



**SINGAPORE TELECOMMUNICATIONS LIMITED AND SINGTEL MOBILE
SINGAPORE PTE LTD**

**RESPONSE TO SECOND PUBLIC CONSULTATION ON THE REVIEW OF THE
CODE OF PRACTICE FOR INFO-COMMUNICATION FACILITIES IN
BUILDINGS (COPIF)**

1. CONTENTS

1.1. This submission is structured as follows:

- Section 2 – Introduction
- Section 3 – Executive Summary
- Section 4 – Specific Comments
- Section 5 – Other Comments

2. INTRODUCTION

- 2.1. Singapore Telecommunications Limited and Singtel Mobile Singapore Pte Ltd (collectively **Singtel**) are licensed to provide info-communications services in Singapore. Singtel is committed to the provision of state-of-the-art info-communications technologies and services in Singapore.
- 2.2. Singtel has a comprehensive portfolio of services that includes voice and data services over fixed, wireless and Internet platforms. Singtel services both corporate and residential customers and is committed to bringing the best of global info-communications to its customers in the Asia Pacific and beyond.
- 2.3. On 21 June 2017, Singtel submitted our response to the first public consultation on the review of the COPIF.
- 2.4. Singtel welcomes the opportunity to make this submission on the second public consultation on the review of the COPIF (**Consultation Paper**) and the draft of the revised COPIF (**Proposed Revised Code**).
- 2.5. Singtel would be pleased to clarify any of the views and comments made in this submission, as appropriate.

3. EXECUTIVE SUMMARY

- 3.1. The definition of “non-residential building” should be extended to non-traditional buildings where the mobile network operators (**MNOs**) have already deployed or will need to deploy a mobile installation, plant or systems.
- 3.2. The incumbent MNOs have been engaging IMDA and the relevant party(s) in relation to the treatment of perpetual agreements that were in force prior to the commencement of COPIF 2013, since COPIF 2013 took effect and this issue has yet to be resolved. There must be a point at which all perpetual agreements in existence prior to the commencement of COPIF 2013 need to be reviewed in light of the provisions for rental-free mobile deployment space (**MDS**) that came into effect with COPIF 2013.
- 3.3. There is already insufficient space for the existing deployments and it is unreasonable to expect that the MNO can expand and develop its network in line with consumer demands without providing more room in the MDS. Singtel therefore requests that IMDA reconsider expanding the size of the MDS in support of future deployments.
- 3.4. The Proposed Revised Code should include a qualification that MDS allocation will be equally divided amongst the MNOs occupying the space; the developer/owner should not prevent an MNO(s) from fully utilising all available space in the MDS until such time that another MNO(s) is ready to install its equipment in the MDS.
- 3.5. In the event that the only feasible location for the MDS has a lower floor loading such that the developer/owner requires the MNO to place metal plates or a bigger c-channel to spread the weight over a bigger area and this results in the MNO exceeding the allocated MDS, Singtel submits that the MNO should not incur rental charges for occupying the additional floor space in compliance with the developer/owner requirements.
- 3.6. Singtel notes that it may be difficult to accurately determine the Gross Floor Area (**GFA**) and requests that the provision of the GFA to the MNO be included as part of the developer/owner obligations.
- 3.7. The Proposed Revised Code should make it clear that the MDS is to be located on the rooftops of buildings except under the following circumstances:
 - a) there is insufficient space to place the MDS on the rooftop; or
 - b) the MNO requires that the MDS be located within the building as the equipment is not intended to provide outdoor coverage (e.g. the MDS may be need to be located in the basement for the purpose of providing in-building coverage or in a location that is able to fit all the MNOs’ equipment as close as possible to the combiner to minimise radio frequency losses in signal due to longer cable lengths).

