

IDA reference: INTC.05.0204

7 June 2007

Singapore Telecommunications Limited
31 Exeter Road,
#18-00 Comcentre
Singapore 239732

Attention: Ms Chua Sock Koong
Group Chief Executive Officer

Dear Sirs

**DIRECTION OF THE INFO-COMMUNICATIONS DEVELOPMENT
AUTHORITY OF SINGAPORE: MODIFICATION OF REFERENCE
INTERCONNECTION OFFER**

1. The Info-communications Development Authority of Singapore (“**IDA**”), pursuant to the Info-communications Development Authority of Singapore Act (Chapter 137A), Section 27(1) of the Telecommunications Act (Chapter 323) and Condition 34.1 of the Licence to Provide Facilities-Based Operations issued to Singapore Telecommunications Limited (“**SingTel**”) on 1 April 1992, hereby issues this direction to SingTel.
2. Please refer to the Public Consultation Paper issued by IDA dated 25 January 2007 pertaining to the decommissioning of co-location sites offered under SingTel’s Reference Interconnection Offer (“**RIO**”).
3. Having carefully considered all the comments received in response to the Public Consultation Paper, and taking into account IDA’s regulatory principles as embodied in the Telecom Competition Code 2005 as well as the need to promote an efficient and effective implementation of the RIO, IDA has concluded that it would be necessary to subject SingTel to a notification procedure in the manner as set out in this direction to address interconnection and access issues that will arise in the circumstances where SingTel wants to decommission any of its co-location sites offered under the RIO. The grounds for IDA’s decision are set out in the accompanying explanatory memorandum.
4. Accordingly, IDA hereby directs SingTel as follows:
 - a. In any case where SingTel wants to decommission any co-location site offered under the RIO¹, SingTel must submit to IDA

¹ Based on SingTel’s approved RIO as at the date of this Direction, IDA has identified the relevant schedules of the RIO where SingTel offers co-location sites to be Schedule 5B

for approval its proposed amendments to the affected RIO schedule ("**Proposed RIO Amendments**") as soon as practicable, but no less than 18 months prior to the date which the co-location site is to be decommissioned ("**Mandatory Notice Period**"). For the avoidance of doubt, until IDA grants its approval of the Proposed RIO Amendments, SingTel must continue its offer of the affected co-location site under the RIO.

- b. If for any reason SingTel is unable to meet the Mandatory Notice Period, SingTel must seek IDA's exemption from this direction. To do so, SingTel must provide to IDA its full and reasoned justification in writing as to why it is unable to comply with the Mandatory Notice Period. Before coming to a decision whether to grant or refuse the exemption, IDA will carefully assess SingTel's justifications as well as consider the impact to the industry (if any).
- c. At a minimum, SingTel must specify the following information in its Proposed RIO Amendments:
 - i. particulars of the co-location site that will be decommissioned;
 - ii. the estimated timeframe for decommissioning the co-location site; and
 - iii. where the co-location site to be decommissioned is a SingTel Exchange under Schedule 8B (Co-location for Point of Access), the particulars of the "absorbing" Exchange(s)², including the revised network boundaries of the "absorbing" Exchange(s) to enable Requesting Licensees ("**RLs**") to request for the revised network boundaries under the RIO.

5. To address the situation where SingTel currently already has plans to decommission any co-location site in the next 18 months or less, IDA hereby further directs SingTel as follows:

- a. Within **30 calendar days** from the date of this direction, SingTel must submit to IDA its Proposed RIO Amendments relating to such co-location site ("**Notified Co-location Site**") in compliance with the requirements set out in paragraph 4 above, except that the Mandatory Notice Period set out in paragraph 4a will not apply to the Notified Co-location Site. In addition, upon receiving

(Licensing of Tower Space & Co-location Space at Tower Sites), Schedule 5C (Licensing of Roof Space & Co-location Space at Roof Sites), Schedule 8A (Co-location for Point of Interconnection (POI)), Schedule 8B (Co-location for Point of Access (POA)) and Schedule 8D (Co-location at Submarine Cable Landing Station). For the avoidance of doubt, the obligation imposed on SingTel under this direction extends to any co-location site offered under SingTel's RIO and the specific identification of the schedules above does not limit SingTel's obligation in anyway.

