SECOND PUBLIC CONSULTATION ON THE REVIEW OF THE CODE OF PRACTICE FOR INFO-COMMUNICATION FACILITIES IN BUILDINGS

RESPONSE BY OPENNET PTE LTD TO THE CONSULTATION PAPER ISSUED BY THE INFO-COMMUNICATIONS DEVELOPMENT AUTHORITY OF SINGAPORE ON 22 JUNE 2012

STATEMENT OF INTEREST

OpenNet was established in 2008 as a joint venture between four partners – Axia NetMedia Corporation, Singapore Telecommunications Limited, Singapore Press Holdings Ltd and Singapore Power Telecommunications Pte Ltd.

In September 2008, OpenNet was appointed by IDA as the Network Company to design, build and operate the passive infrastructure of the Next Generation Nationwide Broadband Network.

OpenNet received its Facilities-Based Operator Licence from IDA on 1 April 2009, and was designated as a Public Telecommunication Licensee under Section 6 of the Telecommunication Act (Chapter 323) on the same day.

As the Network Company responsible for the design, rollout and operation of the passive infrastructure of the Next Generation Nationwide Broadband Network, OpenNet has a keen interest in ensuring that the COPIF is regularly reviewed and updated to keep pace with the evolving needs of info-communications infrastructure operators and end-users.

EXECUTIVE SUMMARY

OpenNet welcomes this opportunity to provide its views and comments on the Proposed Revised Code of Practice for Info-communication Facilities in Buildings ("COPIF").

OpenNet has reviewed the Proposed Revised COPIF and submits herein its response for IDA's consideration. In summary, the salient points of OpenNet's response are as follow:

- OpenNet has no objection to IDA's principle to accord preference to licensees which use space and facilities provided under the COPIF to serve the telecommunication needs of a development. However, OpenNet submits that IDA's proposed changes to the COPIF should also ensure that end-users in external properties who are served by such space and facilities will not have their services disrupted;

- The space and facilities provided by developers/owners of developments pursuant to their obligations under the COPIF are finite. There is therefore a need to ensure such limited resources are used by licensees in the most efficient and optimal manner;

- The need for clear demarcation of responsibilities between developers/owners and OpenNet in the provision and operation/maintenance of services delivered over the fibre infrastructure installed within the developments;

- Co-operation required of developers/owners in granting licensees timely access to and use of space and facilities (including during service emergencies); and

- Proposed measures to ensure a safe working environment for personnel working within space and facilities provided pursuant to the COPIF.

OpenNet's specific comments on the Proposed Revised COPIF are set out in the following sections.

SPECIFIC COMMENTS ON CHAPTER 16 OF PROPOSED REVISED COPIF –

Use of Space and Facilities Within a Development for the Provision of Telecommunication Services to Properties Outside of the Development

In the Proposed Revised COPIF, IDA has proposed the following under Clause 16.4.2 of Chapter 16 (Use of Space and Facilities Within a Development for the Provision of Telecommunication Services to Properties Outside of the Development):

> *"In the event that the installation, plant and systems deployed by a licensee to serve external properties impedes or causes obstruction to any future deployment of installation, plant and systems by other licensees to serve the needs of the development, the licensee shall –*
>
> *(a) remove its installation, plant and systems at its own costs; or*
>
> *(b) pay for the costs of any additional space and facilities required to accommodate such future deployment needs where it is feasible for such additional space and facilities to be provided."*

OpenNet notes IDA's view that space and facilities provided by a developer or owner of a development under the COPIF must be primarily intended for licensees to deploy installation, plant and systems to serve the telecommunication needs of the development. This implies that licensees using space and facilities provided under the COPIF to serve the telecommunication needs of the development rank in priority above licensees which use the same space and facilities to serve external properties. While OpenNet has no objection to IDA's principle to accord preference to the former group of licensees, it must be noted that sub-paragraph (a) of Clause 16.4.2 will inevitably result in disruption of services to end-users. In OpenNet's view, this must be avoided.

