STARHUB SUBMISSION
ON SINGTEL'S PROPOSED REFERENCE INTERCONNECTION OFFER

15 November 2000

1. DESCRIPTION OF THE COMMENTING PARTY AND ITS INTEREST IN THE PROCEEDING

1.1 Description of commenting party

StarHub Pte Ltd and StarHub Mobile Pte Ltd were awarded a Public Basic Telecommunication Services (PBTS) licence and a Public Cellular Mobile Telephone Services (PCMTS) Licence respectively on 5 May 1998.

StarHub launched its commercial PBTS and PCMTS services on 1 April 2000. StarHub acquired CyberWay (now StarHub Internet) for the provision of Public Internet Access Services in Singapore on 21 January 1999.

This response to the IDA's Consultation Paper on SingTel's Proposed Reference Interconnection Offer dated 30 October 2000 (**RIO**) represents the views of the StarHub group of companies, namely, StarHub Pte Ltd, StarHub Mobile Pte Ltd and StarHub Internet Pte Ltd.

1.2 Interest in the proceedings

StarHub has been dealing with the incumbent, SingTel, for about two years and is in a unique position to comment on the problems faced by new entrants seeking interconnection and other Interconnect Related Services (**IRS**) from an incumbent. StarHub supports appropriate regulatory intervention to ensure that the RIO allows for interconnection on reasonable terms, which also comply with the Telecom Competition Code (**TCC**).

1.3 General comments

StarHub appreciates the opportunity provided by the IDA for members of the industry and the public to comment on the RIO and its potential impact on their businesses.

The TCC requires SingTel to produce a reference interconnection offer, which, amongst other things, is comprehensive and modular. The proposed RIO is indeed comprehensive and modular and could be used as a basic interconnection agreement for a Requesting Licensee that is prepared to accept its terms. However, there are a number of RIO provisions that do not comply with the TCC. Further, some of the schedules governing supply of IRS contain unnecessary terms and conditions that will unduly restrict competition.

Given the size and complexity of the RIO and the time available for comments, StarHub has focused its comments on key areas where it considers that a Requesting Licensee may face difficulty negotiating with SingTel. We also comment upon provisions that would be damaging to competition in the industry as a whole.

2. EXECUTIVE SUMMARY

StarHub considers that there are a number of RIO provisions requiring amendment to comply with the letter and spirit of the TCC. In particular, StarHub stresses its concern with the following provisions:

- *Transit restrictions* – The RIO does not expressly require SingTel to provide transit where a call is originated or terminated by a party hubbing behind the Requesting Licensee or Third Party Network. This creates an ambiguity, which could have adverse consequences for achievement of any-to-any connectivity and the development of competition. To address this, there should be a clear requirement for SingTel to provide transit via its IGS, regardless of origin or destination of a call.

- *Cable station co-location without connection* – The RIO excludes provision of a connection service between co-located equipment in a cable station and international capacity of a Requesting Licensee. This means that a Requesting Licensee cannot enjoy the benefits of mandated co-location without first attempting to negotiate a commercial connection service agreement. To ensure that TCC co-location requirements are meaningful, SingTel should be required to provide the connection service under the RIO.

- *No connection to third party international capacity* – The RIO restricts cable station co-location to where a Requesting Licensee is connecting to its own capacity, whether invested or purchased through an IRU. Any commercial connection service agreement may also contain a similar restriction. This means that parties with international capacity will have no alternative to SingTel in relation to the supply of backhaul. SingTel's monopoly over this connection should be broken open by allowing Requesting Licensees to connect to third party international capacity.

- *Omission of duct sharing* – The RIO does not include obligations to share ducts and trenches in SingTel's backbone, inter-exchange and access network as required by the TCC. This omission should be addressed to ensure facilities-based competition is promoted.

Other amendments that we consider necessary include:

- inclusion of QoS commitments and compensation as required by the TCC;
- removal of the clause 4.1(g) restriction on supply of IRS where already supplied to a company related to the Requesting Licensee;
- an increase in the term of co-location arrangements, particularly in relation to cable stations, and more stringent preconditions for early termination by SingTel.

Other amendments to the RIO suggested in this submission should also be made.

3. KEY CONCERNS

In this section, StarHub sets out its key concerns with the RIO as presently drafted. Also, where the same issue arises under a number of RIO Schedules, we raise it here, rather than in our discussion of specific RIO provisions in section 4 of this submission.

3.1 Transit offering unreasonably restricts competition

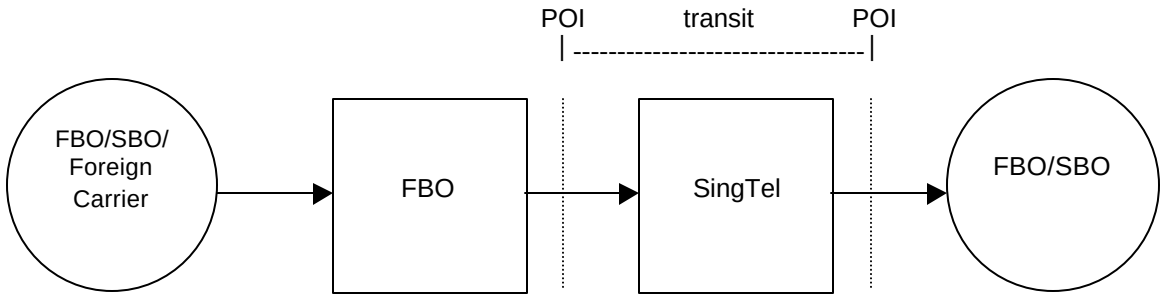
Schedule 2C of the RIO governs SingTel's provision of Call Transit Services (**transit**). StarHub submits that this schedule may be applied in a manner that unreasonably restricts the provision of transit to licensees directly and physically interconnected to SingTel. This is contrary to the IDA's any-to-any connectivity objective and will have an adverse effect on nascent competition in the market, as expanded on below.

Under the RIO, SingTel is only obliged to provide transit for calls from a Requesting Licensee in respect of a Third Party Network, where both are *directly* and *physically* interconnected to the SingTel Network (clause 1.4, Schedule 2C). This may have significant and adverse consequences:

- First, it allows SingTel to restrict transit in respect of calls *from* SBOs or FBOs who hub behind the Requesting Licensee. The originating SBO or FBO may instead have to directly interconnect with SingTel (**origination restriction**).
- Secondly, it allows SingTel to restrict transit in respect of calls *to* SBOs or FBOs who hub behind a third party network (**termination restriction**).
- Thirdly, it means that transit will not be provided to Requesting SBO Licensees who only have virtual interconnection, despite TCC obligations to provide transit to SBOs (section 1.5, Appendix 2).

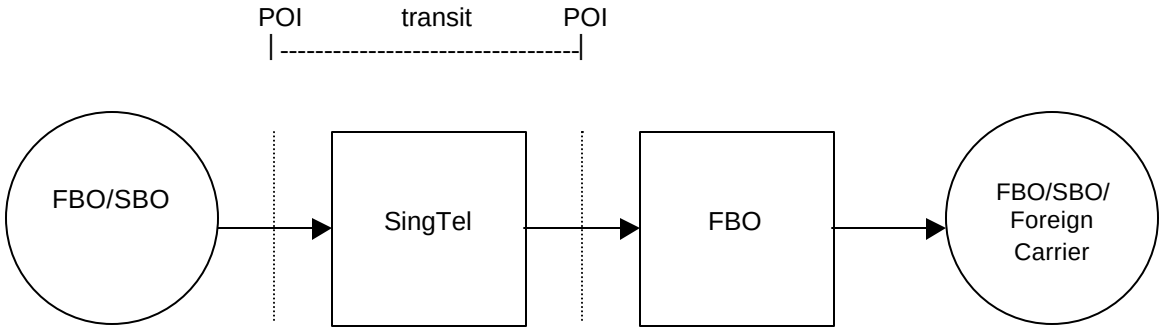
3.1.1 Origination and termination restrictions inconsistent with TCC

If SingTel is allowed to impose the origination restriction, transit will not available in the following scenario:



Note: FBO includes fixed and mobile operators

If SingTel is allowed to impose the termination restriction, transit will not available in the following scenario



Note: FBO includes fixed and mobile operators

StarHub believes that SingTel's transit origination and termination restrictions are inconsistent with Appendix 2 of the TCC. Section 3.2 of Appendix 2 allows SingTel to restrict its offer to *"transit services between Licensees interconnected to the Dominant Licensee's interconnection gateway switch*." The meaning of this restriction is amplified in the next sentence, which provides that SingTel *"need not offer to route transit traffic between the interconnection gateway switch ("IGS") and a local switch interconnection.*"

Section 3.2 does not allow SingTel to restrict transit to those Requesting Licensees *physically* interconnected to it. Nor does it allow SingTel to restrict transit to where *calls* (rather than the transit service) ultimately originate and terminate on networks that are directly interconnected to SingTel. Section 3.2 simply clarifies that SingTel is only required to provide transit via its IGS. In other words, transit should be available in the scenarios depicted in the above diagrams.

Schedule 2C of the RIO does not explicitly require that SingTel provide transit services in the above scenarios. StarHub is concerned that such an ambiguity could be exploited, allowing SingTel to restrict its obligation to supply transit on RIO terms where calls are originated by, or terminated to, licensees not directly interconnected with SingTel. We therefore submit that the RIO should be clarified to state that transit must be provided between licensees interconnected at IGS level, regardless of the origin or destination of a call. StarHub believes that this is necessary to ensure RIO compliance with the TCC. Further reasons why transit origination and termination restrictions should be removed are set out below.