- 3.8. Singtel highlights that the definition and degree of reasonableness may give rise to disputes between the MNOs and developer/owner, which may then require IMDA's subsequent intervention.
- 3.9. Where the developer/owner allocates an MDS that is not approved by the relevant agency(s) (e.g. Fire Safety Bureau) resulting in the MNO(s) having to relocate and/or apply for the conversion of the newly allocated space [which would require engaging a professional engineer and other necessary professionals], the relocation costs and other associated costs to convert the use of the space should be borne by the developer/owner.
- 3.10. Where the developer/owner provides an enclosed space as the MDS, clearly lighting and ventilation are basic necessities that the developer/owner should provide in order "to enable the mobile telecommunication licensee to deploy and operate its installation, plant or system at that location". Therefore, the existing obligation on the developer/owner in COPIF 2013 should continue to apply in the Proposed Revised Code.
- 3.11. Singtel submits that the additional set of infrastructure that is required for resiliency and diversity purposes should also specify that cable systems from two (2) risers to the individual units are to be provided due to deployment needs. It should also be made additionally clear that licensees should not be charged for the provision for such infrastructure; i.e. horizontal facilities provided by developers/owners.
- 3.12. Singtel submits that the Emergency Access timeframe should be revised as follows:
 - a) Manned Building: To be changed from "*Within 2 hours from receipt of the licensee's notice*" to "*As soon as possible*"; and
 - b) Unmanned Building: From "*As soon as possible and in any case not more than 8 hours from the receipt of licensee's notice*" to "*As soon as possible and in any case not more than 3.5 hours from the receipt of licensee's notice*".
- 3.13. Singtel submits that a licensee should bear reasonable cost and expense for Emergency Access to unmanned buildings only. For manned buildings, Emergency Access for manned buildings utilise existing on-site personnel and there should be no cost involved for the developer/owner. For unmanned buildings, access should be made available before standby power is exhausted and should be no later than three and a half (3.5) hours. IMDA should also cap the maximum fee payable by licensees for Emergency Access to unmanned buildings.
- 3.14. Singtel proposes that the IMDA increases the requirement for 2-way air-blown fibre microducts to 4-way. Ensuring at least a 4-way configuration benefits most developments, as typically up to four (4) licensees will be present.



- 3.15. Singtel is of the view that the developer/owner should not impose a deposit if the Licensee is able show that it has the necessary insurance coverage.
- 3.16. In the event of a deposit being required, the maximum period for the developer/owner to return the deposit should be no more than fourteen calendar days. Singtel is of the view that the description for “*any significant works*” is too general. Singtel proposes that only work activities of \$2,000 in value or more can be considered “significant”. For work activities below \$2,000, no deposit should be required. For work activities that are above \$2,000 in value, Singtel is of the view that the security deposit should be limited to a maximum value of \$1,000.
- 3.17. Singtel proposes that the IMDA revises the requirement the developer/owner must provide “*the contact details of a duly authorised person(s), of which at least one (1) must be contactable at all times*” to “*two (2) duly authorised persons, of which at least one (1) must be contactable at all times*”. This is to ensure that in the event that the duly authorised person cannot be contacted, licensees have a secondary contact with which to pursue and rectify the situation. Singtel also proposes that the contacts be made accessible by a central portal accessible by all licensees.
- 3.18. Under COPIF 2013, “*the developer or owner shall provide the licensee with at least one (1) set of the relevant building plans, floor plans or blueprints, at no cost to the licensee.*” However, the same clause under Section 2.5.7 of the Proposed Revised Code has “*at no cost to the licensee*” removed. Singtel seeks IMDA’s clarification and submits that it was not meant to be removed.
- 3.19. The utility room or closet of houses should be required to have an easily accessible door. The size of the utility room or closet must also be big enough to house an Optical Network Terminal (**ONT**) within.
- 3.20. Where a standby power generator is not provided in the relevant development, beyond the stated main distribution frame (**MDF**) room requirements, developers/building owners should be required to ensure that there is sufficient parking space for the generator within a radius of no more than three (3) metres from the MDF room.
- 3.21. Any riser that serves three (3) or more units should deploy a Fibre Distribution Unit (**FDU**) as follows, instead of multiple Fibre Termination Points (**FTP**). Multiple FTPs cause considerable issues and problems for maintenance and patch cord management.
- 3.22. The draw rope material for the Second Conduit should be designated nylon to ensure durability. A similar requirement is already stated requiring nylon ropes in every pipe



to facilitate cable pulling and should be extended to the draw rope provided in the Second Conduit.