OpenNet respectfully submits that licensees which have deployed installation, plant and systems in space and facilities provided under the COPIF, and are using these installation, plant and systems to serve end-users in external properties, should not be required to remove

or re-locate their network deployment subsequently under the scenario envisaged in Clause 16.4.2. Accordingly, OpenNet proposes to remove sub-paragraph (a) of Clause 16.4.2.

OpenNet submits that its proposal is entirely consistent and aligned with IDA's stated policy objective to – *"ensure that telecommunication services are reasonably accessible to all people in Singapore, and are supplied as efficiently and economically as practicable and at performance standards that reasonably meet the social, industrial and commercial needs of Singapore"*[1]. OpenNet would add that its proposal would still deliver the same outcome IDA has intended to achieve with Clause 16.4.2 of the Proposed Revised COPIF, but without the adverse consequence of service disruptions to end-users.

OpenNet further proposes that IDA should provide more clarity as to how sub-paragraph (b) of Clause 16.4.2 would operate in practice. In this regard, OpenNet would strongly recommend that Clause 16.4.2 be amended to make clear the following:

- prior to a developer (or owner of the development, as the case may be) commencing work to add space and facilities to accommodate the deployment requirements of other licensees to serve the telecommunication needs of the development, the developer (or owner of the development) shall be obliged to verify and confirm that all existing space and facilities within the development have already been fully and efficiently utilised;

- the developer or owner shall be obliged to consult with and obtain the prior agreement of the licensee from which it intends to recover the costs associated with providing the additional space and facilities, before commencement of any work to add space and facilities;

- In the event the parties (i.e. the developer or owner, and the licensee) are unable to reach an agreement, either party may refer the matter to IDA. Specifically, either party may request IDA to conduct an audit of the space and facilities within the development to ascertain that such resources have indeed been fully and efficiently utilised; and

[1] Section 1.2 of the Code of Practice for Competition in the Provision of Telecommunication Services 2012.

- Where necessary, IDA may direct licensees to share space, facilities and other resources if spare capacity is found to be available within such resources and sharing is feasible.

OpenNet submits that the above proposed amendments to Clause 16.4.2 are necessary and important.

The space and facilities provided by developers and owners of developments pursuant to their obligations under the COPIF are not infinite. Given this reality, it is therefore critical that an independent and binding check-and-balance mechanism exists to verify that licensees are indeed deploying their installation, plant and systems within the space and facilities provided under the COPIF in the most efficient and optimal manner.

In OpenNet's view, as the regulatory authority for the info-communications sector, IDA is well-positioned to assume this responsibility in ensuring scarce resources earmarked for use by licensees under the COPIF for the national good are not abused or misused by licensees for their own commercial advantage. For example, licensees could intentionally hoard space and facilities provided by developers to keep out competition, or to drive up the costs of their competitors in providing telecommunication services to end-users. Such behaviour clearly cannot be tolerated and must be kept in check by IDA; they are in fact contraventions of IDA's Code of Practice for Competition in the Provision of Telecommunication Services 2012.

In summary, OpenNet supports IDA's initiative in setting out clearly the procedures to be observed by the parties in using the space and facilities provided under the COPIF to serve external properties, and the principles that IDA may adopt in resolving disputes between the parties arising from such use. However, having carefully reviewed in detail Chapter 16 of the Proposed Revised COPIF, OpenNet is gravely concerned with the proposed drafting of Clause 16.4.2.

As OpenNet has explained in the preceding paragraphs, Clause 16.4.2, in its current form, will lead to service disruptions to end-users. It also requires an additional robust mechanism to check that existing licensees which are using the space and facilities provided under the

COPIF are not abusing or misusing such scarce resources for their own commercial advantage, at the expense of competition and innovation in the info-communications sector.

