rapid subscriber demand as described in paragraph 44, is the subscriber demand of the forecaster. The idle capacity has been factored by the forecaster and is the responsibility of the forecaster. The suggestion that there is extra capacity which has not been forecasted or built by design is not how networks are designed or constructed.

51 However, based on the current evidence of the healthy 2G wholesale market, MNOs have every incentive to provide capacity to small access seekers who cannot forecast demand and MNOs adequately provide access to such small users. The TA should not think that it will be necessary for MVNOs/CSPs to require a regulated mechanism to insist upon network capacity access. CSPs currently have access to an MNO's customers and there is no walled garden in place with respect to access. To be clear, the concept of access is separate and distinct from the provision by an MNO of additional non-access services to a CSP, including the provision of billing services and customer support services.

52 There are also strong reasons for retaining flexibility in the metric of capacity to be applied in the LRAIC calculation. If different MVNOs or CSPs place congestion on different parts of the network, or on the network at different times, or on particular

customers etc, the access price is the most efficient instrument for managing congestion. Using a common metric of capacity to determine a LRAIC price disallows the access price as such an instrument.

Price discrimination

53 CSL urges the TA to eliminate its language in contra to price discrimination. We note that price discrimination affords the opportunity for both producers and consumers of 3G services to benefit from differing price structures, levels of service quality, and usage patterns. The same arguments hold true at the interconnection level as at the end-user level. This issue is particularly important in the 3G market, because of the nature of the various types of content that are likely to be distributed via 3G networks. If, via regulatory fiat, it is mandated that all interconnection shall occur at a single price, 3G providers may well have difficulty making a socially optimal use of their network facility.

54 To see this, let us first suppose that interconnection is set to be some regulated price per minute. Setting aside the question of how such a regime would be implemented in the case of data transmission termination, let us first suppose that that this regulated price is lower than the termination price for other types of networks. In this case, users on both the origination and termination side will try to utilize the 3G network as much as possible for voice traffic since it is less expensive, thereby potentially blocking off usage by other sorts of transmissions. Now consider the opposite situation. An arbitrarily high uniform termination cost may discourage all sorts of potential interconnectors from working with the new technology, thereby choking off the network.

55 Neither outcome is desirable, and it would be far better to allow the 3G operators to set termination rates in accordance with the type of traffic and other considerations, consistent with a basis in calculated costs. If the TA wishes to insist on a uniform price for interconnection, it needs to be made clear that the cost basis for the determination of the termination rate must include an allowance for network expansion plus common costs. Failure to permit these costs will distort the interconnecting firm's decision to invest in content and encourage a misuse of the 3G resource.

56 CSL submits that the TA should issue a statement that dictates that price discrimination is permissible unless it contravenes SC 12.5 or is otherwise anti-competitive. The approach the TA seems to have taken in the Industry Consolidation Paper (in particular at paragraph 43) is to *per se* rule out price discrimination except for the circumstances in which the TA considers it permissible. CSL submits that the TA is unlikely to be able to clarify all the situations in which price discrimination is efficient and pro-competitive, and that it should not apply a guideline that *per se* rules it out.

57 A vast body of economic literature shows that price discrimination – particularly in telecommunications markets – can enhance consumer welfare. This is especially the case in the presence of significant fixed or common costs – circumstances relevant to this analysis. In these circumstances, price discrimination will tend to enhance economic

efficiency because it will create incentives for some consumers to buy a product that they would have been excluded from consuming under a system of uniform pricing (because the value they place on the marginal unit they consume, though greater than marginal cost, is lower than the uniform price), *increasing the overall volume of goods or services consumed*.[19]

58 CSL notes that regulators around the world generally allow price discrimination because of their pro-competitive outcomes:

- The Federal Trade Commission in the United States claims: "Price discriminations generally are lawful, particularly if they reflect the different costs of dealing with different buyers or result from a seller's attempts to meet a competitor's prices or services."[20]
- Laffont and Tirole analyse the decision by regulators in the UK and France to allow access price discrimination, stating that: "It is, therefore, important to allow discrimination in the access charge if we are to preserve [discrimination at the retail level]."[21]

59 It appears that the TA is alone in his position to *per se* rule out price discrimination. What explanation does the TA have to justify his contrary position to other regulators? If price discrimination is not anti-competitive or in breach of a licence condition then why should an MNO not price discriminate?

Cost of Capital

60 CSL concurs with the TA's view that the WACC is the appropriate measure of the cost of capital. This approach is supported by practice throughout the world by nearly all regulatory authorities. We note that as a practical matter, the speculative nature of this new technology coupled with the fact that there is already substantial rivalry between providers, as evidenced by the number of licensees, would tend to indicate that a properly calculated WACC is likely to be somewhat higher than for businesses engaged in other sorts of telecommunications endeavours.

Periodic Review

61 While CSL does not agree with the need to develop these guidelines and it is difficult to recommend a specific time frame for optimal review, in the event the TA insists on issuing these guidelines, CSL urges him to review the guidelines only if there is a

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[19] There are some instances where second-degree price discrimination will have ambiguous effects on social welfare. In particular, in theory, under second-degree discrimination, it can sometimes be profitable to exclude some low demand customers so as to maintain high prices for higher demand customers. However, the circumstances where this occurs are not relevant to the matters at hand, as there is strong competition in the supply of the relevant services. For further details on the welfare impacts of second-degree price discrimination, see Varian, H. 1985, 'Price discrimination and social welfare', American Economic Review, vol. 75 pp. 870-875 and Tirole, 1988, op. cit., p. 149.

[20] http://www.ftc.gov/bc/compguide/discrim.htm.

