

**TELECOMMUNICATIONS ACT
(CHAPTER 323)**

**CODE OF PRACTICE FOR
NEXT GENERATION NATIONWIDE BROADBAND NETWORK
OPCO INTERCONNECTION**

In exercise of the powers conferred by section 26(1) of the Telecommunications Act, the Info-communications Media Development Authority hereby issues the following Code:

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1. PRELIMINARY

1.1 Citation and commencement

1.1.1 This Code may be cited as the OpCo Interconnection Code 2020 and shall come into operation on 22 April 2020.

1.2 Interpretation

1.2.1 In this Code, unless the context otherwise requires –

“**Act**” means the *Telecommunications Act* (Cap. 323);

“**Active Network**” means the active transmission components of the NGNBN, implemented/being implemented over the Passive Network by the Licensee;

“**Affiliated Operator**”, in relation to the Licensee, means a telecommunication licensee or broadcasting licensee qualified to purchase EOI Services from the Licensee:

- (i) that has an attributable interest in the Licensee of 5 percent or more (parent);
- (ii) in which the Licensee has an attributable interest of 5 percent or more (subsidiary); or
- (iii) in which any parent of the Licensee has an attributable interest of 5 percent or more (sibling), provided that an entity will not be deemed to be an Affiliated Operator based solely on the fact that the ultimate parent of such entity and the Licensee has a passive interest in both parties.

For the purposes of determining a relevant party’s attributable interest, the “sum-the-percentages” methodology shall be applied successively at each level of the ownership chain. For example, if the relevant telecommunication licensee has legal or beneficial ownership of 100 percent of the voting shares of Entity A, and Entity A has legal or beneficial ownership of 50 percent of the voting shares of Entity B, and Entity B has legal or beneficial ownership of 50 percent of the voting shares in the Licensee, then the relevant telecommunication licensee will be deemed to have a 25 percent attributable interest in the Licensee. In this case, the relevant telecommunication licensee will be deemed to be an “Affiliated Operator”;

“**Ancillary Mandated Services**” means any services ancillary to and reasonably required for the provision of any Basic Mandated Service including without limitation the services listed in paragraph 4.2 of Schedule C of the FBO licence issued to the Licensee;

“Ancillary Mandated Services Qualifying Person” means any Basic Mandated Services Qualifying Person or such other person as IMDA may direct as entitled to obtain Basic Mandated Services;

“Ancillary Services” means any services ancillary to and reasonably required for the provision of any Basic Service;

“API Interface” has the meaning given to that term in section 9.1(a) of this Code;

“Bandwidth” means the transmission capacity of an electronic pathway such as a communications line, computer bus or computer channel. In a digital line, it is measured in bits per second;

“Basic Mandated Services” means the services listed in paragraph 4.1 of Schedule C of the FBO licence issued to the Licensee;

“Basic Mandated Services Qualifying Persons” means:

- (i) telecommunication licensees; and
- (ii) broadcasting licensees;

“Basic Services” means Layer 1.5 Services, Layer 2 Services and Layer 3 Services;

“broadcasting licensee” means any holder of a licence granted under the *Broadcasting Act* (Cap. 28) but excludes class licensees;

“CA Request” has the meaning given to that term in section 6.1 of this Code;

“Customised Agreement” means an agreement for the provision of a Mandated Service on prices, terms and conditions that differ from the prices, terms and/or conditions of the ICO;

“Determined Prices” has the meaning given to that term in section 14.5 of this Code;

“Duties Related to the Provision of Mandated Services” has the meaning given to that term in section 6.1(g) of this Code;

“End-User” means a business or residential subscriber of any retail telecommunication service or retail broadcasting service in Singapore;

“**End-User Portal**” has the meaning given to that term in section 9.1(b) of this Code;

“**End-User Premise**” means a Residential Premise or Non-Residential Premise situated in Singapore and connected islands;

“**EOI Services**” means all services that the Licensee is licensed to offer pursuant to the terms of the FBO licence issued to the Licensee including without limitation Basic Services, Ancillary Services, Other Wholesale Services, Input Mandated Services, the resale of NetCo Services and any other services which IMDA may determine to be EOI Services;

“**Fault Rectification SLG**” has the meaning given to that term in paragraph 13.1(c) of the Appendix to this Code;

“**First Termination Point**” or “**1st TP**” means the network point within an End-User Premise, at which the Passive Network terminated, that is nearest to the point of entry of that End-User Premise;

“**ICO**” means the standard interconnection offer submitted by the Licensee and approved by IMDA;

“**ICO Agreement**” means an agreement entered into between the Licensee and a Qualifying Person for the provision of Mandated Services on the prices, terms and conditions set out in the ICO;

“**IMDA**” means the Info-communications Media Development Authority established under the *Info-communications Media Development Authority Act 2016*;

“**Input Mandated Services**” means input telecommunication services derived from the Licensee’s operations and/or management of the Active Network which are used to provide an Other Wholesale Service;

“**Jitter**” means the packet sequence delay variance, that is, the variance in delay caused by packets travelling by different paths across networks;

“**Latency**” means the delay in packet delivery as a result of factors such as physical distance, the number of router/switch hops, encryption and voice/data encoding;

“Layer 1.5 Services” means connectivity services performed at the “physical” layer of both the OSI and TCP/IP models, and which entail the channelisation, allocation, filtering and/or multiplexing of electromagnetic wavelengths;

“Layer 2 Services” means connectivity services performed at the “data link layer” of both the OSI and TCP/IP models, and which minimally include Ethernet frame transmission services;

“Layer 3 Services” means connectivity services performed at the “network layer” of the OSI model and to the “network/Internet layer” of the TCP/IP model, and which minimally include IP packet transmission services;

“Licensee” refers to Nucleus Connect Pte. Ltd.;

“Mandated Services” means the Basic Mandated Services, Ancillary Mandated Services, Input Mandated Services and such other services that IMDA may specify in the OpCo’s Licence, and any bundled collection of the preceding;

“Mandated Services Information” has the meaning given to that term in section 2.2 of this Code;

“Manual” has the meaning given to that term in section 10.1 of this Code;

“NetCo Licence” means the FBO licence granted by IMDA to the NetCo in relation to the provision of telecommunication services;

“NetCo Service” means any service that the NetCo offers to provide under the terms of the NetCo Licence;

“Network Operations Centre” means one or more locations from which control is exercised over a telecommunications network, or part thereof;

“New Service” means any EOI Service or bundled collection of EOI Services that is not offered by the Licensee in the ICO;

“NGNBN” means the “wired” component of Singapore’s Next Generation Nationwide Infocomm Infrastructure (Next Gen NII). This comprises both the Passive Network and the Active Network;

“NetCo” means the person who has been granted a licence to provide facilities-based operations by IMDA under section 5 of the Act for the provision and

operation of the passive portion of the Next Generation Nationwide Broadband Network;

“Non-Building Address Point” or “NBAP” means a location in mainland Singapore or connected islands other than a Physical Address;

“Non-Residential Premise” means any premise other than a Residential Premise;

“Open Systems Interconnection (OSI) Layers” or “OSI” means the ISO-defined networking framework for implementing protocols in seven layers, namely Layer 1 – Physical, Layer 2 – Data Link, Layer 3 – Network, Layer 4 – Transport, Layer 5 – Session, Layer 6 – Presentation, Layer 7 – Application;

“Other Wholesale Services” means the wholesale services referred to in paragraph 5.2 of Schedule C of the FBO licence issued to the Licensee;

“New Service Inclusion Process” has the meaning given to that term in section 8.1(b) of this Code;

“Packet Loss” means the average proportion of packets lost during transmission, within a set measurement period;

“Passive Network” means the passive infrastructure implemented/being implemented by the NetCo;

“Price Control Period” has the meaning given to that term in section 14.3 of this Code;

“Price Review Point” has the meaning given to that term in section 14.3 of this Code;

“Physical Addresses” mean Residential Premises and Non-Residential Premises located in mainland Singapore or connected islands;

“Platform” has the meaning given to that term in section 9.1(a) of this Code;

“Proposed ICO Terms” has the meaning given to that term in section 8.3(a) of this Code;

“Provisioning SLG” has the meaning given to that term in paragraph 13.1(a) of the Appendix to this Code;

“Qualifying Persons” mean Basic Mandated Services Qualifying Persons and Ancillary Mandated Services Qualifying Persons and a **“Qualifying Person”** means any one of a Basic Mandated Services Qualifying Person or Ancillary Mandated Services Qualifying Person;