3.1.2 Defeats any-to-any connectivity

StarHub submits that the transit origination and termination restrictions should be removed to ensure that there is any-to-any customer connectivity, as required by the TCC. Otherwise, customers of licensees that elect to hub behind a Requesting Licensee will be unable to communicate with customers of licensees that elect to hub behind SingTel. Further, removal of the restrictions is required to ensure any-to-any service connectivity. Customers of licensees that elect to hub behind a Requesting Licensee must be able to access the services of licensees that elect to hub behind SingTel.

3.1.3 Anti-competitive consequences

The transit origination and termination restrictions are also likely to have an anti-competitive effect. Licensees will either have to directly interconnect to all networks or directly interconnect to SingTel to obtain transit to others. This can be interpreted as an attempt by SingTel to restrict alternative sources of transit, which might otherwise constrain its dominance in relation to the supply of transit. The possibility of all licensees bypassing SingTel and obtaining direct interconnection with all other networks is not a realistic or sufficient constraint on SingTel's dominance in this regard.

3.1.4 Inconsistent with SBO origination/termination

StarHub also considers that removal of the origination and termination restrictions in respect of SBOs is necessary so that transit is regulated in a consistent manner with Call Origination and Termination Services. When a Requesting Licensee seeks transit from SingTel in relation to calls to or from SBOs, this request should be treated in the same way as where that licensee seeks origination or termination from SingTel for such calls.

Section 3.2 of Appendix 1 of the TCC provides, in essence, that:

- Call origination services are those which convey calls from SingTel customers and up to the POI where they are handed across to the Requesting Licensee's network. This is to allow SingTel customers to use services provided by that Requesting Licensee *or SBOs that are connected to it*.

- Call termination services are those which convey calls originated by a customer of a Requesting Licensee *or SBOs that are connected to it*, from the POI with the Requesting Licensee's network to the SingTel network. This is to allow the Requesting Licensee's or SBO's customers to communicate with parties connected to SingTel.

The TCC therefore requires that SingTel be indifferent as to whether an SBO is ultimately originating or terminating the call. This is entirely appropriate since there is no real difference in the cost or technical requirements of providing origination or termination in these scenarios. It is StarHub's submission that, where SingTel is supplying transit, SingTel should be similarly indifferent as to whether or not an SBO is ultimately originating or terminating a call. It should be sufficient that the handover of the transit portion of the call is to or from the relevant network POI.

3.1.5 Suggested amendments

The following amendments to the RIO are necessary to ensure that there are no ultimate origination or termination restrictions on SingTel's supply of transit:

> *1.4 SingTel shall only provide the Call Transit Service under this Schedule:*
>
> *(a) ~~to~~ between a Requesting Licensee's POI with SingTel and; and*
>
> *(b) ~~in respect of~~a Third Party Network's POI with SingTel,*
>
> *via SingTel's IGS. ~~which are directly and Physically Interconnected to the SingTel Network.~~*

A new clause 1.2 should also be inserted for clarity:

> *1.2 For the avoidance of doubt, Transit Interconnected Calls include Call Types originated or terminated by parties other than the Requesting Licensee or Third Party Networks where the process in clause 3 has been followed.*

StarHub also submits that a new provision should be included in clause 3 to ensure that SingTel cannot refuse to supply transit in relation to other licensees:

> *3.5 SingTel must include a Call Type as a Transit Interconnected Call if the conditions for providing the Call Transit Service in clause 1.4 are met.*

3.2 Potential restriction on Call Origination and Termination Services

3.2.1 Call origination

Schedule 2A of the RIO recognises that a Requesting Licensee, who is not directly connected to SingTel, may obtain the Call Origination Service by way of transit through a Third Party Network. In other words, an FBO or SBO hubbing behind a directly connected FBO can request the service (see, for example, clause 5.1.2).

However, it is not clear that the RIO allows the directly connected FBO to request the Call Origination Service in the same situation, in order to terminate calls to those licensees hubbing behind it. StarHub is therefore concerned that the RIO may allow SingTel to impose a restriction on provision of Call Origination Service to where calls terminate on the Requesting Licensee's network. A Requesting Licensee could not then hand over calls to licensees hubbing behind it. As discussed above in relation to transit, this would have an adverse impact on the achievement of any-to-any connectivity and the development of competition generally.

StarHub notes that the definitions of "Call Origination Service" and "Originating Interconnected Calls" do not contain this restriction. However, Annexes 2A-2 and 3 of Schedule 2A refer to the service as involving termination on the Requesting Licensee's Network. We are concerned that this creates ambiguity.

3.2.2 Call termination

There is similar ambiguity in relation to the Call Termination Service. This may allow SingTel to restrict the origin of Terminating Interconnected Calls for which it will provide the Call Termination Service. Annexes 2B-2 and 3 of Schedule 2B refer to the service as involving termination of calls originating from the Requesting Licensee's network. Further, SingTel has required in Annex 2B-1 of Schedule 2B, that a Requesting Licensee must inform SingTel of the origins of calls that SingTel is to terminate.

In addition, there is no provision in relation to the Call Termination Service reflecting the TCC requirement to provide the service to indirectly connected licensees (as compared to clause 5.1.2 of Schedule 2A). However, an FBO or SBO hubbing behind an FBO directly connected to SingTel should be an eligible Requesting Licensee for the Call Termination Service.

StarHub is also concerned with the charging principles in clause 5 of Schedule 2A. These suggest that where SingTel originates a call to a licensee hubbing behind a directly connected FBO, this may not be treated as a Call Origination Service that the directly connected FBO can acquire. In other words, SingTel will not be indifferent to where a call that originates on its network is terminated, despite the fact that this is required by the TCC (see above).

As with transit, StarHub submits that SingTel should be indifferent as to where the call originates or terminates, provided it is handed over to or by the Requesting

Licensee at the relevant POI. The suggested restrictions in Schedules 2A and 2B should therefore be deleted.

3.2.3 Suggested amendments

To avoid any ambiguity, which would have adverse effects if exploited, StarHub submits that the following provision should be inserted in clause 1 of Schedule 2A:

> *1.2 For the avoidance of doubt, Originating Interconnected Calls include Call Types:*
>
> *(a) where the Requesting Licensee is either directly or indirectly interconnected to the SingTel Network;*
>
> *(b) which are terminated by parties other than the Requesting Licensee,*
>
> *for which the process in clause 3 has been followed.*

Similarly, the following provision should be inserted in clause 1 of Schedule 2B:

> *1.2 For the avoidance of doubt, Terminating Interconnected Calls include Call Types:*
>
> *(a) where the Requesting Licensee is either directly or indirectly interconnected to the SingTel Network;*
>
> *(b) which are originated by parties other than the Requesting Licensee,*
>
> *for which the process in clause 3 has been followed.*

3.3 Omission of duct sharing

3.3.1 Inconsistent with TCC

StarHub is concerned that the RIO does not comply with SingTel's legal obligation to share ducts as an Essential Support Facility (**ESF**). Section 4.2.1, Appendix 2 of the TCC is unambiguous in defining the ducts and trenches that need to be shared as being those "*in the backbone, inter-exchange and access portions of the telecommunications network*." To this end, the IDA has already mandated the price for sharing ducts in the trunk and other portions of SingTel's network. However, the RIO only includes provision of lead-in duct as an ESF. SingTel has made no offer to supply ducts generally.

StarHub notes that the TCC deals with lead-in duct as a separate matter to ESF obligations to share duct. Appendix 2 of the TCC discusses lead-in duct access as part of SingTel's obligation to provide Physical Interconnection. Lead-in duct is classified as a POA, which must be provided to access ESF and UNE. Clearly, this

cannot be interpreted as restricting the obligation to share ducts generally as an ESF.

It is critical that the IDA enforce the TCC duct sharing requirement for a number of reasons:

- First, it should require duct sharing so that facilities-based competition will be promoted. Duct sharing allows new entrants to roll out their networks quickly, without the need for various consents to dig up ground in order to lay ducting or to share utility ducts. Such consents may take time to obtain and, in some cases, may not be forthcoming.

- Secondly, duct sharing should be required for environmental/public interest reasons. It is a preferable alternative to requiring new FBOs to dig up streets and overbuild each other when there is existing capacity in SingTel's ducting system.

- Thirdly, the IDA should send the correct signals to SingTel that it must comply with the TCC.

- Fourthly, the IDA must make clear to new entrants that it will properly enforce the regime and create an environment that engenders investor confidence.

3.3.2 Suggested amendments

StarHub therefore strongly submits that the IDA should require SingTel to prepare a duct-sharing module as part of Schedule 5 of the RIO, which deals with ESF. This should be made available for public comment before finalisation. It should apply to all ducts and trenches.

The duct-sharing schedule should include minimum obligations, which are in line with the TCC. For example, the presumption should be that sharing is the right of another FBO. The onus to establish that capacity is constrained should be on SingTel.

3.4 Restrictions on Cable and Satellite Station Access

3.4.1 Connection service necessary to make access meaningful

Licensees require access to cable stations in order to connect their networks to international capacity. Hence, the TCC mandates co-location at cable stations so that licensees can co-locate necessary equipment. However, this is insufficient to ensure connection to international capacity. There is still a need to obtain a link or connection service between the co-located equipment and the relevant capacity. Otherwise, there is no point in having co-location at the cable station.

