

SCHEDULE B

ADDITIONAL REQUIRED ELEMENTS THAT SINGTEL MUST INCLUDE IN ITS RIO

Sub-section 5.3.2 of the Code requires a Dominant Licensee's RIO to meet certain general requirements. In addition, sub-sections 5.3.2 (a) through (r) list eighteen separate Required Elements that the RIO must address. Other portions of the Code elaborate on the minimum actions that SingTel must take to adequately address each Required Element. SingTel must amend the proposed RIO to satisfy all general requirements and fully address each of the following Required Elements:

1. General Requirements

For the avoidance of doubt, SingTel should amend the proposed RIO to confirm that it complies with the following general requirements:

a. Modularity

The RIO should expressly state that a Requesting Licensee need only purchase, on an unbundled basis, those IRS that it wants to use.

b. Implementation within 30 days

If a Requesting Licensee accepts the RIO, there will be no need for further negotiations. Further discussion will be limited to implementing the agreed upon prices, terms and conditions. Such discussion will generally last no more than 30 days.

2. Element A – Locations for Physical Interconnection

The RIO must list the "physical locations at which a Requesting Licensee" may interconnect. Specifically, the Dominant Licensee must offer to physically interconnect to allow the exchange of traffic at the following locations: interconnect gateway switches ("IGS"); signalling transfer points; and local switches (line side and trunk side). Code Appendix Two § 2.2. SingTel has only identified four IGS. In addition, the Dominant Licensee must allow physical interconnection for access to Unbundled Network Elements ("UNE"), Unbundled Network Services ("UNS") and Essential Support Facilities ("ESF") at: distribution frames (exchange MDF, building MDF, roadside cabinets); fibre distribution frames; and digital cross connect frames or add/drop multiplexers. Code Appendix Two § 2.5. SingTel appears to only provide for physical interconnection at exchange MDF and building MDF. Finally, the Dominant Licensee must offer to provide physical interconnection for access to UNE and ESF at the following locations (when controlled by the Dominant Licensee): lead-in ducts/manholes; exchange cable vault; exchange buildings housing tandem, local, interconnection and international switches and facilities;

building equipment rooms; and roof spaces. Code Appendix Two § 2.6. SingTel has only provided for interconnection at lead in ducts/manholes and some exchange buildings.

3. Element C – Service Quality Standards

The RIO must provide a “description of the quality of service that [SingTel] will provide” pursuant to the RIO. A general statement that SingTel will provide Interconnection Related Services (“IRS”) on a non-discriminatory basis is not sufficient. Rather, the RIO must provide objective service quality standards – such as grade of service and network availability. The RIO must also include a description of the ways in which SingTel’s compliance with these standards will be measured, such as the provision of monthly monitoring reports. The RIO must further provide a description of the procedures SingTel will use to remedy any service quality deficiencies disclosed by the monitoring process. Finally, the RIO must specify the remedy that SingTel will provide the Requesting Licensee if it fails to meet the quality standards. IDA notes that SingTel need not provide a remedy for every failure to meet a service quality standard. Rather this provision is intended to cover “material” breaches that impact adversely the ability of the Requesting Licensee to provide competitive telecommunications services. The RIO may apply the same approach to Origination, Transit and Termination Services that the Requesting Licensee provides to SingTel.

4. Element D – Prevention of Harm to the Network

The RIO must describe “any operational or technical requirements that the Requesting Licensee must comply with to prevent harm” to SingTel’s network. A general statement that a Requesting Licensee must not take actions that would have an adverse impact on SingTel’s network is not sufficient. Rather, the RIO must contain specific and objective standards that will enable the Requesting Licensee to know: (a) when an action will be deemed to cause unacceptable physical or technical harm to SingTel’s network and (b) what actions the Requesting Licensee must take to avoid causing unacceptable physical or technical harm to SingTel’s network. The RIO may, however, include procedures for addressing harm to the network from sources that it cannot reasonably anticipate at the present time. IDA notes that the term “harm” is to be construed narrowly. This term refers to serious, adverse consequences that result from failing to comply with appropriate technical or operational requirements.

5. Element G – Number Portability

SingTel must add procedures that will allow for the “porting” of 1-800 and 1-900 numbers.

6. Element H – Compensation for Origination, Transit and Termination Services (“O/T/T”)

The proposed RIO contains the prices, terms and condition on which SingTel will provide O/T/T services to Requesting Licensees. However, the proposed RIO does not specify the terms on which SingTel will obtain O/T/T service from Requesting Licensees. SingTel must amend its proposed RIO to address this issue. In the case of fixed-to-fixed interconnection, the terms proposed by SingTel should be symmetrical – *e.g.*, SingTel should offer to compensate the Requesting Licensee at the same rates that the Requesting Licensee compensates SingTel. *See* Code Appendix One § 3.2.1.