“Request” has the meaning given to that term in paragraph 11.1 of the Appendix to this Code;

“Request Quota” has the meaning given to that term in paragraph 11.2(a) of the Appendix to this Code;

“Requesting Party” has the meaning given to that term in section 6.1(b) of this Code;

“Residential Premise” means a premise designed or adapted or used for human habitation of a residential nature. In the event of any doubt as to whether a premise is of residential nature, the classification which the Inland Revenue Authority of Singapore applies to that premise for tax purposes shall be final and conclusive;

“Retail Service Provider” or “RSP” means any person providing retail services to End-Users using the NGNBN and/or other networks in Singapore;

“RSP Services” means services offered by Retail Service Providers to End Users using the Active Network;

“Service Activation Period” means the time between a Qualifying Person requesting a service and receiving the requested service from the Licensee;

“Service Availability SLG” has the meaning given to that term in paragraph 13.1(b) of the Appendix to this Code;

“Service Port” means the connection ports which the Licensee shall offer to connect to the Active Network for the purpose of delivering and/or receiving EOI Services;

“System” means the telecommunications system that the Licensee is licensed to establish, install and maintain pursuant to the FBO licence issued to the Licensee;

“System Change” has the meaning given to that term in paragraph 15.1 of the Appendix to this Code;

“**TCP/IP**” means a set of communications protocols used for transmitting data between computers and as the basis for standard protocols on the Internet;

“**Telecom Competition Code**” means the Code of Practice for Competition in the Provision of Telecommunication Services 2012;

“**telecommunication licensee**” means any holder of a licence granted under the Act for the provision of facilities-based operations and/or services-based operations;

“**Web Interface**” has the meaning given to that term in section 9.1(a) of this Code; and

“**Working Day**” means Monday through Friday, except public holidays in Singapore.

- 1.2.2 A reference in this Code to a “section” shall, unless otherwise stated, be construed as a reference to the corresponding section in this Code and shall include all further sections within that section (that is, a reference to section 1.2 shall include sections 1.2.1 to 1.2.2).

1.3 Purpose of this Code

- 1.3.1 This Code is intended to specify:
- (a) the pricing, terms and conditions offered by the Licensee for the access and connectivity to the Active Network;
 - (b) the obligations and responsibilities of the Licensee in relation to the services to be offered;
 - (c) the obligations and responsibilities of Qualifying Persons in relation to the take up of the Licensee’s services; and
 - (d) the enforcement measures that IMDA may take against the Licensee and Qualifying Persons for a breach of this Code.

1.4 Application of this Code

- 1.4.1 This Code applies to the Licensee. Section 4.3, section 6 and section 15 of this Code shall also apply to Qualifying Persons.

1.5 Exemptions

- 1.5.1 IMDA may exempt the Licensee or any Qualifying Person from all or any provisions of this Code in accordance with section 26(6) of the Act. If the

Licensee or any Qualifying Person wishes to be exempted from any provision of this Code, the Licensee or such Qualifying Person shall submit a written request to IMDA containing the reasons supporting his request. An exemption shall be subject to such terms and conditions as IMDA may specify and may, without limitation, be on a one-time basis, temporary, permanent, for a fixed period or effective until the occurrence of a specific event.

1.6 Variation, revocation, etc.

1.6.1 IMDA may at any time review, add to, vary or revoke this Code in accordance with section 26(1)(c) of the Act.

1.7 Legal effect of this Code

1.7.1 The Licensee and Qualifying Persons are required to comply with this Code in accordance with section 26(5) of the Act. The obligations contained in this Code are in addition to those contained in the Act, other statutes, regulations, directions, licences or codes of practice.

1.7.2 If any provision of this Code is held to be unlawful, all other provisions will remain in full force and effect.

1.7.3 For the avoidance of doubt, the obligations contained in this Code do not derogate from the Licensee's and Qualifying Person's obligation to comply with the Telecom Competition Code, in particular the minimum duties for interconnection agreements as specified in section 5 of the Telecom Competition Code.

2. PROVISION OF MANDATED SERVICES

2.1 At a Qualifying Person's option, the Licensee shall and shall only provide the Mandated Services to the Qualifying Person:

- (a) on the prices, terms and conditions of the ICO;
- (b) on the prices, terms and conditions of a Customised Agreement negotiated with the Licensee and approved by IMDA in accordance with the terms set out in this Code; or
- (c) on the same prices, terms and conditions as an existing Customised Agreement, between the Licensee and a similarly situated Qualifying Person that has been previously approved by IMDA in accordance with the terms set out in this Code.

- 2.2 The Licensee shall also provide a Qualifying Person that requests Mandated Services with any information pertaining to that request that is reasonably necessary to enable the Qualifying Person to:
- (a) understand the process for the ordering, provisioning and use of Mandated Services available to that Qualifying Person; and
 - (b) make an informed decision as to the Mandated Services ordered and related options available to that Qualifying Person,
- (“Mandated Services Information”).**
- For the avoidance of doubt, the Licensee shall not be required to provide information on Mandated Services that are not available to that Qualifying Person.
- 2.3 If the Licensee is unable to comply with any request for Mandated Services Information, it shall promptly provide the person requesting the Mandated Services Information with the reason for such non-compliance.
- 2.4 The Licensee may not directly or indirectly restrict or prevent the resale of Mandated Services (with or without transformation) by any person that acquires Mandated Services from the Licensee.
- 2.5 The Licensee may not unreasonably restrict the manner in which a Qualifying Person may utilise Mandated Services.
- 2.6 The Licensee shall not impose any unreasonable minimum contractual periods or any unreasonable early termination penalty for any Mandated Service offered in the ICO.

3. PRICING OF MANDATED SERVICES

- 3.1 Subject to the requirements in section 3.4, the ICO may specify one-time charges in addition to recurring charges for the provision of Mandated Services.
- 3.2 Subject to the requirements in section 3.4, the ICO may include:
- (a) a one-time charge for the provision and/or installation of any network termination equipment but only where that network termination equipment is required by the Qualifying Person for the provision of the Basic Mandated Service requested, and such one-time charge in the case of Non-Building Address Points shall be calculated on a cost-oriented basis and no other basis;
 - (b) a one-time charge for installation of the Passive Network to the 1st TP of a Residential Premise where such installation is required for the provision of the requested Basic Mandated Service provided that the amount charged

is equal to the one-time charge charged by the NetCo to the Licensee for such installation; and

- (c) where the provision of Basic Mandated Services to Non-Building Address Points requires the Licensee to pay charges to a third party, the Licensee may pass on those same charges to the Qualifying Person requesting the Basic Mandated Services provided that they are itemised separately from any of the Licensee's own one-time and recurring charges and are no more than the actual charges charged by the third party.

3.3 Subject to the requirements set out in section 3.4, the ICO may include:

- (a) one-time charges for the provision of Ancillary Mandated Services; and
- (b) recurring charges for the provision of Ancillary Mandated Services that have recurring costs.

3.4 In specifying any one-time charges and recurring charges applicable to Mandated Services and without prejudice to the other terms and conditions of this Code, the ICO shall comply with the following conditions:

- (a) any one-time charges shall be specified separately from any recurring charges;
- (b) the ICO shall provide a clear breakdown of the items covered by each one-time charge;
- (c) any one-time charge or recurring charge applied to the provision of a Mandated Service into a Residential Premise shall be the same for the provision of that Mandated Service into all Residential Premises;
- (d) any one-time charge or recurring charge applied to the provision of a Mandated Service into a Non-Residential Premise shall be the same for the provision of that Mandated Service into all Non-Residential Premises; and
- (e) any one-time charge or recurring charge applied to the provision of a Mandated Service to a Non-Building Address Point shall be the same for the provision of that Mandated Service to all Non-Building Address Points.

3.5 Subject to the requirements in section 3.4, the ICO may specify different charges for Mandated Services requested for Residential Premises, Non-Residential Premises and Non-Building Address Points.

3.6 The Licensee may not charge for the provision of Mandated Services Information.

3.7 Save as expressly provided for in the terms of this Code, the Licensee may not offer any discounted pricing or other form of differentiated pricing of Mandated Services on any basis except where approved by IMDA. Any agreement that

includes the prices, terms and conditions of an offer approved by IMDA under this section shall constitute a Customised Agreement which shall be published and available to similarly-situated Qualifying Persons in accordance with and subject to the terms of this Code.

