

**APPENDIX 4**

**REQUIRED MODIFICATIONS TO SCHEDULE 3  
NBAP CONNECTION**

**SCHEDULE 3**

**NBAP CONNECTION**

**Note: Unless otherwise specified in IDA’s Directed Modifications in the Explanatory Memorandum and other IDA Directed Modifications in other parts of the Direction (including Schedule 3 – NBAP Connection), NetLink Trust’s proposed modifications to Schedule 3 – NBAP Connection are approved.**

### **SCHEDULE 3**

#### **NBAP CONNECTION**

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## **SCHEDULE 3**

### **NBAP CONNECTION**

#### **1. SCOPE**

This Schedule 3 sets out the terms and conditions under which OpenNet will provide the Requesting Licensee with a licence for:

- (i) Layer 1 Service (a service provided by OpenNet for the use of passive optical fibre cable) from OpenNet's designated Central Office (or "CO") to the Non-Building Address Point Termination Point (**NBAP TP**) or to the FTTB Node where OpenNet's Network ends, for the purpose of the Requesting Licensee providing GPON services; or
- (ii) Layer 1 Service from OpenNet's designated CO to the NBAP TP or to the FTTB Node where OpenNet's Network ends, for the purpose of the Requesting Licensee providing OE services

**(NBAP Connection).**

- 1.1 This Schedule only applies to Requesting Licensees who are FBOs.

#### **2. SERVICE LEVEL GUARANTEES**

- 2.1 OpenNet will provide the Service Level Guarantees in respect of NBAP Connection as set out in this Schedule. If OpenNet fails to meet any service activation period, Mean Time To Recovery or service level availability (collectively called the **Service Level Guarantees**) applicable to this Schedule and the failure to meet the Service Level Guarantees is solely caused by OpenNet, its contractors and/or suppliers, OpenNet will provide a remedy in the form of a rebate to the Requesting Licensee in accordance with:

- (i) clause 6.8 and any terms and conditions contained in this Schedule in respect of request and provisioning timeframes;
- (ii) clause 11.13 and any terms and conditions contained in this Schedule in respect of fault rectification timeframes; and
- (iii) clause 12.1 and any terms and conditions contained in this Schedule in respect of service level availability.

- 2.2 A claim by the Requesting Licensee shall be made in writing within thirty (30) Calendar Days of the completion of the relevant calendar month on which the Service Level Guarantees are measured. The amount in respect of any claim shall be paid to the Requesting Licensee in the form of a rebate. The Requesting Licensee acknowledges that a failure to make a claim within the specified timeframes under this paragraph means that the Requesting Licensee waives any entitlement to the Service Level Guarantee payment in respect of that claim. OpenNet will respond within (30) Calendar Days from date of claim stating whether the claim by Requesting Licensee: is (a) valid for rebates; or (b) is an invalid claim. Where OpenNet assessed that the Requesting Licensee's claim is invalid, OpenNet will explain its basis or require the Requesting Licensee to provide additional information. For valid claims submitted within the timeframe, OpenNet shall provide the rebate in its next Invoice.
- 2.3 If the Requesting Licensee is entitled to a rebate pursuant to the claim made hereunder, then the amount of the rebate will be credited into the Requesting Licensee's account after it has been processed by OpenNet and will be reflected in OpenNet's bill to the Requesting Licensee in accordance with OpenNet's billing cycle.
- 2.4 The guarantee and rebates provided by OpenNet are:
- (i) of an ex-gratia nature and personal to the Requesting Licensee and are non-transferable; and
  - (ii) subject to this Schedule.
- 2.5 Despite anything to the contrary in this section, if the Requesting Licensee qualifies for any claim, OpenNet shall honour its obligations in respect of that claim but in the event of a dispute as to whether the Requesting Licensee qualifies for a claim or as to the quantum of the claim payable to the Requesting Licensee, the dispute shall be resolved in accordance with the Dispute Resolution Procedures in Schedule 17 of the ICO Agreement, or in the case of a Billing Dispute, in accordance with Schedule 16 of the ICO Agreement.

## **CLAUSE 2.6 – MODIFICATION REQUIRED**

- 2.6 In addition to the specific terms and conditions of the Service Level Guarantees, the Service Level Guarantees shall not apply in any of the following circumstances:
- (a) the NBAP Connection is disconnected and/or reconnected by reason of it being suspended under the terms and conditions of this Schedule or ICO Agreement, except where the suspension is due to OpenNet's fault;
  - (b) fault due to any equipment, wiring and/or cabling owned or operated by the Requesting Licensee or on behalf of the Requesting Licensee;
  - (c) provision or restoration of the NBAP Connection where any site-coordination meeting, Joint Investigation Meeting or fault identification coordination meeting is involved, except where (a) the fault was caused by OpenNet; and (b) the Requesting Licensee has not contributed to any delay in setting up the meeting. Notwithstanding the above, in determining whether the Service Level Guarantees have been met by OpenNet, the time taken from the start of arranging any site-coordination meeting, Joint Investigation Meeting or fault identification coordination meeting up to the end of the meeting, shall always be excluded;
  - (d) OpenNet is unable to obtain or maintain any licence or permission necessary to the provision or restoration of the NBAP Connection despite using its best endeavours to obtain expeditiously or maintain such licence or permission. Notwithstanding the above, in determining whether the Service Level Guarantees have been met by OpenNet, the time taken by OpenNet to obtain or maintain any licence or permission necessary to the provision or restoration of the NBAP Connection shall always be excluded. Provided that in the event that the Requesting Licensee raises a dispute as to whether OpenNet has used its best endeavours to obtain or maintain the licence/permission, OpenNet will provide evidence that it has used such best endeavours;
  - (e) OpenNet has difficulty accessing the NBAP TP location despite using its best endeavours to expeditiously remedy the access difficulties, provided always that in the event that is a dispute as to whether OpenNet has used its best endeavours to expeditiously remedy the access difficulties, OpenNet will provide evidence that it has used such best endeavours;

- (f) delay in the provision or restoration of the NBAP Connection caused by events beyond the reasonable control of OpenNet and its suppliers and contractors;
- (g) OpenNet network outages for which the Requesting Licensee has not reported a fault;
- (h) fault is reported by the Requesting Licensee but no fault is found or confirmed after due and careful investigation, and verification by OpenNet;

**CLAUSES 2.6(i) AND 2.6(j) – MODIFICATION REQUIRED**

- (i) OpenNet is required to carry out service interruption and the Requesting Licensee has been informed in accordance with clause 9.5 or 9.6 or 9.7;
- (j) OpenNet is required to carry out fibre diversion at the request of the Government Agencies, private developers or other relevant parties and the Requesting Licensee has been informed in accordance with clause 9.5 or 9.6 or 9.7; or

***IDA Directed Modifications: An industry respondent commented that the reference to clause 9.7 in clauses 2.6(i) and 2.6(j) should be removed as clause 9.7 merely sets out the details of the notification to RLS and does not deal with service interruption. IDA agrees with the comment provided and accordingly directs NetLink Trust to propose, for IDA's approval, modifications to clauses 2.6(i) and 2.6(j) to remove NetLink Trust's proposed reference made to clause 9.7.***

- (k) Where the End-User or Requesting Licensee or MCST (of the development where the NBAP Connection to be provisioned) requires customised arrangements (eg. non-standard or customised installation) or conditions to be fulfilled (eg. the MCST requires the End-User to enter into customised arrangement or the MCST requires non-standard installation and requires End-User to bear the cost accordingly or the MCST requires End-User to provide access or the requisite equipment like boomlift, scaffolding, cherry picker etc. for installations or the MCST requires End-User's endorsement as part of the approval process to grant access to OpenNet) before access is granted to OpenNet or before OpenNet can provision its services, but such exclusion shall only be limited to the time taken for access to be granted to OpenNet or condition is suitable for OpenNet to provision its services.

Where the applicable event described above is not resolved within two (2) months from the date of submission of the Request for NBAP Connection, OpenNet shall consult the Requesting Licensee before OpenNet rejects the Request for NBAP Connection.

***IDA Directed Modifications: IDA refers NetLink Trust to Section 2, paragraph 29 of the Explanatory Memorandum. Accordingly, IDA directs NetLink Trust to propose, for IDA's approval, modifications to clause 2.6 to clarify that (a) NetLink Trust shall exercise its best endeavours to resolve any delays before rejecting orders delayed for more than two (2) months; (b) NetLink Trust shall provide clear explanations to RLs on the circumstances surrounding the delays and NetLink Trust's efforts made to resolve the said delays when it consults the RLs before rejecting such orders; (c) NetLink Trust shall consider valid feedback received from the RL prior to any rejection, and where there is any objection from the RL and the RL is able to substantiate the objection with appropriate documentary evidence, NetLink Trust must provide the RL with the additional time necessary to close the order; and (d) the parties continue to have the option to avail themselves of the existing dispute resolution process provided for in the ICO to resolve any dispute regarding NetLink Trust's decision to reject cases delayed beyond two (2) months.***

- 2.7 If the Requesting Licensee disputes OpenNet's reason for rejection, its records and/or the amount of rebate, the Requesting Licensee shall not be entitled to be credited with any rebate until and unless the dispute has been resolved.
- 2.8 A failure by OpenNet to meet any Service Level Guarantee does not constitute a breach of the ICO Agreement or this Schedule.
- 2.9 The Requesting Licensee acknowledges that the relevant remedy provided under clause 2.1 is a genuine pre-estimate of the Requesting Licensee's loss and will be the sole and exclusive remedy available to the Requesting Licensee for such failure to meet the relevant Service Level Guarantees for the NBAP Connection and shall be OpenNet's sole and exclusive liability to the Requesting Licensee for such failure.