Despite the need for connection, Schedule 8D of the RIO specifically excludes provision of a connection service and requires that this be obtained under a separate commercial agreement. This agreement will have to be with SingTel as SingTel

requires use of its own connection service. SingTel will not allow a Requesting Licensee to bypass it and provide the connection service itself. In other words, SingTel has a monopoly over the connection service. A Requesting Licensee has no negotiating power in seeking its supply. As a result, regulatory intervention is necessary to prevent SingTel from taking advantage of its monopoly.

Given that SingTel requires its connection service to be used as part of obtaining cable station access, it should be required to provide it on the same regulated terms. Otherwise, mandating cable station co-location under the RIO will not remove the restrictions that a new entrant faces in obtaining access to its international capacity.

The connection service should also be included in the RIO to ensure that the RIO is an effective regulatory document. The whole rationale for a RIO is to allow new entrants to obtain the benefit of IRS in an expeditious manner, without further negotiation. However, if the connection service is not included in the RIO, Requesting Licensees will not be able to benefit from cable station co-location unless they are able to negotiate a separate connection service agreement. This would fall outside the TCC and so SingTel would be free to impose any prices, terms and conditions in relation to its supply. It may therefore take some time to negotiate a commercially acceptable connection service agreement, if achievable at all.

StarHub notes that these same concerns arise in relation to access to satellite stations under Schedule 8C.

3.4.2 Suggested amendments

To address the above concerns, a new section should be inserted in Schedules 8C and 8D, which sets out SingTel's obligations to supply a connection service. Minimum obligations should include:

- no restriction on connection to third party international capacity;
- specified lead time to activation of circuits, which should be no longer than that provided for by the various cable systems' or satellite operators' procedures for circuit activation;
- service level guarantees; and
- direct connection service at cost-based prices.

Clauses 1.3 of Schedule 8C and 1.4 of Schedule 8D should also be deleted to remove the exclusion of connection services from the scope of the RIO.

3.4.3 Removal of anti-competitive restrictions

StarHub submits that the IDA should prevent SingTel from imposing unreasonable terms in relation to the connection service and cable station access. Such terms are likely to have an adverse impact on the ability of other licensees to take advantage of

mandated cable station co-location. More importantly, they may restrict competition at the wholesale level of telecommunications markets.

As an example, the RIO currently restricts use of co-location equipment by requiring that it only be used for the purpose of connecting to the Requesting Licensee's own capacity (invested or purchased through an IRU). Such a restriction may also be imposed as a condition of connection service agreements. This would mean that a Requesting Licensee could not connect to third party IRUs or international capacity and so will be unable to compete with SingTel to provide backhaul services. There are no technical reasons why connection between Requesting Licensee and third party international capacity should be prohibited in this way.

The IDA should therefore require the RIO to be amended so that other FBOs can compete to provide backhaul to operators who do not construct their own facilities. This will reduce SingTel's monopoly on international access and facilities and promote competition in international services.

3.4.4 Suggested amendments

The restrictions on connection to third party international capacity should be removed as follows:

> *1.2 For access to Co-Location Space at Submarine Cable Landing Stations / Frontier Stations, the Requesting Licensee must have acquired or entered into the following before SingTel will provide such access at those places:*
>
> *(a) an indefeasible right of use (IRU) holder to access their acquired capacity of the relevant submarine cable system; or*
>
> *(b) as a cable owner of the landed submarine cable system to access their own capacity of the relevant submarine cable system; or*
>
> *(c) as an FBO to access their leased capacity of the relevant submarine cable station; or*
>
> *(d) ~~.~~as an FBO to access capacity of the parties in paragraphs (a), (b) and (c) in order to provide those parties with backhaul services.*
>
> *1.3 The Co-Location Space is solely for the purpose of the Requesting Licensee to access the respective submarine cable system landed in the station.*

Similar provisions should also be included as part of connection service arrangements.

StarHub suggests more detailed amendments to Schedules 8C and 8D in section 4 of this submission.

3.5 Ill-defined over-forecasting penalties

3.5.1 Need for clear calculation

SingTel has the right, under most of the RIO schedules, to impose penalties where forecasts are above actual capacity requirements. This is a concern, given that:

- the allowance for deviation from forecasts is unduly limited to 10%;
- the formula for determining the Schedule 9 over-forecast charge has not been specified.

StarHub considers that it is extremely important that, if over-forecasting penalties are permitted, they should allow for a reasonable margin of error. This is particularly so given that there is limited right or flexibility to seek additional capacity once a forecast has been provided. This means that parties cannot afford to take an overly cautious forecasting approach either. We consider that a far more reasonable percentage would be 30%.

It is also critical that the RIO specify a reasonable process to calculate the applicable percentage. SingTel has attempted, in the RIO, to base penalties on actual usage of the E1s installed to meet the capacity commitment. StarHub submits that the appropriate methodology would be to base penalty calculations on unused capacity, rather than the entire forecasted provision. There should also be a standard method for measuring circuit utilisation, given that there are many different parameters in a forecast. We submit that the standard measure should be based on total call volume.

The RIO over-forecasting penalties must also be reasonable since SingTel may attempt to use them as a precedent for similar provisions in other agreements. More importantly, the IDA should require that they be reasonable and well defined so that they do not constitute illegal penalties. The over-forecasting penalties must be calculated by reference to any losses that SingTel may suffer as a result of providing Requesting Licensees with capacity that they do not use.

3.5.2 Suggested amendments

As noted above, the following amendments should be made to the various RIO over-forecasting provisions:

- The trigger for over-forecasting charges should be where 30% or more of capacity is unused.
- Penalty calculations should be based on this unused capacity, with the standard measure for circuit utilisation being total call volume.
- The penalty should relate to losses likely to be suffered by SingTel.

3.6 Termination of supply of IRS without IDA approval

3.6.1 Evasion of TCC requirements

The TCC requires that SingTel seek IDA approval prior to any unilateral suspension or termination of an interconnection agreement. The RIO similarly requires IDA approval in relation to the RIO document itself. However, in relation to its actual substance – the supply of IRS – the RIO allows SingTel to suspend and terminate without IDA approval and, in some cases, without cause.

As a result, SingTel would be in a position to effectively terminate supply of an IRS by terminating all specific supply arrangements under a schedule, while complying with the letter of the law by keeping the relevant schedule on foot. In other words, SingTel has made an artificial distinction between the RIO and supply agreements entered into pursuant to it, such as UNE and ESF licences. This allows evasion of TCC requirements and means there is little point in having the protection of IDA approval for RIO termination. The IDA cannot have intended such a result when drafting the TCC.

StarHub therefore submits that SingTel should not only be required to seek IDA approval to suspend or terminate the RIO or any schedule thereof, it should also have to seek approval to suspend or terminate the actual supply of IRS pursuant to a schedule. Furthermore, the rights to suspend or terminate should only be triggered where there is strong justification to do so. For example, there should be no termination right without cause, for non-material events of default or simply because SingTel has decided to use the IRS for itself. Such provisions are currently included in RIO schedules and should be deleted.

StarHub also considers that where SingTel purports to terminate for cause, such as on the grounds of adverse network impact (eg. clause 7.3(d) of Schedule 8) or "unsuitability" (eg. clause 7.3(i) of Schedule 8), SingTel should be required to provide written justification for its position. This will ensure that termination processes are transparent and SingTel is accountable for wrongful termination.

It is essential that a consistent approach be taken as between the suspension and termination provisions of the relevant IRS schedule and the specific IRS supply arrangements. This will ensure that the protection intended by the requirement for IDA approval has effect.

3.6.2 Suggested amendments

To summarise, termination provisions should be amended to the following effect:

- IDA approval must be sought for unilateral suspension and termination of the RIO, any schedule and supply of any IRS pursuant to a schedule.

- Rights to suspend or terminate should only be triggered where there is strong justification to do with the onus on SingTel to establish this.

- Termination rights without cause, for non-material breaches, or where SingTel wishes to use the IRS itself, should be deleted.

3.7 SingTel attempt to determine law as termination trigger

3.7.1 Contrary to IDA policy

StarHub submits that the SingTel RIO is inconsistent with the IDA's proposed Direction on the Scope and Meaning of the Telecommunications Act 1999, dated 28 February 2000. This proposed Direction provides that licensees must not purport to determine the scope or meaning of the *Telecommunications Act* or any regulations or rules issued pursuant to it. The IDA clarified that it is the body who will determine whether any acts contravene these rules, rather than a licensee.

In contrast, the RIO provides that SingTel may determine whether a licensee is in contravention of applicable laws, which clearly include the *Telecommunications Act* and associated rules and regulations. Under the main RIO, this triggers SingTel's right to suspend or terminate the RIO or any schedule (clauses 12.1(e) and 13.1(g)). Under most of the Schedules (for example Schedule 8D, 7.3), it also triggers SingTel's right to terminate supply of particular IRS.

The problem with these provisions is that SingTel has given itself the right to determine when the trigger is pulled. The SingTel RIO does not provide that the Requesting Licensee's conduct must *actually* contravene an applicable law. Rather, the relevant trigger in the RIO is whether SingTel is of the *opinion* it does. In some cases, the RIO specifies that SingTel's opinion must be reasonable. However, the main RIO provisions allow SingTel to freely determine that there has or may be a contravention, without any requirement for reasonableness.

StarHub submits that this is inconsistent with the IDA's previously expressed policy. It is also unacceptable that SingTel be able to avoid its mandated IRS supply obligations by unreasonably determining that a law may be contravened.