4. DURATION OF THE ICO AND THE ICO AGREEMENT

4.1 The Licensee shall offer the ICO from the date as directed by IMDA, and the ICO (as amended from time to time) shall remain valid until otherwise directed by IMDA.

4.2 An ICO Agreement shall be effective until the earlier of:

- (a) the expiry of the Licensee's obligation to offer the ICO under section 4.1 in accordance with a direction by IMDA;
- (b) any exemption granted by IMDA to the Licensee from its obligation under this Code to offer the ICO; or
- (c) any termination of the ICO Agreement in accordance with the terms of the ICO Agreement.

4.3 The prices, terms and conditions contained in any ICO Agreement will be effective for the duration of the ICO Agreement unless either:

- (a) the parties to the ICO Agreement agree to modify their ICO Agreement, in which case the parties' ICO Agreement will be treated as a Customised Agreement subject to the approval of IMDA; or
- (b) IMDA requires the Licensee to modify any provision of the ICO, or approves a modification to the ICO proposed by the Licensee, in which case the parties to the ICO Agreement must amend their ICO Agreement to conform to the modifications in the ICO.

4.4 The Licensee shall promptly provide IMDA with a copy of:

- (a) any ICO Agreement that it enters into; and
- (b) any Customised Agreement arising under section 4.3(a).

5. MODEL CONFIDENTIALITY AGREEMENT

5.1 Within 15 days of being required to do so by IMDA, the Licensee shall submit a Model Confidentiality Agreement to IMDA for approval. The Model Confidentiality Agreement shall contain provisions, which shall be no broader than necessary to protect the legitimate commercial interests of each party that enters into the Model Confidentiality Agreement, governing preservation of proprietary or commercially sensitive information disclosed by either party during any negotiation related to the adoption of a Customised Agreement. This shall

include provisions barring either party from disclosing confidential information to Affiliated Operators or third parties, except to the extent necessary to adopt and implement the Customised Agreement under negotiation.

- 5.2 IMDA may provide 10 days for public comment on the proposed Model Confidentiality Agreement and, within 21 days from the submission of the proposed Model Confidentiality Agreement, will accept, reject or require modification to the proposed Model Confidentiality Agreement. The Licensee will have 7 days from the date IMDA provides notification to submit a revised proposed Model Confidentiality Agreement that incorporates the modifications required by IMDA. IMDA will have 7 days from the date on which it receives the revised proposed Model Confidentiality Agreement to approve the Model Confidentiality Agreement or direct the Licensee to incorporate specific language.
- 5.3 The Licensee shall notify IMDA and obtain IMDA's written approval before making any changes to its Model Confidentiality Agreement.

6. CUSTOMISED AGREEMENTS

- 6.1 If the Licensee receives a written request to negotiate a Customised Agreement from any Qualifying Person or such other person entitled to obtain Mandated Services as IMDA may direct (a "**CA Request**"):
- (a) The Licensee shall provide a copy of the CA Request to the IMDA within 3 Working Days.
 - (b) The Licensee and the person that submitted the CA Request (the "**Requesting Party**") shall enter into a confidentiality agreement governing the negotiation process. If they fail to agree to a confidentiality agreement within 7 days of the receipt of the CA Request, both parties shall adopt the Model Confidentiality Agreement approved by IMDA under section 5.
 - (c) Unless the Licensee and the Requesting Party agree otherwise, they shall begin negotiations for a Customised Agreement within 7 days after entering into a confidentiality agreement.
 - (d) The Licensee and the Requesting Party have a duty to negotiate in good faith. The Licensee and the Requesting Party may agree that the Licensee will provide the Mandated Services on prices, terms and conditions that differ from those in the ICO.
 - (e) At the time it submits its CA Request, the Requesting Party may require the Licensee to provide the requested Mandated Services pursuant to the prices, terms and conditions of the ICO, pending the outcome of the requested negotiations. The Licensee and the Requesting Party shall

negotiate appropriate arrangements governing the transition from the ICO to the prices, terms and conditions of their Customised Agreement.

(f) For the purposes of facilitating the Licensee's and the Requesting Party's negotiation in agreeing on a Customised Agreement, the parties may request IMDA to provide conciliation in accordance with section 15.

(g) The Licensee and the Requesting Party may enter into a Customised Agreement on any mutually agreeable price, term and condition, provided that they do not unreasonably discriminate against any other Qualifying Person and the prices, terms and conditions of the Customised Agreement are approved by IMDA. IMDA will not approve a Customised Agreement where the Customised Agreement fails to fulfil the under mentioned duties (**"Duties Related to the Provision of Mandated Services"**):

(i) Duty to Establish Compensation Agreement

The Customised Agreement shall establish compensation arrangements governing the provision of Mandated Services.

(ii) Duty to Provide Non-discriminatory Mandated Services Quality

Unless the parties expressly agree otherwise, the Customised Agreement shall provide that the Licensee shall take measures to ensure that, on a service-by-service basis, the Mandated Services that the Licensee provides to a Requesting Party pursuant to any Customised Agreement are at least equivalent to the quality that the Licensee provides to itself, its Affiliated Operators, or any other Requesting Party.

(iii) Duty to Prevent Technical Harm to Network

The Customised Agreement shall provide that the Licensee and Requesting Party shall take reasonable measures to ensure that they will not cause physical or technical harm to each other's network.

(iv) Duty to Provide Billing Information

The Customised Agreement shall provide that the Licensee and Requesting Party shall provide each other with information within their possession that is necessary to allow them to provide accurate and timely billing to each other and to any other relevant third parties.

(v) Duty to Preserve Confidential Information Provided by Requesting Parties

The Customised Agreement shall provide that the Licensee and Requesting Party shall:

(1) protect from disclosure any confidential or proprietary information provided by the other in the course of negotiating or implementing the Customised Agreement;

- (2) use such information only for the provision of the specific Mandated Services requested; and
 - (3) adopt appropriate procedures to ensure that the information of the other Party is not used for the development or marketing of other telecommunication services or equipment by either party, its Affiliated Operators or third parties.
- (vi) Duty to Obtain IMDA Approval for Suspension or Termination
 - (1) The Customised Agreement shall include a statement of the bases, if any, for which unilateral suspension or termination of the Customised Agreement will be permitted. This may include situations where:
 - (A) one party has materially breached the Customised Agreement including, but not limited to, repeated failure to make required payments;
 - (B) one party has become insolvent;
 - (C) continued operation of the Customised Agreement would be unlawful; or
 - (D) continued operation of the Customised Agreement would pose an imminent threat to life or property.
 - (2) The Customised Agreement shall also provide that any unilateral suspension or termination, unless by operation of law, will only become effective when, and to the extent that, it is approved by IMDA.
- (vii) Duty to Amend

The Customised Agreement shall provide that the Licensee and the Requesting Party shall amend the Customised Agreement to incorporate any additional or modified Duties Related to the Provision of Mandated Services as required by IMDA during the term of the Customised Agreement.
- (viii) Duty to Comply with Singapore Law

The Customised Agreement shall provide that it will be governed by the laws of the Republic of Singapore.
- (h) The Customised Agreement shall specify that it will be submitted to IMDA and will not become effective until approved by IMDA. If IMDA takes no action within 21 days after the agreement is submitted to it, the agreement will be deemed approved. On an exceptional basis, IMDA may, within 5 Working Days, provide provisional approvals for Customised Agreements submitted to it, wherein its terms can be used for proposal submissions to tenders or Request for Proposals issued by a government agency. Notwithstanding any provisional approvals by IMDA, the Customised Agreement shall still be subject to final approval by IMDA.

- (i) In any case in which IMDA rejects a Customised Agreement, it will direct the Licensees to make the necessary changes. In such cases, the Licensee shall make the required changes, unless both parties agree to withdraw the Customised Agreement.
- (j) If the Licensee and Requesting Party fail to voluntarily reach agreement regarding the Customised Agreement within 90 days of the date on which the CA Request is submitted, either party may request IMDA to resolve the dispute pursuant to section 15.4.
- (k) Provided that none of the grounds specified in section 6.1(g) apply and the parties do not unreasonably discriminate against any other Qualifying Person, and should IMDA decide to intervene, IMDA will not re-open any issue on which the parties have reached agreement. Instead, the dispute resolution will be limited to those issues on which the parties are unable to reach agreement. IMDA retains full discretion to impose any solution that it deems appropriate (including solutions not advocated by either party).
- (l) Within 15 days of the date on which IMDA issues its decision, the Licensee shall submit to IMDA a Customised Agreement that complies with the decision. IMDA will have 15 days to either approve the Customised Agreement or to require the Licensee to amend the agreement by including provisions specified by IMDA that fully implement its decision.

