

APPENDIX 7

REQUIRED MODIFICATIONS TO SCHEDULE 8B

IDA Directed Modifications: As any of the Co-Location Space obtained under either Schedule 8A or Schedule 8B can be used for the same purposes, which is to establish a POI and/or a POA, for better clarity, IDA considers that Schedules 8A and 8B should be merged into one Schedule instead.

Accordingly, unless SingTel can justify to IDA otherwise, IDA directs SingTel to propose, for IDA's approval, modifications to Schedules 8A and 8B to merge them into one Schedule, including the annexes to the schedules, and where applicable, to the other provisions in the RIO Agreement as a consequence of amendments to Schedules 8A and 8B.

SCHEDULE 8B
CO-LOCATION FOR POINT OF ACCESS (POA)

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SCHEDULE 8B

CO-LOCATION FOR POINT OF ACCESS (POA)

1. GENERAL

CLAUSE 1.1 – MODIFICATION REQUIRED

- 1.1 This Schedule sets out the terms and conditions under which SingTel will provide the Requesting Licensee with Co-Location Space at Co-Location Sites where a Point of Access (**POA**) with SingTel's Network is or is to be located for the sole purpose of:
- (a) accessing Local Loop, Sub Loop, Shared Line and Tail Circuit it leased under Schedule 3A, 3B and 4C;
 - (b) providing local connectivity services to other Licensees for the purpose of accessing Local Loop, Sub Loop, Shared Line and Tail Circuit it leased under Schedule 3A, 3B and 4C; and
 - (c) enabling Requesting Licensees (as set out in Annex 8B.2) whose Mandated Services (as set out in Annex 8B.3) can only be accessed at SingTel Exchange Buildings (as set out in Annex 8B.4) (**Mandated Licensees**) to offer those Mandated Services to other FBO Licensees, by providing the Mandated Licensee with Co-Location Space at the SingTel Exchange Buildings (as set out in Annex 8B.4) for the other FBO Licensee to install a termination FDF at an available location near the Mandated Licensee's FDF within the SingTel Exchange Building (**Termination FDF**). SingTel will, either:
 - (i) install the other FBO Licensee's fibre cables from the Lead-in Manhole of the SingTel Exchange Building to the Termination FDF at the Mandated Licensee's cost; or
 - (ii) install the other FBO Licensee's fibre cables from the Termination FDF to a location nominated by the other FBO Licensee that is within the same SingTel Exchange Building to which the other FBO Licensee has already acquired access (**Requested Location**), in which case clause 7 applies.

IDA Directed Modifications: IDA notes that it is possible for Requesting Licensees to obtain co-location for any of the purposes listed in clause 1.1. As such, for clarity, IDA directs SingTel to remove the word "sole"

from the phrase “the sole purpose” and replace the word “and” in clause 1.1(b) with “and/or” instead.

For clause 1.1(c), IDA considers that SingTel’s proposed changes do not meet IDA’s requirements. IDA would like to clarify that the requirement as stated in IDA’s Decision was that SingTel should enable Mandated Licensees to provide to other licensees access, inter alia, to lead-in ducts and associated manholes, and necessary cabling and trunking, for the purpose of obtaining the Mandated Licensees’ services. In other words, SingTel need only offer access to the connectivity points/locations within the SingTel Exchange Building specified by the Mandated Licensee. Additionally, for the avoidance of doubt, services for connections to the Mandated Licensees’ connectivity points/locations should be addressed in the Mandated Licensees’ interconnection offers and not in the RIO.

At the same time, IDA considers that SingTel may propose a charge to process the application to recover the reasonable costs that it has incurred, in respect of a Requesting Licensee making a request for access to the connectivity points/locations within SingTel Exchange Building specified by the Mandated Licensee under this clause 1.1.

Accordingly, IDA directs SingTel to propose, for IDA’s approval, modifications to clause 1.1, including the removal of its proposed clause 1.1(c), and Schedule 8 Attachment G to give effect to the above.

1.2 Except as provided in this Schedule, the Requesting Licensee shall, at its own cost, provide all installation materials and manpower needed for the installation of their Co-Location Equipment. Where certain work is to be carried out by SingTel under this Schedule, and the Charge is not defined under Schedule 9, the Requesting Licensee must pay all the reasonable costs incurred by SingTel in provisioning Co-Location Space at a Co-Location Site for POA, subject to the following conditions:

- (a) the costs incurred by SingTel will relate to the work that SingTel needs to perform in order to provision the Co-Location Space at a Co-Location Site for POA;
- (b) before incurring the costs, SingTel will provide Requesting Licensee with prior reasonable notice that the Requesting Licensee’s request requires SingTel to

undertake such work and such notice shall clearly and with sufficient detail set out the following:

- (i) the reasonable costs which SingTel seeks to recover from the Requesting Licensee in respect of the costs incurred by SingTel (including a breakdown of the individual cost components and justification for incurring each cost component); and
 - (ii) based on the information set out in paragraph (i), a binding quote to the Requesting Licensee in respect of the work to be undertaken by SingTel which shall be valid for a period of five (5) Business Days from the date they are notified to the Requesting Licensee by SingTel;
- (c) SingTel shall obtain the prior approval of the Requesting Licensee to the costs noted in the notice within the time period under paragraph (b)(ii) and if the Requesting Licensee does not provide its approval within that time period, then SingTel may suspend SingTel's work under this clause 1.2 until the Requesting Licensee agrees; and
- (d) any dispute in respect of determining the reasonable costs set out in the notice shall be resolved in accordance with Schedule 11 of the RIO Agreement.
- 1.3 The list of Co-Location Sites as at the date of this RIO Agreement for POAs is listed in Annex 8B.1.
- 1.4 SingTel may vary the Co-Location Sites listed in Annex 8B.1 from time to time with the approval of the Authority.
- 1.5 SingTel shall not be responsible for any damage to the Requesting Licensee's Co-Location Equipment caused by fire, water leakage, air-conditioning/mechanical ventilation failure, power fluctuation/interruption, or anything beyond SingTel's control in the Co-Location Site other than to the extent that it is the result of a grossly negligent, wilful or reckless breach of this RIO Agreement by SingTel.
- 1.6 This Schedule 8B only applies to Requesting Licensees who are FBOs.
- 1.7 The timeframes in this Schedule relating to provisioning work for Co-Location Space at a Co-Location Site for POA to be undertaken by SingTel under clauses 3.4 and 3.6 (**Co-Location Requests**), 4.1 (**Project Studies**), 5.1 (**Site Preparation Work**) and 12.2 (**Modified Co-Location Equipment**) are subject to delays caused by events outside SingTel's reasonable control, in which case such failure to meet the