3.7.2 Suggested amendments

All such 'determination of law' clauses should therefore be deleted. If included, at a minimum, they should be amended so that the relevant trigger is an actual contravention of law as determined by the relevant authority.

3.8 Illegal penalties for early termination of access rights

3.8.1 Penalties unrelated to loss

SingTel has imposed unreasonable penalties for early termination of most IRS supply arrangements. As a standard penalty, RIO schedules require that a Requesting Licensee pay all charges for the remainder of the term ie, as if the agreement had not been terminated. The SingTel RIO treats it as irrelevant whether

termination was at SingTel's election or in no way due to fault of the Requesting Licensee. The RIO also disregards how far into the term of the agreement the parties were before termination.

To be legal, an early termination penalty must be reasonably related to the loss or costs that will be incurred by SingTel as a result of termination by the Requesting Licensee. If termination is at SingTel's election, then no penalty should be payable since the Requesting Licensee has not caused any loss. Also, if the agreement has only been on foot for a short time, it may be unreasonable to require a Requesting Licensee to pay charges for the remainder of the term. SingTel would have the opportunity to license the relevant space to third parties and mitigate any losses.

We point out the following illegal penalty clauses, which apply even if termination is not triggered by the Requesting Licensee:

- Schedule 3A (Local Loop), cl 15.6 – charges for remainder of term
- Schedule 3B (Line Sharing), cl 14.8 – charges for remainder of term
- Schedule 3D (Building MDF), cl 16.6 – charges for remainder of term
- Schedule 5A (Lead-in duct), cl 20.3 – charges for remainder of term
- Schedule 5B (Tower Co-Location), cl 12.8 – charges for remainder of term
- Schedule 7A (Dark Fibre), cl 17.3 – charges for remainder of term
- Schedule 7B (IPLC), cl 14 – 20% of charges for remainder of term where terminated early. Also where IPLC request cancelled before commissioning (clearly, SingTel will not incur the same loss in this scenario). Schedule 9 allows SingTel to increase the %.
- Schedule 8A (POI Co-location), cl 7.8 – charges for remainder of term
- Schedule 8B (Co-Location for POA), cl 7.8 – charges for remainder of term
- Schedule 8C (Satellite Station Co-Location), cl 7.8 – charges for remainder of term
- Schedule 8D (Cable Station Co-location), cl 7.8 – charges for remainder of term

3.8.2 Suggested amendments

All of these penalty provisions should be deleted. Alternatively, if the IDA permits their inclusion in the RIO:

- it should be clear that penalties are only payable where the Requesting Licensee terminates the agreement;

- a formula or genuine estimate of loss should be specified, with SingTel also required to mitigate any losses.

3.9 Restrictions on eligible FBOs

SingTel has restricted its obligation to supply IRS under a number of schedules to where Requesting Licensees provide wireline or broadband services. For example, this restriction applies to tower sharing yet one of the drivers for tower sharing should be to avoid duplication of mobile towers by wireless operators. StarHub is unaware

that the IDA has specified eligibility requirements of this nature for IRS. They do not appear in the TCC or any other IDA document that we have seen.

We therefore consider that these SingTel restrictions are in breach of the TCC and should be deleted.

3.10 Lack of interim/immediate RIO option

The TCC contemplates that Requesting Licensees be in a position to immediately accept the terms of the RIO and to use it as an interim arrangement, if required. The draft SingTel RIO contravenes these requirements by establishing an onerous and drawn out pre-qualification process, under which SingTel has wide powers to refuse to enter an RIO agreement. This is inconsistent with the TCC concept of the RIO as an offer, which Requesting Licensees can choose to accept.

Such provisions should be amended to comply with the TCC requirements.

3.11 QoS obligations

StarHub also notes that section 5.3 of the TCC requires the SingTel RIO to include QoS obligations, including in relation to measurement and rectification. It also requires compensation to be provided for failure to meet QOS standards. There is a marked absence of such QoS provisions from the RIO.

StarHub strongly submits that SingTel be required to redraft the RIO to include QoS obligations for all IRS.

3.12 Reasonable decision-making

There are numerous RIO provisions allowing SingTel to determine matters in its own opinion, without the need to act reasonably. This means it can act in a high-handed manner and Requesting Licensees will have no remedy.

StarHub submits that a general provision should instead be included in the main body of the RIO to the effect that SingTel must act reasonably in exercising rights under the RIO. To the extent that SingTel can establish it should be free to act unreasonably in relation to a particular section, the IDA could permit SingTel to specifically exempt that particular section from the overall reasonableness requirement.

4. COMMENTS ON SPECIFIC SECTIONS

4.1 Main agreement

4.1.1 Clause 4.1 (g) - Supply to related licensees

The RIO allows SingTel to refuse provision of IRS to a Requesting Licensee where SingTel is already supplying such services to that licensee, a subsidiary, or its holding company. This is a totally illogical restriction, given that related licensees are different entities with different requirements for IRS. Provision of services to one licensee does not amount to provision to a related licensee.

This RIO restriction has a particularly adverse impact in relation to transit. The RIO currently restricts provision of transit to those directly connected to SingTel. Therefore a refusal to allow a licensee to directly connect and acquire transit from SingTel in the same way as a related licensee with direct connection would be anti-competitive.

A licensee should also be permitted to acquire the same category of IRS as it acquires under a separate agreement. For example, an FBO should be free to determine that its existing agreement is unsatisfactory in relation to supply of a type of IRS and for new requirements it will enter into the RIO. This may be permitted by clause 4.1 (g) but StarHub would prefer to see any doubt removed.

StarHub therefore submits that clause 4.1(g) should be deleted.

4.1.2 Clause 13 - Termination

There is no provision in the RIO for a Requesting Licensee to terminate the RIO or any Schedule. Nor is there any provision for a Requesting Licensee to terminate supply of a particular IRS under a Schedule. StarHub submits that the Requesting Licensee should have termination rights.

The RIO is not a reciprocal interconnection agreement. As an acquirer rather than a supplier under the RIO, the Requesting Licensee must have freedom to terminate. For example, it may find itself in a position to acquire IRS elsewhere or to build its own facilities. SingTel agreement to termination in these circumstances should not be necessary. At most, SingTel should be provided with a short period of notice.

A new clause 13.1 should therefore be inserted as follows:

> *The Requesting Licensee may terminate the entire RIO Agreement, any Schedule thereof, or supply of any IRS under a Schedule by providing 1 month's notice, or 3 months' notice in the case of termination of the entire RIO Agreement.*

If the IDA intends TCC requirements for IDA approval of termination to apply even where it is the Requesting Licensee who is terminating arrangements, this could also be included in the proposed clause.

4.1.3 Clause 15 – Liability

StarHub considers that this clause is generally unreasonable. At a minimum, the following should be amended:

- Clause 15.4 should be amended to provide that the liability caps apply on a per year basis rather than for the term of the RIO;

- Clause 15.9 should be amended to provide that parties will still be liable where they have contributed to delay or failure of a third party supplier or that delay was foreseeable.

4.1.4 Clause 19 – Reciprocity

SingTel has attempted to impose symmetrical interconnect obligations on other licensees, despite the clear asymmetric regulation of Dominant Licensees such as SingTel under the TCC. Clause 19 provides that, at SingTel's election, a Requesting Licensee must offer SingTel the same IRS, on the same terms, as in the RIO. This effectively means that the RIO is forced upon others as the document governing their supply of IRS, despite the fact that the TCC is meant to encourage commercial negotiations by non-dominant licensees.

Worse still, SingTel's reciprocity right is not restricted to those IRS which other licensees are required to provide under the TCC. It would, for example, allow SingTel to force non-dominant licensees to supply dark fibre, IPLCs, UNE and ESF.

StarHub considers that a Requesting Licensee must be able to reject a SingTel request for reciprocity. A Requesting Licensee should not be required to offer the same terms, given that it is regulated on a different basis and that it may also have different technical, operational or commercial requirements.

We submit that clause 19 must be deleted.

4.2 Schedule 3A – Local loop/sub loop

StarHub submits that the IDA should require SingTel to redraft Schedule 3A to comply with the TCC and, in particular, Appendix 2. Sections 5.3.1 and 5.3.2 of Appendix 2 mandate that the SingTel RIO must include various QoS obligations. These include:

- SingTel must offer to construct additional loops with the same performance quality as existing loops;

- loops must be conditioned so that they are suitable for digital signal transmission; and

- loop provisioning must be timely and non-discriminatory.

The RIO contains none of these QoS obligations. StarHub submits that SingTel should be required to include amendments to Schedule 3A that closely mirror the provisions in Appendix 2 of the TCC.

4.3 Schedule 3B – Line sharing

4.3.1 Clause 1 – Scope

Clause 1 provides that line sharing may only be used to provide xDSL services to Customers. StarHub is concerned that this restriction may be interpreted inconsistently with the TCC. It suggests that SingTel will not allow resale to other Licensees whereas section 5.2, Appendix 2 of the TCC states that SingTel may not impose resale restrictions in relation to other FBOs or SBOs. We suggest that all references be to use of line sharing in providing xDSL services *"to the Requesting Licensee's Customer or another Licensee*."

This key clause also includes a number of defined terms, such as Line Share, Shared Line and POTS, which have not, in fact, been defined in Schedule 12. StarHub submits that if definitions are to be included, they must not derogate from SingTel's obligation to allow Requesting Licensees to use the high frequency portion of local loop for xDSL as required by the TCC.