### 3. SERVICE DESCRIPTION AND ACCESS POINTS

3.1 (A) Where the Requesting Licensee requests for NBAP Connection for the purpose of providing GPON services, OpenNet will provide a licence for NBAP Connection of 1:16 Split Ratio to the Requesting Licensee with the following:

- (a) one (1) fibre strand from OpenNet's Fibre Distribution Frame (**FDF**) at the Central Office designated by OpenNet to OpenNet's splitter at the Building MDF Room for each group of sixteen (16) NBAP Connections (or portion thereof);
- (b) one (1) dedicated fibre strand from the splitter to the NBAP TP or to the FTTB Node where OpenNet's Network ends;
- (c) one (1) Patching Service at OpenNet's FDF at the Building MDF Room; and
- (d) where necessary, one (1) Patching Service at OpenNet's FDF in the Central Office will be provided and the Requesting Licensee shall pay a Patching Charge in accordance with Schedule 15 (Charges).

Where the fibre terminated into the NBAP location can be provisioned from the existing splitter from the same rack in the MDF room, OpenNet shall utilise at least 90% of the connections in each splitter assigned to the Requesting Licensee in each of the FDF in the MDF room before an additional splitter is provisioned for the Requesting Licensee in that MDF Room.

(B) Where the Requesting Licensee requests for NBAP Connection for the purpose of providing OE services, OpenNet will provide a licence for a NBAP Connection of 1:16 Split Ratio to the Requesting Licensee with the following:

- (a) two (2) fibre strands from OpenNet's FDF at the Central Office designated by OpenNet to OpenNet's FDF at the Building MDF Room for each group of sixteen (16) NBAP Connections (or portion thereof);
- (b) one (1) dedicated fibre strand from OpenNet's FDF at the Building MDF Room to the NBAP TP or to the FTTB Node where OpenNet's Network ends;
- (c) where necessary, up to three (3) Patching Services at OpenNet's FDF in the Building MDF Room; and

- (d) where necessary, two (2) Patching Services at OpenNet's FDF in the Central Office will be provided and the Requesting Licensee shall pay a Patching Charge in accordance with Schedule 15 (Charges).
- 3.2 (A) Where the Requesting Licensee requests for a NBAP Connection for the purpose of providing GPON services, the Requesting Licensee shall access the NBAP Connection: (a) at OpenNet's FDF at the Central Office designated by OpenNet or the Requesting Licensee's FDF at the Central Office designated by OpenNet; and (b) at the NBAP TP or the FTTB Node where OpenNet's Network ends.
- (B) Where the Requesting Licensee requests for a NBAP Connection for the purpose of providing OE services, the Requesting Licensee shall access the NBAP Connection: (a) at OpenNet's FDF at the Central Office designated by OpenNet or the Requesting Licensee's FDF at the Central Office designated by OpenNet; and (b) at OpenNet's FDF at the Building MDF Room and at the NBAP TP or the FTTB Node where OpenNet's Network ends.
- 3.3. Where the Requesting Licensee elects to self-provide the NBAP TP by accessing the NBAP Connection at the FTTB Node where OpenNet's Network ends, the Requesting Licensee shall access the NBAP Connection at OpenNet's designated FTTB Node. The Requesting Licensee shall be responsible for the installation of fibre from the designated FTTB Node to the NBAP Termination Point, including securing the necessary access rights and approval. For the avoidance of doubt, it shall be Requesting Licensee's sole responsibility to obtain permission from the building owner/management to allow installation of fibre from the FTTB Node to the NBAP TP. The Requesting Licensee shall notify OpenNet of any subsequent change to the location of the NBAP TP. The additional process and terms to be adopted shall be as described in Annex 3C.
- 3.4 Where the Requesting Licensee wishes to acquire subsequent fibre connection from CO to Building MDF Room, the Requesting Licensee shall acquire such fibre connection pursuant to Schedule 5 (CO to Building MDF Room Connection).
- 3.5 Where the Requesting Licensee acquires a NBAP Connection for the purpose of providing OE services, the Requesting Licensee shall ensure the NBAP Connection is connected to active Optical Ethernet equipment.

#### **4. ORDERING AND PROVISIONING PROCEDURE**

- 4.1 Some locations within a Non-Residential building is classified by OpenNet as an NBAP instead of a Non-Residential End-User Premise. If in doubt whether a

requested location is eligible for a NBAP Connection request, the Requesting Licensee can refer to the classification guidelines which are published on OpenNet Public Website. If there are further doubts, Requesting Licensee may submit its query to OpenNet via the OpenNet Public Website →NBAP enquiry tool with photographs of the location and Termination Point's proposed location. OpenNet shall respond to the Requesting Licensee the classification of a particular location within two (2) Business Days of receipt of such query subject to a maximum of ten (10) queries daily from all Requesting Licensees. If Requesting Licensee disputes OpenNet's decision on classification of the location and the parties shall use their best endeavours to resolve the disputes within five (5) Business Days or adopt such other process or timeframe as mutually agreed by the parties.

4.2 The Requesting Licensee shall submit its request for a NBAP Connection (**Request**) to OpenNet on a Business Day in the form of Annex 3A stating, but not limited to the following information:

- (a) the Customer's name and telephone number for the NBAP Connection;
- (b) the NBAP TP address and a map demonstrating the location of the NBAP TP;
- (c) the Global Positioning System (GPS) coordinates, estimated height (in metres, relative to ground level), and a broad description of the NBAP TP location;
- (d) whether the request is for the purpose of providing GPON or OE services;
- (e) the term of the licence required, either one (1) month or twelve (12) months; and
- (f) whether the Requesting Licensee elects to self-provide the NBAP TP.

4.3 (A) As an alternative to submitting a Request using the form set out in Annex 3A under clause 4.2, the Requesting Licensee may also submit its request for NBAP Connection (Request) to OpenNet via the OpenNet Platform stating, but not limited to, the following information.

- (a) the Customer's name and telephone number for the NBAP Connection;
- (b) the NBAP TP address and a map demonstrating the location of the NBAP TP;

- (c) the Global Positioning System (GPS) coordinates, estimated height (in metres, relative to ground level), and a broad description of the NBAP TP location;
- (d) whether the request is for the purpose of providing GPON or OE services;
- (e) the term of the licence required, either one (1) month or twelve (12) months,
- (f) whether the Requesting Licensee elects to self-provide NBAP TP,

when available (about which OpenNet shall inform the industry when the above feature will be available on OpenNet Platform). For Request submitted via the Service Portal, the Requesting Licensee shall submit a feasibility check by providing the Global Positioning System (GPS) coordinates of the NBAP location and Coordinate System (WGS and SV21 formats only) to verify the coverage status. Subsequently and where applicable, the Requesting Licensee shall select an available date and appointment time for OpenNet to arrange a Site Survey Appointment. Upon successful submission of the Request via the Service Portal, it will provide a Request acknowledgement.

Alternatively, for Request submitted via the OpenNet Platform APIs, the Requesting Licensee shall perform the feasibility check by providing the Global Positioning System (GPS) coordinates of the NBAP location and Coordinates System (WGS and SV21 formats only) needed to verify the coverage status. The Requesting Licensee shall also query the available time slots. The Requesting Licensee shall use the details returned by OpenNet and the Site Survey Appointment (where applicable) related to the status of the feasibility check for submission of order. Upon successful submission of the Request via the OpenNet Platform APIs, it will provide a Request acknowledgement.

(B) Following clause 4.3(A), for orders submitted via the OpenNet Platform, when available, the Requesting Licensee is able to modify the contact details of customer subject to the requirement that the date of modification is within three (3) Business Days from the date of submission of Request. The OpenNet Platform will notify the Requesting Licensee if the contact details have been successfully modified.

4.4 Relocation of the NBAP Connection is not allowed. In the event that the NBAP TP has relocated, the Requesting Licensee shall submit a request for termination of the existing NBAP Connection and request for a new NBAP Connection at the new NBAP TP location in accordance with this Schedule.

- 4.5 For the avoidance of doubt, switching from GPON to OE or from OE to GPON is allowed via the OpenNet Platform subject to the Requesting Licensee paying the applicable charges for Patching Service in accordance to Schedule 15 (Charges).

For the switching from GPON to OE or from OE to GPON, the Requesting Licensee shall perform a check order status by providing, the unique reference number provided by OpenNet or a similar form of identification for the existing connection, before submitting its request for the switch. For avoidance of doubt, switching from GPON to OE or vice versa is only applicable for connections that are active. OpenNet will provide a unique reference number or a similar form of identification in the notification upon successful submission of a GPON to OE or from OE to GPON request.

