PUBLIC CONSULTATION ON THE REVIEW OF THE CODE OF PRACTICE FOR INFO-COMMUNICATION FACILITIES IN BUILDINGS ("COPIF")

Submission by the StarHub Group to the Info-communications Development Authority of Singapore

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Statement of Interest

StarHub Ltd is a Facilities Based Operator (FBO) in Singapore, having been awarded a licence to provide Public Basic Telecommunication Services (PBTS) by the Telecommunications Authority of Singapore (TAS) (the predecessor to IDA) on 5 May 1998.

StarHub Mobile Pte Ltd is a wholly-owned subsidiary of StarHub Ltd. StarHub Mobile Pte Ltd was issued a licence to provide Public Cellular Mobile Telephone Services (PCMTS) by the TAS on 5 May 1998. StarHub launched its commercial PBTS and PCMTS services on 1 April 2000.

StarHub Ltd acquired CyberWay Pte Ltd (now StarHub Internet Pte Ltd) for the provision of Public Internet Access Services in Singapore on 21 January 1999.

In July 2002, Singapore Cable Vision Limited (now StarHub Cable Vision Ltd) merged with StarHub Ltd, and became a wholly-owned subsidiary of StarHub Ltd. StarHub Cable Vision Ltd holds a FBO licence and offers cable TV and broadband services.

StarHub Online Pte Ltd is a wholly-owned subsidiary of StarHub Ltd. StarHub Online Pte Ltd was issued a licence to provide Public Internet Access Services in Singapore on 22 February 2005.

Nucleus Connect Pte Ltd, a wholly-owned subsidiary of StarHub Ltd, incorporated on 14 April 2009, is the appointed Operating Company of the Next Generation Nationwide Broadband Network.

This submission represents the views of the StarHub group of companies, namely, StarHub Ltd, StarHub Mobile Pte Ltd, StarHub Internet Pte Ltd, StarHub Online Pte Ltd and StarHub Cable Vision Ltd.

1. Introduction

StarHub welcomes the opportunity to provide comments to the Authority's public consultation on the review of the Code of Practice for Info-communication Facilities in Buildings (COPIF). The COPIF plays an important role in facilitating the deployment of telecommunication networks and services to building developments.

StarHub has carefully reviewed the Authority's proposal to amend the COPIF and would highlight the following key areas:

i. The proposal to limit MTOs' use of space and facilities in a Development to the provision of mobile coverage within that Development only would result in uncertainties, implementation difficulties and disputes between MTOs and building developers/ owners;

ii. The proposed space to be allocated to MTOs is insufficient for them to deploy their installation and plant in a Development;

iii. The designation of cable trays/ metal trunking in telecommunication risers for either telecommunication (non-broadband coaxial cable) system or broadband coaxial cable system should not be removed. This is to minimise potential interference or disruption of services to end users;

iv. The proposed sealing of underground pipes entering the MDF rooms, TERs and telecommunication risers would be an unreasonably onerous exercise and would not be fully effective in preventing safety hazards. A more effective approach would be to raise the awareness of workers on the hazards in confined space and reinforce the practice of safety, control and preventive measures when working in confined space; and

v. The Cable Readiness Certification requirement should not be removed, as this step would result in significant problems in the broadband coaxial cable system being detected later, leading to more inconvenience and costs for building developers/ owners, end-users and StarHub. This would also delay the provisioning of cable services to end-users who have moved into the Development.

We would strongly urge the Authority to further engage the relevant key stakeholders to address the issues of providing mobile coverage prior to finalising the COPIF. This would minimise any uncertainties, implementation difficulties and disputes that MTOs and building developers/ owners may face.

StarHub's specific comments on the COPIF are set out in the following section.