- 3.23. Singtel seeks clarification from the IMDA that alternative manhole designs are acceptable and that a developer/building owner can adopt similar designs proposed by Singtel as long as approval has been obtained from IMDA. If so, this should be explicitly stated, failing which the IMDA should consider addendum updates upon confirmation of its manhole revision plans.
- 3.24. Developers/owners should be encouraged to use the latest fire-stop materials with automatic sealing. This automatic sealing will greatly reduce the time required for sealing checks after completion of cable work, as well as the quality of sealing.
- 3.25. Singtel notes that under the “Certificate of Statutory Completion” form issued by Building Control Authority (**BCA**) still cites that the Fibre Readiness Certificate (**FRC**) is to be obtained specifically from NetLink Trust instead of an operator licensed to provide passive optical fibre connectivity service. Singtel requests IMDA coordination with the BCA to ensure the necessary amendment in alignment with Proposed Revised Code.
- 3.26. Most building developers/ owners install U-channel cable trays. With such trays, the Licensee will place the cable(s) onto the tray between the gaps of the U support channel which increases the time to carry out cable work as there are multiple gaps to navigate. Singtel requests that the revised COPIF include the following recommendations to install C-channel cable trays instead.
- 3.27. MDF rooms in HDB flats today rely on a basic, small padlock to secure access to the room. There have been security issues in the past where equipment has been stolen from MDF rooms. Singtel recommends that the security of HDB MDF rooms be upgraded to tighten access through the use of smart locks. Singtel also proposes for IMDA to look into implementation of smart locks for rooftop MDS access.
- 3.28. Building developers/ owners should provide a cable distribution system beneath the floor (i.e., a service trench) to non-building address point locations within the building (e.g. kiosks, ATMs or other locations where services may be required on an ad hoc basis, etc.).
- 3.29. All building developers/ owners should be required to update the building Temporary Occupation Permit (**TOP**) date by writing to the Telecommunication Facility Co-ordination Committee (**TFCC**) and/or updating CORENET. Developers/owners should be required to ensure frequent and prompt updating of TOP dates to licensees. This is necessary for licensees’ resource and deployment planning purposes.

- 3.30. All building demolition work should be submitted in CORENET so that Licensees can take note of any recovery work that needs to be carried out before demolition works commence.
- 3.31. All buildings should be use a multi-cable transit (**MCT**) system instead of lead duct seals. This reduces the risk of a fire occurring while the Licensee is carrying out works in the building.

4. SPECIFIC COMMENTS

CHAPTER 1 PRELIMINARY

Section 1.4.4 Buildings (or any parts thereof) used for the provision of vital services

- 4.1. Singtel submits that the additional set of infrastructure that is required for resiliency and diversity purposes should also specify that cable systems from two (2) risers to the individual units are to be provided. Due to deployment needs for the aforementioned purpose, tenants within a building need to be served from two (2) different risers and MDF rooms.
- 4.2. Singtel notes that under 1.4.10, it is stated that *“for avoidance of doubt, the obligations imposed on a developer or owner in this Code shall be borne solely by the developer or owner”*. It should be made additionally clear that licensees should not be charged for the provision for such infrastructure; i.e. horizontal facilities provided by developers/owners.