² An "absorbing" Exchange refers to the Exchange that would be subsuming the network coverage area of the decommissioned Exchange.

IDA's approval for the Proposed RIO Amendments, SingTel must immediately notify the RLs of such approved RIO amendments in accordance with the relevant clauses of its RIO, provided that such notice period shall not be less than 6 months from the date of proposed decommissioning of the relevant Notified Co-location Site.

6. Presently under the RIO, SingTel is required to give at least 6 months prior written notice to a RL before decommissioning any co-location site. To implement the requirement of a longer notice period as set out in this direction, it would be necessary to make consequential amendments to the relevant provisions in the RIO. For this purpose, IDA hereby also further directs SingTel as follows:
 - a. Within **14 calendar days** from the date of this direction, SingTel must submit to IDA for approval its proposed amendments to clauses 14.5 and 14.6 of Schedule 5B (Licensing of Tower Space & Co-location Space at Tower Sites), clause 13.5 of Schedule 5C (Licensing of Roof Space & Co-location Space at Roof Sites), clause 9.5 of Schedule 8A (Co-location for Point of Interconnection (POI)), clause 9.5 of Schedule 8B (Co-location for Point of Access (POA)) and clause 9.5 of Schedule 8D (Co-location at Submarine Cable Landing Station) of the RIO, to provide for the following:
 - i. Prior to decommissioning any co-location site, SingTel must give the RL prior written notice of such length as approved by IDA.
 - ii. Notwithstanding the specific clauses of the RIO identified in paragraph 6a. above, to the extent that additional or consequential modification to any provision of the RIO is necessary in order to give effect to the requirement of a longer notice period as set out in this direction, IDA requires SingTel to propose such modification for IDA's approval. However, to the extent that any of SingTel's proposed amendments are outside the scope of the requirements of this direction, IDA will not consider the proposed amendments.
7. In any case where SingTel is required to propose amendments to its RIO for purposes of implementing paragraphs 4, 5 and/or 6 of this direction, SingTel must submit to IDA for posting on IDA's website, one hardcopy and one softcopy (both in clean and marked-up versions) of the applicable RIO schedules, incorporating SingTel's proposed modifications to effect IDA's requirements. The marked-up version must clearly identify each modification made by SingTel to these Schedules. The softcopy submission must be made in both Adobe PDF and Microsoft Word formats and emailed to liau_chie_kiong@ida.gov.sg, at

the same time SingTel submits to IDA the hardcopy of its proposed modifications.

8. This direction shall take effect immediately and SingTel must comply with the requirements of this direction until such time when IDA either revokes this direction or where this direction is superseded by a subsequent direction or other regulatory order issued by IDA.
9. Any clarification required on this direction must be made in writing, marked for the attention of our Mr. Andrew J. Haire (Deputy Director-General (Telecoms)), and faxed to +65 6211 2116. Please note that any clarification sought by SingTel will not affect SingTel's obligation to comply fully with this direction (including the timelines stipulated).

Yours faithfully,



Leong Keng Thai
Deputy Chief Executive Officer /
Director-General (Telecoms)



**EXPLANATORY MEMORANDUM ON THE DECISION OF THE
INFO-COMMUNICATIONS DEVELOPMENT AUTHORITY OF SINGAPORE
ON THE REVIEW OF THE DECOMMISSIONING OF CO-LOCATION SITES
OFFERED UNDER SINGAPORE TELECOMMUNICATIONS LIMITED'S
REFERENCE INTERCONNECTION OFFER**

7 June 2007

- PART I: BACKGROUND**
- PART II: IDA'S OVERALL REVIEW CONSIDERATIONS**
- PART III: SUMMARY OF THE DECISION**
- PART IV: ISSUES CONSIDERED**