Information of the estimated timeframe for the switch will be provided to the Requesting Licensee through OpenNet Platform during the switch. OpenNet shall use its best endeavours to minimise any service disruption to the Requesting Licensee during the switch.

The Requesting Licensee may approach OpenNet for specific requirements to the switching process, which will be on a Cost-Oriented Basis.

Where the OpenNet Platform is experiencing technical problems, OpenNet shall inform the Requesting Licensee how it should request for the switch via manual means or offer alternative solutions.

- 4.6 OpenNet shall at its sole discretion determine the serving CO and Building MDF Room which the NBAP Connection will be provided from. Subject to clause 4.7, the Requesting Licensee is able to query the OpenNet Platform at no cost for the serving CO and Building MDF Room by providing the postal code for the NBAP TP address. For the avoidance of doubt, the choice of the serving CO and Building MDF Room from which the NBAP Connection will be provided shall be the same for the same NBAP TP address, regardless whether NBAP TP is installed by OpenNet or the NBAP TP is self- provided by the Requesting Licensee.

For NBAP Connection to be provisioned within a Non-Residential Building, OpenNet shall choose the nearest feasible FTTB Node to serve, through the OpenNet Platform.

- 4.7 Information relating to the Mandated Services will be available on OpenNet Platform, for access by the Requesting Licensee through secured means. The secured access to OpenNet Platform will require the payment of a Per User Account Charge (specified

in clause 14 of Schedule 15 (Charges)) for each user account created. Information relating to network outages will be sent to the Requesting Licensee via email or OpenNet Platform. The information relating to the Mandated Services and the information relating to network outages is made available on the OpenNet Platform. For information related to network outages, OpenNet shall include the following details in the written notification or via OpenNet Platform APIs to the Requesting Licensee:

- (a) Affected location;
- (b) Date of occurrence;
- (c) Time of occurrence (start & approximate end timings);
- (d) Cause of outage;
- (e) Steps taken to remedy the outage;
- (f) Steps (if any) required by Requesting Licensee to assist with rectification of outage;
- (g) Order Request Identifier of the affected orders; and
- (h) OpenNet's Network Operations Centre Contact Number.

For the avoidance of doubt, where OpenNet has imposed a Per User Account Charge on the Requesting Licensee for each user account created to allow the Requesting Licensee to access OpenNet Public Website, such Per User Account Charge shall not be re-imposed when the information relating to Mandated Services is made available on the OpenNet's Service Portal.

## **5. NBAP CONNECTION REQUEST**

- 5.1 OpenNet shall process all Requests received for NBAP Connection on a 'first come, first served' basis.

[Enhancement to Current Approach – will eventually be replaced by the Long-Term Approach]

- 5.2 For each Business Day, OpenNet shall process a combined total of no more than 1125 or such other number (as may be revised from time to time in accordance with clause 5.2(i)) of Requests for Basic Mandated Services and Layer 1 Redundancy

Services (**Maximum Quota**) from all Requesting Licensees, excluding Requests for Non-Residential End-User Connections. For avoidance of doubt, Requesting Licensee is able to select such dates made available from the OpenNet Platform and for which the Request is to be fulfilled except such Business Day where the Maximum Quota has been reached. OpenNet will process all Requests on a ‘first come, first served’ basis. The Maximum Quota is not applicable to requests for deactivation of any Connection.

- (i) The Maximum Quota is subject to the review mechanism as described as follows. If OpenNet finds that, on the average, more than 90% of the Maximum Quota has been used over a period of twelve (12) weeks preceding the review month (namely February , May , August and November ), OpenNet shall increase its daily Maximum Quota for the quarter in which the review month occurs and the new quota shall be no less than 115% of the average demand over the preceding twelve (12) weeks. If OpenNet finds that, on the average, less than 80% of the Maximum Quota has been used over a period of twelve (12) weeks preceding the review month (namely February , May , August and November ), OpenNet may decrease its daily Maximum Quota for the quarter in which the review month occurs and the new quota shall be no less than 110% of the average demand over the preceding twelve (12) weeks. Where applicable, in accordance with the foregoing, the revised prevailing Maximum Quota will take effect upon its publication on the Service Portal following the conclusion of each review. The review mechanism will be revised regularly subject to the Authority’s approval.

[Long-Term Approach]

## ***CLAUSES 5.2 – MODIFICATION REQUIRED***

- 5.2 For each Business Day, OpenNet shall process a combined total of no more than 50 , or such other number (as may be revised from time to time in accordance with clause 5.2(i)) of Requests for Basic Mandated Services and Layer 1 Redundancy Services (**Maximum Quota**) from all Requesting Licensees, excluding Requests for Residential and Non-Residential End-User Connections. For avoidance of doubt, Requesting Licensee is able to select such dates made available from the OpenNet Platform and for which the Request is to be fulfilled except such Business Day where the Maximum Quota has been reached. OpenNet will process all Requests on a ‘first come, first served’ basis. The Maximum Quota is not applicable to requests for deactivation of any Connection.

- (i) The Maximum Quota is subject to the review mechanism as described as follows. If OpenNet finds that more than 95% of the quota has been used consistently over a period of twelve (12) weeks preceding the review month (namely January, April, July and October), OpenNet shall increase its daily quota for the quarter in which the review month occurs and the new quota shall be no less than 110% of the average demand over the preceding twelve (12) weeks. If OpenNet finds that less than 80% of the quota has been used consistently over a period of twelve (12) weeks preceding the review month (namely January, April, July and October), OpenNet may decrease its daily quota for the quarter in which the review month occurs and the new quota shall be no less than 110% of the average demand over the preceding twelve (12) weeks. Where applicable, in accordance with the foregoing, the revised prevailing Maximum Quota will take effect upon its publication on the Service Portal following the conclusion of each review. The review mechanism will be revised regularly subject to the Authority's approval.

***IDA Directed Modifications: IDA refers NetLink Trust to Section 4 of the Explanatory Memorandum to this Direction. IDA is of the view that the QAM, together with NetLink Trust's proposed enhancements in this ICO review, would be able to effectively assist NetLink Trust in sizing its service provisioning capacity and on a non-discriminatory basis. Accordingly, IDA directs NetLink Trust to propose, for IDA's approval, modifications to clause 5.2 to remove the Long-Term Approach and to retain the Enhancements to Current Approach.***

5.3 (A) Within one(1) Business Day of the date on which OpenNet receives the request for NBAP Connection (Request Date) and subject to clause 5.2, OpenNet will notify the Requesting Licensee (and shall provide the Requesting Licensee with a unique reference number or a similar form of identification in the notification) if its Request is rejected for any one of the following reasons:

- (a) the Request for NBAP Connection is not in the prescribed form;
- (b) the Request does not contain all the required information or the information provided is inaccurate or misleading; and
- (c) the Requesting Licensee has committed a material breach of the ICO Agreement or this Schedule.

(B)(i) As an alternative to clause 5.3(A), where OpenNet receives the request for NBAP Connection via the OpenNet Platform, OpenNet will validate and notify the



Requesting Licensee, so that the Requesting Licensee is able to make the necessary corrections in real time, if the request does not meet any one of the following reasons:

- (a) Data entered for the fields does not meet the required format;
- (b) the Request does not contain all the required information or the information provided is inaccurate or misleading;

(B)(ii) Following 5.3(B)(i), within one (1) Business Day of the date on which OpenNet receives the request via the OpenNet Platform for NBAP Connection and subject to clause 5.2, OpenNet must notify the Requesting Licensee (and shall provide the Requesting Licensee with a unique reference number or a similar form of identification in the notification) if its Request is rejected for any one of the following reasons as the Requesting Licensee has committed a material breach of the ICO Agreement or this Schedule.

Where the OpenNet Platform is experiencing technical problems, OpenNet shall inform the Requesting Licensee to submit the Requests through fax/email or offer alternative solutions.

5.4 Within twenty (20) Business Days of the Request Date and subject to clause 5.2, OpenNet will complete its Project Study (not applicable for clauses 5.4(a)) and notify the Requesting Licensee (and shall provide the Requesting Licensee with a unique reference number or a similar form of identification in the notification) whether its Request is accepted (and if accepted, the service activation period), or if rejected, for any one of the following reasons:

- (a) the NBAP TP location is deemed to be inaccessible;
- (b) the equipment or services that the Requesting Licensee proposes to use or to provide interfere with, or cause deterioration to services supplied by OpenNet;
- (c) there is obstruction from building owner, building management, home owner, End-User, property owner or relevant authorities to OpenNet installation or installation schedule. OpenNet shall use its best endeavours to resolve such obstructions;
- (d) the Transmission Tie Cable (installed pursuant to Co-location Service in Schedule 12) for connection to the NBAP Connection is yet to be operational at the point in time of OpenNet's provisioning of the NBAP Connection; or

- (e) there are security and confidentiality requirements or restrictions imposed on OpenNet by Government Agencies.

Where the Requesting Licensee elects to self-provide the NBAP TP, OpenNet shall, within three (3) Business Days of the Request Date, complete its review of the Request and notify the Requesting Licensee (and shall provide the Requesting Licensee with a unique reference number or a similar form of identification in the notification) whether its Request is accepted (and if accepted, the designated FTTB Node where OpenNet's Network ends and service activation period), or if rejected, for any one of the reasons (excluding clause 5.4(a)) stated above. No Project Study shall be conducted for such a Request.