SPECIFIC COMMENTS ON SECTION 2 OF CONSULTATION PAPER –

Provision of Cables for Telecommunication (Non-Coaxial Cable) System in Residential Properties

In the Proposed Revised COPIF, IDA has proposed that the pre-installed optical fibre cables be terminated into fibre interface points (which would be similar to the fibre termination points installed within the residential units) located in gate pillars/telecommunication risers, instead of Fibre Distribution Boxes which IDA originally proposed in its earlier public consultation.

OpeNet has studied the proposal and is of the view that it is not feasible to install individual fibre interface points for each residential unit within the gate pillar/telecommunication riser, due to constraints in space within such facilities.

OpenNet would counter-propose that developers/owners of developments terminate the pre-installed optical fibre cables into a Fibre Termination Panel situated inside the gate pillar/telecommunication riser.

The Fibre Termination Panel should incorporate cable management functionalities to manage and organise the patch cables connecting from the Fibre Termination Panel to the Fibre Termination Box installed by individual licensees. Developers/owners shall be responsible for providing the Fibre Termination Panels. The Fibre Termination Panels shall be clearly labeled with details such as unit addresses/numbers and fibre strand numbers and shall be installed prior to a development obtaining its Temporary Occupation Permit ("TOP"). The Fibre Termination Panels shall be maintained by developers/owners.

Further, to cater for future expansion, OpenNet also proposes that developers/owners shall design and implement the Fibre Termination Panels in a manner that takes into account the need for network augmentation. For clarity, should the developer require a capacity of higher than 2F-core, the developer shall be responsible to augment the optical fibre cables from the gate pillars/telecommunication risers to the units. The onus lies with the developers/owners to ensure that the fibre infrastructure is installed in accordance with the specifications specified

in the revised COPIF. All test reports (in both hard- and soft-copies) shall be submitted to OpenNet for verification prior to a development obtaining its TOP. OpenNet would perform the relevant tests to determine the readiness of the fibre infrastructure installed within the development.

OpenNet would add that it is important to make clear the demarcation of responsibilities between developers/owners and OpenNet in the revised COPIF. OpenNet's responsibilities shall end at the gate pillars/telecommunication risers for new developments constructed under the revised COPIF. The developer/owner shall be responsible for the provisioning, operation and maintenance (which include, without limitation, repair, replacement, re-location and removal) of the fibre infrastructure installed within its development for the residents.

SPECIFIC COMMENTS ON SECTION 5 OF CONSULTATION PAPER –

Sealing of Underground Pipes Entering the Main Distribution Frame Rooms, Telecommunication Equipment Rooms and Telecommunication Risers

OpenNet supports the proposal by IDA to require sealing of underground pipes entering the Main Distribution Frame ("MDF") rooms, telecommunication equipment rooms and telecommunication risers. However, OpenNet is of the view that the requirement to seal underground pipes should not be limited to pipes connecting to Enclosed Facilities.

OpenNet would recommend that for new developments, a standard sealing method viz. Multi-Conduit Transit ("MCT") should be adopted to avoid and minimise maintenance issues in future.

In addition, there is merit to clarify that developers/owners of developments shall be responsible to seal all underground pipes as well as associated duct seals for all existing developments where the underground pipes connect to a building. OpenNet would recommend that upon the completion of sealing of existing pipes within two (2) years from the Effective Date, the developers/owners shall submit a completion notification together with photographs of the newly sealed pipes to the Telecommunication Facility Co-ordination Committee ("TFCC"). Should the pipe seal need to be replaced due to ageing of pipe seal or poor sealing material/workmanship, developers/owners shall be responsible for such replacements.

Sealing of underground pipes requires careful handling to prevent damage. OpenNet recommends that developers/owners should only engage contractors certified by the Building and Construction Authority ("BCA") to perform such work as they would have the required knowledge and expertise to carry out the job.