6.2 A Customised Agreement may be modified at any time by mutual agreement of the parties. If the parties to a Customised Agreement agree to modify the prices, terms and conditions of their Customised Agreement, the Licensee shall provide IMDA with a copy of the amended Customised Agreement for IMDA's approval, and that amended Customised Agreement shall not be effective until approved by IMDA. For the avoidance of doubt, amended Customised Agreements, whereby the only modification is to extend its validity date and any consequential amendments thereof, shall be deemed provisionally approved upon submission to, and subject to final approval by IMDA. If IMDA takes no action within 21 days after the agreement is submitted to it, the agreement will be deemed approved by IMDA. In any case in which IMDA rejects a modification, it will direct the Licensee to make the necessary changes. The Licensee shall make the necessary changes unless both the Licensee and the Requesting Party agree to withdraw the modification.

6.3 A Customised Agreement may be suspended or terminated at any time by mutual agreement of the Licensee and the Requesting Party. Upon any such suspension or termination, the Licensee must immediately notify IMDA in writing and provide the reasons for the suspension or termination.

7. PUBLICATION OF CUSTOMISED AGREEMENTS AND ICO AGREEMENTS

- 7.1 All Customised Agreements and ICO Agreements entered into by the Licensee will be published by IMDA. However, IMDA may, on its own motion, or at the request of either of the Licensee or the other party to the Customised Agreement or ICO Agreement (as the case may be), withhold from publication any portion of the Customised Agreement or ICO Agreement if IMDA determines that it contains proprietary or commercially sensitive information.

8. OFFERING OF NEW SERVICES

- 8.1 If the Licensee would like to offer a New Service in the ICO, the Licensee shall:
- (a) notify IMDA in writing; and
 - (b) comply with the process set out in section 8.3 (the “**New Service Inclusion Process**”).
- 8.2 If IMDA intends to require the Licensee to offer a New Service in the ICO:
- (a) IMDA shall notify the Licensee in writing of its intention to require the Licensee to offer the New Service and the timeframe within which the Licensee is required to provide a response.
 - (b) The Licensee shall respond to IMDA within the timeframe specified in the notification given under section 8.2(a) with confirmation of the Licensee’s agreement to offer the New Service or if the Licensee does not agree to offer the New Service, its reasons in support.
 - (c) IMDA may seek public comments regarding the offer of the New Service.
 - (d) If IMDA requires the Licensee to offer the New Service in the ICO, IMDA shall direct the Licensee to comply with the New Service Inclusion Process subject to such other timeframes as may be specified by IMDA.
- 8.3 For the purposes of this section 8, the New Service Inclusion Process is as follows:
- (a) The Licensee shall provide IMDA with a copy of the Licensee’s proposed prices, terms and conditions applicable for the New Service (the “**Proposed ICO Terms**”).
 - (b) IMDA may seek public comments on the Proposed ICO Terms, which must be filed within 30 days from the date on which IMDA seeks comments.
 - (c) IMDA may take up to 30 days from the date of receipt of the Proposed ICO Terms or receipt of public comments, if any, to complete its review and either:

- (i) approve the Proposed ICO Terms; or
 - (ii) provide the Licensee with a written explanation of any modifications necessary to the Proposed ICO Terms required to bring the Proposed ICO Terms into compliance with IMDA's requirements and direct the Licensee to make modifications; or
 - (iii) provide the Licensee with a written explanation of any specific amendments necessary to the Proposed ICO Terms required to bring the Proposed ICO Terms into compliance with IMDA's requirements and direct the Licensee to make specific amendments.
- (d) If IMDA requires the Licensee to make modifications to the Proposed ICO Terms under section 8.3(c)(ii), the Licensee shall submit to IMDA its revised Proposed ICO Terms that incorporate the modifications required by IMDA within 30 days.
- (e) Within 30 days of receipt of the revised Proposed ICO Terms submitted by the Licensee under section 8.3(d), IMDA shall approve the revised Proposed ICO Terms or require the Licensee to make specific amendments.
- (f) The Licensee shall provide IMDA with a copy of, offer, and publish on the Platform, the ICO amended to include the New Service and the approved prices, terms and conditions for that New Service within 15 days of IMDA's approval under section 8.3(c)(i) or 8.3(e) or direction to make specific amendments under section 8.3(c)(iii) or 8.3(e).

9. PROVISION OF AN ON-LINE PROVISIONING PLATFORM

9.1 The Licensee shall provide an on-line provisioning platform relating to the Mandated Services as described below:

- (a) the Licensee shall provide a real-time, on-line information and ordering platform (the "**Platform**") which can be accessed by the persons specified in section 9.2 via an Internet-based web portal (the "**Web Interface**") and directly through standards-based Application Programming Interfaces (the "**API Interface**"). The Licensee shall ensure that the capabilities offered by the Platform to the persons specified in section 9.2 shall include without limitation:
 - (i) the provision of up-to-date information on the Licensee's planned roll-out of its Active Network and the locations to which Licensee's Active Network is available;
 - (ii) access to the Mandated Services Information, including without limitation, the descriptions of all services available (including those available in the ICO and Customised Agreements offered by the Licensee), the technical specifications of the services being

offered (such as the Bandwidth, Jitter, Latency and Packet Loss of the services being offered), the prices, terms and conditions thereof, and the provision of fault repair and any other commercial and technical services;

- (iii) ordering, provisioning and de-activation of the services offered by the Licensee;
 - (iv) management of services obtained from the Licensee, including access to billing information;
 - (v) monitoring of services obtained from the Licensee including without limitation network health monitoring, data analysis and the generation of network availability reports; and
 - (vi) fault logging, triggering of fault notification to IMDA, NetCo and persons who have obtained or are entitled to obtain services from the Licensee, and generation of fault reports; and
- (b) the Licensee shall provide a portal which shall be accessible by the public at least via a web-based interface (the “**End-User Portal**”) and shall include a directory of Retail Service Providers and their respective RSP Services to the extent provided by the Retail Service Providers.

9.2 The Licensee shall provide the following persons with secured access to the Platform (for example using password-protection):

- (a) all Qualifying Persons;
- (b) any other person entitled to the provision of Mandated Services as IMDA may require; and
- (c) IMDA,

verified by an appropriate user identification mechanism implemented by the Licensee provided that in the case of each person specified in sections 9.2(a) and 9.2(b), that person agrees to keep all information accessed through the Platform confidential.

9.3 The Licensee shall ensure that the Platform complies with and conforms to the requirements specified in the ICO.

9.4 The Licensee shall ensure that all information provided on the Platform and the End-User Portal is readily accessible, clear and easily navigable by their respective authorised users.

9.5 The Licensee may charge a fee for access to the Platform. The Licensee may not charge a fee for the provision of and access to the End-User Portal.

10. MANUAL RELATING TO THE ORDERING AND PROVISIONING OF MANDATED SERVICES

10.1 The Licensee shall prepare and keep updated a manual setting out, at minimum, the following information (the “**Manual**”):

- (a) how a person may access Mandated Services Information including details of the persons who are entitled to access to Mandated Services Information, any conditions of access to the Mandated Services Information and how satisfaction of those conditions will be verified;
- (b) how a person may order the Mandated Services including details of the persons who are entitled to order the Mandated Services, any conditions imposed before a person may order Mandated Services, how satisfaction of those conditions will be verified;
- (c) the terms on which the Mandated Services may be purchased, the locations to which the Mandated Services will be available, the process by which a person may enter into an ICO Agreement, negotiate a Customised Agreement, or enter into an existing Customised Agreement;
- (d) the process by which a person may request a New Service; and
- (e) the process by which any dispute with the Licensee regarding the provision of Mandated Services may be resolved including details of the process for requesting conciliation by IMDA.

10.2 The Licensee shall publish a downloadable version of the Manual on the Platform.

11. AUDIT OBLIGATIONS

11.1 For the purposes of the Licensee’s audit obligations under this section, the Licensee shall keep proper records of all responses to requests for Mandated Services Information made by:

- (a) any person who has entered into an ICO Agreement with the Licensee; and
- (b) any person who has entered into a Customised Agreement with the Licensee,

for at least 12 months after the termination of that person’s ICO Agreement or Customised Agreement (as the case may be).