2. Specific Responses

SECTION 1 – Provision of Space and Facilities to Facilities-Based Operators who are Licensed to Provide Public Mobile Telecommunication Services

1(i) Whether the COPIF should be amended to allow MTOs to deploy installation and plant in the PMDS of a Development for the purpose of providing public mobile telecommunication services such as 2G and 3G services to that Development. If not, what are the practical and economically viable alternatives to ensure mobile coverage within that Development;

1(ii) Whether the COPIF should be amended to allow MTOs to deploy installation and plant in the telecommunication risers, cable trays/metal trunking and underground pipeline systems within a Development for the purpose of providing public mobile telecommunication services, such as 2G and 3G services, to that Development. If not, what are the practical and economically viable alternatives to ensure mobile coverage within that Development;

The Authority is seeking to impose more onerous Quality of Service obligations on MTOs for both in-building and outdoor mobile coverage. To facilitate this, the Authority has proposed to amend the COPIF to require developers/ owners of Developments to set aside PMDS, telecommunication risers, cable trays/ metal trunking and underground pipeline system for MTOs to deploy installation and plant for the purpose of providing mobile services in that Development. The Authority has defined a Development to mean a "single project consisting of one or more buildings and includes all parcels of land comprised within the same project".

StarHub agrees that it is necessary for developers/ owners of Developments to set aside space and facilities to facilitate the provision of mobile coverage by MTOs. However, we are very concerned with the proposal which fails to give due consideration to the operational implications and operational realities of providing mobile coverage.

First, the Authority has sought to limit the use of space and facilities of a Development by MTOs to provide mobile coverage in that Development only. Any provision of outdoor or street-level mobile coverage beyond that Development would be subject to (a) commercial negotiations between MTOs and developer/ owner of such Development, and (b) dispute resolution by the Authority should there be any disagreement between MTOs and developer/ owner of such Development on the commercial negotiations.

We would highlight that it is very common for MTOs to provide indoor mobile coverage via outdoor base stations located on rooftops of buildings. The same base stations would also be used to provide outdoor or street-level mobile coverage in the vicinity of the buildings. This is the most common, cost-effective and least disruptive way of

providing mobile coverage. For example, mobile coverage in HDB flats, private condominiums and small/ mid-sized commercial and industrial buildings are usually provided using outdoor base stations. It is simply not practicable or economically viable for MTOs to deploy in-building distributed antenna system (DAS) for all buildings in order to provide indoor mobile coverage. Deployment of DAS is expensive and disruptive to building developers/ owners, and is mainly used for larger-sized buildings with high human traffic. Therefore, given that indoor mobile coverage is commonly provided using outdoor base stations and that Singapore has a very high population density, the use of space and facilities of a Development by MTOs must, in many cases, include the provision of outdoor mobile coverage beyond a Development.

Second, the Authority would recognise that the increasing pervasive use of mobile services is underpinned by the mobility factor where end-users are able to enjoy mobile services at any time and location. Therefore, it would be reasonable to expect that mobile coverage within and beyond a Development would still benefit the end-users within the Development when they are in the vicinity of the Development as well as when they are on the move.

Given the pervasive nature of mobile services and the manner in which mobile coverage is commonly provided, we would respectfully submit that the proposal (which limits the use of space and facilities in a Development to the provision of MTO's mobile coverage within that Development only) would encounter challenges in identifying the mobile coverage that is strictly within a Development or beyond a Development. This would result in uncertainties, implementation difficulties and disputes between MTOs and building developers/ owners as to whether the obligations of building developers/ owners to provide the necessary space and facilities under the COPIF and the rights of MTOs to use such space and facilities without charge. Although the Authority has proposed to set up a dispute resolution process, we believe that it would likely result in protracted resolution due to lack of clarity on how the COPIF requirements in this regard would be implemented, thus rendering such measure ineffective.

It is critical for the Authority to put in place a framework that provides guidance and clarity on the rights and obligations of the relevant parties on the provision and use of space and facilities within a Development with a view of attaining improvement of mobile coverage that benefits the end-users. The Authority should take into account the various types of Developments and methods of providing mobile coverage, the pervasive nature of mobile services and MTOs regulatory obligation of maintaining the quality of services standards for mobile services. For example, for HDB estates, a single block of HDB flat could potentially be considered as constituting one Development even though more than one block of HDB flats are commonly regarded as being in the same Development or estate. The Authority's proposal would not sufficiently address what should constitute providing mobile coverage within a HDB Development. The same problem would also arise in MRT stations and tunnels, as the same MTOs' equipment located at the space provided in one MRT station would be used to provide mobile coverage in that MRT station and the associated tunnels. We would strongly urge the

Authority to further engage the relevant key stakeholders to address these issues prior to finalising the COPIF. This would minimise any uncertainties, implementation difficulties and disputes that MTOs and building developers/ owners may face.

