



**RESPONSE TO PUBLIC CONSULTATION PAPER
REVIEW OF THE CODE OF PRACTICE FOR
INFOCOMMUNICATIONS FACILITIES
IN BUILDINGS
(‘COPIF’)**

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**PUBLIC CONSULTATION DOCUMENT
REVIEW OF THE CODE OF PRACTICE
FOR INFO-COMMUNICATIONS FACILITIES IN BUILDINGS (‘COPIF’)**



1.0 INTRODUCTION

- 1.1 The current Code of Practice for Info-communications Facilities in Buildings ('COPIF') came into effect on 15 September 2000.

The purpose of the COPIF is to ensure that developers or owners of buildings (hereinafter 'developers or owners') provide adequate space and facilities within their buildings for the installation of equipment and plant used by Facilities-Based Operators ('FBOs') to provide info-communication services to the building occupants.

Depending on the building type to be developed, the COPIF sets out the detailed specifications of the relevant space and facilities which developers or owners are to construct when developing their buildings.

This is to avoid the situation where a building is found to lack sufficient space and facilities after its construction is already completed, thereby causing unnecessary delays to the provision of services, additional costs to developers or owners in carrying out remedial works and unsightly alterations that may mar the aesthetics of the building.

- 1.2 It is timely to review the COPIF to ensure that the requirements specified remain relevant and accurately reflect the current needs of the industry and consumers.

2.0 PROPOSED CHANGES

(A) Mandatory Code

- 2.1 Since its implementation, IDA has encountered situations where developers or owners have failed to comply with the requirements in the COPIF.

For example, some developers or owners did not provide the requisite space and facilities specified in the COPIF or having provided them, subsequently reduced the amount of space and facilities available for the use of the FBOs.

There were also cases where developers or owners partitioned portions of the Main Distribution Frame ('MDF') room into offices or storerooms, thus increasing the risk of equipment 'tampering' and fire hazard in the MDF room.



Proposal

- 2.2 To address the above shortcoming, IDA intends to make compliance with the requirements of the revised COPIF ('COPIF 2005') mandatory by issuing it under section 26 of the amended Telecommunications Act (Cap 323) which provides that non-compliance with a code of practice issued by IDA for 'The provision and use of, and access to space and facilities within or on a building or land for the operation of any installation or plant used for Telecommunications' (i.e. the COPIF 2005) shall constitute an offence punishable with a \$10,000 fine and/or imprisonment of up to 3 years.
- 2.3 In view of its mandatory nature, IDA will only include those specifications which are considered essential for the provision of info-communications services to buildings based on IDA's assessment of current and anticipated need for services.

Other non-critical specifications in the current COPIF will be removed and published as 'Guidelines for Developers or Owners' information instead.

The Draft COPIF 2005 and guidelines can be found in Appendix 1 and Appendix 2 respectively.

Response

ATiS generally concurs with the proposal and believes that there is a need for this subject to be mandatory, however we have certain reservations about COPIF and the Proposed Guidelines and TFCC.

The whole subject of COPIF, TFCC, MDF and TERs needs study.

ATiS has earlier highlighted many problems with MDF and TERs, during our meetings with iDA, in the past.

(B) Removal of Requirement for Endorsement of Building Plans

- 2.4 Currently, developers or owners submit their building plans through their Qualified Professionals ('QPs') to obtain IDA's endorsement of such plans before they can commence building works.

This requirement is to ensure that the COPIF specifications are factored into the building plans.

The Telecommunication Facilities Co-ordination Committee (TFCC)¹ appointed by IDA, assists IDA in checking that such plans comply with the



COPIF specifications before the developer or owners commences construction.

We have received feedback from industry players and our TFCC members that the current arrangement can be streamlined.

Proposal

2.5 As the COPIF 2005 will be a mandatory code requiring self-compliance by developers or owners, it will no longer be necessary for developers or owners to seek IDA's endorsement before starting construction works.

