

APPENDIX 8

REQUIRED MODIFICATIONS TO SCHEDULE 7

SCHEDULE 7

FTTB Node to DP Connection

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FTTB NODE TO DP CONNECTION

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SCHEDULE 7

FTTB NODE TO DP CONNECTION

SCHEDULE 7 – MODIFICATION REQUIRED

IDA Directed Modifications: To ensure clarity and consistency among the provisions of the ICO, IDA directs OpenNet to ensure consistency in its usage of defined terms and to propose, for IDA's approval, modifications to Schedule 7.

IDA refers OpenNet to section 10 of the Explanatory Memorandum to this Direction. Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to Schedule 7 in the manner specified therein.

1. SCOPE

This Schedule 7 sets out the terms and conditions under which OpenNet will provide the Requesting Licensee with a licence for Layer 1 Service (a service provided by OpenNet for the use of passive optical fibre cable) from the FTTB Node of a Residential or Non-Residential Building to a Distribution Point in the same Residential or Non-Residential Building (**FTTB Node to DP 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 the FTTB Node to DP 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 6.10 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.

CLAUSE 2.2 – MODIFICATION REQUIRED

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 if submission by Requesting Licensee is valid for rebates or additional information is required to be provided by the Requesting Licensee where OpenNet assessed the Requesting Licensee's submission included invalid claims. For valid claims submitted within the timeframe, OpenNet shall provide the corresponding rebate in its next Invoice.

IDA Directed Modifications: Comments were received from industry respondents that OpenNet should process all claims within a 30-day period, following which any claims that remain unresolved should be automatically deemed to be approved,

IDA considers that it is reasonable for the industry to expect OpenNet to process claims in a timely manner. However, IDA also recognises that OpenNet may face difficulties in complying with a 30-day timeframe, as there are a number of Requesting Licensees who may submit claims to OpenNet at any time. In consideration of the above, IDA is prepared to allow OpenNet to propose a timeframe to process the submitted claim. OpenNet is required to provide satisfactory justification to IDA as to the reasonableness of the timeframe.

IDA is also of the view that in the interest of clarity, OpenNet should clarify whether the rebate will be credited into Requesting Licensee's account in the bill immediately after OpenNet had processed the claim.

Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to clause 2.2 to address the above. JON 11 Apr 12 : Amended as per IDA's Direction.

- 2.3 If the Requesting Licensee is entitled to a rebate pursuant to the claim made hereunder, 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.
- 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 FTTB Node to DP 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 FTTB Node to DP 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; or

CLAUSE 2.6(d) – MODIFICATION REQUIRED

- (d) where OpenNet ~~had used shall use its best endeavours~~ ~~needs~~ to obtain expeditiously or maintain any licence or permission necessary to the provision or restoration of the FTTB Node to DP Connection. 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 FTTB Node to DP Connection shall always be excluded. In the event the Requesting Licensee raise a dispute questioning OpenNet's effort in obtaining the licence/permission, OpenNet will provide such evidence as may be available of its best endeavours;

IDA Directed Modifications: Comments were received that clause 2.6(d) should be subject to two requirements: (a) OpenNet must have used its best endeavours to obtain any licence or permission expeditiously; and (b) OpenNet must provide Requesting Licensees with evidence of such licence/permission, the steps taken to obtain it expeditiously and why OpenNet cannot obtain the licence/permission.

After careful consideration, IDA agrees that OpenNet should be required to use its best endeavours to obtain expeditiously the necessary licences or permission mentioned in clause 2.6(d). However, IDA is of the view that it is not necessary to require OpenNet to furnish evidence of this in every case. Instead, it would be more efficient if OpenNet were required to furnish evidence only in the event that a challenge or dispute is raised by Requesting Licensees as to whether OpenNet has used its best endeavours in the manner described above.

Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to clause 2.6(d) to incorporate the above requirements.
[ON 11 Apr 12 : Amended as per IDA's Direction.]