11.2 The Licensee shall appoint an independent auditor to verify and report on the Licensee’s partial or non-compliance with its obligations regarding the provision of Mandated Services Information under this Code:

- (a) every 12 months; and
- (b) upon IMDA’s request, provided that there shall not be more than a total of two audits in any year.

11.3 The Licensee shall provide the independent auditor with any records and other information that may be requested by the independent auditor to verify the Licensee's partial or non-compliance with its obligations regarding the provision of Mandated Services Information under this Code.

11.4 The Licensee shall provide IMDA with a copy of the independent auditor's written report within 30 days of completion of the audit.

12. REVIEW AND MODIFICATION OF THE ICO TERMS AND CONDITIONS OTHER THAN PRICING

12.1 Without limiting any other powers of IMDA to amend this Code, IMDA may review and require the Licensee to modify the terms and conditions of the ICO other than the price(s) of existing Mandated Services at any appropriate time, including upon any of the following events:

- (a) every 5 years, or where IMDA considers appropriate, a mid-term review in the third year;
- (b) following any review and amendment of the Telecom Competition Code;
- (c) following any review and amendment of the Act;
- (d) upon the reasonable request of the Licensee; and
- (e) upon the emergence of new technologies or enhancement of existing technologies which may be applied to facilitate or improve provision of the Mandated Services or result in the existence of new services which IMDA may require to be provided by the Licensee as new Mandated Services.

12.2 In the absence of any direction to the contrary by IMDA, the Licensee shall follow the process for review and modification as set out in section 13 and the Licensee shall comply with its obligations thereunder.

12.3 Following any modification of the ICO (including those made pursuant to sections 12 and 14 of this Code) that has been approved by the IMDA, the Licensee shall amend every ICO Agreement that has been validly executed to conform to the modification(s) in the ICO.

13. IMDA REVIEW PROCEDURES

13.1 Upon the exercise of IMDA's discretion under section 12.1 and in the absence of any direction to the contrary by IMDA, the following process shall apply.

13.2 IMDA shall issue a direction to the Licensee requesting the Licensee to submit any proposed modifications to the ICO.

- 13.3 Within 60 days of IMDA's direction under section 13.2, the Licensee shall submit any proposed modifications it may have to IMDA for approval.
- 13.4 IMDA will review the ICO and any modifications to the ICO that are proposed by the Licensee.
- 13.5 IMDA will generally seek public comments regarding the ICO, which must be filed within 30 days from the date on which IMDA seeks comments. Following receipt of all public comments received, IMDA may take up to 60 days to complete its review.
- 13.6 If IMDA rejects any modifications of the ICO proposed by the Licensee, it will provide the Licensee with a written explanation of the basis for the rejection and the modifications required to bring the ICO into compliance with IMDA's requirements.
- 13.7 The Licensee will have 30 days from the date on which IMDA provides any written explanation under section 13.6 to submit a revised ICO that incorporates the modifications required by IMDA.
- 13.8 If IMDA deems necessary, IMDA may seek public comments on the revised ICO, which must be filed within 30 days from the date on which IMDA seeks comments. Following receipt of all public comments received, IMDA may take up to 60 days to complete its review and approve the revised ICO or require the Licensee to incorporate specific language.
- 13.9 The Licensee must offer the revised ICO within 30 days of the date of IMDA's final approval or direction under section 13.8.

14. REVIEW AND MODIFICATION OF THE PRICES UNDER THE ICO

- 14.1 Unless IMDA directs otherwise, the provisions of this section 14 set out the price control arrangements which will be used by IMDA to review, modify and approve the prices of the Mandated Services under the ICO.
- 14.2 Subject to the terms of this section 14, the Licensee may not modify the price(s) of the Mandated Services under the ICO.
- 14.3 Without limiting IMDA's right to modify the terms of the ICO under section 12, and unless otherwise agreed by the Licensee and IMDA, IMDA shall review and

may require the Licensee to modify the price(s) of Mandated Services set out in the ICO:

- (a) every five years following the last price review; or
- (b) at such time as IMDA may consider appropriate, which may include but shall not be limited to a mid-term review in the third year from the last price review,

where each of (a) and (b) shall be referred to as a “**Price Review Point**” and the period between each Price Review Point shall be referred to as a “**Price Control Period**”.

- 14.4 To assist IMDA in its review, the Licensee shall provide all necessary information and documentation where requested by IMDA.
- 14.5 IMDA shall specify the pricing methodology which IMDA will use to review the prices of Mandated Services offered under the ICO at each Price Review Point and determine the prices to apply at the end of the Price Control Period immediately following each Price Review Point (the “**Determined Prices**”).
- 14.6 The Licensee shall file any changes to the prices of Mandated Services offered in the ICO with IMDA for IMDA’s approval prior to effecting such changes in the ICO.
- 14.7 IMDA will either accept or reject the proposed changes to the prices as filed in accordance with section 14.6 of this Code within 30 days and will provide a statement of the basis of any rejection.
- 14.8 Subject to section 14.9 of this Code, the Licensee shall:
 - (a) publish any changes to the prices of Mandated Services offered in the ICO within 7 days of IMDA’s approval under section 14.7 of this Code; and
 - (b) effect all price changes within 3 months of the date of IMDA’s approval unless otherwise directed by IMDA.
- 14.9 IMDA reserves the right to require the Licensee to effect any price changes in an incremental and phased manner where, in IMDA’s opinion, there is a material change in prices that may have an adverse effect on any segment of the industry or End-Users, or both. By way of example and without any limitation, where the Determined Price of a widely subscribed Mandated Service at a Price Review Point is more than 20% higher than the corresponding price offered by the Licensee at that Price Review Point, IMDA may consider this to be a material change in price that may have an adverse effect on the industry and End-Users.

14.10 For the avoidance of doubt, the Licensee shall also comply with its obligations under section 4.3(b) of this Code.

15. CONCILIATION AND IMDA DETERMINATION

15.1 The Licensee and any person entitled to obtain Mandated Services from the Licensee may jointly request IMDA to provide conciliation to assist them in resolving any dispute arising in connection with the provision of Mandated Services by the Licensee including without limitation, disputes arising out of:

- (a) the negotiation of a voluntary Customised Agreement;
- (b) the implementation of a Customised Agreement; and
- (c) the implementation of an ICO Agreement.

15.2 The parties requesting conciliation shall submit to IMDA a joint statement describing the disputed issues and the position of each party on the disputed issues.

15.3 IMDA will provide conciliation at its discretion. IMDA's role in any conciliation will be to assist the parties to reach a mutually acceptable solution. IMDA will not advocate any specific position or impose any solution on the parties.

15.4 In the event that the parties fail to reach agreement on matters relating to the requirements of this Code or the Act including, without limitation, matters relating to, the negotiation or agreement of a Customised Agreement or the implementation of an ICO Agreement or a Customised Agreement, the matter may be determined by IMDA.

15.5 If IMDA decides to determine a dispute under section 15.4:

- (a) the procedures set out in paragraphs 3, 4.2 to 4.5, 4.7 to 4.8, 5 and 6 of the Advisory Guidelines Governing Requests for Dispute Resolution between Licensees under Sub-section 11.3 of the Telecom Competition Code, as may be amended from time to time, will generally apply, unless otherwise advised by IMDA; and
- (b) IMDA's decision shall be binding on all parties concerned and for the avoidance of doubt, IMDA shall determine such disputes in its capacity as the regulatory authority and not as an arbitrator.

15.6 IMDA reserves the right to levy a fee for work undertaken in this respect.

16. MINIMUM REQUIREMENTS FOR ICO

- 16.1 In accordance with and in addition to the obligations set out in this Code, the Licensee shall offer to provide Mandated Services to Qualifying Persons on such ICO prices, terms and conditions as required in Appendix 1 to this Code.

17. ENFORCEMENT MEASURES FOR BREACH OF CODE

- 17.1 In the event that IMDA concludes that the Licensee or a Qualifying Person has contravened any provision of this Code, IMDA may take such enforcement measures as it considers appropriate under section 8 of the Act.