**EXPLANATORY MEMORANDUM ON THE DECISION OF THE
INFO-COMMUNICATIONS DEVELOPMENT AUTHORITY OF SINGAPORE ON
THE REVIEW OF THE DECOMMISSIONING OF CO-LOCATION SITES OFFERED
UNDER SINGAPORE TELECOMMUNICATIONS LIMITED'S REFERENCE
INTERCONNECTION OFFER**

7 June 2007

1. This Explanatory Memorandum explains the Direction dated 7 June 2007 ("**Direction**"), issued by the Info-communications Development Authority of Singapore ("**IDA**") to Singapore Telecommunications Limited ("**SingTel**"), directing SingTel to comply with a notification procedure and to propose modifications to its Reference Interconnection Offer ("**RIO**"). It also sets out the grounds and clarifies IDA's position with respect to certain broad issues raised by the industry during the Public Consultation.

PART I: BACKGROUND

2. Currently, SingTel is required to offer to Requesting Licensees ("**RLs**") co-location space under its RIO at the following sites:
 - a. Co-Location Space at Tower Sites – Schedule 5B of RIO;
 - b. Co-Location Space at Roof Sites – Schedule 5C of RIO;
 - c. Co-Location Space at Exchanges for Point of Interconnection – Schedule 8A of RIO;
 - d. Co-Location Space at Exchanges for Point of Access – Schedule 8B of RIO; and
 - e. Co-location Space at Submarine Cable Landing Stations – Schedule 8D of RIO.

Under the RIO, SingTel is currently required to provide at least six months prior written notice if SingTel intends to terminate a co-location licence because of the closure of a co-location site, where such closure is within SingTel's reasonable control.

3. At SingTel's Investor Day 2006 on 29 June 2006, SingTel announced that it intends to consolidate its 27 existing Exchanges to 12. However, SingTel did not provide any further detail of its decommissioning plans, such as which of the current Exchanges were to be decommissioned or the estimated timeframes for the commencement/completion of the decommissioning exercise. Following the announcement, IDA received feedback that the lack of details on SingTel's decommissioning plans would adversely affect RLs'

network rollout plans to SingTel's co-location sites to access and obtain Interconnection Related Services ("IRS").

4. To ensure that all stakeholders views are heard, IDA conducted a public consultation from 25 January to 26 February 2007 ("**Public Consultation**") to elicit comments on the issue, including IDA's proposed approach to address the potential barriers to the RLs' continued network deployment resulting from concerns that SingTel may decommission its co-location sites that are offered under the RIO. At the close of the Public Consultation, a total of 4 responses were received, namely from SingTel, StarHub Ltd ("**StarHub**"), Asia Pacific Carriers' Coalition ("**APCC**") and KDDI Singapore Pte Ltd.

PART II: IDA'S OVERALL REVIEW CONSIDERATIONS

5. IDA's policy position has always been that any regulatory measure taken to facilitate competition must be in line with IDA's over-arching policy objective of ensuring sustainable and effective competition in a fully liberalised telecommunications market. To achieve this, IDA needs to balance two key considerations in its decision ("**Decision**"): first, the need to maintain economic incentives for both the incumbent and competing operators to build, innovate, and upgrade infrastructure and services in the long term. In other words, the regulatory measures taken by IDA should not discourage the incumbent operator, i.e., SingTel, from continuing to make longer-term infrastructure investment in Singapore and should not unduly restrict its operational flexibility to reconfigure its network to take advantage of cost savings brought about by new technologies, such as a packet-switched IP based network.
6. Balanced against the first consideration, IDA must also ensure that competing operators have incentives to invest and deploy their own network in Singapore. For this purpose, IDA recognises that the Decision taken should sufficiently address and mitigate any potential adverse impact to RLs from SingTel's decommissioning of its co-location sites, so that RLs continue to have the ability to access SingTel's facilities under the principles set out in the Telecom Competition Code 2005 and as implemented in the RIO.
7. Furthermore, in coming to the Decision, IDA also adopted the following approach and principles:
 - a. IDA conducted a general review of SingTel's existing RIO to ensure that the Direction would be fair and reasonable and would promote the principles of the Telecom Competition Code 2005, and generally enhance an efficient and effective implementation of the RIO. In striking a balance, IDA also recognised that SingTel should only be subject to obligations that are feasible and practicable, and that SingTel should not be imposed with any unnecessary or onerous burdens.
 - b. Where comments were received from the industry, IDA carefully considered whether these comments were reasonable, tended to