Developers or owners will only be required to submit their building plans to the TFCC for informational purposes so as to facilitate advanced network planning for the provision of info-communication service to the new buildings.

However, as these building plans will not be endorsed by IDA, developers or owners may proceed with their construction works without having to wait for such endorsement.

This revision will save time and business cost for the developers or owners and TFCC.

Response

ATiS does not agree with this proposal for self-compliance and believes it will not be an improvement to the procedure and in fact will worsen the situation.

The condition of the MDF and TERs are already a major cause of concern on design, standards of workmanship, quality etc., and in our opinion the situation overall, needs to be studied.

ATiS believes that the current arrangement with TFCC can be improved and a better way of handling this arrangement would be to engage an Independent Consultant.

TFCC is basically made up of SingTel and StarHub and a 'level playing field' should be made available so that all FBOs interests are taken into consideration.



(C) Inspection of Space and Facilities

- 2.6 Currently, site inspection of the provided space and facilities is conducted jointly by TFCC and the QP's engaged by the developers or owners.

Proposal

- 2.7 IDA intends to formalise the joint inspection process in the COPIF and to require developers or owners to submit the results of the joint inspection to IDA.

The inspection process will be confined to those items identified as critically important by IDA, namely those space and facilities which are essential to enable the roll-out of services by FBOs and which are difficult to rectify once construction works are completed.

The main purpose of the site inspection is to allow the developers or owners to detect any shortcomings or defects in these critical items while their contractors are still on site to carry out any necessary rectification works and the building occupants have yet to move in.

Response

ATiS concurs with the view that a formal Joint Inspection is required.

However, we would recommend that as stated above, an independent Consultant appointed by IDA should do this, with the QPs and not TFCC.

(D) Merging of Broadband Coaxial Cable System ("BCS") Facilities with Telecommunications (Non-BCS) Facilities

- 2.8 Equipment rooms and vertical risers for telecommunications (non-BCS) services (i.e. MDF rooms) and BCS services (i.e. Coaxial Distribution Rooms ('CDR')) are currently provided for separately in a building development.

In other words, a developer or owner is required to build (i) an MDF room; (ii) a CDR; and (iii) two separate sets of vertical risers, each to be used by operators offering telecommunications and cable services (i.e. cable TV, cable telephony and cable broadband) respectively.

Many developers or owners have requested that the two equipment rooms be merged to save space.

IDA has, on a case-by-case basis, approved these requests 2.



There have been no complaints over Radio Frequency ('RF') interference between Telecommunications (non-BCS) and cable services equipment for these merged facilities.

Proposal

2.9 We propose to combine the equipment rooms and vertical risers for Telecommunications (non-BCS) and cable services into a common equipment room (i.e. one MDF room or Telecom Equipment Room per development) and vertical risers.

As a safeguard, the COPIF 2005 will only require physical separation of telecommunications (non-BCS) and BCS installations within the vertical risers so as to reduce any possibility of RF interference.

We believe that the revision will lead to more efficient utilization of space and result in cost savings for developers or owners.

Response

ATiS concurs with the view of iDA, that MDF and CDRs can be combined.

There is no engineering reason, why this cannot be done.

The issue as rightly stated by iDA, is that PROVIDED proper separation from Power cables and other Telecom cables is maintained, then there will no RF interference or EMI.

This highlights another issue of proper planning and training of FBO staff and training and supervision of wiring contractors, implementing the works.

(E) Removal of Cable Ready Certification as a Pre-requirement to Obtain Certificate of Statutory Completion ("CSC")

2.10 Currently, developers or owners are required to obtain cable ready certificates issued by StarHub Cable Vision Limited ("SCV") as a precondition for the issuance of CSC by the Building and Construction Authority ("BCA").

This is to ensure that buildings comply with BCS requirements.

2.11 Based on the feedback from developers or owners, IDA will be streamlining the process and removing the need to obtain SCV's Cable Ready certificate as a pre-condition for CSC.