timeframes shall not constitute a breach of this RIO Agreement and clause 1.8(a) shall not apply, provided that SingTel must notify the Requesting Licensee as soon as practicable upon the occurrence of such event, stating the cause of the events and specifying a new date for completion of the relevant provisioning work which is extended for the period of such delays.

CLAUSE 1.8(a) – APPROVED

- 1.8 (a) SingTel will provide the Service Level Guarantees in respect of licensing of Co-Location Space as set out in Annex 8B.7. If SingTel fails to meet any Service Level Guarantees applicable to this Schedule and the failure to meet Service Level Guarantees is solely caused by SingTel, SingTel will provide a remedy to the Requesting Licensee in accordance with:
- (i) section 1 of Annex 8B.7 and any terms and conditions contained therein in respect of Co-Location Request timeframes;
 - (ii) section 2 of Annex 8B.7 and any terms and conditions contained therein in respect of Project Study timeframes;
 - (iii) section 3 of Annex 8B.7 and any terms and conditions contained therein in respect of timeframes for Site Preparation Work;
 - (iv) section 4 of Annex 8B.7 and any terms and conditions contained therein in respect of timeframes for Modified Co-Location Equipment; and
 - (v) section 5 of Annex 8B.7 in respect of claims made under Annex 8B.7.
- (b) The Requesting Licensee acknowledges that the relevant remedy provided under clause 1.8(a) is a genuine pre-estimate of the Requesting Licensee's loss and will be the sole and exclusive remedy available to the Requesting Licensee for such failure to meet the relevant Service Level Guarantees for Co-Location Space at a Co-Location Site for POA and shall be SingTel's sole and exclusive liability to the Requesting Licensee for such failure.

CLAUSE 1.9 – APPROVED

- 1.9 Subject to clause 1.10, if and only if:

- (a) the Requesting Licensee has obtained access to a Co-Location Site set out in Annex 8B.1 of Schedule 8B for the purposes of POI under Schedule 8A (**First Co-Location Site**); and
- (b) the Requesting Licensee wishes to use the Requesting Licensee's Co-Location Equipment already installed at the First Co-Location Site for the purposes of access or connectivity available under clause 1.1 of this Schedule 8B,

the Requesting Licensee shall provide SingTel with a Co-Location Request Form in the form prescribed under clause 3.1, containing the necessary information (sub-clauses (a), (b), (f), (h) and (i)). The application is subject to the application processes as set out in this Schedule 8B, to the extent necessary, but only in respect of the implementation of the Subscriber Loop Tie, the n x 64 Kbps Tie Cables, the 2 Mbps Tie Cables and the coaxial/fibre Tie Cables under this Schedule 8B.

CLAUSE 1.10 – APPROVED

- 1.10 If a Requesting Licensee submits a Co-Location Request Form for the purposes set out in clause 1.9, a licence granted under this Schedule 8B shall be valid for a period equivalent to the period of the licence granted under Schedule 8A for that Co-Location Space. In the event that the licence granted under Schedule 8A for Co-Location Space is terminated, the licence granted under this Schedule 8B for that Co-Location Space shall also terminate at the same time.

CLAUSE 1.11 – MODIFICATION REQUIRED

- 1.11 For clarity, the Requesting Licensee must submit a request for Co-Location Space at a Co-Location Site each time the Requesting Licensee wishes to install fibre cables or patch cords between the Requesting Licensee's Co-Location Equipment and the Co-Location Equipment of another Requesting Licensee within the same Co-Location Space for the purpose of the Requesting Licensee providing local connectivity services to the other Requesting Licensee.

IDA Directed Modifications: IDA considers that the amount of effort and process required to assess Co-Location Space differ from that for installation of fibre cables or patch cords between Co-located Equipment. As such, SingTel should propose a separate request procedure for installation of fibre cables or patch cords between Co-located Equipment.

Further, IDA considers that SingTel may propose a charge, reflective of the effort required to process the application to recover the reasonable costs it has incurred in respect of a Requesting Licensee's request under this clause 1.11.

Accordingly, IDA directs SingTel to propose, for IDA's approval, modifications to clause 1.11 to incorporate the above.

2. AVAILABILITY AT A CO-LOCATION SITE

2.1 For the purposes of this Schedule, SingTel may have regard to the following when assessing the availability of Co-Location Space at a Co-Location Site:

- (a) SingTel's reasonably anticipated requirements in the next one (1) year for space at the Co-Location Site for the provision to itself and its Customers;
- (b) SingTel's reasonably anticipated requirements in the next one (1) year for space at the Co-Location Site for operation and maintenance purposes;
- (c) the Requesting Licensee and other Third Party requirements (including for operation and maintenance purposes) which have been ordered but not yet delivered or which have been provided;
- (d) security and confidentiality requirements or restrictions imposed on SingTel by Governmental Agencies; and
- (e) whether SingTel has plans or otherwise proposes to decommission the Co-Location Site within six (6) months of the date of the Co-Location Request.

