

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

1. NetLink Trust is pleased to submit herein our views and comments on the draft of the revised Code of Practice for Info-Communication Facilities in Buildings (“Proposed Revised Code”).

Access to COPIF Space and Facilities – Emergencies

2. NetLink Trust notes IMDA’s proposed amendments in the Proposed Revised Code to establish the obligations between the building developer or owner, and the licensee, in regard to the grant of Emergency Access for manned and unmanned buildings.
3. IMDA has proposed specific clauses in Chapter 2 (Provision of Mobile Deployment Space and Obligations of Developer or Owner in relation to the Provision, Maintenance and Grant of Use of, and Access to, Space and Facilities), Chapter 16 (Obligations of Licensees in relation to the Use of, and Access to, Space and Facilities), and Chapter 17 (Use of Space and Facilities within a Development for the Provision of Fixed Telecommunication Services to Properties outside of the Development) of the Proposed Revised Code, to clarify the responsibility for incurrence of cost relating to the provision of Emergency Access. In particular, IMDA has proposed that – *“where the developer or owner incurs any reasonable cost and expense in providing Emergency Access to the licensee (e.g. engagement of security escort for unmanned buildings), the licensee shall bear such cost and expense.”*
4. IMDA’s proposal departs from the broad principle on cost responsibility adopted under the COPIF, wherein developers and owners are not allowed to, in relation to the licensees’ use of, and access to, the relevant space and facilities, impose any costs, expenses, charges or rent (including but not limited to administrative charges and security escort charges) on the licensees. NetLink Trust recommends that IMDA should adhere to the aforesaid principle in the case of Emergency Access.
5. Apart from developers and owners, licensees also incur additional costs and expenses in providing emergency maintenance and/or support services to comply with any applicable laws, regulatory requirements or lawful orders issued by any competent authority. NetLink Trust submits that it would be fair and equitable to require developers and owners to similarly bear their own costs and expenses in providing Emergency Access to the licensees, given that such Emergency Access is either occasioned by the licensees’ need to comply with any applicable law, regulatory requirement or lawful order issued by any competent authority; or to carry out urgent works to restore their services due to unforeseen and unscheduled outages, disruptions or downtime.
6. In NetLink Trust’s view, it should be a regulatory requirement on developers and owners to support the licensees and grant the licensees Emergency Access to their

premises as and when the need arises. In rendering such support, developers and owners should be required to bear all costs and expenses incurred by them in granting the licensees Emergency Access to the relevant space and facilities.

7. NetLink Trust further notes that IMDA has cited the cost associated with the engagement of security escort for Emergency Access for unmanned buildings, as an example of cost that developers and owners of unmanned buildings could recover from the licensees. NetLink Trust does not consider this to be an appropriate example, as unmanned buildings are neither manned nor staffed with security escort during normal operating hours. The mode of access during Emergency Access should follow the mode of access adopted for normal operations. Allowing the developer/owner to engage security escort solely for the purpose of providing Emergency Access may lead to a delay in the licensees' access to its premises, due to the need to mobilise additional resources on an urgent basis.
8. Accordingly, NetLink Trust submits that IMDA should make clear in the Proposed Revised Code that developers and owners are to bear all costs and expenses incurred by them in providing Emergency Access to the licensees. This is fair and equitable as explained in the preceding paragraphs, and is also consistent with the principle on cost responsibility adopted by IMDA under the COPIF. Importantly, NetLink Trust's position is aligned with IMDA's intent that "[licensees] should not be prevented from Emergency Access for the purpose of service restoration ..." ¹, and that "... building owners and on-duty building managers should also act with urgency to facilitate Emergency Access as far as possible." ² Allowing developers and owners an opportunity to negotiate a cost-recovery arrangement with the licensees for Emergency Access (which is unsupported as explained above) may inadvertently create an incentive for developers/owners to delay access by prolonging the negotiation to extract a favourable position for themselves. For the Emergency Access regime to be effective and achieve the outcome as intended by IMDA, the Proposed Revised Code must clearly stipulate that developers and owners are obliged to comply with all requests for Emergency Access and provide unfettered access to their premises at their own cost and expense.

