

# REVIEW OF THE PRINCIPLES AND COSTING METHODOLOGY OF THE LOCAL ACCESS CHARGE

## INDUSTRY CONSULTATION PAPER

1 September 2003

### Introduction

1. Local Access Charge (LAC) is the interconnection charge for the delivery of the traffic of external telecommunications services (ETS)<sup>1</sup> via a local fixed network. The Telecommunications Authority (TA) first introduced the costing methodology for LAC on 25 November 1998<sup>2</sup>, determined the level of LAC accordingly on 30 December 1998<sup>3</sup> and implemented the regime on 1 January 1999 following the liberalization of the ETS market with the following policy objectives<sup>4</sup>:

- that efficient facilities-based competition be carried out in both domestic and external sectors;
- that productive efficiency of the operators be maximized; and
- that consumer benefits be maximized in the long term.

2. It was based on these policy objectives that the LAC was determined to fairly compensate the local fixed operators for the network resources consumed as well as to provide investment incentives on local telecommunications infrastructure, especially the customer access network, e.g. the local loop. In light of the rapidly changing market landscape, the innovation of technologies and the fact that the LAC regime has been in place for more than four years, the TA now considers it appropriate to conduct a comprehensive review on the principles and the costing methodology of LAC.

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<sup>1</sup> Although international value-added network services (including Internet services) are, strictly speaking, also external telecommunications services, “external telecommunications services (ETS)” is used by the industry to refer to the International Direct-Dial (IDD) type of voice and facsimile services.

<sup>2</sup> TA Statement “*Local Access Charge and Modified Delivery Fee Arrangements*”, 25 November 1998 (the 1998 LAC Statement).

<sup>3</sup> Telecommunications Ordinance (Cap.106) Determination under Section 36A, 30 December 1998.

<sup>4</sup> Paragraph 10, *Review of the Delivery Fee Arrangements – a Consultation Paper* dated 14 February 1998.

3. In this consultation paper, the TA sets out the relevant issues without taking a preliminary view as to whether the LAC regime should indeed be revised. The industry is welcome to express views on the issues raised by the TA or any other relevant issues. The TA will give due regard to all submissions before he makes a final decision. Depending on the outcome of the review on the LAC principles and costing methodology, the TA may proceed with a new determination under section 36A of the Telecommunications Ordinance on the level of LAC.

## **Background**

4. Prior to the liberalization of the ETS market on 1 January 1999, the interconnection between external and local fixed networks was settled in the form of delivery fees payable to the local fixed network operators, which was essentially a revenue-sharing arrangement designed to subsidize the loss-making operation of local fixed networks from the rich margins of ETS operation at that time. This cross-subsidy structure could not be sustained as competition developed in the ETS market.

5. From 1 January 1999 onwards, external traffic routes were divided into two categories. Category A routes are those with genuine competition at the external gateway<sup>5</sup> level and Category B routes are those reliant on a single external gateway then operated by PCCW-HKT (now by Reach Networks). Interconnection between external and local network operators is settled in LAC for Category A routes. For Category B routes, the prices of the sole external gateway were determined by the TA in the outgoing direction, while a modified delivery fee (MDF) was payable for termination of traffic in the incoming direction. LAC is cost-based, while MDF is based on LAC plus sharing of profits from the inpayment under the international settlement mechanism. Now that all the external routes have already been classified as Category A routes<sup>6</sup>, the MDF regime has become somewhat irrelevant.

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<sup>5</sup> “External gateway” is the facility operated by an external telecommunications service provider for the delivery of traffic to external destinations or the receipt of traffic from external origins for termination at local destinations.

<sup>6</sup> TA Statement *Application for Reclassification of All the Category B Observation List Routes as Category A for Reach Networks Hong Kong Limited* dated 25 August 2003

6. On 25 October 2000, the TA concluded a review on LAC<sup>7</sup> with a view that the calculation methodology should remain unchanged, but the level of LAC should be revised (i.e. updating the data input to the formula rather than modifying the formula). On 28 June 2001, he concluded the revision of LAC as shown in the table below<sup>8</sup>. These revised rates have been effective up to present.