promote an efficient and effective implementation of the RIO and were consistent with the policy goals of the Telecom Competition Code 2005, particularly the principle of facilities-based competition. Where IDA determined that the comments met these requirements, IDA then reviewed their proposed approach to determine if any modification was required. In this respect, to the extent that comments were received that went beyond the scope for which IDA held the Public Consultation, IDA will not act upon those comments for the purposes of this current regulatory proceeding.

PART III: SUMMARY OF THE DECISION

8. After careful consideration and having reviewed the responses received from the Public Consultation, IDA's Decision, which seeks to balance both SingTel's and the industry's interests, is to impose an obligation on SingTel to notify IDA of its plans to decommission any of the co-location sites offered under the RIO as soon as it has firm plans to do so, but such notice period shall **NOT** be less than 18 months prior to the estimated date which the co-location site is to be decommissioned ("**Mandatory Notice Period**"). As part of the notification process, SingTel must at the same time submit to IDA for approval its proposed amendments to the RIO for purposes of decommissioning these sites. Before approving any such amendments (including any request for a shorter notice period¹), IDA will consider the impact to the industry.
9. However, IDA also recognises that SingTel may already have plans to decommission co-location sites within the next 18 months or less. To address this scenario, within 30 calendar days from the date of the Direction, SingTel is required to notify IDA of these co-location sites and submit to IDA for approval its proposed amendments to the RIO for purposes of decommissioning these sites.
10. Finally, for purposes of implementing the Decision, IDA also requires SingTel to propose consequential amendments to clauses 14.5 and 14.6 of Schedule 5B (Licensing of Tower Space & Co-location Space at Tower Sites), clause 13.5 of Schedule 5C (Licensing of Roof Space & Co-location Space at Roof Sites), clause 9.5 of Schedule 8A (Co-location for Point of Interconnection (POI)), clause 9.5 of Schedule 8B (Co-location for Point of Access (POA)) and clause 9.5 of Schedule 8D (Co-location at Submarine Cable Landing Station) of the RIO.
11. Unless the context requires otherwise, all capitalised terms used in this Explanatory Memorandum shall have the same meanings as in the Direction.

¹ See paragraph 13 below for IDA's considerations when evaluating a request for a shorter notice period.

PART IV: ISSUES CONSIDERED

Imposition of notice period of 18 months prior to decommissioning of any co-location sites