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

Section 1.2 – Definition of “non-residential building”

- 4.3. The definition of “non-residential building” should be extended to non-traditional buildings where the MNOs have already deployed or will need to deploy a mobile installation, plant or systems. Singtel notes the basis for not including lamp-posts and towers in the Proposed Revised Code however, IMDA has not addressed the feedback to include other developments such as substations.
- 4.4. Singtel seeks confirmation that substations and other similar buildings are included as non-residential buildings under part (h) “utilities and telecommunication installations”,

therefore the developer or owner of said buildings are subject to the obligations under the COPIF 2013 and the Proposed Revised Code.

Section 1.6.5 – Existing agreements

- 4.5. The incumbent MNOs have been engaging IMDA and the relevant party(s) in relation to the treatment of perpetual agreements that were in force prior to the commencement of COPIF 2013, since COPIF 2013 took effect and this issue has yet to be resolved. The Consultation Paper fails to provide any concrete proposal for the management of such agreements.
- 4.6. In all fairness to the incumbent MNOs who have continued to honour these agreements for five (5) years since rental-free provisions were introduced, it is imperative that IMDA address this matter without further delay. When the fourth MNO begins deploying its network, it will not be restricted by such agreements and will be able to deploy its network in the same location(s) rent-free whereas the incumbent MNOs continue to be hampered by the lack of a settlement on these agreements.
- 4.7. Singtel submits that there must be a point at which all perpetual agreements in existence prior to the commencement of COPIF 2013 need to be reviewed in light of the provisions for rental-free MDS that came into effect with COPIF 2013. Singtel proposes that perpetual agreements be terminated within one (1) year from the date the Proposed Revised Code. One (1) year [in addition to the preceding five (5) years] is a generous grace period which provides ample time for the developer/owner to source for alternative funds which are currently supplemented by the rental charges paid by the MNOs.

Section 2.2.3 and 2.2.4 – MDS size

- 4.8. IMDA expressed the view that with the cessation of the 2G network and taking into consideration that not every MNO may require the use of the same MDS location in every development, it is not necessary to increase the size of the MDS despite the entrance of a fourth MNO.
- 4.9. Singtel submits that this is a flawed viewpoint which fails to consider technological developments in the near future such as the deployment of the 5G network. Singtel refers IMDA to our submission on the public consultation on 5G mobile services and networks dated 21 July 2017, specifically paragraph 5.5, and emphasises the necessity to provide for larger MDS to support the build-up of the 5G network which involves:
 - a) more base stations;
 - b) new “hub” sites to support the increased peak throughput and bandwidth;

- c) more equipment [as compared to 3G and 4G deployments] should IMDA allocate high frequency spectrum bands for the provision of 5G mobile services;
 - d) the deployment of shorter range site using the high frequency mmWave; and
 - e) a growing number of connected devices and ultra-reliable mission critical services.
- 4.10. Furthermore, the MNO is likely to deploy its 5G network at the same locations in which it deploys its existing 3G and/or 4G network as recommended in the recently ratified 3GPP standards¹. This approach would allow MNOs to capitalise on the existing infrastructure. There is already insufficient space for the existing deployments and it is unreasonable to expect that the MNO can expand and develop its network in line with consumer demands without providing more room in the MDS. Singtel therefore requests that IMDA reconsider expanding the size of the MDS in support of future deployments. In the event that IMDA maintains the size of the MDS in the Proposed Revised Code, the COPIF review cycle [or at minimum a review of the MDS size] must be shortened in view of the ongoing development and standardisation of 5G technology and standards.
- 4.11. Singtel has also come across instances where the developer/owner has apportioned the MDS into four (4) equal spaces and allocates each MNO a quarter of the MDS regardless of the number of MNOs currently occupying the MDS. This is an inefficient use of the MDS and the existing MNO(s) is unfairly penalised financially should its equipment encroach beyond its allocated area into the unoccupied space. The Proposed Revised Code should include a qualification that MDS allocation will be equally divided amongst the MNOs occupying the space; the developer/owner should not prevent an MNO(s) from fully utilising all available space in the MDS until such time that another MNO(s) is ready to install its equipment in the MDS.
- 4.12. The Proposed Revised Code states that the MDS is not to be located in any area that is “not able to withstand a loading of 1.5kN/m² or more and for tunnels a loading of 7.5kN/m² or more”. In the event that the only feasible location for the MDS has a lower floor loading such that the developer/owner requires the MNO to place metal plates or a bigger c-channel to spread the weight over a bigger area and this results in the MNO exceeding the allocated MDS, Singtel submits that the MNO should not incur rental charges for occupying the additional floor space in compliance with the developer/owner requirements.
- 4.13. IMDA has proposed that “mobile coverage area” be based on GFA + Land/ Site Area. Singtel notes that it may be difficult to accurately determine the GFA and requests that the provision of the GFA to the MNO be included as part of the developer/owner obligations.