**The LAC review on 28 June 2001**

<b>Direction</b>	<b>HK cents per minute</b>
Outgoing Direct	From 15.1 to 12.1
Outgoing via Transit	From 12.9 to 10.6
Incoming Direct	From 15.8 to 12.6
Incoming via Transit	From 12.9 to 10.6

**The costing methodology at present**

7. LAC currently consists of the following cost components:

<b>Cost components</b>	<b>Outgoing</b>		<b>Incoming</b>		<b>Remarks</b>
	<b>Direct</b>	<b>Transit</b>	<b>Direct</b>	<b>Transit</b>	
Switching and transmission	6.4	6.4	6.4	6.4	Type I interconnection for international call type , based on efficient annual PSTN traffic
Local loop cost	4.2	4.2	4.2	4.2	Commercial agreement on Type II interconnection
Number portability			0.5		Dip charge divided by IDD call duration
Administrative costs	1.5		1.5		A 22.8% markup on switching and transmission cost
<i>Cost of capital</i>	<i>18%</i>	<i>18%</i>	<i>18%</i>	<i>18%</i>	<i>Applied and embedded to switching and transmission cost</i>
<b>Total</b>	<b>12.1</b>	<b>10.6</b>	<b>12.6</b>	<b>10.6</b>	

8. Only the LAC of PCCW-HKT Telephone Limited (PCCW-HKTC), as the dominant operator in the local fixed network services market, was determined by the TA. The determination had however become the industry benchmark for similar charges levied by the other local fixed network operators.

**Matters for review**

Policy objectives

9. To create and maintain the commercial incentives for investment in the

<sup>7</sup> TA Statement “*Review of Methodologies for Calculation of Interconnection Charges for Value-Added Services and Public Mobile Radiotelephone Services and Local Access Charges*”, 25 October 2000.

<sup>8</sup> TA Statement “*Review of Local Access Charges*” dated 28 June 2001.

local fixed network infrastructure, the local fixed network operators should be able to recover the operating and capital costs of the networks including a cost of capital commensurate with the risk of investment in the network. For the purpose of considering cost recovery, a local fixed network can be divided into three parts, namely customer access (i.e. local loops, optical fibres in the customer access networks, blockwiring, etc.), switching (exchanges) and transmission (trunk connections between exchanges). Customer access cost is normally regarded as 'traffic independent' while the switching and transmission costs are normally regarded as 'traffic dependent'. Until 1999, the principal sources of revenue of the local fixed network were the telephone line rentals and associated value-added services (e.g. calling line identification, call-forwarding, call-waiting, etc.), interconnection charges (carrier-to-carrier interconnection charges, tariff-based interconnection charges for PNETS and mobile networks) and delivery fees for external services. The telephone line rental is supposed to recover the traffic independent cost of customer access plus the traffic dependent costs of switching and transmission for an average volume of traffic for calls<sup>9</sup>. The interconnection charges are to cover the traffic dependent costs of switching and transmission. Before the completion of tariff rebalancing of the telephone line rental, there was a cost deficit which was subsidized mainly by revenue from delivery fees for external services. In 1999, competition in the local fixed network market was at a low level because the prevailing market price was not sufficient to recover cost of provision, particularly for residential telephone lines. At the end of 1998, the new entrants collectively had only 2.5% of the local fixed telephone line market and 0.4% of the residential telephone lines.