- 5.5 Where the NBAP TP location is initially deemed to be inaccessible, OpenNet and the Requesting Licensee shall conduct a joint site survey on a mutually agreed date to select an alternative NBAP TP location. For the avoidance of doubt, the Requesting Licensee will be required to pay Onsite Charges for this joint site survey and all subsequent joint site surveys.
- 5.6 Without prejudice to clause 5.4, the Requesting Licensee shall pay OpenNet the applicable Installation Charge and Patching Charge specified in Schedule 15 (Charges) for the provisioning of the NBAP Connection.
- 5.7 In addition to the Installation Charge and Patching Charge, the Requesting Licensee shall, where applicable, be liable to pay a one-time charge for installation of the OpenNet Network from the designated Building MDF Room to the NBAP TP which will include ducting and/or trenching in order to reach the NBAP TP.
- 5.8 Where OpenNet considers it reasonably necessary to conduct site visit(s) to assess the NBAP Connection Request from the Requesting Licensee, OpenNet shall provide reasons for the site visit(s), and the Requesting Licensee shall be liable to pay all applicable Onsite Charges for such site visit(s).
- 5.9 Where OpenNet rejects the Request for NBAP Connection, OpenNet shall provide reasons explaining the basis for rejection promptly.
- 5.10 Where OpenNet informs the Requesting Licensee that the Request is accepted, OpenNet will inform the Requesting Licensee of the one-time charge payable for the installation of the OpenNet Network from the designated Building MDF Room to the NBAP TP (which will include ducting / trenching to reach the NBAP TP) and the service activation period for the NBAP Connection. The service activation period will be reasonably determined upon completion of the Project Study and, excluding any

unforeseen circumstances, should not exceed forty (40) Business Days. OpenNet shall provide a reasonable breakdown of the charge components for this one-time charge. Alternatively, in the situation where the Requesting Licensee elects to self-provide the NBAP TP, Requesting Licensee shall pay the one-time installation charge under Schedule 15 (Charges). The service activation period shall be no longer than ten (10) Business Days (or such other timeframe to be mutually agreed between OpenNet and the Requesting Licensee) where there is sufficient capacity to provide the NBAP Connection. Where there is insufficient capacity, due to sudden surge of orders in a short period of time at a location or multiple Requesting Licensees serving the same location giving rise to rapid exhaustion of fibres for that location or OpenNet's Network has not been rolled out to that location, to provide the NBAP Connection, OpenNet shall provide the NBAP Connection within forty (40) Business Days (or such other timeframe to be mutually agreed between OpenNet and the Requesting Licensee) from the receipt of a valid Request from the Requesting Licensee, if additional capacity is required to be installed between the designated Central Office and the FTTB Node where OpenNet's Network ends. Upon receipt of OpenNet's notification of insufficient capacity, the Requesting Licensee has an option to continue with the Request or cancel the Request without charges within three (3) Business Days, through OpenNet Platform, when available. For the avoidance of doubt, OpenNet shall inform the industry when the above feature will be available on OpenNet Platform.

5.11 The Requesting Licensee must provide its acceptance of the service activation period and agreement to pay the one-time installation charge to OpenNet within:

- (a) twenty (20) Business Days (the Initial Period); or
- (b) (upon OpenNet's receipt of the Requesting Licensee's written request no later than five (5) Business Days before the expiry of the Initial Period) within a further period of ten (10) Business Days in addition to the Initial Period,

failing which, the Request shall be deemed cancelled and the Requesting Licensee shall be liable for Cancellation Charges in accordance with Schedule 15 (Charges).

For Request (where OpenNet provisions the NBAP TP) submitted via the Service Portal, the Requesting Licensee shall submit the signed copy of the quotation; accept the service activation period and the agreement to pay the one-time installation charge to OpenNet. For Request (where the Requesting Licensee elects to self-provide the NBAP TP) submitted via the Service Portal, the Requesting Licensee shall submit the proposed cable routing from the FTTB Node where OpenNet's Network ends to the

NBAP TP. Upon successful acceptance, the Service Portal will provide a Request acknowledgement.

Alternatively, for orders (where OpenNet provisions the NBAP TP) submitted via the OpenNet Platform APIs, the Requesting Licensee shall submit the signed copy of the quotation to OpenNet Platform and indicate the acceptance of the quotation, the service activation period and payment of the one-time installation charge to OpenNet. For orders (where the Requesting Licensee elects to self-provide the NBAP TP) submitted via the OpenNet Platform APIs, the Requesting Licensee shall submit the proposed cable routing from the FTTB Node where OpenNet's Network ends to the NBAP TP via OpenNet Platform. Upon successful acceptance, the OpenNet Platform APIs will provide a Request acknowledgement.

- 5.12 Where the Requesting Licensee provides its acceptance of the service activation period and agreement to pay the one-time installation charge, the service activation period shall be deemed to commence on the next Business Day from the date the acceptance is received by OpenNet.

## 6. DELIVERY

### **CLAUSE 6.1 – MODIFICATION REQUIRED**

- 6.1 OpenNet shall provide the NBAP Connection by the end of the service activation period. Where there is a delay during service provisioning, the reasons for the delay and the estimated/revised timeframe required to complete service provisioning will be made available on the OpenNet Platform, when available. For the avoidance of doubt, OpenNet shall inform the industry when the above feature will be available on OpenNet's Platform.

***IDA Directed Modifications: IDA has received feedback from the industry that the reasons for delay and the estimated/revised resolution timeframes that NetLink Trust publishes on the NetLink Trust Platform are often too generic and non-informative. As a result, the information provided by NetLink Trust through the NetLink Trust Platform does not help RLs, or their respective RSPs, by providing informative updates as to the status of their delayed cases. Further, it was commented that the estimated/revised timeframes provided by NetLink Trust for delayed cases were often non-indicative and far from the actual time taken for resolution, to the extent that RLs and/or RSPs were unable to rely on such timeframes to appropriately explain the delay to their customers. IDA is of the view that it is not acceptable for NetLink Trust to provide***

***RLs with ambiguous information, as this causes confusion on the ground and the RLs and/or RSPs would face challenges when answering their customers, i.e., the end-users, on the service provisioning delays. Further, it is within IDA's expectation and NetLink Trust's ability to provide prompt and to-date updates with regard to the service provisioning status, so that the end-users could better manage their time in preparing for NBN service readiness. Accordingly, IDA directs NetLink Trust to propose, for IDA's approval, modifications to clause 6.1 to clarify that NetLink Trust shall, through the NetLink Trust Platform and/or via other forms of communication such as emails, provide regular updates to the affected RL on the resolution of delayed cases, on each Business Day or more frequently as appropriate, until NetLink Trust resolves the delay and completes the service provisioning.***

- 6.2 Unless otherwise stated, OpenNet shall retain the responsibility for working at OpenNet's FDF at the Central Office and Building MDF Room, and the NBAP TP, including Patching Service at OpenNet's FDF at the Central Office and Building MDF Room in accordance with Schedule 13 on Patching Services. The Requesting Licensee shall bear the Charges for such work carried out by OpenNet.
- 6.3 Where the Requesting Licensee requests for a NBAP Connection for the purpose of providing OE services, OpenNet will provide the necessary Patching Service at OpenNet's FDF in the Building MDF Room using Patch Cable of not exceeding ten (10) metres in length. The Requesting Licensee shall provide its own patch cable if it requires a longer patch cable. For the avoidance of doubt, where the Requesting Licensee provides its own patch cable, OpenNet will not offer and Requesting Licensee shall not request for any rebate or discount over the Patching Service or the NBAP Connection.
- 6.4 OpenNet will use optical fibre cable based on the ITU-T G.652D standard for outdoor installations and the ITU-T G.657A standard for in-building installations (where applicable) deliver the NBAP Connection.
- 6.5 OpenNet will test the optical fibre cable from OpenNet's FDF at its designated Central Office or the Requesting Licensee's FDF at the Central Office designated by OpenNet to the NBAP TP or to the FTTB Node where OpenNet's Network ends to ensure that the NBAP Connection falls within the specified optical performance. Testing will be conducted at wavelengths of 1310nm, 1490nm and 1550nm.

- 6.6 OpenNet shall ensure that the optical power loss:
- (a) of any NBAP Connection for the purpose of provision of GPON services does not exceed -28dB; and
  - (b) of any NBAP Connection for the purpose of provision of OE services does not exceed -20 dB from OpenNet's FDF at its designated Central Office or the Requesting Licensee's FDF at the Central Office designated by OpenNet to OpenNet's FDF in the Building MDF Room, and does not exceed -20dB from OpenNet's FDF in the Building MDF Room to the NBAP TP or to the FTTB Node where OpenNet's Network ends.