Proposal

- 2.12 As developers or owners will automatically be required to comply with the BCS specifications set out in the COPIF 2005 due to its proposed mandatory nature, there is no further need to maintain the requirement for developers or owners to obtain cable-ready certificates from SCV to qualify for CSC.

IDA is thus proposing to remove the need for cable-ready certification by SCV as a pre-condition for developers or owners to obtain the CSC.

This will increase efficiency and reduce costs for developers or owners.

The developers or owners will just need to engage any qualified personnel to perform testing and commissioning of BCS to ensure compliance with the COPIF BCS specification.

Response

ATiS is of the opinion that this is NOT a good idea and the present arrangement should be maintained.

Of particular concern is the term 'any qualified personnel'.

What is the definition of 'any qualified personnel'?

Who determines whether a person is qualified or not?

ATiS is very concerned that the quality of workmanship in existing CDRs is very poor and needs supervision and proper acceptance testing.

Self-regulation does NOT work in this case.

(F) Broadband Coaxial Cable System ("BCS") and Internal Wiring & Cabling Distribution System for Residential properties

- 2.13 Currently, for single-unit landed residential properties, IDA only recommends that the property owners adhere to the BCS specifications.

Likewise, we have taken a similar position with regard to the provision of internal wiring and horizontal distribution system for telephone services.



Proposal

- 2.14 For single-unit landed residential properties, IDA will not require the owners to install BCS for cable services and/or internal wiring for telephone services.

However, as a safeguard, IDA is proposing to require single-unit landed residential properties' owners to submit a declaration to

IDA if they decide not to install the BCS and/or internal wiring for cable or telecommunications purposes.

This is to ensure that property owners are fully aware of the potential implications of not setting aside such space and installing such facilities from the onset.

In short, these properties will not be wired up to receive cable services or telecommunication services.

- 2.15 However, for the multi-tenanted residential developments, it will still be mandatory for developers or owners to install BCS for cable services and internal wiring for telecommunications services from the outset.

This is to ensure that tenants are able to subscribe to cable and telephone services if they so choose to after they purchase their units from developers.

- 2.16 IDA will however not mandate the type of wires that developers or owners may choose to install.

In most cases, developers install twisted copper pairs for telecommunications services.

However, IDA will encourage developers or owners to install UTP Category 5e cables to facilitate deployment of Ethernet-to-the-home for broadband services and other advance telecommunication services in the developments.

Response

In ATiS opinion, all properties, whether single unit-landed or multi-tenanted, should be planned for BCS from the outset AND a minimum wiring standard i.e Cat 5e or better, should be specified.



At the moment, all manner of cable types and quality are being installed sometimes with disastrous effects on QoS, when services are installed e.g ADSL.

ADSL Service providers like SingTel, are unable to provide Service Level Agreements (SLAs) or categorically state that their service offerings like their 3500 DSL service will work at that speed.

(G) Different MDF Room Dimensions for Different Categories of Buildings

2.17 The COPIF currently specifies the MDF room dimensions for all buildings, based on the usable floor area 3 of the building i.e. the larger the usable floor area of a building, the larger the MDF room must be.

The current MDF room sizes are sufficient to allow two or more FBOs to deploy their equipment to serve a building.

Proposal

2.18 IDA proposes to fine-tune the specifications of the MDF room dimensions for residential and non-residential buildings.

Having different specifications for residential versus non-residential buildings will more accurately reflect the needs of tenants in different types of buildings and result in overall cost savings for developers or owners:

- i) MDF room dimensions for residential buildings will be based on the number of dwelling units; and
- ii) MDF room dimensions for non-residential buildings will continue to be based on the usable floor area of the building.

However, from experience, we note that not many FBOs roll out competing services to single-tenanted non-residential buildings (with usable floor area of less than 2,000 m² and demand less than 50 telephone lines).

Hence, IDA will allow developers or owners of such buildings to have smaller MDF rooms of 6 m².



Response

ATiS has no objection to this proposal, however we would like to respectfully point out one of the criteria to save space is to use high density termination frames.