2A. SINGTEL EXCHANGE RELATED INFORMATION

CLAUSE 2A(a) – APPROVED

- (a) The Requesting Licensee may request that SingTel provide the Requesting Licensee with the SingTel Exchange Related Information by submitting its request in the form set out in Annex 8B.6.
- (b) SingTel will process all requests for the SingTel Exchange Related Information on a non-discriminatory "first come first serve" basis.

- (c) SingTel must provide the SingTel Exchange Related Information within fifteen (15) Business Days of the date of receipt of the request. SingTel may provide the Requesting Licensee with the SingTel Exchange Related Information on a progressive basis during the fifteen (15) Business Days period.
- (d) The Requesting Licensee must pay all Charges in relation to a request for the SingTel Exchange Related Information in accordance with Schedule 9 of the RIO Agreement.
- (e) The Requesting Licensee acknowledges that the SingTel Exchange Related Information is the Confidential Information of SingTel and that the Requesting Licensee must comply with clause 23 of the main body of the RIO Agreement in relation to such information. The Requesting Licensee must only use the SingTel Exchange Related Information for the sole and exclusive purpose of acquiring Co-Location Space under this Schedule.
- (f) SingTel warrants that the SingTel Exchange Related Information is accurate as at the date of providing the information to the Requesting Licensee. The Requesting Licensee acknowledges that the details of the SingTel Exchange Related Information may change from time to time without notice to the Requesting Licensee.

3. ORDERING AND PROVISIONING PROCEDURE

3.1 The Requesting Licensee shall submit its request for Co-Location Space at a Co-Location Site for POA listed in Annex 8B.1 using a Co-Location Request Form in the form of Attachment G containing the following information:

- (a) the Co-Location Site listed in Annex 8B.1 at which Co-Location Space is sought;
- (b) confirmation that Co-Location Space at that Co-Location Site is for the purpose of:
 - (i) connection of Local Loop, Sub Loop or Shared Line licensed or to be licensed under Schedules 3A and 3B (as the case may be); or
 - (ii) Tail Circuits licensed or to be licensed under Schedule 4C;
- (c) the type of Co-Location Equipment proposed to be installed at that Co-Location Site;

- (d) the space (subject to clause 3.2) and power requirements;
- (e) the floor loading of the Co-Location Equipment;
- (f) the capacity of the Subscriber Loop Tie Cable in the case of Co-Location in relation to Local Loop or Sub Loop under Schedule 3A;
- (g) the type of optical fibre cable to be used, and the diameter of the fibre cable;
- (h) the Requesting Licensee's contact details; and
- (i) in the case of Co-Location in relation to Tail Circuits, the quantities and specifications for each of:
 - (i) the n x 64 Kbps Tie Cables (in multiples of two (2) pairs for IRS Tail Circuit Services for below 2 Mbps bandwidth);
 - (ii) the 2 Mbps Tie Cables (in multiples of four (4) pairs for IRS Tail Circuit Services for 2 Mbps bandwidth); and

CLAUSE 3.1(i)(iii) – APPROVED

- (iii) the coaxial/fibre Tie Cables (in multiples of two (2) for IRS Tail Circuit Services for 45 Mbps and 155 Mbps bandwidth), and

CLAUSE 3.1(j) – MODIFICATION REQUIRED

- (j) if the Requesting Licensee is a Mandated Licensee requesting that SingTel install fibre cables pursuant to clause 1.1(c)(ii), the specific location of the Requested Location within the SingTel Exchange Building (at which the other FBO Licensee has already acquired access).

IDA Directed Modifications: IDA refers SingTel to its directed modifications to clause 1.1 in Schedule 8B. IDA accordingly directs SingTel to propose, for IDA's approval, modifications to this clause 3.1(j) as a consequence of amendments to clause 1.1.

- 3.2 The Requesting Licensee must request space at a Co-Location Site of a minimum of one (1) square metre to a maximum of ten (10) square metres.

CLAUSE 3.3 – MODIFICATION REQUIRED

- 3.3 The Requesting Licensee must ensure that its Co-Location Equipment at the Co-Location Space does not exceed a heat load limit of 900 watts per square metre of its Co-Location Equipment footprint.

IDA Directed Modifications: IDA notes that as currently drafted, Requesting Licensees are required to ensure that their Co-location Equipment at the Co-location Space do not exceed a heat load limit of 900 watts per square metre. One industry respondent commented that the new Co-location Equipment runs on higher power consumption and therefore generates a higher heat load than the 900 watts per square metre of Co-location Equipment footprint. IDA notes that the RIO has been in place since 2001 without it having been previously subject to any heat load limit on the Co-Location Equipment, and industry players have been taking Co-location Space based on the approved RIO.

In view of the above, unless SingTel can provide strong justification otherwise, IDA considers that having a heat load limit would not be reasonable, and accordingly directs SingTel to delete clause 3.3 from the RIO Agreement.

CLAUSE 3.4 – APPROVED

- 3.4 Within one (1) Business Day of the date of receiving the Co-Location Request (**Request Date**), SingTel must notify the Requesting Licensee whether its application is accepted or rejected via any of the contact details that the Requesting Licensee has provided in the Co-Location Request Form. SingTel shall recover the Co-Location Request fee for the reasonable cost of processing the Co-Location Request as provided in Schedule 9, irrespective of the outcome of the Co-Location Request. For the purposes of this Schedule 8B, the Request Date shall be determined as follows:
- (a) if the Co-Location Request is received before 12:00 noon on a Business Day, the Request Date is the Business Day the Co-Location Request is received; or
 - (b) if the Co-Location Request is received at or after 12:00 noon on a Business Day, the Request Date is the next Business Day after the Business Day on which the Co-Location Request is received.

- 3.5 SingTel may reject a Co-Location Request if:
- (a) the Requesting Licensee is not an FBO; or
 - (b) the Co-Location Request is not in the prescribed form; or
 - (c) the Co-Location Request does not contain the required information; or
 - (d) the space requested is not within the limits prescribed by clause 3.2.