10. After liberalization of the external services market from January 1999, margin in the external services market would not be able to sustain the delivery fee system. As a result, the LAC was introduced to replace the delivery fees for those routes (Category A routes) in which there was genuine competition over the external routes. The calculation of LAC has been different from that for interconnection charges in that, while interconnection charges are to cover the switching and transmission costs only (with the assumption that the access cost has been covered by the line rental and other sources of revenue such as delivery fees for external services), the LAC seeks to recover not only switching and transmission costs, but also a part of the customer access cost to compensate

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<sup>9</sup> These are calls to other end-users of the telephone networks. Calls to public telecommunications service providers and mobile networks are separately costed under PNETS charges and fixed/mobile interconnection charges to be paid by the service providers/network operators concerned.

partially for the reduction in revenue from the delivery fees for external services, on the ground that there should not be a 'free ride' over the customer access networks by the providers of ETS.

11. Therefore, LAC is intended to act as both a fair compensation for, as well as an investment incentive on, local fixed networks. The policy objective behind the LAC regime is to send the proper 'build or buy' signal to facilitate efficient allocation of resources in infrastructure investment and maximizing productive efficiency of operators for the long term benefits of consumers in Hong Kong. The TA sees no rationale to deviate from this ultimate goal, but whether the present LAC regime remains effective in achieving this policy objective warrants a review.

12. Since the implementation of LAC on 1 January 1999, prices for ETS have been driven down significantly by competition, such that LAC has become an increasingly significant cost component of ETS operation. Retail prices approaching the sum of LAC and Universal Service Contribution (USC), another cost component of the external services, is not uncommon in the market. On the other hand, the tariff re-balancing of local fixed-line services have been completed. Since January 2001, the residential telephone line rental of the incumbent local fixed network operator, PCCW-HKTC, has been raised to \$110 per month which is understood to have covered the full cost of access and the average volume of traffic carried by a telephone line. There is no longer any regulatory price cap on PCCW-HKTC, the dominant operator for the provision of local fixed-line services, although it has not apparently taken any commercial decision to raise prices significantly due to competition. The telephone line rental of PCCW-HKTC has become a reference benchmark for other local fixed network operators in the market.

13. Meanwhile, broadband Internet access services have become a significant source of revenues for investment in customer access networks. In 1999, broadband services to homes were virtually non-existent but the household broadband penetration has now reached 46%. Apart from providing the broadband connections at the retail or wholesale level, there is also the potential of addition revenue generated from the provision of information and entertainment services (such as subscription television services). The range of services that can be delivered over the customer access networks has therefore vastly expanded since 1999.

**14.** In light of the above developments, the TA would like to ask **whether LAC remains fair, necessary and appropriate in providing incentives for local fixed network rollout, or the market opportunities on local fixed network services would suffice (Question 1). In particular, he would welcome comments on:**

- **significance of the revenue from LAC in the overall revenue derived from the investment in the customer access networks;**
- **the extent to which the commercial incentive of investment in the customer access network depends on revenue from LAC.**

Interested parties are requested to provide relevant market and company data and economic analysis to support their views.

‘Margin Squeezing’

15. As the economics of the local fixed line market improved upon the completion of tariff re-balancing and the prevalence of broadband services, it becomes arguable whether the ‘incentives’ provided by LAC remains essential (Question 1). The resources for switching and transmission consumed for the connection of a fixed line customer to the facilities of a provider of ETS are similar to those for the connection of the customer to an Internet service provider or mobile network operator (although the call pattern which affects the cost of the resources consumed may be different for different classes of traffic). The higher level of LAC is because LAC has to absorb a proportion of the customer access cost. If the cost of customer access has been fully recovered from other sources of revenue, the LAC would contain a margin.

16. As a result of intense competition in the ETS market, prices have been driven down to levels which are approaching the sum of LAC and USC for the more popular routes. Promotional prices below the sum of LAC and USC also existed. Local fixed-line operators may use the margins from LAC to subsidize discounts on IDD prices instead of financing local network rollout, resulting in an unfair advantage against pure ETS/gateway operators who do not operate local fixed networks and must depend on third parties for local traffic delivery. Although ‘margin squeezing’ activities could potentially be anti-competitive

under section 7K of the Telecommunications Ordinance, the ‘margin squeezing’ might be an undesirable side-effect of the LAC regime. For the market mechanism to work properly for the economic efficiency and long-term benefits of consumers, firms should exit the market only because of inefficiency. The existence of insufficient or negative margin could drive even efficient service providers out of the market.