We submit that where a base station used for the provision of mobile services within a Development also provides some mobile coverage outside of the Development, building developers/ owners should not be allowed to charge for this. Rather, the space and facilities should be provided free of charge, to facilitate the provision of mobile coverage to end-users.

1(iii) Whether the proposed space requirements (in Tables 1 and 2) to be set aside for MTOs are sufficient, and whether the basis of determining the space requirements (i.e. total number of units or total usable floor area) is appropriate. If not, what should the basis for the determination of space requirements be and why;

1(iv) What other space could be considered as PMDS and what criteria should be used in designating a space as PMDS;

1(v) Whether a cap should be placed on the amount of floor area that a single or a group of similarly-situated Facilities-based Operators may occupy in the MDF Room, TER and PMDS. If so, what would be the reasonable cap(s) and why;

StarHub has no objection to the Authority's proposal to determine the PMDS according to the total number of units in a residential Development and the total usable floor area in a non-residential Development. However, we are very concerned with the minimum PMDS which the Authority set out in its proposal. It is unclear to StarHub how the minimum PMDS is derived. Based on the typical current footprint of mobile equipment, each MTO would already require at least 12 square metres. Therefore, the minimum PMDS proposed by the Authority in Table 1 and Table 2 would only be sufficient to house one MTO's equipment. We submit that the Authority would need to increase the minimum PMDS by 3-fold to allow all MTOs to house their equipment in a Development.

We would also highlight that for larger Developments where an MTO would require more PMDS, the PMDS should be disaggregated into individual lots of 12 square metres each. To serve the larger Developments, an MTO would typically need to place multiple sets of equipment at different locations of the Development to provide adequate mobile coverage. The amount of PMDS required is also dependent on the building design.

In the event that a MDF room or TER is not available, StarHub is of the view that rooftop space and car parks can be used as alternative space for PMDS. However, in designating an area for PMDS, the following criteria should be observed:

i. The location of a PMDS should facilitate optimal signal distribution for the provision of good mobile coverage;

ii. The PMDS should not be located adjacent to or near: (a) a rubbish dump (where there may be rats that could damage the cables and equipment), or (b) water chillers, toilets and drainage fittings (where corrosive liquids or water spillage could damage the cables and equipment);

iii. The PMDS needs to be properly secured to prevent unauthorised access. The MTOs would need to be able to access the PMDS without restrictions; and

iv. The PMDS should have sufficient ventilation and lighting, and free of working or health hazards to workers.

It should be noted that even if the space and facilities has been provided for a Development, there is no guarantee that an MTO will be able to provide mobile coverage for all areas within that Development. This is because the availability of mobile coverage would still depend on the design and physical conditions of the building development.

1(v) Whether a cap should be placed on the amount of floor area that a single or a group of similarly-situated Facilities-based Operators may occupy in the MDF Room, TER and PMDS. If so, what would be the reasonable cap(s) and why;

StarHub does not believe that a cap should be placed on the amount of floor area that a single or a group of similarly situated FBOs may occupy in the MDF room, TER and PMDS, as each group of similarly situated FBOs or individual FBOs may have varying requirements. For example, it is possible that MTOs may need more space and facilities than what is provided in the COPIF, due to some unique design considerations of a Development. In this case, MTOs should be allowed to use the additional space and facilities that the other FBOs do not need or are not utilising.

In addition, without placing a cap on a single or a group of similarly situated FBOs, it would facilitate a more efficient use of the common space and facilities among all FBOs. However, it would be important for the Authority to monitor and enforce the efficient use of space and facilities to ensure that no one FBO or group of similarly situated FBOs is allowed to unreasonably take up space and facilities beyond what is required by them to meet their operational and business needs.