4.3.2 Clause 2 – Availability

Clause 2.1 limits line sharing licences to individual pairs. StarHub submits that licensing of multiple pairs should be permitted, for example, where a customer has multiple lines.

Clause 2.2 is unacceptable from both a competitor and consumer perspective. It provides that SingTel may dictate that line sharing is 'unavailable' if a customer has applied for, or is, a SingTel xDSL subscriber. However, simply because a customer has at some stage applied for SingTel xDSL does not mean that the Requesting Licensee should be unable to provide it with xDSL services. Even where it is an existing SingTel xDSL customer, it should be possible for the customer to change its mind and subscribe to the Requesting Licensee instead. This clause is also dangerously drafted because it allows SingTel to refuse line sharing of a particular loop where a customer uses SingTel xDSL services on any other loop.

Determining availability of line sharing should simply be a matter of establishing that the relevant customer wishes to use the xDSL services of the Requesting Licensee rather than SingTel or a third party. The only other relevant concern is whether SingTel has plans to decommission the local loop. The relevance of these plans

should be limited to decommissioning in the next 6 months. Other considerations in clause 2.2 should therefore be deleted.

4.3.3 Clause 3 – Ordering & provisioning

Clause 3.1 provides that a Requesting Licensee may not lodge a line sharing request if the relevant customer is not a SingTel POTS customer. However, SingTel is in a better position to determine this and will, in any event, do so as part of its consideration of a request. Clause 3.1 is therefore superfluous. It is also unfair, given that a Requesting Licensee will only have available to it whatever information a customer provides. We submit that clause 3.1 should be deleted.

Clause 3.2(c) requires the Requesting Licensee to provide a copy of its customer contract to SingTel. However, there appears to be an error as the clause also refers to clause 3.1, which relates to the SingTel customer contract. The Requesting Licensee is unlikely to have access to this and provision of it to SingTel as part of a line sharing request is entirely unnecessary given that it is a SingTel contract. If the clause is intended to refer to the Requesting Licensee's contract, this requirement is also unreasonable. At the time of a request, there may be no contract since any supply of xDSL services to a customer will be dependent on SingTel agreeing to provide line sharing. In any event, the terms of such contract will be commercially sensitive and disclosure to SingTel, as a competitor, should not be required. Therefore, clause 3.2(c) should also be deleted.

4.3.4 Clause 4 – Response time

StarHub submits that a request for line sharing should be processed by the end of the same Business Day under clause 4.2, rather than the next day. SingTel should be under an obligation to provide line sharing on a timely basis.

StarHub also has a number of concerns with clause 4.5:

- First, the grounds for rejection of a line sharing request should be specified on an exclusive basis.

- Secondly, it should be made clear that if a request is rejected, for example because it is incomplete, the Requesting Licensee is entitled to revise its request.

- Thirdly, StarHub submits that SingTel has taken the 'modular' approach too far. Clause 4.5 allows SingTel to reject a request if related co-location and MDF licences have not been obtained. However, the process for obtaining these licences will be concurrent with the line sharing process. It would be unreasonable to require a Requesting Licensee to obtain such licences before it knew whether it was able to obtain line sharing, particularly given the onerous termination penalties SingTel could impose for termination of those licences if a line sharing request was rejected. StarHub therefore submits that paragraphs (g) and (h) should be deleted. We note also that section 5.3.3.1, Appendix 2 of the TCC contemplates that co-location forms part of SingTel's line sharing obligation.

It should therefore be possible for a Requesting Licensee to deal with all aspects of line sharing at the same time.

- Fourthly, SingTel should specify in the RIO the basis for any assessment of unsuitability of local loop for line sharing. SingTel should only be able to reject a request on the grounds of 'unsuitability' if it is not possible for SingTel to comply with its obligations to make the loop suitable under sections 5.3.3.1 and 5.3.1.5, Appendix 2 of the TCC. StarHub submits that US experience may be relevant in this regard. US Incumbents are required to demonstrate to the regulator that digital loop conditioning would significantly degrade POTS services before they can claim line sharing is not feasible. The FCC has stated that an incumbent will rarely, if ever, be able to demonstrate a valid basis for refusing to condition a loop under 18,000 feet.

- Fifthly, SingTel should not be entitled to reject a request on the basis of equipment interference under paragraph (j) unless it has first discussed the matter with the Requesting Licensee and provided an opportunity for the Requesting Licensee to revise its request. Further, if the equipment complies with any IDA specifications or approvals, SingTel should not be permitted to reject a request under this provision.

4.3.5 Clause 5 – Delivery

StarHub submits that SingTel is acting against the spirit of the TCC in refusing to commit to delivery dates for line sharing. Clause 5.1 provides that SingTel is not liable for missing the delivery date and can notify any later date for delivery. There is no cap whatsoever on the period that SingTel can delay delivery, to the detriment of its competitors. StarHub submits that Schedule 3B should be amended to hold SingTel to delivery dates, or at least impose a maximum delivery period benchmarked against SingTel's lead times for its own customers.

In addition, clause 5.2 should be qualified to provide that SingTel must act reasonably in incurring costs for carrying out relevant works and that the Requesting Licensee will only be liable to this extent. Otherwise SingTel will be able to use this as another opportunity to raise rivals' costs by engaging in wasteful expenditure and then claiming this back from a Requesting Licensee. SingTel should also inform the Requesting Licensee of applicable charges prior to expenditure.

Further, a Requesting Licensee should have the opportunity to inspect the work that SingTel performs.

4.3.6 Clause 6 – DP access

StarHub submits that SingTel's commitment to perform jumpering should not be subject to clause 4 and should be subject to a definitive timeframe of 1 Business Day.

4.3.7 Clause 7 – Unauthorised access

Clause 7.1 must be amended. It is entirely unreasonable that SingTel be entitled to charge for line sharing from the effective date of the RIO where SingTel is not 'satisfied' as to when unauthorised access commenced. This should be limited to a reasonable period given that the RIO may have been on foot for some time. Further, a Requesting Licensee should not be forced to seek a licence if it does not wish to continue to line share.

Under clause 7.2, a Requesting Licensee cannot be expected to pay costs and charges for unauthorised access within such a short 5 Business Day period if SingTel has not invoiced it. A longer period of 10 Business Days from invoice would be more reasonable.

StarHub also submits that SingTel should not be able to require MDF Equipment to be removed under this clause, given that it is governed under a separate schedule and may be used for other IRS.

4.3.8 Clause 8 – Standard terms

StarHub submits that this clause does not comply with the TCC. The TCC requires SingTel to act in a non-discriminatory fashion and to condition a loop so that its performance is typical of what SingTel would provide to its own customers. However, clause 8.2 provides that SingTel will not guarantee line sharing performance. Rather, it is free to carry out maintenance or diversion that adversely impacts on performance, with no requirement to minimise this or to avoid discrimination. Nor is there any requirement to exercise due diligence when carrying out maintenance and to ensure that loop quality is reinstated post maintenance.

Further, clause 8.3 provides that shared lines are provided on an 'as is' basis for POTS, rather than conditioned or on the same improved basis that SingTel may supply to itself. This is in contravention of section 5.3.1.5, Appendix 2 of the TCC, which applies to line sharing as well as local loop. Clauses 8.2 and 8.3 should therefore be amended to mirror TCC requirements. SingTel should be required to condition loops to enable Requesting Licensees to offer advanced services, even if SingTel itself is not offering xDSL services to the customer on that loop.

Clause 8.4 prohibits a Requesting Licensee from using the fact that any service is supplied using the SingTel Network in promoting the Requesting Licensee's services. However, the key benefit of line sharing is that the xDSL service can be provided over a customer's existing SingTel line. A Requesting Licensee will need to communicate this to potential and existing customers. The following should therefore be added to this clause:

> *In promoting its services, the Requesting Licensee may use the fact that SingTel will continue to provide the POTS service (including the access line) if a customer subscribes to the Requesting Licensee's services provided over the Shared Line.*

StarHub also considers that clause 8.8 should be amended. We suggest that priority under clause 8.8 would more appropriately be determined with regard to whether the damage is service-affecting for both parties and how severe the damage is.

StarHub is also concerned with clause 8.11, which requires Requesting Licensees to comply with SingTel's spectrum plan. The TCC provides in section 5.3.3.4 of Appendix 2 that the major elements of the spectrum plan should be included in the RIO. Clearly they have not been included and this leaves open the possibility that Requesting Licensees will have no idea what they are committing to. The key elements of the spectrum plan should be made available for public consultation before the final version of the RIO is issued.

StarHub further considers that clause 8.12 should be clarified as there is no explanation of the configuration required for splitters.

4.3.9 Clause 9 – Approvals

StarHub submits that it is SingTel who should be under a best endeavours obligation to facilitate line sharing, given that it is the party with the ability to act obstructively. StarHub also submits that SingTel should not be allowed a further opportunity to raise rivals' costs by requiring Requesting Licensee's to incur any costs and perform any actions SingTel may require as part of a best endeavours obligation.

4.3.10 Clause 10 – Faults

Given the co-operation essential in the line sharing context, this clause is wholly inadequate to deal with fault reporting and clearing. SingTel has not even included an obligation to fix faults. It has only obligated to perform a fault analysis, with no further responsibility if it determines the fault lies in its network. The onus is entirely on the Requesting Licensee to remove interference. It must also do so within an unreasonable 2 day period or face termination of line sharing.

Further, clause 10.8 allows SingTel to disconnect a Requesting Licensee's xDSL services for fault analysis and testing without any obligations to minimise these activities and their impact on services. SingTel need not provide notice for this service disconnection. StarHub submits that it is unacceptable from a customer service perspective that Requesting Licensees may be left unaware that their services are disconnected. Advance notice must be provided.