17. The TA would like to ask **whether the existence and current level of LAC would lead to ‘margin squeezing’ in the market which has the effect of driving even efficient service providers out of the market (Question 2)**. Nevertheless, he reckons as long as the LAC accurately reflects the local carrier’s cost upon the conclusion of this review, there should be no room for ‘margin squeezing’.

#### Illegal traffic bypass

18. As mentioned above, LAC has become an increasingly significant component of operating costs for ETS/ gateway operators. Some operators may be tempted, in breach of their licence conditions, to route their traffic through ordinary (local) telephone lines instead of interconnection lines with number blocks specifically assigned for ETS. Such illegal bypass can take place in the outgoing direction as well as the incoming directions, although bypass activities in the incoming direction are more difficult to detect.

19. It could be argued that LAC should not be the cause of the illegal bypass activities because as long as some level of interconnection charges is payable, there would still be the incentive for bypass. The TA accepts this argument, but it can also be argued that the larger the differential, the larger is the incentive to bypass. While the TA will maintain its efforts to police such illegal activities<sup>10</sup>, he would like to ask **whether an alignment in the costing methodologies between LAC and PNETS would be effective in reducing the incentives for illegal traffic bypass (Question 3)**, mindful of the fact that even the PNETS is avoided in many cases of such illegal bypass. He also notes that even if LAC and the PNETS for VAS are calculated under the same

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<sup>10</sup> The TA has processed 29 cases under section 36C of the Telecommunications Ordinance in the past three years related to LAC and USC evasion, 15 of which resulted in financial penalties ranging from \$35,000 to \$100,000.

methodology, the actual level of charges are still likely to be different given the significantly shorter duration of IDD calls compared to VAS calls.

### International balance of payment

20. The TA is aware that there were a number of situations over the past year where the overseas administrations or carriers unilaterally raised their termination charges for international traffic to such levels that are significantly above cost. He is also aware that Hong Kong has more outgoing traffic than incoming for most of the external routes due to more competitive retail prices. The concern is that, since LAC is cost-based, the Hong Kong operators (and consumers) may end up subsidizing the overseas economies with a 'net settlement deficit' (outpayment).

21. According to the 1998 LAC Statement, the criteria for route categorization comprise only the existence of alternative connections and the degree of genuine price competition in Hong Kong<sup>11</sup>, without regard to the status of competition in overseas markets. For example, when two external gateway operators in Hong Kong have established separate connections to the same monopoly carrier in a certain country for the delivery of traffic, this particular route would be classified as Category A as long as there is genuine competition between the two operators in Hong Kong. The termination charge at the distant end could well include a monopoly rent charged by the distant carrier. On the other hand, the incoming traffic to Hong Kong from the distant carrier would be terminated at largely cost-based rates under the LAC regime. Therefore, the present LAC regime does not cater for situations where overseas administrations or carriers exercise their pricing power on termination charges and does not inherently prevent imbalance of payment.

22. In retrospect, the intention for replacing the delivery fee with the LAC was to establish a solely cost-based mechanism in order to maximize economic efficiency and minimize the 'deadweight loss' to the society. Besides, the TA was bound by section 36A of the Telecommunications Ordinance to determine interconnection charges based on cost. However, he does see a public-interest argument in respect of international balance of payment, and would like to seek the industry's view on **whether the offshore termination charges should be**

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<sup>11</sup> Paragraph 7 of the 1998 LAC Statement