1 (vi) Whether the existing requirements (e.g. number of pipes, size of telecommunication risers and cable trays/metal trunking) in COPIF 2008 for telecommunication risers, cable trays/metal trunking and underground pipeline systems within a Development, should be increased for new Developments going forward, to facilitate the deployment of installation and plant by MTOs. If so, what would be a reasonable increase, in terms of absolute size and/or expressed as a percentage of existing requirements. For existing Developments where the necessary increases may not be possible or feasible, what are the possible measures that could be put in place to ensure that PTLs, other Fixed Operators and MTOs efficiently use the limited existing space within telecommunication risers, cable trays/metal trunking and underground pipeline systems within Developments;

StarHub submits that the existing requirements in COPIF 2008 for telecommunication risers, cable trays/ metal trunking and underground pipeline system within a Development would need to be increased to facilitate the deployment of installation and plant by MTOs.

We envisage that an additional cable tray having a width size of 200mm would be required for each MTO for the installation of in-building cabling to provide mobile coverage. We would also highlight that should a PMDS is not located near the telecommunication risers, building developers/ owners would need to provide cable trays/ metal trunking from the PMDS to the telecommunication risers. We also envisage that each MTO would need a 2-way lead-in pipe for the installation of transmission cables connecting to an MTO's mobile equipment.

For existing Developments where the necessary increases in requirements for telecommunication risers, cable trays/ metal trunking and underground pipeline system may not be possible or feasible, the use of other risers such as the electrical risers, or the installation of exposed cable trays/ metal trunking (which would be disruptive to building developers/ owners due to civil or retrofit works) can be considered. It would be important for the Authority to monitor and enforce the efficient use of existing space and facilities by PTLs, other fixed-line FBOs and MTOs such that no one FBO or group of similarly situated FBOs is allowed to unreasonably take up space and facilities beyond what is required by them to meet their operational and business needs.

1 (vii) Whether the proposed priority order for access to MDF rooms and TERs amongst the PTLs, other Fixed Operators and MTOs (where applicable) is reasonable. If not, what would be the alternatives to ensure that the reasonable requirements and obligations of all relevant parties can be met;

1(viii) Whether the proposed priority order for access to telecommunication risers, cable trays/metal trunking and underground pipeline systems within a Development is reasonable. If not, what would be the alternatives to ensure that the reasonable requirements and obligations of all relevant parties can be met;

StarHub notes that the Authority has proposed, in the event of concurrent deployments by FBOs, priority order for access as follows:

i. PTLs
ii. Other FBOs providing fixed-line services to the Development; and
iii. MTOs

StarHub submits that given the already pervasive use of mobile services, it is important for MTOs to be given higher priority for access to the space and facilities to provide mobile coverage. We propose that MTOs should have the same priority for access as other FBOs providing fixed-line services. If there is concurrent demand for access to space and facilities between MTOs and other FBOs providing fixed-line services, the Authority may then decide which party should be given access.

1 (ix) In the event of insufficient space in the relevant space and facilities and there being no other practicable alternatives, should similarly-situated Facilities-based Operators be required to share their installation and plant where feasible to do so. If so, what would be the reasonable basis for sharing and why;

StarHub has no objection to the sharing of installation and plant with similar-situated FBOs. However, this should only be considered if it is technically feasible and reasonable for the parties to do so and the sharing FBO's current and future needs for its installation and plant have been adequately provided for.

We would also highlight that the development of operational procedures and the enforcement of these procedures is critical to facilitate the sharing of installation and plant. This is to prevent any damage to the sharing FBO's installation and plant and service disruption to its customers. StarHub has recently experienced cases where its facilities were damaged by another operator, thereby leading to service disruption.