¹ First 5G NR Specs Approved, http://www.3gpp.org/news-events/3gpp-news/1929-nsa_nr_5g

- 4.14. There is an error in Table 7.12.3.

Section 2.2.9(a) – Locating mobile deployment space on rooftops

- 4.15. Singtel supports the decision to designate rooftops as the preferred location for the MDS however the Proposed Revised Code should make it clear that the MDS is to be located on the rooftops of buildings except under the following circumstances:
- a) there is insufficient space to place the MDS on the rooftop; or
 - b) the MNO requires that the MDS be located within the building as the equipment is not intended to provide outdoor coverage (e.g. the MDS may be need to be located in the basement for the purpose of providing in-building coverage or in a location that is able to fit all the MNOs' equipment as close as possible to the combiner to minimise radio frequency losses in signal due to longer cable lengths).
- 4.16. Allowing the MDS to be located at the rooftop only “where feasible” is subjective and likely to give rise to disputes between the MNOs and the developer/owner, which may then require IMDA’s subsequent intervention.

Section 2.2.9 (c) – Aesthetics of the MDS

- 4.17. The COPIF requires that the MNO address, where practicable, any reasonable concerns of the developer or owner in relation to the aesthetics of the MDS yet, in the Consultation Paper, IMDA indicated that MNOs are not required to fulfil excessive requests for aesthetic modifications.
- 4.18. Singtel highlights that the definition and degree of reasonableness may give rise to disputes between the MNOs and developer/owner, which may then require IMDA’s subsequent intervention.

Section 2.2.11 – Compliance with statutory or regulatory requirements or obtaining approvals for the provision and/or use of the MDS

- 4.19. Where the developer/owner allocates an MDS that is not approved by the relevant agency(s) (e.g. Fire Safety Bureau) resulting in the MNO(s) having to relocate and/or apply for the conversion of the newly allocated space [which would require engaging a professional engineer and other necessary professionals], the relocation costs and other associated costs to convert the use of the space should be borne by the developer/owner. The MNOs should not be bear these as the developer/owner is responsible for “complying with any statutory or regulatory requirements or obtaining any requisite approvals for its provision of the mobile deployment space”.

Section 2.2.12 – Provision of lighting and ventilation in the MDS

- 4.20. The Proposed Revised Code requires that the MNO bear the cost and expense of providing the necessary lighting and ventilation in the MDS whereas the COPIF 2013 places this requirement on the developer/owner. This revision was not raised in the First Public Consultation or in the Consultation Paper.

COPIF 2013

2.3.3 Where the mobile deployment space is located in an enclosed space, the developer or owner of the development shall provide lighting and ventilation to the mobile deployment space at his own expense where this is necessary to enable a licensee to deploy and operate its installation, plant or system in such space and facilities.

Proposed Revised Code

2.2.12 Where the mobile telecommunication licensee requires lighting and ventilation to be provided at a mobile deployment space to enable the mobile telecommunication licensee to deploy and operate its installation, plant or system at that location, the developer or owner shall render all necessary access and assistance in a timely manner to facilitate the provision of such lighting and ventilation, save that the mobile telecommunication licensee shall bear the cost and expense for the provision of the necessary lighting and ventilation.