Use of Building Lead-In Pipes

9. StarHub Ltd ("StarHub") announced on 20 April 2018 that it would cease further rollout of its hybrid fibre coaxial network to new residential and commercial buildings that obtain Temporary Occupation Permit ("TOP") status after 30 April 2018.³ Separately, Singapore Telecommunications Limited ("Singtel") announced on 11 September 2017 that it would cease copper deployment to commercial buildings that obtain TOP status

¹ Page 14, paragraph 44 of the Consultation Document

² Page 15, paragraph 46 of the Consultation Document

³ <http://www.starhub.com/about-us/newsroom/2018/april/starhub-to-cess-further-hfc-rollout.html>

from April 2018, and that it had ceased copper deployment to new residential buildings since 2013⁴.

10. In light of Singtel's and StarHub's decisions to cease their deployment of copper and hybrid fibre coaxial networks to new residential buildings (respectively), NetLink Trust recommends that the Proposed Revised Code should make clear that for new residential developments, lead-in pipes provided by developers and owners pursuant to their obligations under the COPIF would no longer be allocated to Singtel and StarHub.

Optical Fibre Cable Installation in Residential Units

11. In the Proposed Revised Code, IMDA has proposed that a Fibre Termination Point ("FTP") with four (4) ports be installed in the telecommunication riser and connected to each residential unit. NetLink Trust is concerned that IMDA's proposal would result in congestion in the telecommunication riser. To illustrate, IMDA's proposal will result in at least ten (10) individual FTPs pre-installed in a telecommunication riser, if there are ten (10) residential units on each floor of a residential building. This has not taken into account the licensees' own optical fibre cables and associated equipment and accessories that need to be co-located within the telecommunication riser, to support service provisioning and maintenance.
12. To avoid congestion in telecommunication risers, and to facilitate service provisioning and maintenance activities by the licensees, NetLink Trust recommends that as part of their planning criteria, developers and owners should provide for a minimum space allowance of at least 100mm between any two (2) adjacent fibre accessories i.e. FTP, Fibre Termination Box ("FTB"), Fibre Splicing Hub ("FSH") etc.
13. Further, where there are more than three (3) residential units located on the same floor, NetLink Trust recommends that IMDA should consider requiring developers and owners to install a single Fibre Distribution Unit ("FDU"), instead of individual FTPs, in the telecommunication riser for connection to these residential units.

Air-Blown Fibre Microduct Installation in Non-Residential Developments

14. In the Proposed Revised Code, IMDA has proposed the pre-installation of 2-way air-blown fibre microducts ("ABF microducts") by developers and owners to facilitate the provisioning of fibre services in non-residential developments.
15. NetLink Trust agrees with IMDA's proposal. The provision of 2-way ABF microducts will facilitate the deployment of fibre and related infrastructure by the licensees. The pre-installation of 2-way ABF microducts in non-residential developments will likely

⁴ <https://www.singtel.com/about-Us/news-releases/singtel-to-acelerate-fibre-based-service-adoption-to-suport-smart-nation>

expedite the provisioning of fibre services to end-users, as it avoids (or shortens) the engagement process between the licensees and developers/owners (or their appointed building managers) on creation of access panel openings to facilitate fibre cable installation work.

