THE INFO-COMMUNICATIONS DEVELOPMENT AUTHORITY OF SINGAPORE'S ISSUANCE OF:

(A) CODE OF PRACTICE FOR INFO-COMMUNICATIONS FACILITIES IN BUILDINGS 2008 (COPIF:2008)

(B) GUIDELINES FOR INFO-COMMUNICATIONS FACILITIES IN BUILDINGS

21 AUGUST 2008

Background

1. The existing Code of Practice for Info-Communications Facilities 2000 ("**COPIF:2000**") was issued by IDA on 15 September 2000. The COPIF:2000 was implemented in light of the liberalization of the telecommunication industry, namely, to require the provision of space and facilities by developers or owners of buildings to facilitate the roll out of network infrastructure by Facilities-Based Telecommunication Operators ("**FBOs"**) into buildings for the provision of telecommunication services to customers. The COPIF:2000 also included broadband coaxial cable system ("**BCS"**) requirements in order to ensure that new buildings would be 'cable-ready'. This facilitated the rollout of cable-TV and cable-modem services by the cable TV operator. The issuance of the COPIF:2000 was subsequently followed by the issuance of an addendum to the COPIF:2000 dated 15 March 2001.

2. In March 2005, IDA conducted a public consultation with regard to the proposed changes to the COPIF:2000 ("**draft COPIF:2005**"). The public consultation was closed on April 2005 and 7 parties' comments were received. These commenters included 4 parties from FBOs, 2 parties from M&E consulting firms and 1 party from the Association of the Telecom Industry of Singapore.

3. Generally, commenters welcomed the draft COPIF:2005 as it allowed a building developer or owner to combine equipment rooms and telecom risers, which resulted in space savings.

4. In September 2006, IDA issued an addendum to the COPIF:2000 ("**2006 Addendum**") to require that common telecommunication equipment rooms and vertical telecommunication risers be provided for shared use by telecommunication operators. The 2006 Addendum was intended to be an interim implementation of the proposed changes reflected in the draft COPIF:2005 document. The review and finalisation of the draft COPIF:2005 was put on hold to take into the consideration the additional space and facilities required for the Next Generation National Broadband Network ("**NGNBN**") project.

5. In May 2007, IDA gathered feedback and comments from the pre-qualified NGNBN bidders on the draft COPIF:2005 during the competitive dialogue sessions.

6. In November 2007, IDA conducted another public consultation on the additional space and facilities to be incorporated into the draft COPIF:2005 for the purposes of the NGNBN project. The consultation closed in December 2007 and comments filed by 4 parties were received. These commenters included representatives of the NGNBN consortiums.

7. The general comments provided by the commenters were for building developers or owners to provide more cabling facilities than that proposed by IDA in the public consultation document. In the evaluation of the feedback, IDA has decided that building developers or owners are only required to provide the minimum space and facilities as set out in the public consultation document. However, the developers or owners are encouraged to provide more facilities than the minimum requirements.

Key changes in COPIF 2008

(I) Making the COPIF:2008 User Centric

8. The current COPIF:2000, being a technical and operational document in nature, has not been an easy reference to users. The COPIF 2008 aims to be user centric through the following:

   (a) <u>Separation of mandatory and non-mandatory requirements</u>
   The COPIF:2008 document only includes mandatory requirements (e.g. MDF rooms, risers etc) for compliance. The optional or non-mandatory requirements (e.g. PABX rooms, public telephone booths, etc) have been moved to the "Guidelines For Info-communications Facilities in Buildings". This separation provides clarity while giving flexibility to the building developers or owners to provide certain optional space and facilities under the guidelines to meet their additional telecommunication needs; and

   (b) <u>Reference based on types of building developments</u>
   The current COPIF:2000 chapters set out the requirements based on the types of space and facilities. This makes it inconvenient for

the building developer or owner to piece together the total set of space and facilities that he is required to provide for a particular development (such as landed-dwelling houses). To address this issue, the COPIF:2008 is structured in accordance with the types of building developments. The space and facilities required to be provided for a certain type of building development, e.g. a multi-storey residential building, are specified within a chapter so that the building developers or owners will not inadvertently omit any of the required provisions.