7. Element I – Provision of Unbundled Network Elements and Unbundled Network Services

The RIO must contain “a list and description . . . of the Unbundled Network Elements and Unbundled Network Services that the Dominant Licensee will provide to Facilities-based Requesting Licensees”. Appendix Two of the Code elaborates on the UNE/UNS Element specified in sub-section 5.3.2(i). As required by Appendix Two, SingTel has offered to provide loops, sub-loops, line sharing, internal wiring, and access to building Main Distribution Frames. SingTel apparently has not offered to provide access to roadside cabinets and exchange MDF. *See* Code Appendix Two § 5.3.4. SingTel must do so in its revised proposed RIO. In addition, as further required by Appendix Two of the Code, the revised proposed RIO must include: (a) the “major elements” of spectrum management and deployment plan to facilitate line sharing and (b) a description of the process by which SingTel will allocate MDF pins to Requesting Licensees. *See* Code Appendix Two §§ 5.3.3.4 & 5.3.4.2.

8. Element J – Means by Which a Requesting Licensee May Co-locate Equipment

The RIO must specify “the locations at which physical co-location is available”. Sub-section 4.2.1 of Appendix Two lists the minimum locations that must be specified. SingTel’s proposed RIO has failed to provide for co-location at telecommunications rooms located in commercial or residential buildings or roof space of exchange buildings. The RIO also must contain: (a) procedures that will allow the Requesting Licensee to have “full access 7 days per week, 24 hours per day” to, and physical control over, its equipment (Code § 5.3.5.5.1); (b) procedures for virtual co-location, in the event physical co-location is not technically feasible (Code § 5.3.5.5.1); (c) a procedure by which the SingTel verifies that “it has taken reasonable measures to provide adequate space” for co-location (including re-arranging its equipment in a more efficient manner and, where necessary, upgrading its facilities) (Code § 5.3.5.5.2); (d) procedures to allow a Requesting Licensee to physically inspect any location where SingTel claims that space limitations preclude co-location (Code § 5.3.5.5.2); and (e) a provision stating that, if space is available, the Requesting Licensee may co-locate any piece of “equipment . . . that will enable the . . . Requesting Licensee to interconnect” (Code § 5.3.5.5.4). SingTel must revise the proposed RIO to satisfy these requirements.

9. Element K – Essential Support Facilities

The RIO must provide that SingTel will offer to provide access to three categories of Essential Support Facilities: (a) “ducts and trenches . . . that house the copper, coaxial and fibre cables in the backbone, inter-exchange and access portions of [its] telecommunications network (Code Appendix Two § 4.2.2.1); (b) “space within cable risers in commercial and residential buildings” (Code Appendix Two § 4.2.3); and (c) “masts, towers and poles” (Code Appendix Two § 4.2.4). SingTel’s proposed RIO offers to provide access only to a limited category of lead-in ducts and towers. SingTel must revise the proposed RIO to comply with the Code.

10. Element M – Provision of Interconnection Related Services Specified in the RIO

The RIO must describe the means by which a Requesting Licensee can order the IRS that are currently specified in the RIO. This should include the name, address, telephone number, facsimile numbers, or email address of the SingTel office or employee that the Requesting Licensee should contact. The RIO must also specify the maximum number of days from the time the Requesting Licensee orders an IRS to the day on which the IRS is provisioned in working order. The RIO may specify a different number of days for different IRS. This should be expressed as a binding commitment, rather than a promise to use “reasonable endeavours”. In addition, the RIO must specify the procedures by which a Requesting Licensee can report operational and technical problems with an IRS that has previously been provisioned. The RIO must also specify the maximum amount of time (in hours or days) from the time the Requesting Licensee reports an operational or technical problem to the time by which SingTel will resolve the problem. The RIO may specify a different number of days for different types of problems, different severity of problems (*e.g.*, emergency and non-emergency), and for different IRS. Finally, the RIO must provide a description of the ways in which SingTel’s compliance with the service provisioning and problem resolution standards will be measured, and the remedy that SingTel will provide the Requesting Licensee if it fails to meet these standards. Here, again, SingTel need not provide a remedy for every failure to meet a specified standard. Rather, this provision is intended to cover serious or persistent delays that impact adversely on the ability of the Requesting Licensee to provide competitive telecommunications services.

11. Element N – Requests for Provision of Interconnection Related Services Not Specified in the RIO

The RIO must describe the means by which a Requesting Licensee that has accepted the RIO can request SingTel to provide IRS that are not specified in the RIO. This should include: the procedures for requesting provision of new IRS (including the details of the SingTel office or employee that the Requesting Licensee should contact and the information that the Requesting Licensee must provide); the number of days SingTel will require to evaluate the request; and the standard that SingTel will use to determine whether to grant the request. Consistent with the Code, SingTel must offer to provide, as an Unbundled Network Element or Unbundled Network Service, any network element or service that is “technically or operationally required to provide [a] competing [telecommunication] service and cannot be replicated, or obtained from any

sources other than [SingTel], at commercially reasonable rates”. Code § 5.3.5.3. Pursuant to subsection 5.3.5.6 of the Code, SingTel must offer to price at cost-based levels any new IRS that it provides.

Additional Provisions

In addition to the above, SingTel must include the following provision in its RIO:

1. Interim RIO

Pursuant to subsection 5.5.3 of the Code, the RIO must provide a procedure whereby a Requesting Licensee that has submitted a request to negotiate an Individualised Interconnection Agreement can obtain IRS from SingTel – on an interim basis – pursuant to the prices, terms and conditions specified in the RIO.