



12 March 2009

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Info-communications Development Authority of Singapore  
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Dear Mr. Haire,

**PUBLIC CONSULTATION ON REVIEW OF THE CODE OF PRACTICE FOR INFO-COMMUNICATIONS FACILITIES IN BUILDINGS (“COPIF”) FOR THE USE OF SPACE AND FACILITIES BY LICENSEES**

1. Singapore Telecommunications Limited (**SingTel**) refers to the Info-communications Development Authority’s (**IDA**) public consultation on review of the Code of Practice for Info-communications Facilities in Buildings 2008 (**COPIF**) for the use of space and facilities by licensees dated 5 February 2009 (**Consultation Paper**).
2. SingTel appreciates the opportunity to respond to the Consultation Paper.
3. SingTel’s comments on the Consultation Paper are set out below.

**EXECUTIVE SUMMARY**

4. SingTel has the following comments on the Consultation Paper:
  - (a) the IDA’s proposed test allowing licensees to connect to lead-in pipes based on “*their immediate and reasonably forecasted demand*” may result in a number of issues from a practical implementation perspective, including:
    - i. each licensee may adopt a different methodology to determine its forecast, resulting in inconsistent decisions amongst licensees in relation to the connection of lead-in pipes;

- ii. in a situation where the combined quantity of lead-in pipes required by all licensees exceeds the actual capacity available, how to assess which licensee's forecast is reasonable.
  - (b) the requirement to deliberately set aside a certain amount of reserve capacity for licensees that wish to connect at a later point may mean that this infrastructure is never used, which would result in licensees building additional lead-in pipes even though the reserved capacity remains unutilised;
  - (c) the requirement to lease lead-in pipes when they are unused without taking account of operations and maintenance purposes may give rise to technical and operational issues for licensees; and
  - (d) the requirement to provide the Requesting Licensees with leased access to lead-in pipes and associated manholes free of charge is inconsistent with the Telecom Competition Code and the SingTel RIO. Licensees are entitled to be compensated for providing leased access to lead-in pipes and associated manholes.
5. SingTel submits the following alternative proposals for the IDA's consideration:
- (a) that all licensees will have the same obligation to share their connected lead-in pipe subject to the following conditions:
    - i. all licensees that have connected to lead-in pipes will share their connected lead-in pipes subject to a reasonable availability test and based on the principle of cost-based and non-discriminatory pricing;
    - ii. licensees that have the opportunity to connect to a new building lead-in pipes at the time of construction, but choose not to, are not entitled to share the lead-in pipes on a cost-based principle. Instead they may lease lead-in pipes from other licensees subject to a reasonable availability test and based on commercial prices, terms and conditions; and
    - iii. licensees that wish to connect to lead-in pipes at an existing building may request the relevant licensee to share lead-in pipes subject to a reasonable availability test at the lead-in pipe and based on the principle of cost-based and non-discriminatory pricing.



6. In addition, SingTel invites the IDA to consider an additional issue in respect of the quantity of unshielded twisted pair cables in section 7.11.2(c) of the COPIF to facilitate the rollout of the Next-Generation National Broadband Network (NGNBN) services.

## SUBSTANTIVE ISSUES

### Connection of lead-in pipes based on “reasonable forecast” – section 2.3 of the Consultation Paper

7. In paragraph 2.3 of the Consultation Paper, the IDA has stated that:

*“Subject to 2.3 (b), allow telecom licensees to connect lead-in pipes based on their immediate and reasonably forecasted demand. Additionally, licensees who wish to connect their pipes to the lead-in pipes of a new building shall be required to consult each other in good faith<sup>1</sup> to allow the number of lead-in pipes that each shall connect (our emphasis).”*
8. SingTel welcomes the IDA’s proposal to broaden the extent to which future demands of licensees can be considered to determine the quantity of lead-in pipes.
9. However, the IDA’s proposal to allow the Requesting Licensees to determine their demand relies heavily on the discretion of individual licensees to determine what constitutes a “*reasonably forecasted demand*”.
10. In SingTel’s view, the test proposed by the IDA is likely to raise difficulties from a practical implementation perspective for licensees. In particular, SingTel considers that each licensee’s interpretation of the phrase “*reasonably forecasted demand*” may vary, resulting in the following issues:
  - (a) each licensee may use a different methodology to determine what constitutes its “*reasonably forecasted demand*”;
  - (b) in applying this threshold, licensees are likely to have an incentive to connect to more pipes than they require;

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<sup>1</sup> In situations where licensees are unable to agree on the lead-in pipes that each should connect to, they may refer the issue to IDA for a binding decision.