16. NetLink Trust would like to propose that the following information relating to the pre-installation of ABF microducts be submitted to the licensees, as part of the submission of building plans by developers and owners to the Telecommunication Facility Coordination Committee ("TFCC"):
 - (i) Strata Buildings (with pre-determined units in accordance with records lodged with the Inland Revenue Authority of Singapore ("IRAS"))
 - Developer or owner shall include the unit assignment per riser per floor for the 2-way ABF microducts and the accompanying accessories for proper recording and cable allocation.
 - (ii) Non-Strata Buildings (without pre-determined units in accordance with records lodged with IRAS)
 - Developer or owner shall include the proposed number of units per riser per floor for proper cable allocation.
 - (iii) Developer or owner shall provide a schematic diagram/plan indicating the proposed 2-way ABF microduct routing to the specific units that will be served from each telecommunication riser.
17. The submission of the above information will facilitate the licensees' planning and deployment of their fibre network infrastructure to/within non-residential developments.
18. Further, as developers and owners would have full visibility as to the use of the ABF microducts, NetLink Trust recommends that developers and owners be required to maintain records on the use of the ABF microducts and associated tube patch panels pre-installed within their premises.
19. To ensure an efficient and effective system to manage the use of the ABF microducts and associated tube patch panels, NetLink Trust recommends that developers and owners be required to maintain a master record of the licensees which have utilised the ABF microducts and associated tube patch panels. Licensees which require use of the ABF microducts may approach the developer or owner to retrieve information on existing service providers which are using the ABF microducts, and to inform the developer/owner of their intent to use the ABF microducts. In turn, the developer/owner shall notify the existing service provider to require the removal of its fibre cable from the relevant ABF microduct (in the event the end-user no longer requires the telecommunication service provided by the existing service provider). NetLink Trust

believes that the proposed process would enhance end-users' experience through facilitating the coordination between the incoming and outgoing service providers, and ensure timely provision of services for end-users.

20. NetLink Trust notes that IMDA has proposed to require the outgoing service provider to remove the fibre cable that it has installed in an ABF microduct, within seven (7) days from the date of notification that the same ABF microduct is required by the incoming service provider for the provision of telecommunication services to the occupier of the non-residential unit. NetLink Trust is supportive of IMDA's proposal.

Buildings Housing Vital Services

21. IMDA has proposed that for buildings that house vital services, developers and owners would not be required to ensure that the second set of infrastructure that they provide for resiliency and diversity purposes are of the same size, capacity, scale or proportion as the first set of infrastructure.
22. NetLink Trust is concerned that IMDA's proposal to not require the second set of infrastructure (i.e. lead-in pipes, main distribution frame rooms and telecommunication risers) to be of the same size, capacity, scale or proportion as the first set of infrastructure may lead to a contention for space and facilities, in the event a high proportion of end-users residing in buildings with vital services require diversity in the telecommunication services that they procure.
23. To ensure that all end-users in buildings that house vital services are able to enjoy diversity in the telecommunication services that they procure (if they so choose), NetLink Trust recommends that IMDA should require the second set of infrastructure to be of the same size, capacity, scale or proportion as the first set of infrastructure. In addition, IMDA should mandate the provision of a second set of cable distribution system in buildings that house vital services.

Fibre Readiness Certification

24. IMDA has proposed the following condition under Clause 15.9.2 of Chapter 15 (Specific Requirements for Optical Fibre Cables Provided in Residential Developments and 2-Way Air Blown Fibre Microducts Provided in Non-Residential Developments) of the Proposed Revised Code:

"The requirement for Fibre Readiness Certification is applicable to all new residential developments, with the exception of a development consisting of only 1 single landed dwelling house."

25. NetLink Trust submits that IMDA should not exempt developments that consist of only one single landed dwelling house from its requirement for Fibre Readiness Certification.

26. Given Singtel's and StarHub's decisions to cease their deployment of copper and hybrid fibre coaxial networks to new residential buildings (respectively), fibre will increasingly become the only medium through which consumers rely upon for their broadband connectivity needs. It is therefore imperative that IMDA continue to require all developers and owners to obtain Fibre Readiness Certification for all new residential developments, as well as residential developments that have undergone Addition & Alteration ("A&A") works.
27. The objective of Fibre Readiness Certification is to ensure that the fibre infrastructure pre-installed by developers and owners comply with the requirements specified in the COPIF, and that the premises are 'fibre-ready' upon issuance of TOP by the relevant authority. The Fibre Readiness Certification process also provides an opportunity for developers and owners to rectify defects that are detected during the certification process. IMDA's requirement for Fibre Readiness Certification therefore facilitates a more seamless service provisioning and delivery process for end-users, through the imposition of mandatory pre-TOP checks to ascertain the readiness of pre-installed fibre infrastructure in new residential developments, as well as residential developments that have undergone A&A works.
28. IMDA should therefore reinstate the requirement for Fibre Readiness Certification for developments that consist of only one single landed dwelling house, in view of the increasing importance of fibre as the only medium through which consumers rely upon for their broadband connectivity needs. For the same reason, the requirement for Fibre Readiness Certification should extend to residential developments that have undergone A&A works.