1 (x) Whether a set of dispute resolution guidelines will facilitate negotiations between a MTO and an owner of a Development for the rental of building space used in the provision of outdoor mobile coverage beyond the Development itself. If so, what should the scope of the guidelines be and what are the potentially contentious issues that should be addressed? For example, should the Guidelines address disagreements relating to monthly rental rates through the engagement of an independent valuer;

As mentioned above, the Authority's proposal (which limits the MTOs' use of space and facilities in a Development to the provision of mobile coverage within that Development only) would lead to uncertainties, implementation difficulties and disputes between MTOs and building developers/ owners. A set of dispute resolution guidelines would likely be ineffective, and the ambiguity as to the rights and obligations of the parties could well result in protracted resolution.

We strongly urge the Authority to further engage the relevant key stakeholders to review the different types of developments, and whether such developments fall within the proposed definition of "Development", the methods of providing mobile coverage in such developments and how the key operational challenges in providing mobile coverage at such developments can be overcome. We believe that a framework that offers a better understanding and clarity on the rights and obligations of the parties when providing mobile coverage would facilitate a smoother deployment of the mobile coverage. A set of dispute resolution guidelines could then be used to address disputes which MTOs and other stakeholders could not resolve within ambit of the framework.

1(xi) Any other considerations that IDA should take into account in its review of this section.

StarHub submits that the Authority would also need to take into account of the following in its review of the COPIF:

i. Building developers/ owners should not impose any access related charges (for example, administrative fees, escort fees, charges for civil or retrofitting works to make good their premise) for the deployment and maintenance of a FBO's installation and plant in the space and facilities at their Developments;

ii. The COPIF does not address the requirements of space and facilities for the provision of mobile coverage in landed properties. StarHub often encounter challenges securing space and facilities (for example, lampposts) to provide

mobile coverage in landed estates. We are of the view that it is necessary for the Authority to address the issues in this consultation exercise.

iii. It is not economically viable or efficient for MTOs to deploy in-building DAS for all buildings as the sole means of providing indoor mobile coverage. If further enhancement in the quality of service standards for mobile coverage is required, building developers/ owners should be required to pre-lay in-building DAS at the time of construction to facilitate the provision of indoor mobile coverage. This would minimise disruption to their premises and aesthetic concerns. This is similar to the current practice where building developers/ owners are required to pre-lay in-building copper cables (now optical fibre as proposed by the Authority) and broadband coaxial cable system.

iv. The Authority has stated in its consultation document that the provisioning of PMDS should not prejudice or in any way affect existing contractual obligations between the developers/ owners of Developments and MTOs over the usage of space and facilities. We submit that the Authority should require the contractual obligations between the developers/ owners of Developments and MTOs to lapse one year after the effective date of the COPIF. This is to prevent a building developer/ owner from circumventing the COPIF by imposing a long term contract on MTOs for the use of the space and facilities.

v. The importance and need for public education on the operational realities in providing mobile coverage. We believe that this would help to manage and ensure realistic expectations of all key stakeholders with regard to providing mobile coverage.

SECTION 2 – Provision of Cables for Telecommunication (Non-Broadband Coaxial Cable) System in all Residential Properties

2(i) The proposed replacement of the twisted copper 4-pair cables from the telecommunication riser/gate pillar to each residential unit with a two-core optical fibre cable to a fibre termination point within the residential unit;

2(ii) The proposed installation of a fibre distribution box at the telecommunication riser on each residential floor of high-rise residential buildings;

2(iii) The proposed replacement of twisted copper 4-pair cables (Category 3 or better) to each living room and bedroom with the provision of 1 unshielded twisted pair cable (Category 6 or better) to the living room and each of the bedrooms;

2(iv) The proposed installation of RJ11/45 combination outlets instead of RJ11 outlets;

2(v) The proposed replacement of the block terminal with an RJ45 patch panel;

2(vi) Whether the COPIF should require cabling and RJ11/45 combination outlets in addition to those proposed. If so, where should these be located and why; and

2(vii) Any other relevant considerations that IDA should take into account in its review of this section.

StarHub has no objection to the Authority's proposals to install the two-core optical fibre cable, the fibre termination point, fibre distribution box and the unshielded twisted pair cable, in place of the twisted copper cables in the manner set out in sub-sections 2(i) to (iii) above.