CLAUSE 2.6(e) – MODIFICATION REQUIRED

- (e) OpenNet has difficulty accessing to or working in the building due to the building being inaccessible, in unsafe working condition or in any other inadequate or deficient state despite best endeavours in obtaining permission or license required. In the event the Requesting Licensee raise a dispute questioning OpenNet's effort in obtaining the licence/permission, OpenNet will provide such evidence as may be available of its best endeavours;

IDA Directed Modifications: Comments were received that clause 2.6(e) should be subject to two requirements: (a) OpenNet must use its best endeavours to remedy any building access difficulty expeditiously, and (b) OpenNet must provide Requesting Licensees with evidence of such difficulty, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the difficulty.

After careful consideration, IDA agrees that OpenNet should be required to use its best endeavours to remedy expeditiously the building access difficulties (including any cases of purported building management obstruction). However, IDA is of the view that it is not necessary to require OpenNet to furnish evidence of this in every case. Instead, it would be more efficient if OpenNet were required to furnish evidence only in the event that a challenge or dispute is raised by Requesting Licensees as to whether OpenNet has used its best endeavours to expeditiously remedy the building access difficulties.

Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to clause 2.6(e) to incorporate the above requirements. [ON 11 Apr 12 : Amended as per IDA's Direction.]

CLAUSE 2.6(f) – MODIFICATION REQUIRED

- (f) delay in the provision or restoration of the FTTB Node to DP Connection caused by events beyond the OpenNet's reasonable control of OpenNet and/or its suppliers and contractors;

IDA Directed Modifications: Comments were received that clause 2.6(f) should be amended to state that OpenNet must be responsible for the acts and omissions of its suppliers and contractors. IDA notes that OpenNet is already liable in the case where the delay is caused by the acts or omission of OpenNet's suppliers and contractors. This is because it would be open to OpenNet to take appropriate measures against its suppliers and contractors. Accordingly, IDA directs OpenNet

to propose, for IDA's approval, modifications to clause 2.6(f) to clarify that nothing shall preclude OpenNet from being responsible for the acts and omissions of its contractors and suppliers. [ON 11 Apr 12 : The amendment is to make it clear that anything beyond the reasonable control of either ON, its suppliers or its contractors are excluded ie. Force majeure issues which impact either of the 3 parties. Additionally, it is already described in clause 2.1 that ON is responsible for SLG due to its suppliers and contractors.]

OpenNet network outages for which the Requesting Licensee has not reported a fault;

- (g) fault is reported by the Requesting Licensee but no fault is found or confirmed after due and careful investigation, and verification by OpenNet; or
 - (h) OpenNet is required to carry out scheduled service interruption and the Requesting Licensee has been informed in accordance with clause 9.5.
- 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 FTTB Node to DP 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 OpenNet will provide a licence for the FTTB Node to DP Connection to the Requesting Licensee with the following:
- (a) one (1) fibre strand from OpenNet's Fibre Distribution Frame (FDF) at the FTTB Node to the Distribution Point (DP) in the same Residential or Non-Residential Building if requested by the Requesting Licensee; and

(b) one (1) Patching Service at OpenNet's FDF at the FTTB Node.

3.2 The Requesting Licensee shall access the FTTB Node to DP Connection at OpenNet's FDF at the FTTB Node and at the DP.

4. ORDERING AND PROVISIONING PROCEDURE

CLAUSE 4.1 – MODIFICATION REQUIRED

4.1 The Requesting Licensee shall submit its request for the FTTB Node to DP Connection (**Request**) to OpenNet on a Business Day in the form of Annex 7A stating, but not limited to the following information:

(a) the address of the Residential or Non-Residential Premise to be served by the DP.

IDA Directed Modification: IDA refers OpenNet to section 10 of the Explanatory Memorandum to this Direction. Without limitation to the requirements therein, OpenNet should update its ICO to reflect that it has launched its Platform and commenced B2B transactions, and orders are processed through such means.

Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to clause 4.1 to comply with the above requirement.