APPENDIX 1

MINIMUM REQUIREMENTS FOR ICO

1. PREAMBLE

- 1.1 This Appendix describes the pricing, terms and conditions on which the Licensee shall offer to provide Mandated Services to Qualifying Persons. The Licensee shall include these prices, terms and conditions in its ICO.
- 1.2 Any defined terms used in this Appendix shall have the meaning given to them in the OpCo Interconnection Code.

2. SCOPE OF ICO

- 2.1 The ICO shall, subject to the requirements set out in this Appendix specify the prices, terms and conditions on which the Licensee will provide the Mandated Services and the Mandated Services Information to Qualifying Persons to ensure end-to-end connectivity of any Mandated Service over the Active Network requested by a Qualifying Person.
- 2.2 Failure by the OpCo to specify the prices, terms and conditions of any requirements necessary to ensure end-to-end connectivity of any Mandated Service over the Active Network shall not affect the Licensee's obligation to provide or fulfil such requirements and the costs of providing or fulfilling such requirements shall be borne by the Licensee unless expressly accounted for in the ICO. Unless otherwise approved by IMDA, the Licensee shall not require any additional prices, terms and conditions which the Licensee has not expressly accounted for in the ICO.
- 2.3 The ICO shall:
 - (a) contain a comprehensive and complete written statement of the prices, terms and conditions, on which the Licensee is prepared to provide the Mandated Services to any Qualifying Person (including a complete technical description of the Mandated Services offered, the procedures that will be used to order and provide such Mandated Services and the timeframes that will apply to the ordering and provisioning of Mandated Services);
 - (b) be clearly written and organised in a logical and consistent manner;
 - (c) be modular, allowing a Qualifying Person to purchase only those Mandated Services that it wants to obtain;

- (d) be sufficiently detailed to enable a Qualifying Person that is willing to accept its prices, terms and conditions to obtain the Mandated Services without having to engage in negotiations with the Licensee; and
- (e) be available in electronic format.

2.4 In addition to the terms specified in this Appendix, the terms of the ICO shall incorporate, comply and be consistent with any terms of the OpCo Interconnection Code that relate to the Licensee's obligation to offer Mandated Services under the ICO, including without limitation:

- (a) the nature and description of the Mandated Services and Mandated Services Information to be offered under the ICO;
- (b) the pricing of Mandated Services;
- (c) the definition of Qualifying Persons entitled to obtain Mandated Services and Mandated Services Information under the ICO;
- (d) the locations to which Mandated Services shall be provided under the ICO;
- (e) the obligation to provide an on-line Platform through which Qualifying Persons may obtain Mandated Services Information and order Mandated Services;
- (f) the duration of any ICO Agreement;
- (g) the nature and manner in which Qualifying Persons can request for New Services;
- (h) the circumstances in which the terms of an ICO Agreement may and shall be modified; and
- (i) the provision of information to IMDA in connection with the ICO, or any ICO Agreement.

2.5 The ICO shall clearly state that:

- (a) the acceptance by a Qualifying Person of the prices, terms and conditions of the ICO shall result in a binding agreement between the Licensee and the Qualifying Person, which shall govern the provision of any and all Mandated Services requested and ordered by the Qualifying Person; and
- (b) for the avoidance of doubt, a Qualifying Person that has entered into an ICO Agreement need not enter into further ICO Agreements in respect of each subsequent request or order for Mandated Services.

2.6 The ICO shall state that the Licensee and a Qualifying Person may agree to vary the prices, terms and conditions of the ICO but only in accordance with the process set out in the OpCo Interconnection Code, and any resulting agreement will be a Customised Agreement subject to IMDA's approval.

2.7 The ICO shall state that where the parties enter into an ICO Agreement they may subsequently agree to modify the prices, terms and conditions of their ICO

Agreement, in which case the parties' ICO Agreement will be treated as a Customised Agreement subject to the approval of IMDA.

- 2.8 The ICO shall state that any Customised Agreement approved by IMDA, however so arising, shall be published on the Platform (save that IMDA may not require the publication of any portion of the Customised Agreement if IMDA determines, at its own motion or at the request of either party, that it contains proprietary or commercially sensitive information) and that any other Qualifying Person may request the provision of Mandated Services on the same prices, terms and conditions contained therein.

3. AMENDMENTS PURSUANT TO IMDA'S DIRECTION

- 3.1 The ICO shall state that IMDA may review and direct the amendment of the prices, terms and conditions of the ICO in accordance with the process set out in the OpCo Interconnection Code. In the event that IMDA directs any changes to be made to the ICO, the Licensee and the Qualifying Person shall amend their ICO Agreement in accordance with any such directed changes to the ICO.

4. INTERPRETATION

- 4.1 The ICO shall include recitals which provide historical and legal context to assist understanding by future readers of the ICO.
- 4.2 The ICO shall include a glossary of all definitions used, using defined terms from the OpCo Interconnection Code wherever possible.

5. BASIC MANDATED SERVICES

- 5.1 The ICO shall specify the prices, terms and conditions for the provision of Basic Mandated Services in accordance with and subject to the requirements set out in this paragraph 5.
- 5.2 The ICO shall state that as part of any provision of Basic Mandated Services, the Licensee shall also provide the Basic Mandated Services Qualifying Person with Mandated Services Information.
- 5.3 The ICO shall specify any discounted pricing or other form of differentiated pricing of Basic Mandated Services which has been approved by IMDA. Any agreement that subsequently includes an offer of any discounted or differentiated pricing approved by IMDA that is not expressly provided for in

the terms of this Appendix shall constitute a Customised Agreement unless IMDA requires the offer to be in the ICO.

- 5.4 The ICO shall not include any one-time charges in relation to the provision of Basic Mandated Services other than those permitted by the terms of the OpCo Interconnection Code.
- 5.5 The ICO shall state that the Licensee shall take measures to ensure that the Basic Mandated Services that the Licensee provides to a Qualifying Person shall be equivalent to the quality of the same Basic Mandated Services that the Licensee provides to itself, its Affiliated Operators and any other Qualifying Person.
- 5.6 The ICO shall specify the Layer 2 Services and Layer 3 Services offered to Residential Premises on an individual service basis and/or bundled service basis.
- 5.7 The ICO shall specify the Layer 2 Services and Layer 3 Services offered to Non-Residential Premises on an individual service basis and/or bundled service basis.
- 5.8 The ICO shall specify the Layer 2 Services and Layer 3 Services offered to Non-Building Address Points on an individual service basis and/or bundled service basis.
- 5.9 Subject to the requirements set out in the OpCo Interconnection Code, the ICO shall state the recurring charges for each service offered pursuant to paragraphs 5.6, 5.7 and 5.8.

6. SERVICE PORTS

- 6.1 The ICO shall list the specific locations of the Service Ports.
- 6.2 The ICO shall state that the Licensee shall provide access to the Service Ports listed pursuant to paragraph 6.1 of this Appendix to any Qualifying Person that wishes to connect to the Active Network for the purposes of obtaining Basic Mandated Services.
- 6.3 The ICO shall specify the prices, terms and conditions by which the Licensee will make co-location services and patching services available as Ancillary Mandated Services at each Service Port, other than a Service Port at the NetCo's CO, to any Basic Mandated Services Qualifying Person that wishes to connect to the Service Port for the purposes of obtaining Basic Mandated Services.

- 6.4 The ICO shall state that the following information will be provided to Qualifying Persons and updated as and when there are changes via the Platform, as part of the Mandated Service Information:
- (a) a list and description of the physical locations of the Service Ports at which a Qualifying Person may physically interconnect with the Active Network and the means by which interconnection may be achieved;
 - (b) a description of the physical interfaces to the Active Network that are necessary to allow physical interconnection and the procedures to be used if the Licensee chooses to alter those interfaces; and
 - (c) where applicable, information regarding the availability of Mandated Services, including the capabilities and limitations of using the specified Service Ports such as the extent of the geographical reach of the Mandated Service.