**taken into account in determining the level of LAC in Hong Kong (Question 4).**

#### Technological innovation

23. The continuous advent of new technologies on switching and last-mile facilities tend to reduce the cost of a local fixed network for an efficient operator under the forward-looking cost principle. At present, the LAC is based on the existing configuration of PCCW-HKTC's network based on the circuit-switching technology. With the introduction of Internet Protocol (IP) technology for voice telephony, the circuit-switched network would be bypassed in the delivery of local and external telephone services. For calls which are not delivered through the circuit-switched network at all, the LAC regime would be irrelevant. He would like to ask **whether the present methodology for LAC costing remains valid and justified from a technological point of view (Question 5).**

#### Charging principles

24. Section 36A(3B) of the Telecommunications Ordinance provides that *“[t]he charges in a determination shall be based on the relevant reasonable costs attributable to interconnection, and in determining the level, or method of calculation, of the relevant reasonable costs attributable to interconnection, the [TA] may select from among alternative costing method what he considers to be a fair and reasonable costing method”*. The present LAC regime is based on the ‘long-run average incremental cost’ (LRAIC) approach, although the TA has also determined some other interconnection charges based on the ‘fully distributed cost’ (FDC) approach, including the Public Non-Exclusive Telecommunications Services (PNETS) charges for value-added services (VAS) and fixed/mobile interconnection charges for mobile network operators.

25. Both LRAIC and FDC are cost-based charging principles, but they differ in two main aspects. First, LRAIC is based on the forward-looking cost including a cost of capital, while FDC is based on historical or accounting cost. This will be thoroughly discussed in the subsequent sections on ‘costing standard’ and ‘cost of capital’. The second difference is the treatment on indirect fixed costs at the corporate level (or commonly known as company overheads).

26. FDC fully allocates the indirect fixed costs incurred at the corporate level as it is typically adopted when the interconnection service is provided to established operators, or when it constitutes a substantial proportion of the carrier's business. In contrast, LRAIC is often adopted during the infant stage of competition where the new entrants are establishing the initial critical masses in the market. Indirect fixed costs are not typically included in LRAIC because the incremental costs to the incumbent at the corporate level should be negligible given the limited scale of such interconnection services initially.

27. Therefore, pure LRAIC enables rapid introduction of effective competition, yet may be inadequate in stimulating investment over the long run. When competition develops further in a market, LRAIC is often modified to include a proportion of company overheads incurred as the scale of interconnection service expands. In fact, LAC does currently include an 'administrative cost' component which is a percentage markup on switching and transmission costs based on LRAIC<sup>12</sup>. In principle, both the bottom-up 'markup' approach of LRAIC and the top-down 'allocation' approach of FDC essentially reflect the same fair share of indirect fixed costs. In this context, the difference between LRAIC and FDC should not be exaggerated.

28. The TA would like to ask **whether the present charging principle of LAC, based on LRAIC with a percentage markup for administrative costs, remains valid and justified, or an alternative approach, such as pure LRAIC or FDC, should be adopted (Question 6).**

### Costing standard

29. The forward-looking cost standard has the merit of sending an accurate and contemporary 'build or buy' signal to the market, thus providing the very right amount of incentives for infrastructure investment to new entrants. However, when compared to the historical cost standard, forward-looking costs may not necessarily reflect the actual cost incurred by the carrier supplying the interconnection service, and tends to over-compensate the incumbent whose

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<sup>12</sup> Markup for corporate overhead is not necessary for other cost components of LAC. Local loop cost is based on a commercial agreement, while the number portability charge is based on a tariff which has already included a similar markup.

network investments were largely made during its monopoly era, i.e., when the market was less risky.

30. A significant cost item for the calculation of switching and transmission costs is the ‘land and building costs’<sup>13</sup>. PCCW-HKTC’s exchange buildings were built on the land granted by the Government on concession terms some years ago. To revalue these exchanges to the current market value would result in a ‘windfall’ gain to the incumbent. In addition, new entrants would be expected to require smaller and fewer exchange buildings when constructing their own networks. As such, the TA was of the view that the use of historical cost for land and buildings of the incumbent would be a closer approximation to the forward-looking cost for land and buildings by an efficient operator, thus addressing the issue of ‘over-compensation’.