Where SingTel rejects the Co-Location Request, SingTel must provide reasons explaining the basis for rejection.

- 3.6 If SingTel notifies the Requesting Licensee that SingTel has accepted the Co-Location Request, SingTel must complete its detailed processing and inform the Requesting Licensee within three (3) Business Days of the Request Date, whether or not it is able to provide the Co-Location Space taking into account the following:
- (a) whether or not the Co-Location Space at a Co-Location Site is available as determined under clause 2; and
 - (b) whether the provision of Co-Location space at a Co-Location Site will give rise to significant health, safety, technical or engineering issues.

CLAUSE 3.7 – APPROVED

- 3.7 Where SingTel informs the Requesting Licensee that SingTel is unable to provide the Co-Location spaces at the Co-Location Site because of unavailability under clause 3.6(a) and/or because clause 3.6(b) applies, SingTel must provide reasons explaining the basis for its decision.
- 3.8 The Requesting Licensee acknowledges that the Co-Location Space allocated and the actual placement of the Co-Location Equipment shall be determined by SingTel. SingTel is not obligated to place the same Requesting Licensee's Co-Located Equipment adjacent to each other, provided that SingTel will use its reasonable endeavours to accommodate any reasonable request for adjacent placement made by the Requesting Licensee.

CLAUSE 3.9 – APPROVED

3.9 SingTel shall process all Co-Location Space Requests on a ‘first come, first served’ basis up to the maximum amount specified in clause 3.10.

3.10 Subject to clause 3.4, SingTel shall process a combined total of no more than three (3) Co-Location Requests under Schedules 8A, 8B and 8D per week and any additional requests shall overflow to the next week. SingTel shall inform the Requesting Licensee of that overflow within one (1) Business Day of the Request Date.

4. PROJECT STUDY

4.1 Except where SingTel has rejected a Co-Location Request under clause 3.5 or where SingTel has notified that a Co-Location Space at a Co-Location Site is not available under clause 3.6, SingTel must complete a Project Study within fifteen (15) Business Days of the Request Date. The Requesting Licensee must pay the Project Study fee specified in Schedule 9.

4.2 The Project Study normally entails at least two (2) site visits:

- (a) a preliminary site survey by SingTel to determine and assess the space, power, earth, fibre and Subscriber Loop Tie Cable routing and any Site Preparation Works required for Co-Location; and
- (b) a joint site survey with the Requesting Licensee.

4.3 Following completion of the Project Study within the timeframe under clause 4.1, SingTel shall provide the Requesting Licensee with the following information ascertained as a result of the Project Study:

- (a) the estimated Charges for the Site Preparation Work (including a breakdown of the major components of the Charges) and an outline of the major elements of the Site Preparation Work to be undertaken by SingTel;
- (b) the location of the designated Lead-in Manhole and the direction of the Connection Duct;
- (c) the type and length of Tie Cable required from Requesting Licensee’s termination frame to SingTel’s distribution frame;
- (d) the estimated length of fibre cable required from the Lead-in Manhole to the Co-Location Space;

- (e) the number of Business Days (which shall not exceed 25 Business Days as specified in clause 5.3) reasonably expected to complete the Site Preparation Work; and
 - (f) in the case of Co-Location in relation to Tail Circuits, the length and associated connectors for each of:
 - (i) the n x 64 Kbps Tie Cables (for below 2 Mbps bandwidth);
 - (ii) the 2 Mbps Tie Cables (for 2 Mbps bandwidth); and/or
 - (iii) the coaxial/fibre Tie Cables (for 45 Mbps and 155 Mbps bandwidth).
- 4.4 SingTel shall be entitled to levy and receive the Project Study Fee provided in Schedule 9 irrespective of whether the Requesting Licensee proceeds with the Co-Location Request after completion of the Project Study.

5. SITE PREPARATION WORK

- 5.1 Within five (5) Business Days from the date of notification of the result of the Project Study under clause 4.3, the Requesting Licensee shall confirm in writing that it wishes to proceed with Co-Location and it agrees to pay the estimated Charges for Site Preparation Work. SingTel shall use its reasonable endeavours to complete the Site Preparation Work within the estimated charges. If SingTel's costs increase above SingTel's estimate set out in the notice under clause 4.3(a) (as may be varied from time to time under this clause 5.1), SingTel must as soon as possible provide the Requesting Licensee with a revised price estimate. SingTel must obtain the prior approval of the Requesting Licensee to the revised price estimate and if the Requesting Licensee does not provide its approval, then, SingTel may suspend the Site Preparation Work until the Requesting Licensee agrees to the revised price estimate. SingTel shall complete the Site Preparation Work within the period advised under clause 5.3. If SingTel is unable to complete the Site Preparation Work within the advised period, SingTel shall promptly notify the Requesting Licensee of a revised date for completion (which, in all the circumstances, shall be within a reasonable period of time). SingTel shall provide the Requesting Licensee with a remedy for the duration of the delay in clause 1.8(a).

CLAUSE 5.2 – MODIFICATION REQUIRED

5.2 Except where the Requesting Licensee requests Co-Location Space at a Co-Location Site for the purpose specified in clause 1.1(c)(ii), as part of the Site Preparation Work, SingTel shall:

- (a) construct two (2) 110mm Connection Ducts of one (1) metre from the designated Lead-in Manhole in the direction indicated in clause 4.3(b) for the Requesting Licensee to connect its ducts; and
- (b) construct the duct seal for the Connection Ducts constructed in SingTel's Lead-in Manhole.

IDA refers SingTel to its directed modifications to clause 1.1 above. IDA accordingly directs SingTel to propose, where applicable, for IDA's approval, modifications to this clause 5.2 as a consequence of amendments to clause 1.1.