6.7 OpenNet shall promptly notify the Requesting Licensee upon the completion of the NBAP Connection.

6.8 Subject to clause 6.9 and only applicable to a Service Request with twelve (12) months minimum contract term, in the event OpenNet fails to meet the applicable service activation period for a Request, OpenNet shall compensate the Requesting Licensee an amount equal to the number of days of delay multiplied by the weekly recurring charge for the NBAP Connection, subject to a maximum of 30 times the weekly recurring charge for the NBAP Connection (**Weekly Recurring Charge**), where:

$$\text{Weekly Recurring Charge} = \text{Monthly recurring charge} \times 7 / 30$$

Subject to clause 6.9 and only applicable to a Service Request with one (1) month minimum contract term, in the event OpenNet fails to meet the applicable service activation period for the Request, OpenNet shall compensate the Requesting Licensee an amount equal to the number of days of delay multiplied by the daily recurring charge for the NBAP Connection, subject to a maximum of 50% of the monthly recurring charge for the NBAP Connection, where

$$\text{Daily Recurring Charge} = \text{Monthly Recurring Charge (1 month contract)} / 30$$

6.9 OpenNet shall not be required to compensate the Requesting Licensee under any of the following circumstances:

- (a) Delay in the granting of permission from or permission is not granted to install the required Network to the NBAP TP, despite OpenNet using its best endeavours to obtain expeditiously such permission, provided that in the event that the Requesting Licensee raises a dispute as to whether OpenNet

has used its best endeavours to obtain expeditiously the permission, OpenNet will provide evidence that it has used such best endeavours;

- (b) The Requesting Licensee requests the deferment of the service activation date; or
- (c) The designated Building MDF Room which was initially under network coverage is demolished and/or reconstructed.

For the avoidance of doubt, where the service activation date has been revised pursuant to any of the circumstances contemplated in this clause 6.9 or elsewhere in the ICO Agreement (unless otherwise stated), OpenNet shall nevertheless be required to compensate the Requesting Licensee if it fails to meet the revised implementation timeline.

## **7. RESPONSIBILITY AT OPENNET FDF**

- 7.1 The Requesting Licensee shall not, and shall ensure that its employees, agents and contractors do not, at any time access OpenNet's FDF at the Central Office and Building MDF Room. In addition, the Requesting Licensee shall not, and shall ensure that its employees, agents and contractors do not, at any time access the NBAP TP except in cases where the Requesting Licensee has elected to self-provide the NBAP TP.
- 7.2 Where the Requesting Licensee wishes to change the existing patching connection at OpenNet's FDF at the Central Office or Building MDF Room, the Requesting Licensee shall submit an application for termination of the existing Patching Service and order for a new Patching Service at the Central Office or Building MDF Room in accordance with Schedule 13 (Patching Service).

## **8. DEACTIVATION**

- 8.1 Subject to the minimum contract term, the Requesting Licensee may deactivate the NBAP Connection by giving OpenNet not less than one (1) month prior written notice.
- 8.2 If the NBAP Connection is terminated by the Requesting Licensee pursuant to clause 8.1 before the expiry date of the minimum contract term, the Requesting Licensee must pay OpenNet one hundred percent (100%) of the Monthly Recurring Charge for the remainder of the minimum contract term.

- 8.3 Where any Patching Service is no longer required as a result of the termination of the NBAP Connection, OpenNet shall remove the Patching Service at all the relevant access points and the Requesting Licensee shall be liable for the termination charges for removing the Patching Service at the Central Office designated by OpenNet in accordance with Schedule 15 (Charges). Notwithstanding the above, the Requesting Licensee shall not be liable to pay any Charges for the removal of Patching Service related to or in connection with the termination of the NBAP Connection, if such termination is the result of OpenNet's fault.

## **9. STANDARD TERMS AND CONDITIONS**

- 9.1 OpenNet shall at its sole discretion determine its network deployment, including but not limited to the access points, fibre cable routing and location of the Central Office and Building MDF Room from which the NBAP Connection is provided. Where OpenNet is required to provision the Termination Point and prior to installation of the Termination Point, OpenNet will assess the suitability of the location for the deployment of active equipment, such that there will be adequate ventilation and power. Notwithstanding, OpenNet's assessment and recommendation on location of the Termination Point, OpenNet shall defer to the agreement or instructions of the End-User. For the above case, the Requesting Licensee, its agents or sub contractors shall not tamper with, modify, remove or re-locate any Termination Point or any part of the Network in any way or take steps to repair any Termination Point or any part of the Network.
- 9.2 OpenNet shall be responsible for the maintenance of the NBAP Connection installed under this Schedule. For the avoidance of doubt, if there is a fault at the Patch Cable, OpenNet will charge the Requesting Licensee an additional Patching Charge if the Requesting Licensee was responsible for the fault at the Patch Cable.
- 9.3 Except to the extent strictly necessary to accurately describe the service to actual or potential Customers, the Requesting Licensee shall not use OpenNet's name, any of OpenNet's trademarks or the fact that any service is supplied using OpenNet's Network in promoting the Requesting Licensee's service.
- 9.4 The Parties shall in good faith co-operate with each other and take reasonable measures to ensure that there is no interference with or deterioration to OpenNet's existing services or those of a Third Party as a result of the Requesting Licensee's use of the NBAP Connection.



## **CLAUSES 9.5 & 9.6 – MODIFICATION REQUIRED**

- 9.5 If it is necessary to carry out any planned service interruption, including but not limited to planned repair, or replacement or upgrade to any equipment or facility forming part of the NBAP Connection, OpenNet shall provide the Requesting Licensee with at least two (2) weeks' notice in advance of such interruptions, repairs or upgrades, and shall inform Requesting Licensees of the period of service interruption. In the event the planned service interruption has to be changed, OpenNet shall provide the Requesting Licensee with no less than twenty-four (24) hours' notice. OpenNet shall take reasonable measures to minimise any service disruption to the Requesting Licensee.
- 9.6 If it is necessary to carry out any urgent service interruption, including but not limited to planned repair, or replacement or upgrade to any equipment or facility forming part of the NBAP Connection, OpenNet shall notify the Requesting Licensee as soon as practicable, including after the carrying out of the service interruption, and shall inform Requesting Licensees of the period of service interruption. OpenNet shall take reasonable measures to minimise any service disruption to the Requesting Licensee.

***IDA Directed Modifications: IDA refers NetLink Trust to Section 5 of the Explanatory Memorandum to this Direction. Accordingly, IDA directs NetLink Trust to propose, for IDA's approval, modifications to clauses 9.5 and 9.6 to (a) revert the notification period for all Planned Interruptions to one (1) month; (b) clarify that NetLink Trust will provide at least one-week's notice to RLs for any postponement of Planned Interruptions; and (c) clarify that should NetLink Trust be restricted to a shorter notification period due to corresponding short notices provided by third parties, NetLink Trust shall use the same principle in the process for Unplanned Interruptions to inform the RLs as soon as practicable of such unforeseen postponement of Planned Interruptions.***

***Further, IDA directs NetLink Trust to propose, for IDA's approval, modifications to both clauses 9.5 and 9.6 to reflect that NetLink Trust shall take best endeavours to minimise any service disruption to the RL in cases of service interruptions described in clauses 9.5 and 9.6.***

- 9.7 OpenNet shall include the following details in the written notification or via OpenNet Platform APIs to the Requesting Licensee:
- (a) Affected Location;

- (b) Date of occurrence;
  - (c) Time of occurrence (start & end timings);
  - (d) Cause of Planned Disruption;
  - (e) Order Request Identifier of the affected orders; and
  - (f) OpenNet's Network Operations Centre Contact Number.
- 9.8 If the planned service interruption affects NBAP Connections, OpenNet will endeavour to carry out the planned service interruption between 1am and 6am, unless it is not feasible for OpenNet to do so.
- 9.9 Subject to Requesting Licensee acquiring redundancy service, OpenNet shall, where technically feasible, provide assistance to the Requesting Licensee to divert its NBAP Connection to the redundancy service before commencing the planned service interruption.
- 9.10 Where there are available resources, OpenNet will, where possible, first divert critical links to alternative routings before commencing the planned service interruption.
- 9.11 Subject to clause 9.5 or 9.6 or 9.7, OpenNet shall not be liable for any loss caused by such service interruption, except for any Service Level Guarantee rebate that arises from OpenNet carrying out the service interruption outside of the stipulated period and the Requesting Licensee has reported the fault in accordance to clause 11.
- 9.12 The Requesting Licensee shall be responsible to the Requesting Licensee's Customers for all aspects of the Requesting Licensee's services including but not limited to the operations and maintenance of the Requesting Licensee's service.
- 9.13 The Requesting Licensee must procure and maintain at its own cost:
- (a) any equipment or software needed to implement, receive or use the NBAP Connection (including but not limited to any configuration of the NTE at the NBAP TP);
  - (b) co-location at the designated Central Office and Building MDF Room; and
  - (c) access to the NBAP TP location.