- 4.21. Singtel does not support the proposed reassignment of the cost and expense to provide lighting and ventilation in the MDS to the MNOs, and questions the purpose of this revision. Where the developer/owner provides an enclosed space as the MDS, clearly lighting and ventilation are basic necessities that the developer/owner should provide in order “to enable the mobile telecommunication licensee to deploy and operate its installation, plant or system at that location”. Therefore, the existing obligation on the developer/owner in COPIF 2013 should continue to apply in the Proposed Revised Code.

Section 2.1.1 Provision of 2-way air-blown fibre microducts

- 4.22. Singtel proposes that the IMDA increases the requirement for 2-way air-blown fibre microducts to 4-way. Ensuring at least a 4-way configuration benefits most developments, as typically up to four (4) licensees will be present.
- 4.23. This increase will reduce the need for licensees to recover the fibre in the microducts, which inconveniences customers as fibre recovery work requires access to customers’



premises. Further to this, a typical tenancy lease expires and changes every two to three years. Recovery effort will be an inefficient use of resource should the new tenant choose to revert to the original licensee setup.

Section 2.3.4 Deposit in connection with any significant works (e.g. deployment of installation, plant or systems, and other major installation works)

- 4.24. Singtel is of the view that the developer/owner should not impose a deposit if the licensee is able show that it has the necessary insurance coverage. Developers/owners are already aware that typically, licensees are already covered by a public liability insurance of up to \$10million. Providing a deposit is an additional and unnecessary cost to the licensee. Furthermore, it may take up to 3 months after the work is completed to recover the deposit.
- 4.25. In the event of a deposit being required, the maximum period for the developer/owner to return the deposit should be no more than fourteen calendar days. Singtel has encountered situations of developers/owners wanting to hold on to the deposit for extended periods unrelated to Singtel's work completion (e.g. for the duration of the tenant's tenure).
- 4.26. Singtel is of the view that the description for "*any significant works*" is too general. Instead of descriptions, the scope of significance should be quantified by the cost/value of the works involved. Singtel proposes that only work activities of \$2,000 in value or more can be considered "significant". For work activities below \$2,000, no deposit should be required. For work activities that are above \$2,000 in value, Singtel is of the view that the security deposit should be limited to a maximum value of \$1,000.

Section 2.5.4 Emergency Access timeframe

- 4.27. Singtel submits that the Emergency Access timeframe should be revised as follows:
- a) Manned Building: To be changed from "*Within 2 hours from receipt of the licensee's notice*" to "*As soon as possible*"; and
 - b) Unmanned Building: From "*As soon as possible and in any case not more than 8 hours from the receipt of licensee's notice*" to "*As soon as possible and in any case not more than 3.5 hours from the receipt of licensee's notice*".
- 4.28. Manned buildings consist of stationed personnel authorised by the developer/owner and are fully aware of COPIF requirements. It is thus logical that manned buildings should facilitate faster access than unmanned buildings, thus access should likewise be provided as soon as possible.

- 4.29. For unmanned buildings, Singtel submits that eight (8) hours is too lengthy. Emergency access dictates urgent need for repair and maintenance work. Developers/owners will also already have in place standard operation procedures (**SOPs**) for speedy activation for emergencies. Furthermore, in the case of power outages, standby power capacity may typically last up to four (4) hours. As such, access should be made available before standby power is exhausted and should be no later than three and a half (3.5) hours.

Section 2.5.5 Reasonable cost and expense in providing Emergency access to licensee

- 4.30. Singtel submits that a licensee should bear reasonable cost and expense for Emergency Access to unmanned buildings only. For manned buildings, Emergency access for manned buildings utilise existing on-site personnel and there should be no cost involved for the developer/owner.
- 4.31. Further to this, to avoid disputes between licensees and developers/owners, IMDA should cap the maximum fee payable by licensees for Emergency Access to unmanned buildings. Singtel proposes that the IMDA sets the following fee guidelines:
- a) Emergency Access during office hours: Fee not exceeding \$40 per activation; and
 - b) After office hours and Public Holidays: Fee not exceeding \$70 per activation.