[21] Laffont, J. J. and Tirole, J. (2000), *Competition in Telecommunications*, MIT Press: Massachusetts.

change in market conditions as identified by one or more industry players, or the TA observes a change in market conditions. Unless there is a demonstrable need to conduct a review, it seems unnecessary to initiate one. CSL also encourages the TA to consider the newness of the 3G technology in any decision regarding the review of any interconnection standards. CSL is concerned about the possible frequency of a review, given that it will probably be laborious and costly to the entire industry, as well as the TA. The TA should not conduct such a review unless there is cause. To do otherwise, would be inconsistent with a light handed regulatory approach.

Chapter 4: Administrative Statements

62 CSL would like the TA to consider issuing statements to address other concerns that CSL has in regards to the administration of the ONA policy.

63 CSL is concerned that some MVNOs and CSPs might attempt to game the regulatory system that is proposed. For instance, some MVNOs and CSPs might not participate in the full process of normal commercial negotiations, but rather rely on the TA to make determinations. CSL recognises that SC 12.7 of the mobile license condition allows the TA, when making a determination, to have regard to a number of things including "any other matters which he may consider appropriate in the particular circumstances." CSL recommends that the TA issue the following statements consistent with SC 12.7(d):

A. The TA will not make a determination between an MVNO or CSP and an MNO, unless the MVNO or CSP has failed to commercially negotiate access agreements on reasonable terms with all other MNOs[22].

B. The TA will not make a determination between an MVNO or CSP and an MNO, if the MVNO or CSP already has an access agreement with another MNO.

C. The TA will not make a determination between an MVNO or CSP and an MNO, if the MNO commits to offer its available capacity to another MVNO or CSP on terms acceptable to both parties.

D. The TA will not have regard to prior commercial outcomes when making a determination on behalf of an MVNO or CSP.

64 The first of these statements will ensure that the competitive structure of the market, which provides MNOs' incentives to attract MVNOs and CSPs to their networks, is allowed to follow its course without unnecessary regulatory intervention. For example, if one MNO fails to offer a reasonable price, then the MVNO or CSP will be required to request access to all alternative MNO networks before seeking a determination. If another MNO offers reasonable terms then the regulator need not become involved. Otherwise, if this principle is not explicitly stated, then the MVNO or CSP, after approaching only one MNO, might not request access to other MNOs but instead immediately apply for a determination. Such a statement will also preserve the scarce resources available to the TA.

65 The second statement is similar to the SC 12.7(a). It ensures that MVNO or CSP incumbents on one MNO's network cannot use their potential market power by purchasing substantial increments of capacity from more than one MNO, with the objective or effect of restricting new entry.

66 The third statement will ensure that an MNO need not negotiate with an MVNO or CSP that is seeking to gain below-reasonable access prices through regulatory gaming, if that

[22] Unless the MVNO or CSP can demonstrate to the TA that it can only feasibly negotiate with two or three of all the MNOs, but the MVNO or CSP must have negotiated with at least two unaffiliated MNOs.

MNO can offer access to an alternative MVNO or CSP that is willing to accept reasonable access prices.

67 The fourth statement will prevent MVNOs or CSPs from using access tariffs previously negotiated by the MNO with other unaffiliated MVNOs or CSPs, but that would not necessarily apply to them, as a benchmark in negotiating access and deciding whether to apply for a determination. There are good reasons for access tariffs that apply to some unaffiliated MVNOs or CSPs being different to other unaffiliated MVNOs or CSPs, particularly since MNOs may need to invest in new network capacity to satiate the demand of some MVNOs and CSPs.

68 CSL considers that if all these statements are adopted and issued by the TA then the potential amount of regulatory gaming will be reduced. This will preserve the resources available to the TA and help to eliminate incentives that MVNOs or CSPs might have to waste valuable resources on gaming behaviour.

69 In paragraph 4 of the Industry Consultation Paper it states that CSPs, which are telecommunications licensees, may make a request to the TA for determination under section 36A of the Telecommunications Ordinance. CSL questions whether it is really appropriate to allow a person who may hold a non-specific telecommunications licence (ie. one which is unrelated to MVNO/CSP access) to be able to seek a determination from the TA. What criteria will need to be met before a telecommunications licensee is able to request the initiation of a determination process, especially if the CSP has no infrastructure or network? In such a case, what would the CSP be seeking be regulated? What would an MNO be interconnecting to? Although CSL understands that the regulations may permit a broad interpretation of the right of determination, CSL does not believe it is fair for a small scale CSP holding a non-specific licence with no relationship to interconnection to be able to seek a determination. CSL suggests that the TA release a statement about access to the determination process in order to manage the expectations of CSPs, MVNOs and MNOs.

Chapter 5: Summary

70 To summarise, CSL considers it reasonable to expect the TA to:

- recognise that a more efficient outcome would arise if the TA did not regulate the market on the pricing of 3G access and methodologies and principles;
- realise that if he persists with issuing 3G access pricing guidelines parties might rely on their (perhaps false) expectations of the regulatory default outcome and not seek, or genuinely attempt, to commercially negotiate a competitive outcome;
- take a light-handed regulatory approach and allow the existing vibrant wholesale market to continue to function and flourish without intervention;
- take note of the views, and follow the example, of international best practice regulators who have declined to regulate 3G markets;
- consider dispensing with the need to develop guidelines at this time, given the above;
- consider permitting the use of historic costs for regulatory purposes given the newness of the technology;
- consider the relaxation of the typical predisposition against the use of price discrimination in interconnection tariffs;
- devote some time and resources to the question of resolving how to adequately measure network capacity; and
- recognise that the proposed administrative statements are provided by CSL in an attempt to create a level playing field and decrease the likelihood of a MVNO or CSP engaging in regulatory gaming.

71 CSL does not regard any part of this submission as confidential and has no objection to it being published or disclosed to third parties.

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