- (c) it is highly unlikely that licensees will be able to reach agreement in situations where the combined requirement exceeds the number of lead-in pipes available at a new building.

- 11. SingTel's proposal as stated in paragraph 5 is a better and more practical solution. SingTel's proposal does not require licensees to share and agree on every licensee's 'reasonably forecasted demand' and escalating all disagreements in planning and forecast to the IDA. SingTel's proposal will also create a disincentive to licensees who connect more than what they need. It is costly to connect to lead-in pipes and by compelling licensees who connect in excess of their needs to share at cost-based prices would provide the effective disincentive to the licensee. As such, licensees will self-regulate to connect to lead-in pipes not more than what they need.

**Requirement to set aside reserve capacity – paragraph 2.3(b) of the Consultation Paper**

- 12. In paragraph 2.3(b) of the Consultation Paper, the IDA stated that:

*"In all cases, set aside (i.e. leave unconnected) a minimum of 10% of the total lead-in pipes or 1 lead-in pipe, whichever is greater, for the Other Licensees. The reason for the requirement to set aside a minimum of 10% of the total lead-in pipes or 1 lead-in pipe is that based on historical trend, the demand of lead-in pipes by the Other Licensees has not been very high. IDA therefore does not wish to over cater for such needs and deprive existing licensees from using the lead-in pipes."*

- 13. SingTel submits that the requirement to deliberately set aside lead-in pipes for connection in the future means that there is a risk that such infrastructure may remain unconnected and potentially be unusable over time.
- 14. For that reason, SingTel is concerned that reserved lead-in pipes capacity may in fact be unusable when required, which may give rise to the following issues:
  - (a) it is difficult to access the reserved lead-in pipes once telecommunications licensees have constructed pipes along that area or in front of the compound. The existing pipes will obstruct new construction to connect to the reserved lead-in pipes;

- (b) the construction of new pipes over or next to the existing pipes and unconnected lead-in pipes will increase the risk of damage to existing pipes and cables, which is likely to cause service disruption for end-users; and
  - (c) as soil and debris ingress after being buried under earth, the pipes may become damaged.
15. In light of this, SingTel requests that the IDA to consider our proposal stated in paragraph 5 where licensees can have the flexibility to either build connections to lead-in pipes or lease lead-in pipes from other licensees subject to a reasonable availability test. In this case, licensees will self-regulate to connect to lead-in pipes not more than what they need. This approach can avoid the situation that licensees have to build additional lead-in pipes even though the reserved capacity remains unutilised.
16. However, licensees who have the opportunity to connect to the building lead-in pipes at the time of construction of a new building, but choose not to, are not entitled to share the lead-in pipes on a cost-based principle. Instead they may lease lead-in pipes from other licensees subject to a reasonable availability test and based on commercial prices, terms and conditions.

**Requirement to lease unused capacity at cost-based prices – section 2.4 of the Consultation Paper**

17. In paragraph 2.4(a) of the Consultation Paper, the IDA has stated that:
- “For lead-in pipes that telecom licensees had connected reasonably at the outset (i.e. based on immediate and reasonable forecasted) but remain unused at the time when Other Licensees seek the use of the lead-in pipes, telecom licensees would have to lease such lead-in pipes and associated manholes at cost-based prices to Other Licensees (our emphasis).”*
18. SingTel submits that the IDA’s requirement to lease unused capacity is likely to have negative technical implications that should be considered.
19. As the IDA is aware, a certain amount of reserve capacity that is not directly used to facilitate customer demand is required by each licensee to take account of technical and

operational considerations such as diversity, redundancy and operations and maintenance issues.