12. IDA's rationale for adopting the Mandatory Notice Period is that such extended timeframe represents a balanced solution to all parties. To the competing operators, as compared to the existing 6 months' notice period, it provides significantly additional visibility on the availability of SingTel's co-location sites to enable them to plan their network deployment and migration in the event of any decommissioning. To SingTel, it provides assurance that it could re-configure its network to take advantage of new technologies or when the market conditions so require, so long as the Mandatory Notice Period is complied with. IDA also notes that the Mandatory Notice Period falls reasonably within the range of SingTel's own actual timeframes for decommissioning a co-location site (e.g., an Exchange).
13. In any event, IDA has specifically provided at paragraph 4b of the Direction that if for any reason, SingTel should indeed face genuine difficulties in meeting the Mandatory Notice Period, IDA will consider allowing SingTel to provide a shorter notification period on a case-by-case basis, provided SingTel can justify to IDA's satisfaction why the circumstances warrant a shorter notice period. To prevent any undue prejudice to the industry, IDA will carefully assess SingTel's justification and consider any impact to the industry before allowing a shorter period.
14. Furthermore, and notwithstanding IDA's earlier findings that the current notification period of at least 6 months was no different from many benchmark jurisdictions' practice, IDA's further review of the practices in other international jurisdictions reveals that there is no single widely-applied standard for such notification periods. In fact, IDA has observed notification periods in various jurisdictions ranging from 6 to 24 months, with the UK opting not to prescribe any specific notification period but rather requiring appropriate notice to be determined on a case-by-case basis². In this regard, IDA remains cognisant of the fact that different countries have their own unique sets of market conditions and accordingly, the minimum notice period adopted in these countries are generally dependent on the conditions under which they are set. Taking into account all the circumstances, IDA is satisfied that the 18 months period is appropriate in the Singapore context.
15. IDA also rejects SingTel's claim that it would be overly onerous for it to provide justification in nearly all instances where it wished to decommission an Exchange (in particular, for those Exchanges where RLs presently have little or no co-located network equipment would be overly onerous)³. In this regard, balancing the interests, IDA has assessed that RLs must be given some reasonable degree of certainty concerning SingTel's future plans for any co-location site regardless of whether any RLs presently have equipment

² The UK provides that such notice should also allow for alternative arrangements to be made so as to reduce unnecessary disruption.

³ See paragraph 3.15 of SingTel's response to the Public Consultation.

co-located at that site. The rationale for IDA's position is plain: the mere fact that RLs currently do not co-locate equipment in a particular co-location site does not necessarily mean that they have not made plans, or preclude any future plans, to roll-out to that particular co-location site. RLs need some reasonable visibility of the continued availability of SingTel's co-location space for network deployment and planning.

16. For the same reason, IDA disagrees with SingTel's view that RLs should provide "actual deployment plans" before their concerns relating to SingTel's decommissioning plans are deemed to be valid⁴. Full and complete information relating to details of SingTel's co-location sites, especially with regard to their continued availability (i.e. whether the co-location site has been earmarked by SingTel for decommissioning), should be made available to RLs at the point in time when RLs are drawing up their network deployment plans, and not when after such plans have been finalised, or worse, when deployment works have already commenced. For instance, if an RL is given reasonable advanced notice (i.e. 18 months) that a particular exchange will be decommissioned in the foreseeable future, it will be better placed to make an informed decision as to determine whether it will be able to recoup its investment to that Exchange and hence proceed to include or exclude that Exchange in its network rollout plans, or to deploy its network to other Exchanges that are unaffected by SingTel's decommissioning plans. Otherwise, the RL would be expending time and costs in network planning "blindly", only to realise that such plans have to be redrawn or even abandoned as the targeted Exchange will be decommissioned over a period that will be insufficient for the RL to recoup its investment. The problem may even be exacerbated if the RLs have made service commitments to end users based on its "uninformed" network deployment plans.
17. During the Public Consultation, comments were received that the proposed Mandatory Notification Period should be extended to 24 months, on the basis that this will allow sufficient time for current contracts with customers to expire. IDA's position is that the notification period for decommissioning of SingTel's co-location sites cannot be subject to the length of an RL's contracts with its customers. Otherwise, RLs could potentially frustrate SingTel's decommissioning plans by simply entering into very long term contracts with their customers. It is reasonable for RLs to bear certain risk of their investment in rolling out to SingTel's facilities. IDA is satisfied that the Mandatory Notification Period sufficiently mitigates the RLs' investment risk to a reasonable extent, without imposing unduly onerous obligations on SingTel.

Non-applicability of the Mandatory Notification Period to co-location sites that SingTel has firm plans to decommission in the next 18 months or less

18. Separately, IDA recognises that SingTel may already have plans to decommission one or more of its co-location sites within the next 18 months or less. To avoid disrupting SingTel's current plans to reconfigure its network, IDA takes the view that it would not be reasonable to hold SingTel to the

⁴ See paragraphs 3.2 and 3.3 of SingTel's response to the Public Consultation.