We submit that clause 10 should be entirely deleted and replaced with reasonable fault provisions, which safeguard the interests of both parties. StarHub acknowledges that line sharing is a new form of unbundling and that appropriate regulatory and contractual requirements for supply are only now beginning to surface. However, what is clear is that significant ongoing co-operation between line sharing parties will be needed. At a minimum, general obligations on SingTel should be included with provision for the parties to further agree the detailed co-operation

provisions necessary in the line sharing context. These could even be developed by way of industry consultations.

4.3.11 Clause 11 – Protection and safety

Schedule 3B does not impose any obligation on SingTel to prevent its services from causing interference with or deterioration to the Requesting Licensee's services provided over a Shared Line. Neither is there any requirement for SingTel to conform to the spectrum plan for its own services. StarHub submits that clause 11 should be amended to include reciprocal obligations. Reciprocal obligations in the line sharing context are particularly important. A high degree of co-operation is necessary given that both parties will be providing services over the same line.

For example, amendments to the following effect should be made:

> *11.1 ~~The Requesting Licensee~~Each party is responsible for the safe operation of its Network and in particular the safe operation of equipment within its Network on its side of the connection at the Subscriber Tie Cable Termination Pin or DP Termination Pin.*
>
> *11.2 ~~The Requesting Licensee~~Each party shall, so far as reasonably practicable, take all necessary steps to ensure that its ~~licence of the Shared Line, its~~ operations and its implementation of this Schedule:*
>
> *(a) do not endanger the safety or health of any person, including the employees and contractors of ~~SingTel~~the other Party;*
>
> *(b) do not damage, interfere with or cause any deterioration in the operation of the ~~SingTel~~other Party's Network; and*
>
> *(c) do not interfere or deteriorate any ~~existing POTS~~ service provided by ~~SingTel~~the other Party over the Shared Line.*

Similar reciprocal obligations should be introduced to clause 8.11, which requires compliance with the spectrum management and deployment plan.

4.3.12 Clause 12 – Term

The TCC does not place any restrictions on the term of line sharing or other unbundling obligations. The RIO restrictions should therefore be removed. Furthermore, any licence should commence from the date that line sharing is made available to a Requesting Licensee rather than from approval of a request.

4.3.13 Clause 13 – Suspension

This clause should clarify that advance notice of suspension must be provided and that suspension may only be for so long as the grounds for suspension exist, rather than until SingTel decides to resume supply. This is particularly important given that

SingTel can suspend supply in order to carry out repair or upgrading of its own network. In this regard, SingTel should be required to act on a non-discriminatory basis and minimise any impacts of maintenance on a Requesting Licensee's services. Otherwise, SingTel will be able to render these competing services unattractive to the Requesting Licensee's customers and encourage churn away. StarHub also considers that, in relation to the other grounds for suspension, SingTel should be required to provide evidence to establish they exist.

4.3.14 Clause 14 – Termination

Clause 14.1 is unreasonable and should be deleted. It provides that the Requesting Licensee will be liable for all charges up to termination where the Requesting Licensee terminates line sharing because SingTel has not delivered a line suitable for line sharing. However, SingTel should have the obligation to determine this earlier in the process, before the Requesting Licensee has incurred substantial costs. If it makes an incorrect assessment, it should be liable and the Requesting Licensee should not have to pay for its inaccuracy.

We also refer to our comments in section 3 to the effect that:

- provisions such as clause 14.2 (c) should not be permitted as SingTel has no authority to dictate the law;

- clause 14.8 constitutes an illegal penalty;

- IDA approval should be required for termination and/or the grounds for termination should be more restrictive, with SingTel having to establish that such grounds exist. For example, we consider that SingTel could exploit paragraphs (b), (c), (d), (f), (i), (k), clause 14.3 and clause 14.4 to anti-competitive ends.

Clause 14.4 is particularly open to abuse as it entitles SingTel to terminate line sharing when it determines it is no longer 'available' or that the loop is 'not suitable' for use. These criteria are very loosely defined, giving SingTel enormous discretion to terminate line sharing. This provision should therefore be deleted.

StarHub further submits that clause 14.5 should be amended. Where SingTel decommissions a POA or MDF room, it should not force all cost and responsibility on the Requesting Licensee. If decommissioning is at SingTel's election then it should at least assist the Requesting Licensee to continue to provide xDSL services over the shared line to the extent that SingTel also makes alternative arrangements to provide the POTS component. For example, if SingTel uses another POA or MDF room to provide POTS over the shared line, it should be required to transition the line sharing service to those alternative locations.

StarHub also considers that SingTel should be required to include some of the competition safeguards found in the US line sharing regime. For example, where SingTel seeks to terminate line sharing on the grounds that it is no longer the POTS provider, it should be required to offer the Requesting Licensee the entire unbundled

local loop. If the Requesting Licensee determines to take over the entire local loop then SingTel should be obligated to ensure a smooth transition, with minimal disruption to the relevant customer's services.

A further safeguard should be included in relation to termination of line sharing or initial refusal to offer it on the grounds that it is unsuitable for that purpose. In line with the US, SingTel should be prohibited from claiming unsuitability but then offering the service to itself or other licensees at a later date.

4.4 Schedule 5B – Tower Access

4.4.1 Co-location comments relevant

StarHub notes that Schedule 5B contains substantially similar terms to Schedule 8 insofar as both deal with co-location. Therefore our comments below in relation to the substance of Schedule 8 provisions also apply to tower sharing under this schedule, although clause references will be different.

We also have some concerns specific to Schedule 5B:

4.4.2 Clause 1 – Scope

It is unclear on what basis SingTel has restricted the tower equipment that may be co-located to microwave dishes. This restriction appears in clause 1 and is reflected in other parts of the schedule. StarHub submits that this restriction is not provided for in the TCC and is out of line with the regulatory policy of encouraging mobile tower sharing to avoid proliferation of towers. Permissible tower equipment should therefore include any radiocommunications equipment 'customarily' located on towers.

There should be provision for licensing of multiple towers under clause 1. The current process for per tower licensing in clause 1.5 is inefficient and will allow SingTel to draw out the co-location process.

4.4.3 Clause 6 – Equipment installation

Clause 6.6 allows SingTel to backtrack on its approval of an installation plan and require a Requesting Licensee to reinstall its equipment in another way. StarHub submits that once SingTel has approved the plan, if installation is in compliance with it, SingTel should have no further right to impose costs on the Requesting Licensee by requiring changes.

Clause 6.10 is similar to provisions in Schedule 8. It provides that the Requesting Licensee must notify SingTel of faults but does not require SingTel to then address these faults within a specified period. StarHub submits that fault restoration periods should be included.

4.4.4 Clause 8 – Standard terms

Clause 8.5 requires a Requesting Licensee to relocate and reinstall equipment when the tower is repaired. We consider that SingTel should be under some obligation in this regard to act in a reasonable and non-discriminatory manner in carrying out tower repair. It should also be required to use its reasonable endeavours to minimise disruption or inconvenience to the Requesting Licensee.

Clause 8.6 is very vague in its requirement that the Requesting Licensee does not interfere with any 'existing systems'. StarHub submits that this clause should be clarified. There should be a requirement for material interference and a method for determining who should take action where there is cross-interference. Interference should not immediately result in the Requesting Licensee being forced to remove its equipment if remedial action can be taken or another party can make ready adjustments to its equipment that will address interference issues.

4.4.5 Clause 10 – Requesting Licensee rights

SingTel has also provided that rights to co-location space are by way of licence only and that a Requesting Licensee therefore does not have exclusive use of that space. StarHub submits that lease rights for the co-location space should instead be provided. This comment also has application to other schedules. We note that the TCC contemplates lease rights in a number of instances and believe this should be reflected in the RIO.

4.4.6 Clause 11 – Protection and safety

The indemnity in clause 11.2 should be qualified to the extent that SingTel acts or omissions contribute to the loss or damage.

4.4.7 Attachments

Clause 2.5 of Attachment A requires clarification. It limits use of co-location equipment to connecting the Requesting Licensee's network to the tower site. However, the function of radiocommunications equipment is more extensive than this. It must be useable as part of the network to provide telecommunications services to other Licensees and Customers.

4.5 Schedule 6 – Number Portability

StarHub notes its support of the Query on Release Number Portability implementation model adopted by SingTel in its RIO. However, there are still a number of issues relating to inter-operator number portability yet be resolved. These are being discussed in the on-going industry forum. We assume that the RIO will be adapted as necessary to reflect any more detailed arrangements agreed to by industry as part of an industry-wide solution.

In this context, StarHub does not wish to provide detailed comments on Schedule 6. We do, however, note that StarHub would like to see greater competitive safeguards included in SingTel's terms for number portability. It is well known that, in other jurisdictions, incumbents will use processes for customer churn and porting as an opportunity to win back those customers seeking to use competing operators. This is a very powerful win-back tool and, given the stickiness factor of the incumbent's services, has the potential to have an adverse competitive effect. StarHub therefore submits that the RIO should include a provision prohibiting the DNO from using the number portability processes as a marketing opportunity. For example, it should not be permitted to contact porting customers under the guise of verifying their intention to port and then seeking to convince them they should not do so.