However, StarHub would highlight that it is critical to ensure that:

i. the fibre installation would not jeopardise the other licensees' existing network deployment and their future needs; and

ii. the unshielded twisted pair cable within the residential unit would not cause interference to the Broadband Coaxial Cable System (BCS).

Apart from replacing the block terminal with a RJ45 patch panel, we also note that the Authority has proposed that a RJ11/45 combination outlet be installed in the living room and each of the bedrooms. We believe this may cause some inconvenience to end users who wish to use RJ11 and RJ45 connections at the same time in the same room within their residential units. We propose to have 2 pair of cables terminating into the RJ11/45 combination outlet to allow for the concurrent use of RJ11 and RJ45 connections.

SECTION 3 – Location of Main Distribution Frame Room and Telecommunication Equipment Room

3(i) The proposal to locate MDF rooms and TERs on the first storey (street-level) in buildings; and

3(ii) What are the alternatives or measures that should be implemented by the developers or owner of buildings, in the event that it is not possible to locate the MDF room or TER on the first storey (street-level) of the buildings.

StarHub supports the Authority's proposal that MDF rooms and TERs for new buildings be located on the first storey (street-level) of the buildings, notwithstanding that these buildings may have basement levels. This would minimise the incidents of service disruption caused by flooding incidents in MDF rooms and TERs. In the event that it is not possible to locate the MDF rooms or TERs on the first storey (street-level) of the buildings, we would propose the following alternative locations where the building developers/ owners can situate the MDF rooms or TERs:

i. on higher floors of the buildings; or

ii. on the uppermost basement level of the buildings (only if such buildings have multiple basement levels).

In addition, we would propose that the following measures be taken by the building developers/ owners:

i. Building developers/ owners should build kerbs or raised platforms for the installation and plant that are placed inside the MDF rooms and TERs by telecommunication licensees. This is to minimise the risk of damage to such installation and plant and service disruption to end-users in the event of any flooding incident;

ii. Building developers/ owners should locate a MDF room or TER at a location within a building where the underground pipeline linkage is nearest to the side of a main road (not facing an expressway) rather than being in the inner part of the building. Building developers/ owners should also avoid linking the underground pipeline to existing pipeline where they may be insufficient capacity for deployment of installation and plant. This would: (a) facilitate ease of access to the underground pipeline by telecommunication licensees, and (b) minimise disruption to the affected building developer/ owner as well as tenants and residents, when telecommunication licensees need to carry out maintenance or repair works on the underground pipeline. For example, any hacking of the floor inside a building to access damage or blocked underground

pipeline can be avoided. If a building developer/ owner has no choice but to locate a MDF room or TER at the inner part of a building, the building developer/ owner should provide adequate and accessible cable trays/ metal trunking that link the MDF room or TER to the outside of the building;

iii. Building developers/ owners should avoid placing a MDF room or TER adjacent to or near: (a) a rubbish dump (where there may be rats that could damage the cables and equipment), or (b) toilets, water chillers and drainage fittings (where corrosive liquids or water spillage could damage the cables and equipment); and

iv. MDF rooms and TERs would need to be properly secured to prevent unauthorised access; and

v. MDF rooms and TERs should have sufficient ventilation and lighting, and free of working or health hazards to workers.

SECTION 4 – Usage of Cable Trays/Metal Trunking in Buildings

4(i) The proposed removal of the designation of cable trays/metal trunking in telecommunication risers for either telecommunication (non-broadband coaxial cable) system or broadband coaxial cable system;

4(ii) The proposed revision that cable trays/metal trunking in telecommunication risers should be of equal size, and follow the specifications for such facilities as stated in COPIF 2008, for telecommunication (non-broadband coaxial cable) systems;

4(iii) Whether the existing cable tray/metal trunking size requirements for telecommunication (non-broadband coaxial cable) systems should be increased in view of potential additional systems that may be deployed to provide telecommunication services to developments, such as better mobile coverage; and

4(iv) Whether there are any issues that may arise following the removal of the designation of cable trays for specific systems, such as possible interference issues arising from sharing of cable trays/metal trunking, priority of access to the cable trays/metal trunking amongst the various types of licensees, or measures to ensure efficient use of the cable trays/metal trunking. If so, what are the measures that may be implemented to address these issues

StarHub is very concerned with the Authority's proposal to remove the designation of cable trays/ metal trunking in telecommunication risers for either telecommunication system (non-BCS) or BCS.