- 9.14 Upon receipt by OpenNet of any request from, Requesting Licensee for Removal, OpenNet shall check if the Termination Point is in use by any Requesting Licensee. OpenNet will reject the request if the Termination Point is in use, otherwise OpenNet shall perform such Removal which shall not include removal of any part of the Network, surface trunking and/or termination point that are concealed either by a false ceiling, within any furniture or rendered inaccessible. OpenNet shall be responsible for obtaining the relevant approvals or consent from the relevant building owner or authorities such that OpenNet and/or its Contractor has ease of access to perform such Removal. Where it is necessary for OpenNet to seek the Requesting Licensee's assistance in order to obtain such approvals or consent, the Requesting Licensee shall render all necessary assistance, and all Parties shall cooperate in good faith to secure the approvals or consent. The Requesting Licensee shall pay OpenNet according to Schedule 15 (Charges) for the request for Removal. OpenNet shall use its best endeavours to minimize damage to the wall and/or other fittings save that OpenNet shall not be responsible or liable to move or shift any furniture or items belonging to End-User, re-plaster the wall, perform any painting works or reinstate the wall and/or other fittings accordingly.
- 9.15 OpenNet shall use its best endeavours to minimize damage to the wall and/or other fittings save that OpenNet shall not be responsible or liable to move or shift any furniture or items belonging to End-User or building owner, re-plaster the wall, perform any painting works or reinstate the wall and/or other fittings accordingly.
- 9.16 Nothing in this Schedule vests in the Requesting Licensee any right, title or proprietary interest in the optical fibre cable, equipment or facilities forming part of the NBAP Connection.
- 9.17 Onsite charges are applicable whenever Requesting Licensee requests for OpenNet to be onsite other than for provisioning of NBAP Connection or for reasons caused by OpenNet's fault or error.

## **10. ACCESS AND APPROVALS REQUIRED**

- 10.1 The Parties shall comply with clause 15.5 of the main body of this ICO Agreement in relation to the obtaining of all licences, permits, consents, waivers, authorisations and intellectual property or other rights required for the provision of the NBAP Connection.

## **11 FAULT REPORTING AND CLEARING**

- 11.1 Each Party must have or establish a Fault Reporting and Control Centre (**FCC**) to act as a single point of contact for the reporting, management and clearing of faults. The FCC must be available twenty-four (24) hours a day, seven (7) days a week.
- 11.2 It is the Requesting Licensee's responsibility to determine the source of the fault at its own cost and to ensure that the fault does not lie within its network before reporting the fault to OpenNet. The Requesting Licensee shall pay OpenNet according to Schedule 15 (Charges) for cancellation of any fault reported regardless of the response or stage of investigation by OpenNet.
- 11.3 Where the fault is reported via the OpenNet Platform, the Requesting Licensee shall indicate the following:
- (a) Order Request Identifier
  - (b) Requesting Licensee Incident ID
  - (c) Incident type
  - (d) Description of fault ticket
  - (e) End-User contact details

Upon successful submission of the fault, the OpenNet Platform will provide a fault acknowledgement.

Upon receipt of a fault report from the Requesting Licensee under clause 11.2, OpenNet shall investigate the cause of the fault experienced by the Requesting Licensee in a diligent and responsible manner as would be expected of a competent service provider. OpenNet shall provide periodic updates to the Requesting Licensee on the status of the fault rectification and also updates when there is a change in status of the fault investigation/rectification work through OpenNet Platform, when available or via manual means. For the avoidance of doubt, OpenNet shall inform the industry when the above feature will be available on OpenNet Platform. Where a fault is reported via manual means, Requesting Licensee shall submit information as required above. OpenNet may also provide the updates and status via Email.

- 11.4 If, following investigation, OpenNet determines that the fault is at the Transmission Tie Cable at the Central Office, OpenNet will patch the NBAP Connection to another

available Transmission Tie Cable Port and charge the Requesting Licensee a Patching Charge in accordance with Schedule 15 (Charges) if the Requesting Licensee was responsible for the fault at the Transmission Tie Cable at the Central Office.

11.5 If, following investigation, OpenNet determines that no fault is found or the fault is not with the OpenNet Network or equipment, then OpenNet shall charge the Requesting Licensee a No Fault Found Charge for the fault report in accordance with Schedule 15 (Charges).

11.6 The process for fault investigation shall be as follows:

(a) For each of the three (3) wavelengths of 1310nm, 1490nm and 1550nm where applicable, the optical power shall be measured in accordance with clause 6.6 above, and the findings shall be clearly recorded using the "Fault Rectification Service Report" (Annex 3B).

(b) if the power loss do not exceed the limit specified in clause 6.6 then the following steps shall be carried out before a finding of "no fault found" will be recorded:

- determine that the patching at CO/MDF room and the patch cord are properly installed
- determine the optical power at the output of splitter port, for GPON is within acceptable limits

Or determine the optical power at the output of the OE to OpenNet's FDF in the Building MDF room is within the acceptable limits

- determine that no macro bending that produces high loss
- determine that no dirty/damaged connector
- determine that no fibre cut or damaged Termination Point
- determine that there is no wrong patching
- measurements of the following shall also be taken :

- optical time-domain reflectometer
- power loss

(c) Upon completion of any fault investigation, where both OpenNet and Requesting Licensee are present, OpenNet will hand over the NBAP Termination Point to the Requesting Licensee and both Parties shall jointly sign off on the "Fault Rectification Service Report" (Annex 3B), which will

state the outcome of the investigation. For fault investigation where Requesting Licensee is not required to be present, OpenNet shall conclude the investigation on-site and inform the Requesting Licensee of the outcome accordingly. OpenNet shall provide periodic updates to the Requesting Licensee on the status of the investigation and also updates when there is a change in status of the investigation through OpenNet Platform, when available. For the avoidance of doubt, OpenNet shall inform the industry when the above features will be available on OpenNet Platform.

11.7 If OpenNet is unable to identify any fault, OpenNet will call for a fault identification coordination meeting between OpenNet and the Requesting Licensee to identify the fault. OpenNet will notify the Requesting Licensee on the request for fault identification. The Requesting Licensee shall provide all reasonable assistance requested by OpenNet. Each Party is to bear its own cost for attending such fault identification coordination meeting as well as any testing or trouble-shooting activities required as a result of such a meeting. For the avoidance of doubt, save as provided below, each party shall bear its own costs for the purpose of any fault investigation:

- (a) In the event that a particular fault is due to OpenNet or its contractors, OpenNet shall not impose any charge on the Requesting Licensee for access to the Co-Location Space (where applicable), regardless of whether it is an OpenNet-initiated fault identification coordination meeting or a Requesting Licensee-initiated joint investigation process. In addition, OpenNet shall not impose the joint investigation charge on the Requesting Licensee even if the fault identification process is initiated by the Requesting Licensee.
- (b) In the event that a particular fault is due to the Requesting Licensee or its contractors or its End-Users, OpenNet shall be entitled to impose a charge on the Requesting Licensee for access to the Co-Location Space (where applicable), regardless of whether it is an OpenNet-initiated fault identification coordination meeting or a Requesting Licensee-initiated joint investigation process. In addition, OpenNet shall also be entitled to impose the joint investigation charge on the Requesting Licensee if the fault identification process is initiated by the Requesting Licensee.
- (c) In the event that it is agreed that a particular fault is not due to OpenNet (or its contractors) or the Requesting Licensee (or its contractors or End-Users), OpenNet shall be entitled to impose a charge on the Requesting Licensee for access to the Co-Location Space (where applicable) only if it is an Requesting Licensee-initiated joint investigation process. In addition, OpenNet shall also

be entitled to impose the joint investigation charge on the Requesting Licensee if the process was initiated by the Requesting Licensee.

(d) Except for (a) above, if it is discovered that any part of the Network located on the NBAP location is damaged, OpenNet shall impose the relevant charges in accordance to Schedule 15 (Charges) accordingly to the End-User and charge the End-User directly unless the damage is caused by the Requesting Licensee.

11.8 The NBAP Connection is deemed to be restored when OpenNet has tested and confirmed to the Requesting Licensee that the NBAP Connection has been restored. OpenNet will notify the Requesting Licensee with the cause of fault.

11.9 Where the Requesting Licensee has lodged with OpenNet a fault report and OpenNet is in the process of investigating the fault or where the Requesting Licensee has not lodged a fault report but suspect that there is a fault on the NBAP Connection, the Requesting Licensee may request OpenNet for a joint investigation. The Requesting Licensee shall propose the date, time and venue for the joint investigation. Subject to OpenNet's resource availability and agreement to the date, time and venue, OpenNet shall attend the joint investigation and charge the Requesting Licensee the Joint Investigation Charge according to Schedule 15 (Charges), if the fault is not due to OpenNet. If the fault is due to OpenNet, OpenNet will waive the Joint Investigation Charge. The process for a joint investigation shall be as described in clause 11.6. Clauses 11.7(a) to (c) will also apply to joint investigations under clause 11.9. Additionally, where the Requesting Licensee disputes OpenNet's findings, the Requesting Licensee may request OpenNet for a fault identification coordination meeting.

11.10 The Requesting Licensee acknowledges that OpenNet may temporarily disconnect the Requesting Licensee's NBAP Connection to perform reasonable fault analysis and line testing on the NBAP Connection. OpenNet shall conduct such disconnections only as it reasonably considers necessary. OpenNet shall notify the Requesting Licensee at least thirty (30) minutes before the temporary disconnection and provide its reasons for the temporary disconnection.