The Requesting Licensee should submit its Request for FTTB Node to DP Connection (Request) to OpenNet via the OpenNet Platform, stating, but not limited to the following information:

(a) the address of the Residential or Non-Residential Premise to be served by the DP.

For Request submission via the Service Portal, the Requesting Licensee shall select an available date. Upon successful submission of the Request via the Service Portal, it will provide a Request acknowledgement.

For Request submission via the OpenNet Platform APIs, the Requesting Licensee shall first query the available time slots and use the applicable selected timeslot related for submission of Request. Upon successful submission of the Request via the OpenNet Platform APIs, it will provide a Request acknowledgement.

4.2 Relocation of the FTTB Node to DP Connection is not allowed.

CLAUSE 4.3 – MODIFICATION REQUIRED

4.3 ~~Initially, i~~Information relating to the Mandated Services will be available on OpenNet ~~Platform's website~~, for access by the Requesting Licensee through secured means. The secured access to OpenNet's ~~Service Portal website~~ will require ~~the~~ payment of a Per User Account Charge (specified in clause 14 of Schedule 15 (Charges)) for each user account created. ~~Initially, i~~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 shall be~~ made available on the OpenNet Platform ~~in due course~~. For the avoidance of doubt, such Per User Account Charge shall not be re-imposed when the information relating to Mandated Services is made available on the OpenNet Platform.

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.

IDA Directed Modifications: Comments were received that while this clause 4.3 provides that network outage information will be made available on OpenNet's website and Platform, there are no details on the types of information provided. The respondent highlighted that network outage information is critical for Requesting Licensees to monitor and

manage their services and networks, and suggested that OpenNet make the following types of information available:

- (a) start time of the outage;**
- (b) length of time for which outage is expected to continue;**
- (c) services affected by the outage;**
- (d) steps taken to remedy the outage; and**
- (e) steps (if any) Requesting Licensee may be required to take to assist with rectification of outage.**

After careful consideration, IDA agrees that it would be reasonable to require OpenNet to provide, at a minimum, the information enumerated above to Requesting Licensees in relation to network outages. Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to incorporate the above requirement.

IDA also refers OpenNet to section 10 of the Explanatory Memorandum to this Direction. IDA directs OpenNet to propose, for IDA's approval, modifications to clause 4.3 as specified therein. Without limitation to the foregoing, OpenNet should update clause 4.3 to reflect that OpenNet has launched its Platform, commenced B2B transactions and that orders are processed through such means. OpenNet should also reflect that Mandated Services information shall be provided over the Platform and via B2B transactions. [ON 11 Apr 12 : Amended as per IDA's Direction.]

5.5 FTTB NODE TO DP CONNECTION REQUEST

5.1 ___ OpenNet shall process all Requests received for the FTTB Node to DP Connection on a 'first come, first served' basis.

CLAUSE 5.2 – MODIFICATION REQUIRED

Version 1:

5.2 For each Business Day , OpenNet shall process a combined total of no more than 500480 Requests for Basic Mandated Services and Layer 1 Redundancy Services (Maximum Quota**) from all Requesting Licensees, ~~and in any single week, OpenNet will~~**

not process more than 2,400 Requests for Basic Mandated Services and Layer 1 Redundancy Services from all Requesting Licensees. 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) 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 September), OpenNet shall increase its daily quota for the quarter in which the review month occurs. 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 September), OpenNet shall decrease its daily quota for the quarter in which the review month occurs. The review mechanism will be revised regularly subjected to the Authority’s approval. To ensure better capacity planning, the Requesting Licensee will be required to provide within the first week of the current quarter, a 4-quarter rolling forecast with monthly breakdown for the coming quarter. E.g The Requesting Licensee will provide in 1st week of January 2013 the forecast for April to June 2013.

(ii) For seasonal increase in demand during quarterly major fairs (namely IT Show in March, PC Show in June, Comex Show in September and SITEX in November), the Maximum Quota shall be supplemented by Seasonal Slots (temporary increase of installation slots in excess of the Maximum Quota) and for which a sub-quota for Non-Residential Premise installation will be established. The Seasonal Slots, including the sub-quota, shall be subjected to such terms and conditions stated in the Seasonal Slots Notification.