5.3 SingTel shall complete any Site Preparation Work within a period of twenty five (25) Business Days of the date on which the Requesting Licensee notifies SingTel under clause 5.1 that it wishes to proceed with Co-Location and agrees to pay estimated charges. Subject to delays that may result from suspension of Site Preparation Work under clause 5.1, if SingTel is not able to complete the Site Preparation Work within the timeframe under this clause 5.3, SingTel shall inform the Requesting Licensee of when the Site Preparation Work will be completed. The Requesting Licensee may seek a remedy for any delay in completing the Site Preparation Work in accordance with clause 1.8(a).

5.4 Within one (1) Business Day after the completion of the Site Preparation Work, SingTel will notify the Requesting Licensee and request the Requesting Licensee to attend the Co-Location Site for a final site inspection of the Co-Location Space.

6. INSTALLATION AND MAINTENANCE OF CO-LOCATION EQUIPMENT IN CO-LOCATION SPACE

6.1 The Parties agree to comply with the following procedures in connection with the installation and maintenance of Co-Location Equipment:

- (a) the Co-Location Equipment Installation and Maintenance Procedures at Attachment A and as amended by SingTel from time to time;

- (b) the Standard Operating Procedures at Attachment B and as amended by SingTel from time to time; and
- (c) the Physical Access Procedures at Attachment C and as amended by SingTel from time to time.

CLAUSE 6.2 – APPROVED

6.2 SingTel shall:

- (a) install and terminate the Subscriber Loop Tie Cable; and
- (b) provide the distribution frame required for the routing of the Requesting Licensee's IRS Tail Circuit Service and perform the physical installation and termination of the Requesting Licensee's cabling to SingTel's distribution frame. However, the Requesting Licensee shall be responsible for all terminations at its own equipment and for providing the associated cabling and connectors between the Requesting Licensee's Equipment and SingTel's distribution frame in order to facilitate the physical termination of the link to SingTel's distribution frame.

CLAUSE 6.3 – APPROVED

6.3 The Requesting Licensee shall pay SingTel in accordance with Schedule 9:

- (a) the recurring Charges for the lease of the Subscriber Loop Tie Cable;
- (b) the one-time Charges for the installation and termination of the Requesting Licensee's Tie Cables; and
- (c) the one-time charges for the installation of the fibre cables.

CLAUSE 6.4 – MODIFICATION REQUIRED

6.4 Where any diversion or maintenance of existing cable trays or ladders used for the purpose under this Schedule requires the installation of new cable trays or ladders within the SingTel Exchange Building, the affected Requesting Licensees will bear the costs associated with such installation, proportionately based on each Requesting Licensee's usage.

IDA Directed Modifications: An industry respondent commented that where any diversion or maintenance of existing cable trays or ladders

requires the installation of new cable trays or ladders, SingTel should be required to consult the affected Licensees on the same, including the costs associated with such works which the parties would have to bear.

Unless SingTel is able to justify otherwise, IDA considers it to be fair and reasonable that SingTel should consult the affected Requesting Licensees on such installation, including the amount of reasonable costs to be incurred. IDA is of the view that this would help prevent any unnecessary service disruption (which is likely to affect End Users), and minimise potential disputes between the Requesting Licensees and SingTel.

Accordingly, IDA directs SingTel to propose, for IDA's approval, modifications to clause 6.4 to incorporate the above.

CLAUSE 7 – MODIFICATION REQUIRED

7. FIBRE INSTALLATION

- 7.1 This clause applies if a Mandated Licensee requests SingTel to install the other FBO Licensee's fibre cables between the other FBO Licensee's Termination FDF and the other FBO Licensee's Requested Location pursuant to clause 1.1(c)(ii).
- 7.2 SingTel will install the other FBO Licensee's fibre cables between the Termination FDF and the Requested Location within the SingTel Exchange Building:
- (a) at the Mandated Licensee's cost and expense; and
 - (b) in any manner which SingTel considers reasonably appropriate in accordance with good engineering practice.
- 7.3 The Mandated Licensee is responsible for the operation and maintenance of any fibre cables installed between the Termination FDF and the Requested Location pursuant to this clause 7. For the avoidance of doubt, nothing in this clause 7 is intended to affect the other FBO Licensee's obligations to operate and maintain the other FBO Licensee's Co-Location Equipment located within the SingTel Exchange Building in accordance with the applicable terms of the relevant agreement between the other FBO Licensee and SingTel.

- 7.4 SingTel may, at its reasonable discretion, move, divert or re-route any fibre cables installed pursuant to this clause 7.
- 7.5 During the term of the Co-Location Space Licence, the Mandated Licensee may submit a request pursuant to clause 3.1:
- (a) to remove, re-locate or replace fibre cables that have been installed within the SingTel Exchange Building pursuant to this clause 7; or
 - (b) to install additional fibre cables within the SingTel Exchange Building .
- 7.6 The Mandated Licensee must only use, and procure that the other FBO Licensee use, the other FBO Licensee's fibre cables installed by SingTel between the Termination FDF and the Requested Location within the SingTel Exchange Building only for the purpose under clause 1.1(c).

IDA Directed Modifications: IDA refers SingTel to its directed modifications to clause 1.1 above. IDA accordingly directs SingTel to propose, where applicable, for IDA's approval, modifications to this clause 7 as a consequence of amendments to clause 1.1.

8. TERM OF LICENCE

- 8.1 The term of a Co-Location Space licence granted under this Schedule shall commence on the date of completion of the Site Preparation Work (**Commencement Date**) and continues for the term of the RIO Agreement until the earlier of any of the following events:
- (a) either party terminates the Co-Location Space in accordance with clause 10 of this Schedule;
 - (b) the SingTel RIO is revoked by the Authority under clause 13.7 of the RIO Agreement;
 - (c) the Authority removes the requirement for SingTel to provide Co-Location Space under the SingTel RIO or exempts SingTel from providing Co-Location Space under clause 13.8 of the RIO Agreement; or

(d) subject to clause 8.2, the Requesting Licensee terminates the Co-Location Space Licence by giving not less than one (1) month prior notice

8.2 The Requesting Licensee may terminate the Co-Location space licence on less than one (1) month prior written notice, provided that the Requesting Licensee shall be liable to SingTel for the recurring fees under the Co-Location Space licence for the period between the date of termination and the date that is one (1) month after the notice of termination.