7. ANCILLARY MANDATED SERVICES

- 7.1 The ICO shall specify the prices, terms and conditions that apply to the provision of Ancillary Mandated Services. For the provision of any Ancillary Mandated Services, the ICO shall comply with the terms set out in this paragraph 7.
- 7.2 Failure by the Licensee to specify the prices, terms and conditions of any requirements necessary to ensure end-to-end connectivity of any Mandated Service over the Active Network shall not affect the Licensee's obligation to provide or fulfil such requirements and the costs of providing or fulfilling such requirements shall be borne by the Licensee unless expressly accounted for in the ICO. Unless otherwise approved by IMDA, the Licensee shall not require any additional prices, terms and conditions which the Licensee has not expressly accounted for in the ICO.
- 7.3 The ICO shall state that as part of any provision of Ancillary Mandated Services, the Licensee shall also provide the Ancillary Mandated Services Qualifying Person with Mandated Services Information that is ancillary to and reasonably required for the provision and use of the Ancillary Mandated Services.
- 7.4 The ICO shall specify any discounted pricing or other form of differentiated pricing of Ancillary Mandated Services which has been approved by IMDA. Any agreement that subsequently includes an offer of any discounted or differentiated pricing approved by IMDA that is not expressly provided for in the terms and conditions of this Appendix shall constitute a Customised

Agreement unless IMDA requires the offer to be in the ICO, in which case that agreement shall constitute an ICO Agreement.

- 7.5 The ICO shall state that the Licensee shall take measures to ensure that the Ancillary Mandated Services that the Licensee provides to an Ancillary Mandated Services Qualifying Person shall be equivalent to the quality of the same Ancillary Mandated Services that the Licensee provides to itself, its Affiliated Operators and any other Ancillary Mandated Services Qualifying Person.

8. MANDATED SERVICES INFORMATION

- 8.1 Pursuant to sections 2.2 and 9 of the OpCo Interconnection Code, the ICO shall state that the Licensee will maintain full and comprehensive Mandated Services Information, in electronic format, which shall be made available on the Platform to any Qualifying Person entitled to receive the information.
- 8.2 The ICO shall state that the Licensee will provide Qualifying Persons who request Mandated Services with password protected access to the Platform.
- 8.3 The ICO shall state the processes implemented by the Licensee to ensure that appropriate access to Mandated Services Information is granted to appropriate persons.
- 8.4 The ICO shall state the Qualifying Person acknowledges and agrees that it shall keep all information accessed through the Platform confidential.
- 8.5 The ICO may not include any separate charges for the provision of Mandated Services Information.

9. AVAILABILITY PERIOD

- 9.1 The ICO shall state that the Mandated Services shall be available for a particular location according to the Service Activation Periods.

10. ORDERING, PROVISIONING AND DEACTIVATION OF MANDATED SERVICES

- 10.1 The ICO shall state that general information relating to the Mandated Services is publicly available via the End-User Portal but that Qualifying Persons who wish to access Mandated Services Information and order Mandated Services shall do so through the Platform.

- 10.2 Pursuant to section 10 of the OpCo Interconnection Code, the ICO shall state, and the Licensee shall ensure, that the Manual is available on the Platform.
- 10.3 The ICO shall clearly specify:
- (a) that the Basic Mandated Services, Ancillary Mandated Services and Input Mandated Services available shall be made available via the Platform;
 - (b) the process by which a Qualifying Person may obtain access to the Platform; and
 - (c) the prices, terms and conditions on which the Licensee will provide access to information and the services available on the Platform.
- 10.4 The Licensee shall state that access to the Platform will be provided only to Qualifying Persons, IMDA and such other persons as may be stipulated by IMDA.
- 10.5 Any conditions imposed on the ordering of Mandated Services must be reasonable. The following terms and conditions may be considered unreasonable:
- (a) Qualifying Persons must order Mandated Services in a particular sequence (save to the extent that is expressly permitted by the terms of this Appendix);
 - (b) Qualifying Persons must order Mandated Services for a particular purpose (save to the extent that is expressly permitted by the terms of this Appendix); and
 - (c) Qualifying Persons must order Mandated Services only within a particular time window.
- 10.6 The ICO shall set out the process by which the Licensee will verify the fulfilment of any conditions of access to the Platform and the mechanism by which the ICO may be accepted and an ICO Agreement entered into. This mechanism must, at minimum, allow for a fully electronic process which results in agreements that are admissible in the Singapore courts.
- 10.7 The ICO shall set out in detail the procedures for ordering the Mandated Services to enable the Qualifying Persons to understand the entire process. This shall include:
- (a) a list and description of any reasonable restrictions or conditions that the Licensee intends to impose on the prices, terms and conditions of the offer contained in the ICO, including any situations in which capacity,

technical or operational constraints will limit the ability of the Licensee to meet requests for Mandated Services; and

- (b) the contact person for any queries relating to the ordering and/or provisioning of Mandated Services.

10.8 The ICO shall state that once the Qualifying Person has signed an ICO Agreement, orders for the Mandated Services available to that Qualifying Person may be entered and accepted entirely online through the Platform. The ICO must further provide that if the Licensee refuses to provide the Mandated Services ordered, it will provide reasons for such refusal and the Qualifying Person that ordered the Mandated Services in question may contact the Licensee for the purposes of seeking clarification of those reasons. The Licensee shall provide alternative means of ordering Mandated Services to cater for situations where the Platform is unavailable or access is impeded and the ICO prices, terms and conditions shall cater for this.

10.9 The ICO shall state that once a person has signed an ICO Agreement, requests for Mandated Services Information may be submitted and the requested Mandated Services Information may be provided entirely online through the Platform. The ICO must further provide that if the Licensee refuses to provide the requested Mandated Services Information, it will promptly provide reasons for such refusal and the person seeking the Mandated Services Information may contact the Licensee for the purposes of seeking clarification of those reasons. The Licensee shall provide alternative means of requesting Mandated Services Information to cater for situations where the Platform is unavailable or access is impeded and the ICO prices, terms and conditions shall cater for this.

10.10 In respect of every order for Mandated Services or request for Mandated Services Information that is entered through the Platform, the Platform must provide real time error checking to:

- (a) verify whether all the required information has been provided;
- (b) verify whether all other conditions have been satisfied;

and shall notify the Qualifying Person if there is any error or deficiency and allow the Qualifying Person to correct or remedy it without having to enter all the information again.

10.11 The ICO shall state that an order is binding once the Platform has generated a confirmation message which shall be delivered within thirty-six (36) hours of the order.

10.12 The ICO shall specify the process for deactivation of any Mandated Services which shall include a mechanism for doing so via the Platform.

10.13 The terms of the ICO shall conform to all other requirements for ordering, provisioning and deactivation of Mandated Services.

11. PLANNING AND FORECASTS

11.1 The ICO shall specify the mechanism and process by which the Licensee shall manage and fulfil, in a fair and equitable manner, requests for Mandated Services from Qualifying Persons that require additional resources (“**Requests**”) including without limitation:

- (a) requests that require the first-time delivery and installation of network termination equipment; and
- (b) requests that require an increase in network resources such as bandwidth capacity and/or the Licensee’s hardware or software end-user licence agreement(s).

11.2 The mechanism and process referred to in paragraph 11.1 shall include without limitation:

- (a) how the Licensee will manage the maximum number of Requests it is able to process and meet in accordance with the service level guarantees on a weekly basis (the “**Request Quota**”);
- (b) how the Licensee will process and meet any Requests that exceed the Request Quota;
- (c) how the Licensee will notify Qualifying Persons when the Request Quota has been exceeded; and
- (d) the process by which the Licensee and the Qualifying Person shall jointly plan and manage the Qualifying Person’s forecasted demand for Mandated Services.

12. BILLING

12.1 The Licensee shall be required to change the prices of the Mandated Services chargeable to its Qualifying Persons by the effective date of any price change required under the terms of the OpCo Interconnection Code.

12.2 The ICO shall specify the procedures to be followed by the Licensee and a Qualifying Person in respect of the billing and payment of any charges payable in respect of the Mandated Services ordered by that Qualifying Person.

12.3 The ICO shall set out clearly the payment terms and conditions, including any applicable billing fees and related charges, late payment penalties, or service disruption credits.

- 12.4 The ICO shall specify the process for resolution of any billing disputes. In setting out the details of such process, the ICO shall include without limitation:
- (a) contact details for reconciliation and billing queries;
 - (b) an obligation on the Licensee to provide back-up records;
 - (c) procedures for notification of billing disputes;
 - (d) initial resolution procedures (e.g. escalation to more senior management); and
 - (e) details of how billing disputes will be finally resolved (e.g. referral to arbitration or courts).