Use of and Access to COPIF Space and Facilities at No Cost to Licensees

29. Amongst other things, the COPIF stipulates the duties of developers, owners and licensees in relation to the provision, maintenance and utilisation of the relevant space and facilities provided by developers and owners pursuant to the COPIF. Specifically, Clause 1.4.10 of Chapter 1 (Preliminary) of the Proposed Revised Code states:

"For the avoidance of doubt, the obligations imposed on a developer or owner in this Code shall be borne solely by the developer or owner."

30. It should also be noted that under Clause 2.3.3 of Chapter 2 (Provision of Mobile Deployment Space and Obligations of Developer or Owner in relation to the Provision, Maintenance and Grant of Use of, and Access to, Space and Facilities) of the Proposed Revised Code, IMDA has proposed the following condition:

"The developer or owner shall not, in relation to a licensee's use of, and access to, the relevant space and facilities, impose –

- (a) *any costs, expenses, charges or rent (including but not limited to administrative charges and security escort charges) on the licensee; or*
 - (b) *any additional requirements that may have the effect of requiring the licensee to incur any additional costs or expenses (including but not limited to requiring the licensee to take up any insurance policy or additional insurance coverage)."*
31. In essence, Clause 1.4.10 and Clause 2.3.3 (as cited above) specify that developers and owners are obliged to facilitate the licensees' use of, and access to, the relevant space and facilities (as provided by developers and owners pursuant to their obligations under the COPIF) at no cost or expense to the licensees.
32. In this regard, NetLink Trust notes that IMDA has removed the words "*at no cost, to the licensee*", from the following clauses in Chapter 2 (Provision of Mobile Deployment Space and Obligations of Developer or Owner in relation to the Provision, Maintenance and Grant of Use of, and Access to, Space and Facilities) of the Proposed Revised Code:

Clause 2.5.7

"Where the developer or owner requires the licensee to submit any proposal for cabling works based on the relevant building plans, floor plans or blueprints, the developer or owner shall provide the licensee with at least one (1) set of the relevant building plans, floor plans or blueprints."

Clause 2.5.9

"The obligation of the developer or owner to grant licensees the use of, and access to, the relevant space and facilities shall, without limitation, include the following –

- (a) *where the licensee's access to and use of the relevant space and facilities (e.g. access to vertical pipes, cable trays or metal trunking) is obstructed by any temporary or permanent structure (e.g. false ceiling, panelling or any other form of covering), the developer or owner shall remove such temporary or permanent structures or provide appropriate openings in such structures (e.g. construction of access panels) to grant the necessary access to the licensee;*
- (b) *where there are any blockages or obstructions in the relevant space or facilities (e.g. where lead-in or underground pipes are choked with foreign particles, collapsed or damaged) which impede or prevent the licensee from deploying its installation, plant or system within the relevant space and facilities, the developer or owner shall remove or*

remediate such blockages and obstructions to facilitate deployment by the licensee; and

- (c) *where the licensee encounters difficulty in ascertaining the location of any relevant space and facilities, the developer or owner shall provide the licensee with all necessary assistance (including providing the licensee with the relevant building plans, floor plans or blueprints if required) in a timely manner to enable the licensee to locate the space and facilities.”*

33. It is not clear to NetLink Trust if the omission of the words “*at no cost, to the licensee*” in Clause 2.5.7 and Clause 2.5.9 was unintentional. Clearly, developers and owners are required to bear all costs and expenses that they incur in providing building plans, floor plans or blueprints, and to facilitate the licensees’ use of, and access to, the relevant space and facilities that they provide pursuant to their obligations under the COPIF.
34. NetLink Trust therefore submits that IMDA should reinstate the words “*at no cost, to the licensee*” in Clause 2.5.7 and Clause 2.5.9 of the Proposed Revised Code, to improve clarity and provide certainty as to the obligations and responsibilities of developers and owners in facilitating the licensees’ use of, and access to, the relevant space and facilities.