9. SUSPENSION OF LICENCE

9.1 Subject to clause 12.2 of the RIO Agreement SingTel may suspend the Requesting Licensee's Co-Location Space licence at any time until further notice to the Requesting Licensee if the Co-Location Equipment causes or is likely to cause physical or technical harm to any telecommunications network, system or services (whether of SingTel or any other person) including but not limited to causing damage, interfering with or causing deterioration in the operation of SingTel's Network.

CLAUSE 9.2 – APPROVED

9.2 Without limiting the exclusions or limitations of liability in this RIO Agreement, SingTel shall not be liable to the Requesting Licensee for any Loss resulting from, or in connection with, suspension of access to Co-Location Space under this clause 9.

10. TERMINATION OF LICENCE

10.1 SingTel may terminate the licence of Co-Location Space at any time with immediate effect by giving notice to the Requesting Licensee if the Requesting Licensee fails to complete the installation of its Co-Location Equipment within thirty (30) Business Days under Attachment A. If the Requesting Licensee's failure to complete installation is attributable to circumstances beyond the Requesting Licensee's reasonable control, SingTel will grant a reasonable extension of time for installation to the Requesting Licensee at the Requesting Licensee's request. A Requesting Licensee's request under this clause must describe the circumstances beyond the Requesting Licensee's control and such request must be received prior to the expiry of the aforementioned thirty (30) Business Days period. SingTel must respond to the Requesting Licensee's

request under this clause 10.1 within two (2) Business Days from the date of receipt of such request.

10.2 Subject to clause 13.2 of the RIO Agreement, either Party (**Terminating Party**) may immediately terminate a licence of Co-Location Space at a Co-Location Site if the other Party is in breach of this Schedule and such breach remains unremedied for a period of:

- (a) seven (7) Calendar Days after receiving notice from the Terminating Party to do so, if the breach is a service affecting breach; and
- (b) fourteen (14) Calendar Days after receiving notice from the Terminating Party to do so, if the breach is a non-service affecting breach (including but not limited to failure to pay any sum for which the Requesting Licensee has been invoiced).

10.3 Subject to clause 13.2 of the RIO Agreement, SingTel may immediately terminate a licence of Co-Location Space at a Co-Location Site if:

- (a) in SingTel's reasonable opinion, the Requesting Licensee is using the Co-Location Space in contravention of an applicable law, licence, code, regulation or direction and SingTel has the necessary confirmation from the relevant Governmental Agencies that the Requesting Licensee is in contravention of the applicable law, licence, code, regulation or direction;
- (b) the licence of Co-Location Space causes or is likely to cause physical or technical harm to the SingTel Network or Co-Location Site, including but not limited to causing damage, interfering with or causing deterioration in the operation of the SingTel Network;
- (c) the Co-Location Equipment is used for a purpose other than for access to Local Loop, Sub Loop, Shared Line and/or connection to Tail Circuits in accordance with this RIO Agreement;
- (d) the Requesting Licensee's Co-Location Equipment is not connected in respect of access to Local Loop, Sub Loop, Shared Line and and/or connection to Tail Circuits supplied in accordance with this RIO Agreement;
- (e) the Requesting Licensee locates equipment other than Co-Location Equipment in the Co-Location Space;
- (f) the Co-Location Space has become unsafe for its purpose;

- (g) SingTel's right to own, maintain or operate the Co-Location Site is revoked or terminates or expires; or
 - (h) the Requesting Licensee is no longer an FBO.
- 10.4 Subject to clause 13.2 of the RIO Agreement, SingTel may terminate the licence of Co-Location Space at a Co-Location Site on ten (10) Business Days prior written notice, if the Requesting Licensee removes or abandons its Co-Location Equipment and the Requesting Licensee did not dispute such written notice by SingTel.

CLAUSE 10.5 – APPROVED

- 10.5 If at any time during the term that the licence at a Co-Location Space is to be terminated because of the closure of that Co-Location Site, SingTel must give the Requesting Licensee prior written notice within three (3) Business Days upon receipt of the Authority's approval to amend this Schedule to effect the closure of the Co-Location Site. In the event of a closure of a Co-Location Site, SingTel must take reasonable measures to minimise disruptions to the Requesting Licensee in the provision of its services to End Users. The Requesting Licensee shall bear its own cost associated with the closure of a Co-Location Site. In the event that the Requesting Licensee requests assistance from SingTel within thirty (30) Business Days after receiving a notice under this clause to provide an alternative solution to the Co-Location Space which is being terminated, SingTel will use its reasonable endeavours in providing such assistance. The Requesting Licensee shall remain solely responsible for making any alternative arrangements as are necessary to continue to provide its Customers with services. Nothing in this clause prevents SingTel from terminating the licence at a Co-Location Space at the end of the six (6) months notice period under this clause provided that SingTel has complied with this clause 10.5.

CLAUSE 10.6 – APPROVED

- 10.6 Upon expiry or termination of the licence of Co-Location Space:
- (a) the Requesting Licensee must discontinue the use of its Co-Location Equipment and remove its Co-Location Equipment from the Co-Location Site immediately; and
 - (b) SingTel shall reinstate the Co-Location Space and recover/reinstate all cables/supports/openings and recover the reasonable cost of such reinstatement

from the Requesting Licensee, other than in circumstances where the Requesting Licensee's discontinuation of the use of the Co-Location Equipment is a direct result of SingTel's decommissioning of the Co-Location Site under this Schedule 8B.