Section 2.5.6 Contact details of a duly authorised person(s)

- 4.32. Singtel proposes that the IMDA revises the requirement the developer/owner must provide “*the contact details of a duly authorised person(s), of which at least one (1) must be contactable at all times*” to “*two (2) duly authorised persons, of which at least one (1) must be contactable at all times*”. This is to ensure that in the event that the duly authorised person cannot be contacted, licensees have a secondary contact with which to pursue and rectify the situation.
- 4.33. Singtel also proposes that the contacts be made accessible by a central portal accessible by all licensees. This will encourage developer/owners to update their contacts frequently as they will no longer need to deal with multiple licensees on multiple fronts, while licensees can readily access updated contacts at any time.

Section 2.5.7 Provision of relevant building plans, floor plans or blueprints

- 4.34. Under COPIF 2013, “*the developer or owner shall provide the licensee with at least one (1) set of the relevant building plans, floor plans or blueprints, at no cost to the licensee.*” The IMDA further reiterated in this Consultation Paper that “*developers/owners should provide all reasonable assistance, e.g. provide plans if they are available, at their own costs, in facilitating MNOs’ access*”.

- 4.35. However, the same clause under Section 2.5.7 of the Proposed Revised Code has “*at no cost to the licensee*” removed. Singtel seeks IMDA’s clarification and submits that it was not meant to be removed.

CHAPTER 4 DEVELOPMENT CONSISTING OF 1 OR MORE LANDED DWELLING-HOUSES ABUTTING AN EXISTING ROAD

- 4.36. The utility room or closet of houses should be required to have an easily accessible door. The size of the utility room or closet must also be big enough to house an ONT within. Singtel proposes that a minimum compartment size of at least 200mm (depth) x 300mm (width) x 50mm (height) be required.

CHAPTER 6 DEVELOPMENT CONSISTING OF 2 OR MORE STRATA LANDED DWELLING-HOUSES

- 4.37. Where a standby power generator is not provided in the relevant development, beyond MDF room requirements, a minimum distance must also be stipulated as requirement. This is due to the fact that portable power generators are usually mounted on trucks. Developers/building owners should be required to ensure that there is sufficient parking space for the generator within a radius of no more than three (3) metres from the MDF room.

CHAPTER 7 DEVELOPMENT CONSISTING OF 1 OR MORE MULTI-STOREY RESIDENTIAL BUILDINGS

- 4.38. Any riser that serves three (3) or more units should deploy an FDU as follows, instead of multiple FTPs. Multiple FTPs cause considerable issues and problems for maintenance and patch cord management.



- 4.39. The draw rope material for the Second Conduit under 7.9.1 should be designated nylon to ensure durability. A similar requirement is already stated under 11.3.1 requiring nylon ropes in every pipe to facilitate cable pulling and should be extended to the draw rope provided in the Second Conduit.



CHAPTER 11 SPECIFIC REQUIREMENTS FOR LEAD-IN PIPES, UNDERGROUND PIPES AND MANHOLES

- 4.40. In October 2017, Singtel responded to the proposed Direction from IMDA to address the risk of explosions in underground telecommunication infrastructure. In our response, Singtel had proposed an alternative manhole design cover design. Singtel seeks clarification from the IMDA that alternative manhole designs are acceptable and that a developer/building owner can adopt similar designs proposed by Singtel as long as approval has been obtained from IMDA. If so, this should be explicitly stated, failing which the IMDA should consider addendum updates upon confirmation of its manhole revision plans.

CHAPTER 16 OBLIGATIONS OF LICENSEES IN RELATION TO THE USE OF, AND ACCESS TO, SPACE AND FACILITIES

- 4.41. Developers/owners should be encouraged to use the latest fire-stop materials. Specifically, the latest fire-stop products feature automatic sealing of the riser hole after cabling work is completed. This automatic sealing will greatly reduce the time required for sealing checks after completion of cable work, as well as the quality of sealing.