StarHub submits that the current designation of cable trays/ metal trunking should remain for the following reasons:

i. This would avoid any potential interference that may arise between the cables of the different systems. Given the sensitivity of cable services to interference, StarHub submits that a cable tray/ metal trunking of a width size of 200mm should still be allocated to the BCS.

ii. It would pose operational difficulties when too many cables share the same cable tray/ metal trunking. For example, if the cables are overlaid on top of each other, it would be difficult for a telecommunication licensee to repair or recover the bottom layer cables. This would increase the risk of damage to other cables and service disruption.

Therefore, StarHub submits that separate cable trays/ metal trunking be provided by building developers/ owners for installation of telecommunication system (non-BCS) (including MTO's mobile system) and BCS respectively. Although this would result in

more cable trays/ metal trunking being installed and higher cost to building developers/ owners, it is an important prudent measure to ensure that any potential interference and disruption to services is minimised.

We would also suggest that the width size of each cable tray should not exceed 600mm (whether for telecommunication system (non-BCS) or BCS). Cable trays should have separators/ dividers or could be tiered vertically. These measures would: (a) facilitate the ease of installation and maintenance works, (b) address any future operational difficulties (such as those referred to in (ii) above), and (c) ensure efficient use of space and facilities.

SECTION 5 – Sealing of underground pipes entering the Main Distribution Frame Rooms, Telecommunication Equipment Rooms and Telecommunication Risers

5(i) For new Developments, the proposed sealing of all underground pipes by developers prior to the handing over of such pipes to telecommunication licensees;

5(ii) For new Developments, the proposed sealing of underground pipes by telecommunication licensees after cable installation works in buildings;

5(iii) For existing Developments, the proposed sealing by telecommunication licensees of their respective underground pipes and the timeframe for which such works shall be completed;

5(iv) Whether there are other effective measures to address the leakage of foreign gases into MDF rooms, TERs and telecommunication risers; and

5(v) The materials to be used for the sealing of both unused and occupied pipes to prevent gas leakage to MDF rooms, TERs and telecommunication risers.

StarHub notes that the Authority has proposed to seal new and existing underground pipes entering the MDF rooms, TERs and telecommunication risers due to safety reasons.

We understand that such flash fire incidents within MDF rooms, TERs and telecommunication risers are very rare. While it is important to ensure the safety of workers, we are of the view that the sealing of new and existing underground pipes entering the MDF rooms, TERs and risers would be an unreasonably onerous exercise for building developers/ owners and telecommunication licensees. In addition, such approach would not be fully effective in preventing accidents and casualties.

We believe that a more effective approach would be to raise the awareness amongst workers on the hazards in such confined space and reinforce the practice of work safety and implementation of reasonably practicable control and preventive measures to eliminate or reduce the risk levels of such hazards when working in such confined space (e.g. risk assessment and proper ventilation requirements prior to commencing works).

We would also emphasize that there must be sufficient early detection and rectification measures on gas leakages from key sources (for example, PowerGas) such that incidents of gas leakage into the underground pipeline can be minimised.

SECTION 6 – Removal of Requirement for Cable Readiness Certification by StarHub Cable Vision Ltd

6(i) The proposed removal of the CRC requirement; and

6(ii) Any other relevant considerations that IDA should take into account in its review of this section

StarHub is very concerned with the Authority's proposal to remove the CRC requirement.

The purpose of the CRC is to ensure that the BCS installed by a building developer/ owner is capable of delivering cable services. The CRC is necessary even if building developers/ owners are required to comply with the technical specifications of the BCS specified in the COPIF.