10.7 If the Requesting Licensee fails to discontinue the use of its Co-Location Equipment and remove its Co-Location Equipment under clause 10.6, SingTel shall remove the Requesting Licensee's Co-Location Equipment and reinstate the Co-Location Site to its original condition. The Requesting Licensee shall pay to SingTel all reasonable costs associated with the work undertaken by SingTel including the disposal of the Co-Location Equipment. In such event, the Requesting Licensee shall have no claim whatsoever against SingTel related to or in connection with the work undertaken by SingTel.

10.8 Upon termination of the licence of Co-Location Space, any physical access granted to the Co-Location Site shall also be terminated.

11. SUB-LICENSING

11.1 The Requesting Licensee must not assign the licence in respect of or sub-let the Co-Location Space at the Co-Location Site.

12. ADDITIONAL CO-LOCATION SPACE AND CO-LOCATION EQUIPMENT

12.1 If the Requesting Licensee wishes to replace, modify or rearrange existing Co-Location Equipment in the Co-Location Space or to install additional Co-Location Equipment in the Co-Location Space (**Modified Co-Location Equipment**), the Requesting Licensee must submit a request in respect of that Modified Co-Location Equipment. The Requesting Licensee shall be liable for all costs incurred by SingTel in processing a request for Modified Co-Location Equipment under this clause 12.1. The request must contain the following information:

- (a) purpose of replacement, modification or rearrangement;
- (b) date, time and duration of replacement, modification or rearrangement;
- (c) detailed description of works and process to be carried out in the Co-Location Space;
- (d) the Co-Location Equipment to be installed, replaced, modified or rearranged;

- (e) any assistance required from SingTel (subject to approval and charges);
- (f) a description of the precautions on how the Requesting Licensee would ensure that the replacement, modification, rearrangement or addition would not affect any SingTel plant or equipment; and
- (g) any other information which the Requesting Licensee believes would be useful to SingTel in assessing the Requesting Licensee's request.

12.2 Within five (5) Business Days of the receipt of the request for Modified Co-Location Equipment, SingTel must notify the Requesting Licensee whether its request for Modified Co-Location Equipment is accepted or rejected. If SingTel does not meet the timeframe under this clause 12.2 it shall provide the Requesting Licensee with a remedy for the duration of the delay under clause 1.8(a). SingTel may reject the request for Modified Co-Location Equipment if SingTel reasonably believes that:

- (a) the replacement, modification and rearrangement under the request for Modified Co-Location Equipment may affect the operation of SingTel's or any Third Party's equipment or plant; or
- (b) SingTel will be required to perform any work or any additional services such as power or Co-Location Space.

12.3 If SingTel rejects the Requesting Licensee's request for Modified Co-Location Equipment under clause 12.2, the Requesting Licensee may submit a separate Co-Location Request in respect of the Requesting Licensee's Modified Co-Location Equipment, which shall be processed by SingTel pursuant to this Schedule 8B.

CLAUSE 12.4 – APPROVED

12.4 Subject to the alternative processes provided in clauses 1.9 and 1.10, Requests for additional Co-Location Space at Co-Location Sites shall be treated as a separate Co-Location Request and the process of ordering and provisioning in this Schedule 8B shall apply. Subject to the applicable minimum quantities specified, any application for additional Tie Cables shall be submitted to SingTel using a Request For Additional Tie Cables Form set out in Annex 8B.5. SingTel will use reasonable endeavours to provide the additional Tie Cables no later than thirty (30) Calendar Days from the date of receiving the Requesting Licensee's application.

ANNEX 8B.1

LIST OF POSSIBLE CO-LOCATION SITES FOR POA

Serial Number	Description of POA Co-Location Site
1	Ang Mo Kio Telephone Exchange
2	Ayer Rajah Telephone Exchange
3	Bedok Telephone Exchange
4	Bukit Panjang Telephone Exchange
5	Changi Telephone Exchange
6	Central Telephone Exchange
7	East Telephone Exchange
8	Geylang Telephone Exchange
9	Hougang Telephone Exchange
10	Jurong East Telephone Exchange
11	Jurong Telephone Exchange
12	Jurong West Telephone Exchange
13	Katong Telephone Exchange
14	North Telephone Exchange
15	Paya Lebar Telephone Exchange
16	Pasir Ris Telephone Exchange
17	Queenstown Telephone Exchange
18	Telok Blangah Telephone Exchange
19	Tampines Telephone Exchange
20	Tuas Telephone Exchange
21	City Telephone Exchange
22	Orchard Telephone Exchange

ANNEX 8B.2 – APPROVED

ANNEX 8B.2

LIST OF MANDATED LICENSEES

OPENNET
NUCLEUS CONNECT

ANNEX 8B.3 – APPROVED

ANNEX 8B.3

LIST OF MANDATED SERVICES

1. Mandated Services offered pursuant to OpenNet's Interconnection Offer Agreement or any customised agreement for access to services available under OpenNet's Interconnection Offer.
2. Mandated Services offered pursuant to Nucleus Connect's Interconnection Offer Agreement or any customised agreement for access to services available under Nucleus Connect's Interconnection Offer.

ANNEX 8B.4 – APPROVED

ANNEX 8B.4

**SINGTEL EXCHANGE BUILDING WITHIN WHICH MANDATED LICENCEES PROVIDE
MANDATED SERVICES**

TUAS EXCHANGE BUILDING
ORCHARD EXCHANGE BUILDING

ANNEX 8B.5 – APPROVED

ANNEX 8B.5

REQUEST FOR ADDITIONAL TIE CABLES

The Requesting Licensee

Date of Application : _____ Application Reference Number : _____
Request for Additional Tie Cables is sought for the purpose of :
[POA] _____
Address of Co-Location site : _____
Capacity of Tie Cables Requested : _____

On Behalf of the Requesting Licensee

Sign : _____ Name of Requesting Licensee: _____
Name : _____
Designation : _____
Department : _____
Contact Number : _____ Company Stamp : _____
Fax Number : _____