31. At present, while forward-looking cost standard without any cap based on historical cost has been applied in the calculation of the switching and transmission costs of the LAC, the ‘over-compensation’ to the incumbent has been addressed in the USC mechanism. The ‘over-compensation’ has been used to reduce the USC which is also payable by operators of ETS. Therefore, there is a *de facto* cap at historical cost standard for the incumbent in the calculation of switching and transmission costs of LAC.

32. The TA would like to ask **whether the costing standard of LAC at present, based on forward-looking cost with a *de facto* cap at historical cost for the incumbent, especially on ‘land and building costs’, remains valid and justified (Question 7).**

#### Switching and transmission costs

33. The switching and transmission costs for LAC are currently calculated based on the Type I interconnection model for international call type, divided by the ‘efficient traffic volume’ of the local fixed network. In this way, the external segment pays only for its fair share of the network resources consumed. As a matter of fact, the size of external traffic is relatively small compared to that of the ‘efficient traffic volume’ of the local fixed network. This explains why LAC has not fallen in the same pace as the growth of external traffic in recent years.

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<sup>13</sup> ‘Land and building costs’ is a sub-category under ‘switching and transmission costs’ for LAC.

The TA will assess the traffic information from the industry and, if necessary, adjust the switching and transmission costs for LAC accordingly. Meanwhile, he would also like to ask **whether the current methodology in calculating switching and transmission costs based on the Type I interconnection model remains valid and justified (Question 8).**

#### The local loop costs

34. Paragraphs 9 - 12 have discussed whether the costs of local loop resources consumed in delivering external traffic should be recovered from LAC or from the monthly rental paid by users of local fixed telephone services. However, no matter the TA attributes the local loop costs to the provision of local or external services, the consequence would be that the retail prices in the corresponding market would adjust accordingly in a competitive environment. The net impact would be on the relative price level between local and external telecommunications services. At the end of the day, the TA is faced with a pure policy-level decision to distribute the interests between different classes of operators as well as consumers.

35. In the 1998 LAC Statement, the TA concluded that the local loop costs should be borne by the ETS operators through LAC, primarily due to the cross-subsidy structure between the local and external segments (as described in paragraph 4). He was mindful that the PNETS charges for VAS operators and the fixed/mobile interconnection charge, which are often considered to be similar in nature to LAC, do not include local loop costs because the mobile and VAS markets are competitive and there has been no policy intention for cross-subsidy to exist between the mobile and the fixed industry or between the VAS and the fixed industry.

36. The TA has already asked in the review on policy objectives (Question 1) whether the LAC should continue to bear the responsibility of providing incentives for local fixed network rollout in light of the re-balanced tariffs and the broadband market opportunities for local loop investments. Such discussions should have a direct bearing on whether local loop costs should be retained as a cost component for LAC. He would like to ask for **any further argument, apart from those made under Question 1, for or against the inclusion of local loop costs in LAC (Question 9).**

37. At present, the local loop cost of 4.2 cents per minute for LAC is based on the rental of the local loop under a commercial agreement between PCCW-HKTC and other local fixed network operators on Type II interconnection<sup>14</sup>, divided by the average total traffic per PCCW-HKTC's local loop. The negotiations were conducted under the TA guidance, which was LRAIC-based<sup>15</sup>. Although the TA does not consider that it is within the scope of this consultation to look into the details of the costing methodology for this commercial agreement or Type II interconnection in general, he would like to ask **whether the present methodology for the calculation of local loop costs for LAC, in case it continues to be included upon the conclusion of this review, remains valid and justified (Question 10).**

#### Number portability cost

38. The number portability cost for LAC is based on a database interrogation charge of 1.19 cents per dip under the mobile number portability (MNP) arrangements operated by PCCW-HKTC, divided by the average duration of 2.26 minutes per IDD call handled by PCCW-HKTC. The dipping charge is an approved tariff by the TA which is also based on LRAIC including a cost of capital and a reasonable share of company overheads. The TA is aware that the dipping charge was subsequently reduced to 0.50 cents, and he intends to revise the level of LAC accordingly, subject to industry comments on **whether the present methodology for the calculation of number portability cost of LAC remains valid and justified (Question 11).**