20. SingTel submits that some reserve (unused) capacity at the lead-in pipe is required for operations and maintenance purposes. The reservation of such unused capacity would avoid the incurrence of unnecessary costs and significant disruptions associated with civil works, such as road excavation, make good existing landscape and road repaving work, which is likely to be required on a regular basis to meet operations and maintenance requirements.
21. A reasonable availability test should be adopted by the IDA to determine available capacity at the lead-in pipes. The IDA has already established a reasonable approach to assess availability of lead-in pipes under the Reference Interconnection Offer (**RIO**). Such an approach would allow the licensees to take account of capacity required for reasons other than customer demand, for example, for operations and maintenance purposes. The principle in assessing the availability of lead-in pipes should be maintained.

**No cost recovery in respect of “unreasonably” connected pipes – paragraph 2.4(b) of the Consultation Paper**

22. In paragraph 2.4(b) of the Consultation Paper, the IDA has stated that:

*“For lead-in pipes that telecom licensees had connected unreasonably at the outset (i.e. in contravention of the requirement to connected based only on the licensee’s immediate and reasonably forecasted demand) and which remain unused at the time when Other Licensees seek the use of the lead-in pipes, telecom licensees would have to lease such lead-in pipes and associated manholes at no cost to Other Licensees (our emphasis).”*

23. SingTel requests the IDA to revise its proposal in respect of access to lead-in pipes and associated manholes free of charge.
24. Firstly, SingTel considers that the obligation for a licensee to supply access to its lead-in pipes at no cost is inconsistent with the Telecom Competition Code 2005 (**Telecom Competition Code**).

25. As the IDA is aware, access to lead-in pipes is regulated under the Telecom Competition Code and licensees are permitted to recover costs of providing Requesting Licensees with access to its lead-in pipe and associated lead-in manholes.
26. In particular, section 7 (Infrastructure Sharing) of the Telecom Competition Code provides that “*lead-in ducts and associated manholes*” constitute specific infrastructure that must be shared<sup>2</sup> and that the sharing of such infrastructure is to be at “*cost-based prices*”<sup>3</sup>.
27. In addition, the SingTel RIO provides that ‘lead-in ducts and lead-in manholes’ constitute an Interconnection Related Service that must be offered by SingTel pursuant to the RIO. Section 6.3.4 of the Telecom Competition Code provides that Interconnection Services must be offered at cost-based prices.
28. SingTel submits that the IDA’s proposed amendment in paragraph 2.4(b) of the Consultation Paper is inconsistent with the Telecom Competition Code and SingTel’s right to recover the costs of providing access to its lead-in ducts from the Requesting Licensees.
29. Secondly, unutilised capacity at the lead-in pipes may be acquired for reasons other than customer demand. As stated above, this capacity may be required to take account of redundancy and operations and maintenance considerations.
30. Capacity reserved for operations and maintenance is only utilised at times of scheduled operations and maintenance or emergency situations. If SingTel was required to ‘give away’ that capacity simply because it was unused at the time of request, it would be unable to facilitate such procedures when required, which would result in difficulties from a technical and operational perspective.
31. Furthermore, there is no gauge on how to determine whether a retrospective forecast made by licensees is reasonable or not in a dynamic telecommunication market where demand and supply changes from time to time; and the timeline for service provision may not be specific at the time a licensee decides to make such a number of connections to lead-in pipes. As such, there should not be a punishment to a licensee who believes that it

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<sup>2</sup> Telecom Competition Code, sections 7.3.1, 7.4.4 and 7.5.1(c).

<sup>3</sup> Ibid, section 7.2. See also, section 7.6.3.

had made reasonable number of connections but are deemed to be unreasonable by the IDA at a later time.

32. Thirdly, SingTel is concerned about the punitive nature of the IDA's proposed obligation on a licensee to provide access to lead-in pipes and associated manholes at no charge.
33. Although the IDA has provided that licensees would have to lease lead-in pipes and associated manholes, there is no basis to require licensees do so free of charge.
34. Lastly, SingTel submits that the IDA's proposed revision in paragraph 2.4(b) undermines SingTel's rights as a property owner.
35. As a licensee, SingTel has incurred significant costs in building and maintaining the pipes and manholes and connecting them to buildings throughout Singapore. Pursuant to the Telecom Competition Code, SingTel is entitled to recover these costs based on cost-based and non-discriminatory pricing<sup>4</sup>. It would be inconsistent for the COPIF to require SingTel to provide such infrastructure free of charge.
36. While SingTel accepts that it must share access to this infrastructure at cost-based prices, it is inappropriate to require SingTel to provide access free of charge simply because the capacity is unutilised at the time of request.
37. Accordingly, SingTel requests the IDA to revise its proposal to impose a requirement for the Requesting Licensees to pay cost-based compensation to SingTel for the use of shared lead-in pipes and associated manholes.