4.6 Schedule 7A – Wholesale Dark Fibre Service

StarHub strongly urges the IDA to require SingTel to comply with the letter and spirit of the TCC in relation to supply of the Wholesale Dark Fibre Service (Dark Fibre). We consider that the current draft attempts to render the service offering so unattractive that it may negate any competitive benefits of mandated supply.

4.6.1 Clause 1 – Scope

SingTel has prohibited use of Dark Fibre for point-to-point customer connections (clause 1.2). StarHub believes that this prohibition is not permitted under the TCC and we are not aware of any other IDA directive that does justify SingTel's position.

4.6.2 Clause 3 - Studies

Schedule 7A does not comply with the TCC in a number of respects. The TCC does not allow SingTel to determine whether Dark Fibre is available at its own discretion. However, Schedule 7A provides that SingTel can refuse to supply Dark Fibre if it "is not available as determined by SingTel" (clause 3.3(e)). In contrast to other Schedules, there is no further explanation of how availability is to be determined. This provision should be deleted.

4.6.3 Clause 4 – Detailed study

Schedule 7A also gives SingTel discretion to determine how many of the dark fibres requested will be approved (clause 4.5(d)). StarHub submits that the IDA should not allow SingTel such a broad discretion to override the mandatory requirement to supply Dark Fibre. SingTel should be required to justify any refusal to provide the number of fibres requested.

4.6.4 Ordering & provisioning timeframes

The TCC (Section 7.2.1 Appendix 2) requires that SingTel must allow Requesting Licensees to obtain Dark Fibre in a timely manner. However, the RIO timeframes for ordering and provisioning are excessively long and are clearly intended to delay delivery of Dark Fibre to a Requesting Licensee:

- Request
- 10 BDs for study (rejection and start again if request not complete etc)
- 5 BDs to confirm intent to proceed
- 25 BDs for detailed study
- Final approval
- 5 BD to confirm intent to proceed
- 25 BD to deliver or longer at SingTel discretion

In other words, the process will take at least 70 Business Days, with SingTel having every right and incentive to delay it even further. As this is a temporary service, which is designed to facilitate network roll out by new entrants, time is of the essence. StarHub submits that the Dark Fibre ordering and provisioning process must be shortened and at the very least should take no longer than SingTel's own provisioning time.

4.6.5 Lack of service description

The TCC also requires that services be described in the RIO. The RIO definition of Wholesale Dark Fibre Service simply refers back to Schedule 7A. However, the schedule does not provide any clear definition of the service that will be provided. For example, there is no provision as required by the TCC (S 7.2.1, Appendix 2) that SingTel must ensure that there are no devices on the fibre, other than those necessary for transmission. Neither does the schedule make clear that access and inter-exchange fibre is available.

The IDA should require amendments to the RIO, which address the above concerns.

4.6.6 Unreasonable provisions

We also consider a number of other provisions to be unreasonable. For example, there should be no requirement to disclose a Requesting Licensee's proposed use of the Dark Fibre as part of its application (clause 2.1(e)). It should be sufficient to state that the proposed use is in accordance with the IDA's eligibility requirements. Clause 2.1(e) should therefore be deleted and replaced with the following:

> *confirmation that the proposed use of the Wholesale Dark Fibre Service is in accordance with the Code or any IDA direction;*

In addition, SingTel has reserved the right to divert fibre cable or Dark Fibre in a way that impacts on the Requesting Licensee's use of the Dark Fibre Service, without notice (cls 6 and 7). StarHub submits that diversion should only be permitted where there is strong justification. SingTel should be obliged to provide as much notice as possible and the parties should then agree on procedures and timeframes for diversion. SingTel should endeavour to minimise the impacts of diversion on a Requesting Licensee by providing alternative arrangements at its own expense. Any diversion should also be non-discriminatory.

To address these concerns, additional provisions should be added to clauses 6 and 7 as follows:

> *6.2/7.2 SingTel shall notify the Requesting Licensee immediately upon becoming aware of a requirement to [cl 6: carry out fibre diversion] [cl 7: re-route the Dark Fibre]. Promptly after notice has been given, the parties shall agree on [cl 6: diversion] [cl 7: rerouting] procedures and timeframes, which must comply with clause [6.3/7.3].*
>
> *6.3/7.3 SingTel shall [cl 6: carry out fibre diversion] [cl 7: re-route the Dark Fibre] on a non-discriminatory basis and only where it is necessary to do so. SingTel must use its reasonable endeavours to minimise the impacts of [cl 6: fibre diversion] [cl 7: Dark Fibre re-routing] on the Requesting Licensee's telecommunications services, which may include provision of alternative arrangements for the Wholesale Dark Fibre Service.*

Clause 7.1 should be replaced with:

> *SingTel may re-route the Dark Fibre in accordance with this clause.*

Clause 7.2 should be deleted.

StarHub also considers that the forecast provisions in clause 8 are unreasonable. StarHub does not consider there is any need to provide forecasts for Dark Fibre. SingTel is not, for example, required to lay additional dark fibre or condition additional capacity in expectation of a request for the service. SingTel can only use such information for anti-competitive purposes. Clause 8 should be entirely deleted.

4.7 Schedule 8 – Co-location generally

As Schedules 8A – 8D are substantially similar in terms, StarHub will not comment on them individually. Rather, we set out below the general concerns that we have with the RIO co-location requirements, only pointing out specific clauses where unique to a schedule. As noted above, these concerns also relate to tower sharing under Schedule 5B. They also largely apply to lead-in duct and manholes under Schedule 5B, although clause references will differ.

At the outset, we note that the RIO does not cover all of the co-location sites specified in the TCC. For example, there is no provision for co-location in building equipment rooms. SingTel should be required to address this omission.

4.7.1 Clause 1 – General

In clause 1 of the Co-location Schedules, SingTel has excluded liability for damage to a Requesting Licensee's equipment, for example due to fire. StarHub considers that this clause requires further clarification to ensure that SingTel is liable to the extent that either SingTel or its employees intentionally or negligently cause damage

to the Requesting Licensee's Co-location Equipment. It is not presently clear that the concluding words of the relevant provisions – "or anything beyond SingTel's control at the Co-Location Site" – qualify the preceding events.

We therefore suggest the following amendment:

> *… power fluctuation/interruption~~,~~ or ~~anything~~ any other events at the Co-Location Site, provided that the cause of the damage was beyond SingTel's control ~~at the Co-Loction Site~~.*

4.7.2 Clause 2 – Availability

In clause 2 of the Co-Location Schedules, SingTel has given itself broad discretion to determine the availability of co-location space. If unavailable, under this clause, SingTel can refuse to share, or later terminate sharing arrangements.

StarHub submits that the onus should be on SingTel to prove that space is unavailable. This would be consistent with section 5.3.5.5.2 of the TCC, which provides that if a dominant licensee claims that space is not available for co-location, it must verify to the IDA that it has taken sufficient measures to make space available. This may include rearranging its own equipment, conditioning additional space or similar. The TCC also provides that the dominant licensee must give the Requesting Licensee an opportunity to inspect the co-location site for space availability. None of these safeguards are reflected in the RIO. SingTel can summarily reject a co-location request without providing any justifications and without making any attempt to make space available.

Further, clause 2 allows SingTel to reserve space for two years for provision to itself and customers as well as additional space for operations and maintenance purposes. This does not strictly comply with the TCC. Section 5.3.5.5.3 of the TCC allows SingTel to reserve space in order to achieve reasonably projected rates of growth over a two year period. However, such reservation is only permitted "*to the extent that the Dominant Licensee demonstrates that it will need to use a portion of currently unused space*". In contrast, Schedule 8 dictates that a Requesting Licensee must simply accept SingTel's determination that space is unavailable. Schedule 8 should therefore be amended to require SingTel to substantiate a claim that space is unavailable and allow a Requesting Licensee the opportunity to assess the claim, for example, by site visit.

StarHub also submits that there should be parameters around SingTel's right to determine space is unavailable on the grounds that it plans to decommission the co-location site. SingTel should only be permitted to refuse co-location where it has firm plans to decommission the co-location site within the next 6 months. Further, SingTel should be required to notify a Requesting Licensee of any plans to decommission within the next 2 years. The Requesting Licensee may then determine for itself whether it still wishes to co-locate. If SingTel does not notify any such plans, then it should not be permitted to decommission the site during that period. Such a provision will provide a safeguard against SingTel allowing co-

location and then decommissioning sites to raise its rivals' costs and cause them inconvenience.

4.7.3 Clause 3 – Ordering & Provisioning

In Attachment A to the Co-Location Schedules, SingTel has required that Requesting Licensees must submit equipment installation plans and comply with such plans when co-locating equipment. However, in clause 3 of the schedules, SingTel requires Requesting Licensees to acknowledge that SingTel will determine placement of the equipment and need not place such equipment adjacent to each other. StarHub submits that this provision should be amended so that SingTel is under a reasonable endeavours obligation to place equipment as per the Requesting Licensee's installation plan. At a minimum, SingTel should be required to act reasonably and on a non-discriminatory basis when placing equipment.

4.7.4 Timeframes for Ordering & Provisioning

StarHub is concerned that SingTel's obligations to meet timeframes for co-location studies, site preparation and delivery are too weak and will allow SingTel to disadvantage its competitors by delaying access. For example, clause 4 only requires SingTel to use its reasonable endeavours to meet study timeframes, with no penalty or compensation to the Requesting Licensee for failure. Neither is there a maximum timeframe, which SingTel must meet if it fails an initial deadline.