Mandatory Notice Period for co-location sites that SingTel has made firm plans to decommission within the next 18 months or less. To address this situation, within 30 calendar days from the date of the Direction, SingTel is required to provide IDA with particulars relating to such co-location sites (see paragraph 9 above).

19. IDA is satisfied that the approach is reasonable and balances all the competing interests. The RLs will have a longer notice period than the current 6 months period currently provided in the RIO. As SingTel has made firm plans, it should also be able to provide the required notification to IDA without difficulty.

Each party is to bear its own costs in the event of decommissioning of co-location site

20. During the Public Consultation, comments were received that any decommissioning of SingTel's co-location site should not lead to an increase in RLs' costs for providing services (in other words, SingTel should bear all of the RLs' costs arising from the decommissioning). IDA is of the view that such a proposal will impose very onerous obligations on SingTel and may even deter SingTel from reconfiguring/consolidating its network for efficiencies and to take advantage of new technologies such as a packet-switched IP based network. There is also a concern that if SingTel is made to bear all the costs of the RLs arising out of network migration due to SingTel's decommissioning of the co-location site, the RLs would have little incentive to minimise their costs since all of such consequential costs can be passed on to SingTel. Moreover, it is only reasonable that the RLs bear their own investment risks if they want to deploy to SingTel's network, and the closure of any co-location site is within the contemplation of such risk.
21. In addition, IDA is firmly of the view that this issue has been fully considered during the previous RIO reviews, where IDA had conclusively decided that each respective party should bear its own costs in the event a co-location site is decommissioned. For instance, clause 9.5 of Schedule 8A of SingTel's RIO clearly states that "*The Requesting Licensee shall bear its own cost associated with the closure of a Co-Location Site*"⁵. IDA finds no reason to change the current position.

Provision of alternative interconnection solutions in the event of co-location site decommissioning

22. During the public consultation, comments were received that there should be viable alternative solutions and that migration to the "absorbing" exchanges should be "seamless".
23. IDA is satisfied that the current provisions in the RIO sufficiently address these issues on migration and the provision of alternative solutions from

⁵ This same provision is replicated in substance at clause 14.6 of Schedule 5B; clause 13.5 of Schedule 5C, clause 9.5 of Schedule 8B; and clause 9.5 of Schedule 8D.

SingTel in the event of decommissioning of co-location sites⁶. Particularly, with regard to the concern expressed that there should be available co-location space in the “absorbing” exchange, IDA is satisfied that such concern has also been fully addressed under Sub-section 5.3.4 of the Telecom Competition Code (RIO Requirements) Notification 2005, where SingTel is required to take reasonable measures to find alternative solutions (including options such as virtual co-location, conditioning additional equipment space, optimising the use of existing space or finding adjacent space) should it be unable to offer physical co-location due to space limitations.

Request for Tandem Exchange Access

24. During the Public Consultation, comments were received that IDA should permit Tandem Exchange Access. It is IDA’s firm position that the issue of Tandem Exchange Process is clearly outside the scope of this current regulatory proceeding. As such, IDA will not consider this issue for the purposes of this regulatory proceeding.
25. In this respect, for information, IDA would clarify that the issue of Tandem Exchange Access was considered and rejected during IDA’s 2003 decision to designate local leased circuits (“LLCs”) as a mandated wholesale service. In that decision, IDA explained it had assessed only the last mile of the LLCs, i.e., tail LLCs, to constitute a bottleneck facility and hence to be designated an IRS to be offered at cost-based prices upon expiry of the mandated wholesale service period. For the trunk portions of the LLCs however, IDA had determined that it was technically and/or economically feasible to replicate the infrastructure. Thus, IDA found no compelling reason to require LLCs to be offered as an IRS at the tandem level.

⁶ For example, please see Clause 9.5 of Schedule 8A which provides that SingTel must take reasonable measures to minimise disruption when decommissioning a co-location site as well as the requirement to offer alternative interconnection solutions at the RL’s request.