11.11 Each Party shall maintain and store its own records of faults and repairs.

### **Mean Time To Recovery**

11.12 OpenNet shall restore any fault within a standard Mean Time To Recovery (**MTTR**) of eight (8) hours.

11.13 Subject to clause 2.6, the MTTR shall be the average time OpenNet took to restore service for all fault incidents for all NBAP Connections acquired by the Requesting Licensee under this Schedule during a month, measured from the time each fault is reported by the Requesting Licensee to the time OpenNet confirms that the fault is restored, excluding fault incidents where OpenNet is prevented or restricted from restoring the service owing to matters that are not within OpenNet's control. For the avoidance of doubt, the MTTR is calculated as follows:

$$\frac{\sum X}{Y}$$

Where X = Time taken to restore fault incidents for each NBAP Connection during a month as described above

Y = Total number of affected NBAP Connections in the same month

11.14 In the event OpenNet fails to meet the standard MTTR for a particular month, OpenNet shall compensate the Requesting Licensee an MTTR Rebate equal to the difference between the MTTR experienced by the Requesting Licensee and the standard MTTR in terms of number of days, multiplied by the number of services affected, multiplied by the Weekly Recurring Charge for the NBAP Connection, subject to a maximum of 30 times the Weekly Recurring Charge for the NBAP Connection. This shall not apply to NBAP Connections with one (1) month minimum contract term.

11.15 Where the service affected is on a one (1) month minimum contract term, OpenNet shall compensate the Requesting Licensee an MTTR Rebate equal to the difference between the MTTR experienced by the Requesting Licensee and the standard MTTR in terms of number of days, multiplied by the number of one month short term services affected, multiplied by the daily recurring charge for the NBAP Connection, subject to a maximum of 50% of the monthly recurring charge for the NBAP Connection, where

$$\text{Daily Recurring Charge} = \text{Monthly Recurring Charge (1 month contract)} / 30$$

For the avoidance of doubt, the standard MTTR of eight (8) hours in clause 11.12 and the MTTR calculation in clause 11.13 shall apply.



**12 SERVICE LEVEL AVAILABILITY**

12.1 OpenNet shall offer a service level availability of 99.99% per month for the NBAP Connection. OpenNet shall offer to rebate the Requesting Licensee ten percent (10%) of the Monthly Recurring Charge if OpenNet fails to meet the service level availability for that month.

12.2 Service level availability for the NBAP Connection is calculated as follows:

$$\frac{(A - B)}{(A)} \times 100\%$$

Where A = 24 hours x number of days for the month (in hours); and

B = total network outage time for the NBAP Connection in the same month (in hours)

12.3 Subject to clause 2.6, the total network outage time is the sum of all minutes for which the Requesting Licensee’s NBAP Connection is unavailable measured from the time each fault is reported by the Requesting Licensee to the time OpenNet confirms that the fault is restored, excluding fault incidents where OpenNet is prevented or restricted from restoring the service owing to matters that are not within OpenNet’s control.

**13 PROTECTION AND SAFETY**

13.1 Each Party is responsible for the safe operation of its Network and in particular the safe operation of any equipment within its Network on its side of the connection at the designated Central Office and the NBAP TP or otherwise to the FTTB Node where OpenNet’s Network ends.

13.2 Each Party shall, so far as reasonably practicable, take all necessary steps to ensure that the licence of the NBAP Connection, its operations and its implementation of this Schedule:

- (a) do not endanger the safety or health of any person, including the employees and contractors of the Parties; and
- (b) do not damage, interfere with or cause any deterioration in the operation of the OpenNet Network.

## **14 TERM OF LICENCE**

- 14.1 The minimum contract term for a NBAP Connection shall be one (1) month or twelve (12) months, as the case may be, starting from the service activation date of the NBAP Connection.

## **15 SUSPENSION**

- 15.1 OpenNet may suspend the Requesting Licensee's licence to the NBAP Connection at any time until further notice to the Requesting Licensee if the NBAP Connection licence causes or is likely to cause physical or technical harm to any telecommunications network, system or services (whether of OpenNet or any other person) including but not limited to causing damage, interfering with or causing deterioration in the operation of the OpenNet Network. If the suspension is the result of the Requesting Licensee's fault, the Requesting Licensee shall continue to pay the Monthly Recurring Charge during the period of suspension.
- 15.2 Without limiting the exclusions or limitations of liability in this ICO Agreement, OpenNet shall not be liable to the Requesting Licensee for any Loss resulting from, or in connection with, suspension of a NBAP Connection licence under this clause 15.

## **16 TERMINATION OF LICENCE**

### ***CLAUSES 16.1 & 16.2 – MODIFICATION REQUIRED***

- 16.1 On a fortnightly basis, the Requesting Licensee shall keep OpenNet informed of the Requesting Licensee's utilisation of each NBAP Connection that was :
- (a) activated for the End-User within fourteen (14) days prior to the submission of the report;
  - (b) terminated by the End-User within fourteen (14) days prior to submission of the report.
- 16.2 The Requesting Licensee must use or activate a service to a Retail Service Provider using the NBAP Connection within two (2) weeks from the service activation date of the NBAP Connection. If the Requesting Licensee fails to do so, OpenNet shall, at its sole discretion, deactivate the NBAP Connection upon giving the Requesting Licensee ten (10) Business Days prior notice and the Requesting Licensee did not dispute such written notice given by OpenNet. The Requesting Licensee must pay

OpenNet the Monthly Recurring Charges for the remainder of the minimum contract term. Where an End-User had terminated an NBAP Connection, the Requesting Licensee shall terminate the NBAP Connection accordingly within two (2) weeks of such termination by the End-User. If the Requesting Licensee fails to do so, OpenNet shall, at its sole discretion, deactivate the relevant NBAP Connection upon giving the Requesting Licensee two (2) Business days prior notice.

***IDA Directed Modifications: IDA refers NetLink Trust to Section 10 of the Explanatory Memorandum to this Direction. IDA directs NetLink Trust to propose, for IDA's approval, modifications to clauses 16.1 and 16.2 to (a) remove the proposed changes in relation to requiring RLs to terminate the service connection within two (2) weeks of such termination by the End-User and if the RL fails to do so, NetLink Trust shall deactivate the relevant service connection upon giving the RL two (2) Business Days prior notice; (b) clarify that the six-month timeframe for the activation of a service connection from the service activation date of the NBAP connection should be retained; and (c) clarify that the RL shall keep NetLink Trust informed on the RL's utilisation of each service connection six (6) months from the service activation date and when there are changes to the utilisation.***

16.3 OpenNet may immediately terminate a licence of NBAP Connection under this Schedule if:

- (a) the Requesting Licensee is no longer an FBO;
- (b) the OpenNet ICO is revoked by the Authority under clause 12.8 of the ICO Agreement;
- (c) the Authority removes the requirement for OpenNet to supply NBAP Connection under the OpenNet ICO or exempts OpenNet from supplying NBAP Connection under the ICO Agreement, provided that the date of termination shall not be earlier than the effective date of the Authority's decision;
- (d) in OpenNet's reasonable opinion, the Requesting Licensee is using the NBAP Connection in contravention of an applicable law, licence, code, regulation or direction and OpenNet has the necessary confirmation from the relevant Government Agencies that the Requesting Licensee is in contravention of the applicable law, licence, code, regulation or direction;

- (e) in OpenNet's reasonable opinion, the Requesting Licensee is using the NBAP Connection in a manner which places or allows a Third Party to act in contravention of an applicable law, licence, code, regulation or direction and OpenNet has the necessary confirmation from the relevant Government Agencies that the Third Party is in contravention of the applicable law, licence, code, regulation or direction;
- (f) the NBAP Connection is used other than the purposes specified in clause 1;
- (g) the licence in respect of Co-Location Space to which the NBAP Connection is connected has been terminated or has expired;
- (h) the NBAP Connection has become unsafe for its purpose; or
- (i) OpenNet's right to own, maintain or operate the NBAP Connection has been revoked or terminated or has expired.

16.4 Either Party (**Terminating Party**) may terminate the NBAP Connection:

- (a) if the other Party is in breach of this Schedule other than failure to pay any sum for which the Requesting Licensee has been invoiced, and such breach remains un-remedied for a period of sixty (60) Calendar Days after receiving notice from the Terminating Party;
- (b) if the Requesting Licensee's NBAP Connection licence has been suspended pursuant to clause 15.1, and the cause of such suspension has not been remedied or rectified for a period of sixty (60) Calendar Days from the date of the suspension; or
- (c) if the Requesting Licensee is in breach of this Schedule by its failure to pay any sum for which the Requesting Licensee has been invoiced, and such breach remains un-remedied for a period of fourteen (14) Calendar Days after receiving notice from the Terminating Party. For the avoidance of doubt, this sub-clause shall not apply pending the resolution of any Billing Dispute in accordance with the provisions of Schedule 16 (Billing).

16.5 Upon termination of the licence of NBAP Connection:

- (a) the Requesting Licensee must immediately discontinue the use of the NBAP Connection; and

- (b) the Requesting Licensee must without undue delay disconnect all equipment connected to the NBAP Connection; and
- (c) OpenNet shall be responsible for removing all necessary Patching Services at the Requesting Licensee's cost in accordance with Schedule 15 (Charges). Notwithstanding the above, the Requesting Licensee will not be liable for OpenNet's costs of removing all necessary Patching Services, if the termination is the result of OpenNet's fault.