#### Administrative costs

39. The administrative cost included in the LAC model is currently based on a 22.8% markup ratio applied to the 'switching and transmission cost' component. The markup ratio is based on PCCW-HKTC's overhead expenses at the corporate level divided by the total operating costs of the company. The same markup ratio had been applied in various tariff applications and profitability

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<sup>14</sup> \$42 per month for urban areas and \$110 for rural areas, with a blended average of \$61.4 based on the penetration ratio of urban and rural local loops of PCCW-HKTC.

<sup>15</sup> TA Statement No.7 (Revised) *Interconnection and Related Competition Issues "Carrier-to-Carrier Charging Principles"* dated 18 November 1997.

analysis exercises during the last LAC review in June 2001. The TA is aware that the ratio was subsequently revised to 21.9% and therefore he intends to modify the LAC formula accordingly, subject to industry comments on **whether the present methodology for the calculation of administrative costs for LAC remains valid and justified (Question 12).**

### Cost of capital

40. An industry average cost of capital of 18% current applies to the ‘switching and transmission cost’ component for the calculation of LAC, based on a consultancy report by National Economic Research Associates (NERA)<sup>16</sup>. Based on NERA’s findings, there was a gap between the investment risks of the incumbent and new entrants. The incumbent level of cost of capital would be inadequate for new entrants to be indifferent between ‘build’ and ‘buy’, thus fails to stimulate infrastructure investments. On the other hand, the new-entrant level of cost of capital would inevitably over-compensate the incumbent. The intention for using an industry-average cost of capital is to balance the various policy objectives as well as the different interests of the industry. The TA would like to ask **whether the cost of capital for LAC should continue to be based on the industry-average level, or instead based on the incumbent or the new-entrant level (Question 13).**

41. In regard to the underlying methodology in deriving the cost of capital for incumbent and/or new entrants, the weighted-average cost of capital (WACC) model is currently adopted. The TA sees no reason for this widely accepted methodology to be challenged, but he intends to update the data input to the WACC model in order to reflect the contemporary economic and industry environment. As such, he would like to ask for **industry comments on each of the components under the WACC formula, for both the incumbent and the new entrants – capital structure, risk-free rate, equity risk premium, systematic risk (equity beta) and debt premium (Question 14).**

### LAC in other jurisdictions

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<sup>16</sup> *Cost of Capital Estimation for Fixed Telecommunications Services – a Final Report for OFTA*  
Prepared by NERA dated 25 October 2000

42. The TA has included in the **Appendix** a study on the equivalent of LAC in a number of other jurisdictions in order to facilitate discussion. The TA would welcome **any comment from the industry on the principles, costing methodologies and level of LAC-equivalent of other jurisdictions that the TA should take into consideration in his review on LAC (Question 15).**

### **Invitation for comments**

43. The TA invites comments from the telecommunications industry and other interested parties on the questions raised by the TA and any other relevant issues. Comments should be made in writing and reach the Office of the Telecommunications Authority **on or before 3 October 2003**. The TA reserves the right to publish all views and comments and, accordingly, any part of a submission considered commercially confidential should be clearly marked together with the reasons for such claims.

44. Submissions should be addressed to:

Office of the Telecommunications Authority  
29/F Wu Chung House  
213 Queen's Road East  
Wanchai  
Hong Kong  
[Attention: Mr. Herbert Fung]  
Fax: 2803-5112  
E-mail: [hchfung@ofta.gov.hk](mailto:hchfung@ofta.gov.hk)

An electronic copy of the submission should be provided by e-mail to the address indicated above.