If one studies existing MDF rooms / TERs, one of the FBOs has used 'old' rack type MDFs, which has taken up a lot of the available space.

From the outset in new MDF and TERs, only high density termination frames should be installed to make more space available for all.

(H) Responsibility of developers or owners to connect their building lead-in pipes to Common Services Tunnel ('CST')

2.19 A CST network is currently being constructed by the Urban Redevelopment Authority ('URA').

The CST will facilitate utilities/services providers to lay their pipes or cables in underground tunnels instead of using the conventional method of road excavation work.

We note that the CST, constructed at a greater depth below the surface as compared to the conventional pipeline, will run along public roads adjacent to building development sites and will replace the FBOs' underground pipeline system.

For FBOs to provide info-communication services to the building, they will need to run their cables out from the CST via the designated junction boxes 4 into the building via the building's lead-in pipes.

Proposal

2.20 As the CST junction boxes are of considerable depth (i.e. at basement 1 or 2), it would be extremely difficult for the FBOs to access and connect them to the building lead-in pipes once the building is completed.

IDA is therefore proposing that the building developers or owners connect their building lead-in pipes to the designated CST junction boxes during the construction phase of the building.

The CST junction boxes, which are only a short distance from the building boundary, will be easier to access during the construction phase.



Response

ATiS concurs with iDA proposal

(I) Responsibility of developers or owners and FBOs to maintain Infocommunications facilities in buildings

2.21 Under the COPIF, developers or owners are responsible for maintaining all info-communications related facilities including the electrical fittings, cable trays and trunking.

FBOs, on the other hand, are responsible for maintaining the pipelines (i.e. ducts) up to the boundary line as well as their installed equipment and cables.

We have been approached, on several occasions, to clarify the responsibilities of building developers or owners and FBOs.

Proposal

2.22 IDA intends to clarify in the COPIF 2005 that building developers or owners must maintain all the space and facilities they are required to provide, including the pipelines facilities.

Given that the building developers or owners are the ones who build and own the pipelines, it would follow that the obligation to maintain such facilities must fall on the building developers or owners and not on the FBOs.

We note that there are potential problems with the current practice of requiring the FBOs to maintain these pipelines.

For example, where an FBO replaces a damaged pipeline in the course of its maintenance, such FBO may attempt to claim ownership over that section of pipeline and prevent other FBOs from using them.

This would serve to delay rollout of competing info-communication services by other FBOs and is not in the public interest.

Response

ATiS concurs with iDA proposal



(J) Electricity used in MDF rooms/Telecom Equipment Rooms ('TERs')

- 2.23 The COPIF does not explicitly state the party responsible for bearing the electricity charges used by FBOs in the MDF rooms/TERs.

We understand that some developers or owners are paying for the electricity used in some developments while FBOs are paying for their electricity usage in other developments.

IDA has been approached, on a few occasions, to clarify this matter.

Proposal

- 2.24 IDA intends to clarify that building developers or owners are not obliged to bear the charges for electricity used by FBOs.

IDA views these charges as part of the FBOs' business cost for the provision of info-communication services.

IDA is of the view that FBOs would have greater incentive to conserve energy, thereby reducing the electrical charges, by employing more energy efficient equipment of equal capability if they are required to bear the electrical charges upfront.

- 2.25 To determine the charge on FBOs' usage of electricity in the MDF rooms/TERs, separate power supply meters for each FBO could be used. Alternatively, the cost could be apportioned based on the power rating of equipment and other mutually acceptable arrangement (e.g. fixed monthly fee).

Response

ATiS concurs with the view that the FBOs should pay for the power they consume.

However the issue then becomes, how to feed and meter the supplies to the FBO equipments and COPIF will have to specify the requirements and the location of such meters and Distribution boards and breakers etc.

(K) Usage of Space and Facilities within or on a building or land

- 2.26 The current COPIF only specifies the space and facilities that developers or owners are required to provide.



There exists a separate set of advisory guidelines and standard operating procedures dealing with FBOs' usage of the provided space and facilities.