Worse still, the schedules do not specify maximum delivery periods. SingTel can simply provide an estimated date for site preparation work and, if it fails to meet this, it can simply specify a later date. Given that preliminary processes take approximately 30 Business Days, it is easy to envisage the whole co-location process taking more than 60 Business Days. This degree of delay is unacceptable in a fast-moving industry such as telecommunications. SingTel's competitors cannot afford to have to wait this long for critical IRS such as POI and POA co-location.

Delay in site preparation work is also damaging to a Requesting Licensee given that it will already be paying licence charges for space it is unable to use. SingTel therefore submits that Schedules 8A-D be amended so that there are timeframes which SingTel must meet, with Requesting Licensees entitled to compensation if SingTel fails to do so.

StarHub therefore submits that the following amendments be made. References in the Co-Location schedules and Schedule 5 to the effect that SingTel '*shall use its reasonable endeavours*' to complete an activity within a specified timeframe in the various clauses should be amended to state that SingTel '*shall*' complete the activity within that timeframe.

Further provisions should then be added to the following effect:

> *If SingTel is unable to complete the [relevant activity] within [the specified period], SingTel shall notify the Requesting Licensee as soon as it becomes*

aware of this inability. The parties shall agree on a revised date for completion, which must be as soon as reasonably practicable.

SingTel shall compensate the Requesting Licensee for any loss or damage suffered in relation to any failure by SingTel to comply with specified timeframes under [the above clause]. [SingTel to specify formula for QoS compensation]

4.7.5 Clause 5 – Site preparation work

StarHub notes that there is no clear definition in the RIO of the Site Preparation Work, which SingTel will perform. Neither is SingTel required to discuss this with the Requesting Licensee or otherwise provide details of the work it will carry out. StarHub submits that SingTel should be required to discuss and agree Site Preparation Work commitments as part of the Project Study to ensure that they meet a Requesting Licensee's requirements for co-location. The need for this requirement is clear given that the Requesting Licensee is paying for the Site Preparation Work.

This clause should also provide that if a Requesting Licensee determines after a final inspection that Site Preparation Work is inadequate, SingTel must carry out rectification work at its own cost and must do so within a limited timeframe.

4.7.6 Clause 7 – Term

Schedule 8A provides that POI co-location is limited to 3 years from the TCC effective date. The other Co-Location Schedules provide for 2 year licences. Co-location under all of these schedules can readily be terminated (we refer to our comments in section 3.6 in this regard) and co-location sites can be decommissioned on 6 months' notice. StarHub strongly submits that Requesting Licensees must be given greater certainty as to the term of co-location arrangements. This is essential for network planning purposes and also to ensure that customers do not unduly suffer from service-affecting closures of co-location sites.

In this context, co-location space should not be treated as mere space for which a Requesting Licensee can easily find a replacement. It is not a simple matter of picking up isolated equipment and moving it to any other space. In many cases, the transition to alternatives will be disruptive and may involve network redesign. Nor is it a simple matter to find alternative space. If a cable station is closed or a Requesting Licensee's access to it is otherwise terminated, there will be no alternative cable station providing access to the relevant submarine cable.

SingTel should not be permitted to impose short licence terms and then terminate such licences early by decommissioning sites. Given that the network rearrangement necessitated by closure of co-location sites is costly and disruptive, allowing SingTel this freedom would damage competition.

We therefore submit that co-location licences should be for a longer term. For example, the term of POA co-location should be for 5 years, with SingTel unable to

decommission a site and terminate the licence within the first 2 years. For co-location at cable stations, the term should be even longer. Capacity in international cable systems is usually invested for the lifetime of the cable system, which has typically been 25 years. SingTel should not be permitted to strand that capacity in the future by only providing short-term co-location. StarHub believes that the term for cable station co-location should be for the lifetime of international capacity arrangements or 25 years, unless the IDA consents to earlier termination by SingTel. To address concerns about the length of this term, SingTel could include options to review prices periodically. As discussed in section 3, a Requesting Licensee should have the right to terminate cable station access on notice.

If the minimum term is left unamended, StarHub submits that clause 7.4 should be amended to provide some safeguards where a co-location site is decommissioned. StarHub considers that clause 7.4 gives SingTel too much power to raise its rivals' costs in breach of the TCC. It requires Requesting Licensee's to pay all costs and make alternative arrangements where SingTel chooses to close a co-location site. StarHub submits that allocation of such responsibilities should depend on the reason for closure of the co-location site. Where it is at SingTel's election, SingTel should bear the costs of decommissioning and provide alternative arrangements for co-location in a manner that minimises any disruption to the Requesting Licensee's services.

We also stress again our comments in section 2.6 that there should be strong justification for terminating co-location arrangements. For example, StarHub does not consider that clause 7.3(i) of Schedule 8D is justifiable grounds for termination. This provides that SingTel may terminate co-location if co-location space has become 'unsuitable'. We refer to our comments on line sharing in this regard in section 4.3.14 above. There should be objective criteria for determining suitability. Further, if SingTel finds co-location space unsuitable using these criteria, it should be prohibited from then using the space itself or providing it to third parties.

The Co-Location Schedules also contain standard provisions on consequences of termination. These allow SingTel to reinstate co-location space at any cost and recover such cost from the Requesting Licensee. Worse still, if SingTel has to remove the Requesting Licensee's equipment, it may then reinstate the co-location site to its original condition at unlimited cost to the Requesting Licensee. StarHub submits that some controls on SingTel expenditure should be included. Costs must be reasonably incurred and reinstatement should be limited to the specific co-location space and to the condition it was in when first licensed to the Requesting Licensee, fair wear and tear excepted.

4.7.7 Other comments

Attachment A of Schedule 8 provides that equipment must be co-located in accordance with installation plans or SingTel may withdraw access or take other corrective action. StarHub submits that this should be restricted to where there is a material deviation from the installation plan that has an adverse impact on SingTel. SingTel should not be permitted to withdraw access on the basis of a slight deviation (which may in fact be an improvement on the installation plan).

StarHub is also concerned at the discretion given to SingTel under Attachment A to incur costs in relation to co-location and then require the Requesting Licensee to bear them, regardless of whether they have reasonably been incurred. This discretion could be used to anti-competitive ends. Relevant clauses should be qualified so that costs must be reasonably incurred.

The Physical Access Procedures also provide that Requesting Licensee access for works is limited to office hours. This is inconsistent with the TCC requirement that full access be given (as provided for in section 4.2.1.6, Appendix 2 of the TCC).

Schedule 8 also refers throughout (for example, clauses 4.4(b) and 5.3 of Schedule 8D) to a single manhole being provided as a Point of Access. This limitation also appears in the Attachments, such as clause 1.4.3 of Attachment A. StarHub submits that all references should be amended to allow for two or more manholes, where available. This is necessary to ensure diversity of access.

4.8 Schedule 8B – POA Co-location

StarHub submits that clause 7.3 of this Schedule should be amended. It provides that SingTel may terminate co-location if equipment is used for a purpose other then connection to UNEs supplied by SingTel under the agreement. Use to connect ESF should also be permitted as required by the TCC. Further, it should be permissible to use the space and equipment in relation to UNE or ESF supplied under agreements other than the RIO, provided those agreements are within the scope of the interconnection regime.

4.9 Schedule 8D – Cable Station Co-location

StarHub refers to its key concerns with Schedule 8D as outlined in section 3. We also make the following comments on specific sections of this schedule.

4.9.1 Clause 1.9

StarHub submits that SingTel is in contravention of the TCC in narrowly defining permissible co-location equipment. Clause 1.9 provides that co-location equipment must not be used other than for access and transport of traffic. For example it must not be used to sort traffic.

However, the TCC provides in section 4.2.1.4 of Appendix 2 that SingTel may not restrict the type of equipment so long as it is of a type customarily co-located in an exchange or other network location. The only permissible restrictions are on end user equipment or general purpose equipment not related to the co-location equipment. Section 5.3.5.5.4 of the TCC is to a similar effect. It also provides that SingTel may not restrict multi-functional equipment that provides both interconnect and other functionality and must allow co-location of equipment that others are allowed to co-locate.

StarHub submits that clause 1.9 should be amended to comply with the TCC as follows:

> *1.9 The Requesting Licensee shall ~~not~~ only be permitted to ~~use the~~install or use Co-Location Equipment ~~installed~~ at the Co-Location Space ~~for circuits segregation or sorting of traffics, which could be done at their own station. The function of the Co-Location Equipment installed at the Co-Location Space is solely to access and transport traffic to their station.~~that is of a type customarily located in a telecommunications operator's exchange or other network locations or which SingTel allows itself, affiliates or other Licensees to co-locate.*

4.9.2 Annex 8D.1

StarHub submits that TUAS Cable Landing Station, where SEA-ME-WE-3 lands, should be included as a possible co-location site. On the other hand, we query whether Sembawang should be excluded. We understand it is a depot only, with no cable landing facility.

4.9.3 Schedule 8 Attachments in cable station context

Clause 2.5, Attachment A requires amendment. In the cable station context, the reference to a POI needs to include connection to third party international capacity, and not just to SingTel's network. Further, use of Co-location Equipment should not be restricted to SingTel POI connection. Equipment should be useable in providing third party connection. Multi-functional equipment should also be permitted in line with the TCC, provided it is 'customarily' located in such places (as discussed above).

Attachment H should also be amended. The reference to SingTel's DDF or Patch should be appended with the following words: "*or submarine cable system DDF or Patch Panel*."

The above changes are necessary to ensure that parties do not have to use SingTel equipment when connecting international capacity and will have the option of direct connection to the cable system.