(II) NGNBN Requirements

9. The COPIF:2008 incorporates additional space and facilities to facilitate NGNBN rollout into new buildings and landed properties. In particular:

(a) <u>No major changes to existing space and facilities requirements</u>
In general, there are no major changes to the existing dimensions of MDF rooms, telecommunication equipment rooms, or telecommunication risers in buildings.

(b) <u>Wiring and cable distribution system requirements to facilitate NGNBN rollout</u>
Amongst other requirements, the following wiring and cable distribution system requirements have been incorporated in to the COPIF:2008 to facilitate NGNBN infrastructure deployment:

For landed-dwelling houses:

(i) one empty 50 mm diameter underground uPVC pipe (or conduit) from the utility room (or closet) to a point beyond the road-side drain. The pipe in the utility room (or closet) shall be terminated with an empty box on a wall with a blank face plate;

(ii) a minimum installation of one Unshielded Twisted Pair ("**UTP**") Category 6 cable from a wall mounted RJ45 outlet in a utility room (or closet) to a wall-mounted RJ45 outlet at the living room or a bed room to facilitate deployment of Ethernet-to-the-home for high-speed broadband services; and

(iii) one electrical 13A switched socket outlet (i.e. power point) at the location where the empty 50mm underground uPVC pipe (or conduit) is terminated. The outlet shall be for the purpose of providing electrical power supply to the customer's premises equipments.

For multi-storey residential buildings:

(i) one empty 20 mm diameter conduit in straight run from the telecommunication riser to each residential unit (preferably located in the utility closet). The empty conduit will be

terminated with an empty box on a wall with a blank face plate;

(ii) a minimum installation of one UTP Category 6 cable with a wall-mounted RJ45 outlet from the location where the empty 20mm conduit is terminated to a wall-mounted RJ45 outlet at the living room or a bed room to facilitate deployment of Ethernet-to-the-home for high-speed broadband services; and

(iii) one electrical 13A switched socket outlet (i.e. power point) at the location where the empty 20mm conduit is terminated. The outlet shall be used for providing electrical power supply to the customer's premises equipment.

(c) Efficient use of space and facilities by FBOs

Currently, FBOs, including public telecommunication licensees ("**PTLs**"), adhere to IDA's Guidelines on Usage of In-Building Space and Facilities by FBOs on the use of space and facilities in buildings. It has been observed, from actual site implementation, that in certain cases FBOs do not use the space and facilities based on their actual customer demands or in an efficient manner. As the space and facilities are a limited resource, the COPIF:2008 aims to address the inefficient use of space and facilities through the following:

(i) For new infrastructure rollout to all buildings after the issuance of the COPIF:2008, FBOs will only be allowed to use the space and facilities provided based on their actual operational requirements.

(ii) If an FBO deploys its installation or plant in a manner that is inefficient after the issuance of the COPIF:2008, that FBO will be required to release any unused space and facilities, at its own expense.

(iii) If an FBO deploys its installation or plant in a manner that is inefficient prior to the issuance of the COPIF:2008, that FBO will be required to release such unused space and facilities, at the requesting FBO's expense.

Issuance of COPIF:2008 and Guidelines

10. Pursuant to Section 19 and Section 28 of the Telecommunications Act (Cap. 323), IDA hereby issues the Code of Practice for Info-communications Facilities in Buildings 2008 ("**COPIF:2008**") and the Guidelines For Info-communications Facilities in Buildings ("**Guidelines**") respectively.

11. The COPIF:2008 sets out:-

    (a) the space and facilities that shall be provided by a developer or owner of a building that has been granted provisional or written permission for its construction by the Urban Redevelopment Authority on or after 15 September 2008;

    (b) the duties that shall be observed by a developer or owner in relation to the space and facilities provided in the building pursuant to the COPIF:2008 or previous codes; and

    (c) the duties that shall be observed by a licensee who deploys and operates its installation or plant within the relevant space and facilities provided.

12. Through the existing building plan approval process, the developer or owner is required to submit its proposed space and facilities to IDA through the BCA's CoreNet e-submission system for approval.

13. The COPIF:2008 and Guidelines shall come into effect on 15 September 2008.