Proposal

- 2.27 IDA considers that it is equally important to make mandatory the rules governing the use of space and facilities by FBOs. This is to ensure that the purpose of the COPIF, i.e. the provision of adequate space and facilities for the roll-out of info-communication services to buildings, is not compromised by any wasteful or unfair conduct on the part of the FBOs who use them.

Accordingly, IDA proposes to include a new section in COPIF 2005 to govern the use of space and facilities by FBOs.

This section would include general principles like the requirement to seek developers' or owners' consent on the proposed use of space and facilities, the requirement to ensure the efficient use of such space and facilities as well as new principles governing the allocation of building's lead-in pipes to FBOs for rolling out services to the building.

The proposed principles are intended to improve the existing industry practice of apportioning fixed quantity of lead-in pipes to FBOs.

IDA welcomes views on any other alternative methods of apportioning lead-in pipes for FBOs' use.

Response

ATiS does NOT agree with the view that this should be left to building owners.

This idea is fraught with the possibility of conflict, particularly as buildings may be owned by Government linked companies and could possibly use this against FBOs.

ATiS proposes that an independent Consultant should be appointed for this purpose.

(L) Other Proposed Revisions to COPIF

- 2.28 Other proposed revisions including minor revisions to the quantity and dimensions of the info-communication's facilities.

These are detailed in the attached Draft COPIF 2005.



Response

ATiS has no objection to these proposals, however we would recommend a complete overhaul and reissue of COPIF in toto, to bring it more in line with International and industry standards.

COPIF is a legacy document, whose roots lie deep in a Block Wiring of Buildings specification, produced by TAS.

It has of course been changed and revamped over the years, but could do with an update and refresh.

ATiS recommends that a Consultant be appointed to study and revise COPIF and associated guidelines, with a view to making it more user friendly, readable and acceptable to Architects, Developers, Building Planners and ICT industry practitioners.

3.0 TRANSITION TO COPIF 2005

- 3.1 In respect of developers or owners, the COPIF 2005 shall apply to all developers or owners who obtain the requisite permission from the URA (i.e. Provisional or Written Permission, Acknowledgement from Plan Lodgement Scheme or Planning Clearance) to develop their buildings, on or after the date on which the COPIF 2005 comes into effect (the 'Effective Date').
- 3.2 Developers or owners who have obtained the URA's permission prior to the Effective Date of the COPIF 2005 and whose buildings are still under development at that date, must elect to either provide the space and facilities specified in the COPIF 2005 (for example, where their development is still in the early phase and changes can be made) or the space and facilities specified in the current COPIF.

Developers or owners who elect to comply with the specifications in the COPIF 2005 shall be bound by all its provisions.

Developers or owners who elect to provide the space and facilities specified in the current COPIF shall be required to comply with the provisions in section 2 of the COPIF 2005.



Broadly, these provisions set out the following obligations of the developer or owner in relation to the space and facilities he provides:

- (a) duty not to impose any charges for use of the space and facilities by FBOs (save for utility charges which are to be borne by FBOs);
 - (b) duty to ensure the continued provision and maintenance of the space and facilities, including all underground pipelines provided, and
 - (c) duty to assist in the installation of additional plant and equipment where required.
- 3.3 Developers or owners whose buildings have already been fully developed prior to the Effective Date of the COPIF 2005 shall not be required to change the space and facilities which they have provided pursuant to the current COPIF or previous codes of practices.

However, they shall also be required to comply with section 2 of the COPIF 2005 with effect from the Effective Date.

Response

ATiS has no objection to this proposal.

NOTES:

1. The members of TFCC consist of the Public Telecommunication Licensees, namely SingTel and StarHub
2. In some older residential buildings, cables for non-BCS and BCS systems have been installed in same telecom riser ducts.
3. Usable floor area refers to the area in a building where telecommunication and broadband services are required.
4. CST junction boxes are parts of the CST infrastructure where cables/pipes exit from the CST and enter into buildings.