SingTel's Reply to the Requesting Licensee

Application returned - incomplete/illegible
 Not Approved _____

Approved subject to details and conditions given in the attached Letter of Authorisation

Alternative Date and Time _____ SingTel Approval Code : _____

Processing Status

Sign : _____ Contact Number : _____
Name : _____ Fax Number : _____
Date : _____

Received Date : _____ Queue Status : _____ Processed Date : _____

ANNEX 8B.6 – APPROVED

ANNEX 8B.6 APPLICATION FORM FOR SINGTEL EXCHANGE RELATED INFORMATION

To: Manager, Network Integration and Interconnect, SingTel

Fax: 6848 4113

We request that SingTel provide the following SingTel Exchange Related Information:

BOX 1 – SINGTEL EXCHANGE RELATED INFORMATION	
1. The address of a SingTel Exchange Building included in Box 2;	<input type="checkbox"/>
2. The diagram of the network boundary for that SingTel Exchange Building (i.e. the streets making up the boundary of the SingTel Exchange Building).	<input type="checkbox"/>

Please tick the box corresponding to the SingTel Exchange Building for which SingTel Exchange Related Information is required.

Box 2 – SingTel Exchange	
Ang Mo Kio Telephone Exchange	<input type="checkbox"/>
Ayer Rajah Telephone Exchange	<input type="checkbox"/>
Bedok Telephone Exchange	<input type="checkbox"/>
Bukit Panjang Telephone Exchange	<input type="checkbox"/>
Changi Telephone Exchange	<input type="checkbox"/>
Central Telephone Exchange	<input type="checkbox"/>
East Telephone Exchange	<input type="checkbox"/>
Geylang Telephone Exchange	<input type="checkbox"/>
Hougang Telephone Exchange	<input type="checkbox"/>
Jurong East Telephone Exchange	<input type="checkbox"/>
Jurong Telephone Exchange	<input type="checkbox"/>
Jurong West Telephone Exchange	<input type="checkbox"/>
Katong Telephone Exchange	<input type="checkbox"/>
North Telephone Exchange	<input type="checkbox"/>
Paya Lebar Telephone Exchange	<input type="checkbox"/>
Pasir Ris Telephone Exchange	<input type="checkbox"/>
Queenstown Telephone Exchange	<input type="checkbox"/>
Telok Blangah Telephone Exchange	<input type="checkbox"/>
Tampines Telephone Exchange	<input type="checkbox"/>
Tuas Telephone Exchange	<input type="checkbox"/>
City Telephone Exchange	<input type="checkbox"/>

We agree that:

- (a) we are liable for all Charges that may arise in relation to a request for SingTel Exchange Related Information; and
- (b) SingTel Exchange Related Information constitutes Confidential Information and will be treated as such in accordance with clause 23 of the main body of the RIO Agreement.

Signature: _____

Date: _____

Name: _____

Designation: _____

Company: _____

Company Stamp: _____

ANNEX 8B.7 – APPROVED

ANNEX 8B.7

SERVICE LEVEL GUARANTEES

1. REBATES FOR CO-LOCATION REQUEST TIMEFRAMES

Missed notification timeframe as to whether Co-Location Request is accepted or rejected (clause 3.3) by:	Rebate
1-30 Calendar Days	Number of days of delay x weekly recurring Charge
More than 30 Calendar Days	30 x weekly recurring Charge

Missed notification timeframe as to response to Co-Location Request following detailed processing (clause 3.5) by:	Rebate
1-30 Calendar Days	Number of days of delay x weekly recurring Charge
More than 30 Calendar Days	30 x weekly recurring Charge

2. REBATES FOR PROJECT STUDY TIMEFRAMES

Missed timeframe for completion of Project Study (clause 4.1) by:	Rebate
1-30 Calendar Days	Number of days of delay x weekly recurring Charge
More than 30 Calendar Days	30 x weekly recurring Charge

3. REBATES FOR SITE PREPARATION WORK

Missed timeframe for completion of Site Preparation Work (clause 5.1) by:	Rebate
1-30 Calendar Days	Number of days of delay x weekly recurring Charge
More than 30 Calendar Days	30 x weekly recurring Charge

4. REBATES FOR MODIFIED CO-LOCATION EQUIPMENT

Missed timeframe for processing of request for Modified Co-Location Equipment (clause 11.2) by:	Rebate
1-30 Calendar Days	Number of days of delay x weekly recurring Charge
More than 30 Calendar Days	30 x weekly recurring Charge

5. CLAIM PROCEDURES

- (a) A claim by the Requesting Licensee shall be made in writing within fourteen (14) Calendar Days of the completion of the relevant Calendar Month on which the Service Level Guarantees are measured. The amount in respect of any claim shall be paid to the Requesting Licensee in the form of a rebate. The Requesting Licensee acknowledges that a failure to make a claim within the specified timeframes under this paragraph means that the Requesting Licensee waives any entitlement to the Service Level Guarantee payment in respect of that claim.
- (b) If the Requesting Licensee is entitled to a rebate pursuant to the claim made hereunder, then the amount of the rebate will be credited into the Requesting Licensee's account after it has been processed by SingTel and will be reflected in SingTel's bill to the Requesting Licensee in accordance with SingTel's billing cycle.
- (c) The guarantee and rebates provided by SingTel under this Annex 8B.7 are:
 - (i) of an ex-gratia nature and personal to the Requesting Licensee and are non-transferable; and
 - (ii) subject to this Schedule.
- (d) Despite anything to the contrary in this section, if the Requesting Licensee qualifies for any claim under this Annex 8B.7, SingTel shall honour its obligations in respect of that claim but in the event of a dispute as to whether the Requesting Licensee qualifies for a claim or as to the quantum of the claim payable to the Requesting Licensee, the dispute shall be resolved in accordance

with the Dispute Resolution Procedures in Schedule 11 of the RIO, or in the case of a Billing Dispute, in accordance with Schedule 10 of the RIO.