13. SERVICE LEVEL GUARANTEES

- 13.1 The ICO shall specify service level guarantees for each Mandated Service in respect of:
- (a) the Licensee's performance in relation to the ordering, provisioning and deactivation of the Mandated Service (the "**Provisioning SLG**");
 - (b) the availability of the Mandated Service (the "**Service Availability SLG**"); and
 - (c) the Licensee's performance in the rectification of any faults in relation to the ordering, provisioning or availability of the Mandated Service (the "**Fault Rectification SLG**").
- 13.2 The terms and conditions of each of the Provisioning SLG, the Service Availability SLG and the Fault Rectification SLG shall address, without limitation:
- (a) The parameters used to measure the specified service levels;
 - (b) The mechanism by which service levels are to be monitored;
 - (c) When failure to meet a particular service level is deemed to occur;
 - (d) How any failures may be rectified;
 - (e) How and when a service is deemed to be restored; and
 - (f) The consequences of, and remedies for, any breach of the service level guarantee.
- 13.3 Without prejudice to the generality of paragraph 13.2:
- (a) The terms of the Provisioning SLG for each Mandated Service shall state the ordering and provisioning times for the Mandated Service, the systems and processes used to monitor the status of ordering, provisioning and utilisation of the Mandated Service, and explain how the Qualifying Person is able to access such information and report any delays on a real-time basis;

- (b) The terms of the Service Availability SLG for each Mandated Service shall state the systems and processes used to monitor the availability of the Mandated Service and explain how the Qualifying Person is able to monitor the availability, and report any interruptions or faults, for a Mandated Service ordered on a real-time basis;
- (c) The terms of the Fault Rectification SLG for each Mandated Service shall state the systems and processes used to detect and rectify any faults in the ordering, provisioning and/or availability of the Mandated Service together with any fault escalation procedures, and explain how the Qualifying Person is able to report and monitor the status of any faults affecting a Mandated Service ordered on a real-time basis. In particular, the ICO:
 - (i) shall set out clearly the procedure for generating trouble reports including any applicable notice periods and response time standards;
 - (ii) may require the Qualifying Person to investigate its own network before reporting faults to Licensee;
 - (iii) shall state that if the Licensee is unable to identify a fault, a fault identification coordination meeting shall be held between the Qualifying Person and the Licensee to identify the fault; and
 - (iv) shall set out the responsibility of the parties for costs incurred by the Licensee in investigating faults including those subsequently found to exist in the Qualifying Person's network. The ICO shall set out clearly the calculation of charges (labour, etc.) for investigating faults.
- (d) The terms of the Fault Rectification SLG for each Mandated Service shall specify that the mean time for restoration of any interruption to the Active Network shall not be more than four (4) hours and/or may specify times for restoration according to categories of seriousness.
- (e) The ICO shall specify the remedies for any breach of a service level guarantee.

14. TESTING AND MAINTENANCE

- 14.1 The ICO may state that the Licensee has the right to make reasonable tests, and to schedule service interruptions. The ICO shall set out the procedures the Licensee will take to minimise disruption.

15. CHANGES TO THE SYSTEM

- 15.1 If the Licensee initiates any change to the System (a “**System Change**”) that affects any Mandated Service used by a Qualifying Person, the Licensee shall

notify the Qualifying Person and bear the costs of the System Change and only those changes that are consequently necessary for the Qualifying Person to make to continue to use the Mandated Service in substantially the same manner as it did before the System Change.

16. SYSTEM PROTECTION AND SAFETY MEASURES

16.1 The ICO shall provide a description of any operational and technical requirements that the Qualifying Person must comply with to avoid harm to the System.

17. NETWORK OPERATIONS CENTRE

17.1 The ICO shall set out the contact and location details of the Licensee's Network Operations Centre together with a statement that the Qualifying Person may contact the Network Operations Centre in the event of a service related fault or to request service activation.

18. INTERCHANGE AND TREATMENT OF INFORMATION

18.1 Data Interchange Format

(a) The ICO shall set out clearly the method and format of data interchange between the Qualifying Person and the Licensee, including data interfaces, software and forms.

18.2 Data to be Exchanged

(a) The ICO shall clearly specify all data types and systems for which data is to be interchanged, including for example, new facilities and service orders, network changes and forecasts, and billing.

18.3 Access to and use of End-User Information

(a) The ICO shall clearly set out the procedures for obtaining access to End-User information held by the Licensee and ensuring confidentiality of any End-User information.

19. TERMINATION

19.1 Grounds for Termination and Restrictions

(a) The ICO shall provide that any ICO Agreement shall automatically terminate:

(i) on expiry of the Licensee's obligation to offer the ICO in accordance with any direction by IMDA; and

- (ii) if the Licensee is exempted by IMDA from its obligation under the OpCo Interconnection Code.
- (b) The ICO shall provide that any unilateral suspension or termination of the ICO Agreement by either party is subject to IMDA's approval except where imminent threats to life or property or compliance with other legal or regulatory obligations require immediate action.
- (c) The ICO shall not provide for any right of the Licensee to terminate an ICO Agreement for convenience.
- (d) The ICO shall provide that the Qualifying Person may terminate an ICO Agreement upon reasonable written notice to the other party subject to the provision required under paragraph 19.1(b).
- (e) The ICO shall provide that either party may terminate an ICO Agreement immediately subject to the provision required under paragraph 19.1(b):
 - (i) if required to do so by any regulatory or court order;
 - (ii) upon the bankruptcy, insolvency, receivership, cessation of business of the other;
 - (iii) if the Qualifying Person ceases to be a person falling within the definition of a Qualifying Person as defined in the OpCo Interconnection Code; or
 - (iv) upon the material breach of the ICO Agreement by the other party which, if capable of remedy, remains unremedied for sixty (60) days.
- (f) The ICO shall include a provision stating that the parties will notify IMDA of any mutually agreed termination within seven (7) days of such termination of the ICO Agreement.
- (g) The ICO shall set out any post-termination procedures to apply following termination of an ICO Agreement, including any disconnection procedures and computation and payment of any disconnection costs.

20. OTHER GENERAL PROVISIONS

20.1 Notices

- (a) The ICO shall provide contact details for the Licensee which the Qualifying Person may use to contact the Licensee in relation to any queries relating to the ordering, provisioning and deactivation of Mandated Services or Mandated Information under the ICO, including details of any help desk functionality.

20.2 Confidentiality

- (a) The ICO shall contain a statement of the terms on which the Licensee will protect confidential information provided by the Qualifying Person, and the terms on which the Licensee requires the Qualifying Person to protect its confidential information, in connection with any ICO Agreement, including a description of the standards to be used to determine whether information is confidential and the appropriate procedures to ensure that confidential information provided by the Qualifying Person is not used for the development or marketing of other telecommunication services or equipment by either party or third parties.

20.3 Force Majeure

- (a) The ICO shall include force majeure provisions.

20.4 Assignment

- (a) The ICO shall provide the Licensee will not unreasonably withhold consent from a Qualifying Person seeking to assign its rights and obligations to another Qualifying Person.

20.5 Applicable Laws

- (a) The ICO shall provide that any ICO Agreement entered into pursuant to the terms of the ICO and any disputes between the parties in respect of an ICO Agreement will be governed by the laws of the Republic of Singapore.

20.6 Breach of Agreement

- (a) The ICO shall set out the remedies and penalties applicable to any breach of an ICO Agreement by either party.
- (b) The ICO shall clearly set out any applicable limitations of liability and indemnity provisions.
- (c) The ICO may not exclude or cap liability for death, personal injury, gross negligence or wilful default. The ICO may exclude consequential, special, incidental, indirect and exemplary damages.
- (d) Subject to paragraph 20.6(c) the Licensee may limit liability under the ICO provided that any limitation on liability shall be no lower than the total charges paid or payable by the Qualifying Person during the twelve (12) months prior to the event giving rise to liability save where liability arises from a claim of intellectual property infringement in which case the limitation on liability shall be no lower than three (3) times the total charges paid or payable by the Qualifying Person during the twelve (12) months prior to notice of infringement.

20.7 Legal Interpretation

- (a) The ICO shall provide that:
 - (i) if the ICO is accepted, the ICO Agreement will constitute the entire agreement between the parties; and
 - (ii) if any provision of the ICO Agreement is held to be unlawful or is required to be amended, all other provisions of the agreement will survive.

20.8 Dispute Resolution

- (a) The ICO shall include a provision stating that the parties may jointly request IMDA to provide conciliation to assist them in resolving any dispute.
- (b) The ICO shall detail the procedure to be followed by the parties for the resolution of disputes and conciliation, which shall be consistent with the terms of the OpCo Interconnection Code and which may be done by reference to the Manual published on the Platform.