16.6 If the licence of a NBAP Connection is terminated as a result of the Requesting Licensee's fault, the Requesting Licensee shall be liable to OpenNet for the Monthly Recurring Charges for the remainder of the minimum contract term.

16.7 If the Requesting Licensee fails to disconnect its equipment from the NBAP Connection under clause 16.5(b), OpenNet may at its sole discretion remove and/or dispose of the Requesting Licensee's equipment. The Requesting Licensee shall pay to OpenNet all reasonable costs associated with the work undertaken by OpenNet including the cost of disposing the Requesting Licensee's equipment. The Requesting Licensee shall have no claim whatsoever against OpenNet in connection with the removal and/or disposal of the Requesting Licensee's equipment from the NBAP Connection.

## **17 REDUNDANCY SERVICE**

17.1 The Requesting Licensee may acquire:

- (a) for a NBAP Connection for the purpose of providing GPON services, one separate fibre strand from OpenNet's splitter at the Building MDF Room to the NBAP TP or to the FTTB Node where OpenNet's Network ends; or
- (b) for a NBAP Connection for the purpose of providing OE services, one separate fibre strand from OpenNet's FDF at the Building MDF Room to the NBAP TP or to the FTTB Node where OpenNet's Network ends.

**(Redundancy Service)** at the same prices, terms and conditions as the NBAP Connection through a request in the form of Annex 3A either via manual means or OpenNet Platform (which OpenNet shall inform the industry when the above feature will be available on OpenNet Platform), unless stipulated otherwise in this clause 17.

17.2 OpenNet shall provide the Redundancy Service via the same duct and along the same path as the existing NBAP Connection, without Duct Diversity and without Path

Diversity. OpenNet may provide the Redundancy Service using a separate fibre strand from the same fibre cable that carries the existing NBAP Connection.

- 17.3 The Requesting Licensee is eligible to acquire a Redundancy Service for the NBAP Connection provided that the Requesting Licensee has acquired or is acquiring an equivalent NBAP Connection to the same NBAP TP or to the FTTB Node where OpenNet's Network ends. The Requesting Licensee may request OpenNet to reject the Request for the NBAP Connection in the event that OpenNet is unable to provide the Redundancy Service, but such Requests for the NBAP Connection and the Redundancy Service must be submitted together to OpenNet.
- 17.4 The Requesting Licensee shall be responsible, at its own cost and equipment, for the implementation of diversity or redundancy for its services using the Redundancy Service provided by OpenNet.
- 17.5 OpenNet shall make the Redundancy Service available to the Requesting Licensee, except where OpenNet is unable to build the requisite infrastructure (other than fibre) to provide the Redundancy Service or due to any of the reasons stated in clause 5.4.

**ANNEX 3A: REQUEST FORM FOR NBAP CONNECTION**

**Request for NBAP Connection**

Date of Application: \_\_\_\_\_ Application Reference Number: \_\_\_\_\_

End-User Name: \_\_\_\_\_

NBAP address or description of address; GPS co-ordinates and estimated height (Please attach map):  
 \_\_\_\_\_

Requesting Licensee

Technology: GPON / OE

Term of Licence :

One (1) month /  Twelve (12) months

Any other info (including whether Requesting Licensee will self-provide NBAP TP):  
 \_\_\_\_\_

Redundancy Service is required

Request for NBAP Connection to be rejected if Redundancy Service is not available

For and on Behalf of Requesting Licensee

Requesting Licensee

Sign: \_\_\_\_\_

Company Stamp: \_\_\_\_\_

Name: \_\_\_\_\_

Company Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Contact Number, Fax and email address  
 \_\_\_\_\_

Part 1: Date: \_\_\_\_\_

OpenNet

Application accepted and will proceed with detailed study:

Circuit Identification Number: \_\_\_\_\_

Application rejected

Reason for rejection: \_\_\_\_\_

OpenNet Name / Signature: \_\_\_\_\_

Queue Status: \_\_\_\_\_

Part 2: Date: \_\_\_\_\_

OpenNet

Circuit Provision:

Provision Date: \_\_\_\_\_

Digging and Trenching Work Charges: \_\_\_\_\_ (Breakdown of charges to be attached)

Application rejected

Reason for rejection: \_\_\_\_\_

OpenNet Name / Signature: \_\_\_\_\_

Requesting Licensee Acceptance:

We **agree** that we are liable for the digging and trenching work charges and agree with the service provisioning date stated (both) above.

Requesting Licensee

Sign: \_\_\_\_\_

Company Stamp: \_\_\_\_\_


Name: \_\_\_\_\_

Company Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Contact Number, Fax and email address  
 \_\_\_\_\_

**ANNEX 3B: FAULT RECTIFICATION SERVICE REPORT**

		<b>Fault Rectification Service Report</b>	Serial No:	
Appointment Date:		Arrival Time:		
Time:		Completion Time:		
Trouble Ticket No:		<input type="checkbox"/> 1 hour activation <input type="checkbox"/> Maintenance Fault Rectification <input type="checkbox"/> Follow up end-user appointment		
<b>END-USER INFORMATION</b>				
<b>Authorised Person Name:</b>		*Mr/Mrs/Miss/Mdm/Dr		
<b>Contact no:</b>		<b>(HP):</b>		
<b>Company:</b>				
<b>Registered Address:</b>		Blk/House _____ Unit No: # _____ - _____		
		Street Name: _____		
		Building Name: _____ Postal code: S( _____ )		
<b>LOCATION OF INSTALLATION</b>				
<b>A-END (CO/MDF)</b>		<b>B-END (CO/MDF, End-User's Premise)</b>		
Blk/House: _____ Unit No: # _____ - _____		Blk/House: _____ Unit No: # _____ - _____		
Street Name: _____		Street Name: _____		
Building Name: _____ Postal code: S(_____)		Building Name: _____ Postal code: S(_____)		
<b>End-User Declaration (check only one box)</b>				
<input type="checkbox"/> I am the owner of the above premises <input type="checkbox"/> I, Name: _____, am authorised by the owner of the premise and/or the above-stated company to sign this form and permit OpenNet Pte Ltd or its contractor to enter the premises and conduct the fault rectification work. I will bear full responsibility if the owner should dispute (a) my authority, or (b) any action taken by OpenNet Pte Ltd at my instructions.				
Company Stamp (if applicable):				
<b>For Official Use Only</b>				
<b>OPTICAL MEASUREMENTS, WHERE POSSIBLE (Measured by RL)</b>				
<b>Fault description:</b>				
<b>Test Measurement (CO to Serving Cabinet):</b>	1310nm	1490nm	1550nm	Distance (m)
<b>Test Measurement (CO to 1<sup>st</sup> TP):</b>	1310nm	1490nm	1550nm	Distance (m)
<b>Test Measurement (Segment Services A-END to B-END)</b>	1310nm	1490nm	1550nm	Distance (m)
<b>Certified by ON:</b>				
Technician Name:		Date:		
Technician Signature:		Time:		



OPTICAL MEASUREMENTS, WHERE POSSIBLE (Measured by ON)								
<b>Fault description:</b>								
<b>Test Measurement (CO to Serving Cabinet):</b>	1310nm		1490nm		1550nm		Distance (m)	
<b>Test Measurement (CO to 1<sup>st</sup> TP):</b>	1310nm		1490nm		1550nm		Distance (m)	
<b>Test Measurement (Segment Services A-END to B-END)</b>	1310nm		1490nm		1550nm		Distance (m)	
<b>Certified by :</b>								
RL Name:				Date:				
RL Signature:				Time:				
<b>Fault Root Cause Description</b>								
<b>ACTION TAKEN/ADDITIONAL REMARKS</b>								
<b>CUSTOMER ACKNOWLEDGEMENT AND ACCEPTANCE</b>								
Remarks/Comments:								
<b>This is to acknowledge that the fibre fault rectification has been attended and the fault resolution is effective</b>								
<b>Fault Attended by:</b>				<b>Resolution Accepted by End-User:</b>				
Technician Name:				End-User Signature:				
Technician Signature:								
<b>Resolution Verified and Accepted by RL (Only applicable for <u>1 hour activation</u>) :</b>								
RL Name:				RL Signature:				

*End-Users can refer to their retail service providers for more information to address and resolve any end user service related issues.*

\*Please delete where inapplicable.

### **ANNEX 3C : PROCESS FOR SELF-PROVIDING NBAP TP**

1. The Requesting Licensee shall be solely responsible for any cost, charges, fees or expense as may be necessary for the installation, or removal as the case may be, from the point where OpenNet handovers the fibre to the NBAP TP (including any maintenance work thereafter) including getting any approval, permission or consent from the relevant authorities or building owners for access to the FTTB Node. In the event the Requesting Licensee requires the assistance of OpenNet, OpenNet will use its reasonable endeavours to render such assistance as may be necessary on a Cost-Oriented Basis.
  
2. In accordance with clause 5.10 in this Schedule, OpenNet shall notify the Requesting Licensee of the date the patch cord from the FTTB Node where OpenNet's Network ends is available for Requesting Licensee to connect to its self-provided NBAP TP which will also be the date OpenNet commences provisioning of the NBAP Connection. OpenNet's responsibility and risk shall end at the FTTB Node where OpenNet's Network ends from the CO.