5. OTHER COMMENTS

- 5.1. Singtel notes that under the “Certificate of Statutory Completion” form (FORM BPD_CSC01) issued by BCA, the Explanatory Notes (5(i)) still cites that the FRC is to be obtained specifically from NetLink Trust. As stated under the Proposed Revised Code, *“prior to obtaining issuance of the Temporary Occupation Permit by the relevant authority, the developer or owner shall obtain fibre readiness certification for the development from an operator licensed to provide passive optical fibre connectivity service”*. Singtel requests IMDA coordination with the BCA to ensure the necessary amendment in alignment with Proposed Revised Code.
- 5.2. Singtel reiterates the following recommendations raised in the first consultation, with additional comments:
- 5.3. Most building developers/ owners install U-channel cable trays. With such trays, the licensee will place the cable(s) onto the tray between the gaps of the U support channel which increases the time to carry out cable work as there are multiple gaps to navigate. Singtel requests that the revised COPIF include the following recommendations to facilitate cable pulling in buildings:
- a) install C-channel cable trays instead of U-channel cable trays so that cables can be placed along the tray easily;
 - b) provide a clearance space of at least 0.5m from the opening of the cable trays; and

- c) provide a clearance space of 0.35m between trays where there are multi-tier cable trays.
- 5.4. MDF rooms in HDB flats today rely on a basic, small padlock to secure access to the room. There have been security issues in the past where equipment has been stolen from MDF rooms. Singtel recommends that the security of HDB MDF rooms be upgraded to tighten access through the use of smart locks. Singtel also proposes for IMDA to look into implementation of smart locks for rooftop MDS access. For the avoidance of doubt, it is not necessary to use smart locks on MDF rooms in private buildings as these usually have managed security and/or other access restrictions.
- 5.5. Building developers/ owners should provide a cable distribution system beneath the floor (i.e., a service trench) to non-building address point locations within the building (e.g. kiosks, ATMs or other locations where services may be required on an ad hoc basis, etc.). The cable distribution system can be a cable tray or conduits and shall have accessible pits from which cables can be pulled for work to be carried out.
- 5.6. All building developers/ owners should be required to update the building TOP date by writing to the Telecommunication Facility Co-ordination Committee and/or updating CORENET. Singtel notes that TOP dates in CORENET are largely inaccurate which makes tracking the timeline for the purpose of scheduling the Licensees' jobs difficult. Currently, licensees receive the estimated TOP date during the planning stage of the development (submission to TFCC). However, these dates can often be subject to change without licensees being promptly informed. Developers/owners should be required to ensure frequent and prompt updating of TOP dates to licensees. This is necessary for licensees' resource and deployment planning purposes.
- 5.7. All building demolition work should be submitted in CORENET so that Licensees can take note of any recovery work that needs to be carried out before demolition works commence. Currently, licensees can be informed too late, resulting in difficulty or additional costs in retrieving assets from the site at short notice (e.g. demolition site deemed unsafe to enter due to late notification). In the event that the building concerned is used to serve external properties, the impact on licensee's infrastructure will also greatly affect these services. Prompt and advance notice should be required (e.g. a minimum advance period) to minimise such an impact.
- 5.8. All buildings should be use a MCT system instead of lead duct seals. This reduces the risk of a fire occurring while the Licensee is carrying out works in the building. As IMDA is aware, Singtel has successfully executed a conversion project at all its exchanges to switch from lead duct seals to MCT. Singtel notes that revisions in the COPIF do not apply retrospectively however it is critical that the conversion process is initiated across all buildings in Singapore given the safety issues that arise from the use



of lead duct seals. All buildings should also be required to use a MCT system instead of lead duct seals to reduce the risk of a fire occurring while the Licensee is carrying out works in the building.