**Office of the Telecommunications Authority**

1 September 2003

## **Access Charges in Other Jurisdictions**

### **Australia**

Australian Competition and Consumer Commission (ACCC) is the regulator of telecommunications and Telstra is the incumbent local fixed carrier. ACCC has the authority to 'declare' the services that operators must provide to other operators. The terms and conditions for 'declared' services can be stipulated in three ways:

- A commercial agreement between the access provider and access seeker;
- An undertaking submitted by the access provider for ACCC's approval; and
- A determination by ACCC.

Telstra has recently submitted undertakings on access charges for the fiscal years 2002-03, 2003-04 and 2004-05 ending June (in addition to the ones made in 1997 and 1999). ACCC has invited industry submissions by 1 August 2003 on Telstra's latest undertakings. So far ACCC has not endorsed any undertaking from Telstra.

The closest approximation to LAC in Hong Kong are the **Domestic PSTN Originating and Terminating Access Charges of Telstra for 'Metro' areas** (the "PSTN Charges"), including **access deficit contribution (ADC)**. The ACCC does not oppose that ADC (mainly local loop costs) is still required because the tariff for local fixed lines has not yet been re-balanced. According to Telstra's submissions, it has proposed the same level for originating and terminating charges. 'Mobile to fixed' access charge is also covered by the PSTN Charges.

The PSTN Charges include switching and transmission, operation and maintenance, local loop and the administrative costs. ACCC has adopted the total service long-run incremental cost (TSLRIC) as the standard in setting PSTN charges. TSLRIC is based on forward-looking costs, including common costs and WACC.

Based on Telstra's latest undertakings, assuming an average call duration of 3 minutes, the average level of PSTN Charges for the next three years would be

in the region of 1.5 Australian cents per minute (7.5 HK cents, assuming A\$1 = HK\$5).

## **United Kingdom**

The telecommunications regulator is the Office of Telecommunications (OfTel) and British Telecom (BT) is the incumbent operator. OfTel regulates the interconnection charges of BT on the basis of top-down, forward-looking, long-run incremental costs (LRIC), including common costs and WACC at 12.5%. OfTel has also set an overall network charge cap at Retail Price Index (RPI) less 8% to allow more flexibility for BT.

The cost components for access charges include concentrators, switching and transmission as well as operation and maintenance. Local loop costs are excluded. There is currently no ADC in the UK because the European Commission has stated that ADC would no longer be allowed after 1 January 2000, on the basis that liberalization process starting in 1998 should allow incumbent operators to adjust their prices. Any continuing deficit would have to be funded exclusively by the incumbent's own services.

OfTel requires BT to publish a standard interconnection price list, from which the closest approximation to LAC in Hong Kong is the Indirect Access Charge – Single Tandem. Taking the exchange rate of 1 British Pound = HK\$ 12.5, the current rate is 6.17 HK cents per minute for ‘daytime’, 2.82 cents per minute for ‘evening’, and 2.22 cents per minute for ‘weekend’. Since BT’s access charges are regulated under a price cap mechanism, the rates have been declining in recent years.

## **United States**

The Federal Communications Commission (FCC) is the regulator for interstate telecommunications services, including the settlement issues between local exchange carriers (LEC) and long-distance carriers (LDC). LDCs pay LECs both originating and terminating access charges for delivering interstate traffic, which are the closest approximations to LAC in Hong Kong. The origination and termination charge were 0.91 and 0.78 US cents per minute respectively during

the first half of 2002 (i.e. 7.1 and 6.1 HK cents, assuming US\$1 = HK\$7.8).

The access charges include switching and transmission costs as well as the operation and maintenance costs. In a tariff-rebalancing reform in May 2000, the FCC ruled that the local loop costs should no longer be recovered from access charges to LDCs and instead through subscriber line charges (SLC) to end-users. Since then, the access charges have been declining towards more cost-based levels. The FCC has planned to increase the level of SLC cap from US\$6 to US\$6.5 by July 2003 and to continue reducing the access charge.