We would highlight that the CRC inspection is usually carried out near the time when the Temporary Occupation Permit (TOP) of a Development is issued. Therefore, the CRC allows for early detection and rectification of any BCS-related problems prior to the commissioning of the BCS which puts the BCS in a ready-state to provide cable services to end-users. With the increasing trend of home networking solutions and the sensitivity of cable services to interference, the CRC plays an even more important role today. StarHub is still encountering many cases during the CRC inspections where building developers/ owners do not: (a) install the BCS according to the technical specifications required under the COPIF; or (b) ensure that the BCS is capable of delivering cable services[1].

By removing the CRC requirement, any problem in the BCS may only be detected later, after the Development has been completed and handed over to end-users. This would result in more inconvenience and costs to building developers/ owners, end-users and StarHub, due to the extent of works required to rectify the problems. End-users who have moved into the Development would not be able to subscribe to cable services. StarHub would also have to expend resources to address complaints from end users due to the unavailability of cable services at the Development. Therefore, StarHub would respectfully submit that the Authority should not remove the CRC requirement.

[1] In the last twelve months, approximately 25% of Developments were found to have defects on the BCS and required to rectify such defects before the issuance of CRC.

SECTION 7 – Provision of electrical distribution panels and accessories in the relevant space and facilities

7(i) The proposed requirement for the developer or owner of an existing Development to provide, install and test electrical distribution panels and accessories, in the event that charges for utility usage in the MDF room and TER are to be borne by telecommunication licensees.

StarHub supports the requirement for a building developer/ owner of an existing Development to provide, install, test and maintain, at its expense, electrical distribution panels and accessories, in the event that charges for utility usage in the MDF room and TER are to be borne by telecommunication licensees. StarHub also submits that the electrical panels and accessories should include a separate PowerGrid meter for each electrical distribution panel. Upon the provision of electrical panels and accessories, a telecommunication licensee who is using the power supply is required to have an account with PowerGrid and pay the utility charges based on the PowerGrid meter.

We believe that this is a reasonable and equitable approach as the electrical distribution panels and accessories are part of a Development's facilities. Any telecommunication licensee who is using the power supply in the Development will be responsible for its utility charges. The proposed requirement will facilitate a clear demarcation of responsibilities between the parties and prevent any unnecessary disputes between telecommunication licensees and the building developers/ owners on the use of power supply.

3. Conclusion

StarHub welcomes the opportunity to provide comments to the Authority's public consultation on the review of COPIF. We have carefully reviewed the Authority's proposal to amend the COPIF and would highlight the following key concerns:

i. The proposal to limit MTOs' use of space and facilities in a Development to the provision of mobile coverage within that Development only would result in uncertainties, implementation difficulties and disputes between MTOs and building developers/ owners;

ii. The proposed space to be allocated to MTOs is insufficient for them to deploy their installation and plant in a Development;

iii. The designation of cable trays/ metal trunking in telecommunication risers for either telecommunication (non-BCS) system or BCS should not be removed. This is to minimise potential interference or disruption of services to end users;

iv. The proposed sealing of underground pipes entering the MDF rooms, TERs and telecommunication risers would be an unreasonably onerous exercise and would not be fully effective in preventing safety hazards. A more effective approach would be to raise awareness of workers on the hazards in confined space and reinforce the practice of safety, control and preventive measures when working in confined space; and

v. The Cable Readiness Certification requirement should not be removed, as this step would result in significant problems in the BCS being detected later, leading to more inconvenience and costs for building developers/ owners, end-users and StarHub. This would also delay the provisioning of cable services to end-users who have moved into the Development.

We would strongly urge the Authority to further engage the relevant key stakeholders to address the issues of providing mobile coverage prior to finalising the COPIF. This would minimise any uncertainties, implementation difficulties and disputes that MTOs and building developers/ owners may face.

StarHub is grateful for the opportunity to comment on this matter and would welcome any further discussion with the Authority on our submission. In the event that submissions from other parties raise new issues or is likely to affect responses given by StarHub under this submission, we would appreciate it if we could be afforded the opportunity to comment further on the matter.

StarHub Ltd
16 December 2011