#### **Disconnection of unused lead-in pipes – sections 2.6 and 2.7 of the Consultation Paper**

38. SingTel supports the IDA's finding to reconsider disconnection of pipes under sections 14.6.1(b) and 14.7.3(b) of the COPIF. In particular, SingTel welcomes the IDA's assessment where it has stated that:

*"it is preferable for the IDA to err on the side of caution to prevent any service disruption to end-users."*

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<sup>4</sup> Ibid, section 7.2. See also, section 7.6.3.



**Connection of lead-in pipes after the effective date – section 2.8 of the Consultation Paper**

39. Section 2.8 of the Consultation Paper provides that:

*“For lead-in pipes connected before the Effective Date where all lead-in pipes have been connected, requesting licensees could still lease such lead-in pipes from other licensees at cost. As for the connection of lead-in pipes on or after the Effective Date, IDA will ... require all licensees who are interested to connect such lead-in pipes to agree amongst themselves on the quantity that each should connect.”*

40. SingTel welcomes the IDA’s proposed amendment that lead-in pipes should be leased at cost-based prices. SingTel submits that all licensees should have the same obligation to share their lead-in pipes subject to a reasonable availability test. This is consistent with SingTel’s obligations under the RIO. However, licensees who have the opportunity to connect to the building lead-in pipes at the time of construction of a new building, but choose not to, are not entitled to share the lead-in pipes on a cost-based principle. Instead they may lease lead-in pipes from other licensees subject to a reasonable availability test and based on commercial prices, terms and conditions.

41. SingTel has already provided its proposal to the IDA to require that all requests to be subject to a reasonable availability test.

42. In addition, SingTel submits that that there should be no distinction between lead-in pipes connected before and after the Effective Date and the general approach in paragraph 2.8 of the Consultation Paper that has been adopted in respect of lead-in pipes connected before the Effective Date is sufficient.

43. In addition to the above comments on the IDA’s Consultation Paper, SingTel would like to take this opportunity to request the IDA to consider the following additional issue:

**Installation of UTP category 6 structured cabling**

44. SingTel requests that the IDA review section 7.11.2 (c) of COPIF, which states that:

*“1 unshielded twisted pair cable (Category 6 or better) complying with TIA/EIA 568-B specifications from the living room or any bedroom of the house, which*



*shall terminate into an RJ45 outlet (which may be located in the utility room or closet) at one end and into an RJ45 outlet in the living room or bedroom at the other end. The length of the unshielded twisted pair cable shall not exceed 90 m."*

45. In the previous version of COPIF, section 9.3.1 (a) required telephone cables, socket, block terminal and all other materials for pre-cabling must be installed to all rooms:

*"Developer shall supply and install telephone cables, sockets, block terminal and all other materials for pre-cabling to all rooms in residential buildings".*

46. Given that NGNBN will result in the deployment of FTTH technology to residential premises, SingTel is concerned that 1 unshielded twisted pair cable is insufficient to facilitate the delivery of telecommunications services to residential premises.

47. In order to facilitate the success of fast broadband via the NGNBN and to realise the in2015 vision, SingTel submits that the IDA should make the following amendments to section 7.11.2 (c) of the COPIF:

- (a) developers and building owners of high-rise residential buildings and houses must install a multi-port Patch Panel of at least 5 or more ports depending on the number of rooms in the dwelling unit; and
- (b) developers and building owners must provide the following:
  - i. associated Category 6 cables from the utility room or closet to all the rooms within the residential units, including the living hall; and
  - ii. a RJ45 data point in all rooms, which should be located next to the CATV point to support IPTV services and home networking.



Please do not hesitate to contact us if you have any queries or clarifications.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Sean Slattery".

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