SPECIFIC COMMENTS ON SECTION 8 OF CONSULTATION PAPER –

Other Proposed Changes

Access to Relevant Space & Facilities

For safety reasons, OpenNet recommends that developers/owners of developments shall not locate space and facilities at a height of more than 3.3 metres, instead of 4 metres as proposed by IDA. Where space and facilities are located at a height of more than 3.3 metres, the developer/owner shall provide, at its own cost, the necessary means of access (for example boom lift or scaffolding) for the licensee to access such space and facilities in accordance with prevailing workplace safety and other applicable laws or regulations.

Responsibility for Sealing of Inter-floor Openings

For safety reasons, OpenNet would recommend that the inter-floor openings within telecommunication risers should not be bigger than 1.25 times the width of the cable tray and with a depth of not more than 200mm. This is to guard against the risk of children who unwittingly gain access to the telecommunication risers and falling through the inter-floor openings.

OpenNet further recommends that the remaining floor area within the telecommunication risers be covered with reinforced concrete, to facilitate mounting of equipment and to support the weight of workers. In addition, there should be a kerb with height of 300mm and thickness of 50mm surrounding the inter-floor opening for the cable tray. Developers/owners shall ensure that the telecommunication cables are installed prior to proceeding with the sealing of inter-floor openings with fire-resistant material and before obtaining TOP. In the event that the developer/owner has sealed the inter-floor openings prior to the licensee installing its telecommunication cables, the developer/owner shall be responsible for the necessary re-opening work to facilitate the licensee's installation. The developer/owner shall be required to seal the inter-floor opening with fire-resistant material upon completion of the installation work by the licensee.

Provision of Main Distribution Frame Rooms

OpenNet recommends that IDA should impose under the COPIF the requirement for the provision of MDF rooms to conform to the Fire Safety Act (Chapter 109A). In addition, similar to telecommunication risers, the cable tray floor openings of MDF rooms should have a kerb with height of 300mm and thickness of 50mm (surrounding the floor opening).

MDF rooms should be limited to single storey. However, in the event that the MDF room has to be located on multiple storeys, the developer/owner should obtain prior approval from TFCC. Where approved by TFCC, the developer/owner shall provide proper access stairways (instead of ladder) in such MDF rooms.

Continuing Obligation to Provide Access to & Use of Space & Facilities

OpenNet would like to highlight that there would be situations whereby the licensee requires emergency access to space and facilities provided under the COPIF to perform urgent trouble-shooting and service restoration work, such as for fault diagnosis and localisation to recover a service outage. Accordingly, there is merit to clarify in the COPIF that the reasonable notice period required therein shall be waived in the event of emergencies.

In addition to Clause 2.5.5 of the Proposed Revised COPIF, OpenNet would recommend including a clarification that the developer/owner shall not require any deposit from the licensee in granting access to and use of space and facilities by the licensee.

Relevant Facilities in Common Areas

The COPIF currently does not specify the height limit for relevant facilities in common areas. For safety reasons, OpenNet would propose that the relevant facilities in common areas should be located at a height of not more than 3.3 metres.

In addition, developers/owners should position the cable trays in common areas for telecommunication licensees at the bottom-most level. In the event that the cable trays are

tiered for the various services (i.e. telecommunication, power, etc.), there should be a height clearance of at least 300mm between the different tiers of cable trays. This allowance will help to facilitate cable installation and maintenance work by licensees.

Provision of Cables Within Gate Pillars

Currently, telecommunication cables and distribution points are typically located at the lowest tier of the different compartments within gate pillars. This makes the infrastructure susceptible to damage and restricts access for cable installation and maintenance work by licensees. OpenNet recommends that the gate pillars should be compartmentalised vertically for telecommunication, power and water services, instead of tiered compartments.

Submission of Information by Developers & Owners of Developments – Date of Temporary Occupation Permit

The developer/owner shall provide an exact and accurate TOP date at the time of submission of its building plan to TFCC. Should there be any change to the TOP date subsequently, the developer/owner shall notify TFCC as soon as practicable and in any case not more than six (6) months prior to the revised TOP date.