Version 2 :

5.2 For each Business Day, OpenNet shall process a combined total of no more than 655 Requests for Basic Mandated Services and Layer 1 Redundancy Services (Maximum Quota) from all Requesting Licensees. 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.

The Maximum Quota will be allocated in the following manner according to the type of work to be performed,

- (i) Schedule 1 High-rise Residential Premise installation, repair/replacement,removal, re-location (within the same premise and to another premise) and 2nd port activation of 1st TP and 2nd TP i.e 170 installation slots per business day which are distributed across 4 time-slots within the business day
- (ii) Schedule 1 Landed Residential Premise installation, repair/replacement, removal, re-location (within the same premise and to another premise) and 2nd port activation of 1st TP and 2nd TP i.e 15 installation slots per business day which are distributed across 2 time-slots within the business day
- (iii) Schedule 2 Non-Residential Premise installation, repair/replacement, removal, re-location (within the same premise and to another premise) and 2nd port activation of 1st TP and 2nd TP i.e 40 installation slots per business day which are distributed across the time-slots within the business day
- (iv) Schedule 3 NBAP installation, removal and 2nd port activation of 1st TP i.e 5 installation slots per business day
- (v) Express Service activation i.e. 40 per Business Days
- (vi) All unused quota shall be used for Requests that only require patching service in the CO and MDF to activate the connection.

<u>Type of Work</u>	<u>Installation Slots Per Business Day</u>
<u>Schedule 1 High-rise Residential Premise</u>	<u>170</u>
<u>Schedule 1 Landed Residential Premise installation</u>	<u>15</u>
<u>Schedule 2 Non-Residential Premise installation</u>	<u>40</u>
<u>Schedule 3 NBAP</u>	<u>5</u>

<u>Express Service Patching</u>	<u>40</u>
<u>Unused Quota</u>	<u>≤ 655</u>

- (i) 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 September), OpenNet shall increase its daily quota for the quarter in which the review month occurs. 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 September), OpenNet shall decrease its daily quota within the quarter in which the review month occurs. The review mechanism will be revised regularly subjected to the Authority’s approval. To ensure better capacity planning, the Requesting Licensee will be required to provide within the first week of the current quarter, a 4-quarter rolling forecast with monthly breakdown for the coming quarter. E.g The Requesting Licensee will provide in 1st week of January 2013 the forecast for April to June 2013.
- (ii) For seasonal increase in demand during quarterly major fairs (namely IT Show in March, PC Show in June, Comex Show in September and SITEX in November), Maximum Quota shall be supplement by Seasonal Slots (temporary increase of installation slots in excess of the Maximum Quota). The Seasonal Slots shall be subjected to the terms and conditions stated in the Seasonal Slots Notification.

IDA Directed Modifications: IDA refers OpenNet to section 1 of the Explanatory Memorandum to this Direction. Accordingly, IDA directs OpenNet to propose, for IDA’s approval, modifications to clause 5.2 in the manner specified therein. [ON 11 Apr 12 : ON is proposing 2 versions. Please refer to cover letter for the justifications.]

CLAUSES 5.3(a) – (c) – MODIFICATION REQUIRED

5.3 Within one (1) Business Day of the date on which OpenNet receives the request for FTTB Node to DP Connection (Request Date) 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:

(a) the Request for FTTB Node to DP Connection is not in the prescribed form;

(a)(b) the Request does not contain all the required information or the information provided is inaccurate or misleading;

(b)(c) the service activation date requested is less than ten (10) Business Days from the date of receipt of a Request; or

IDA Directed Modifications: Comments were received that clauses 5.3(a)-(c) should not apply in the case of B2B orders. Instead, the “errors” described in these clauses should be checked in real-time and feedback provided immediately so that corrections can be made on the spot.

After careful consideration, IDA agrees that doing so would result in a more efficient service provisioning. Accordingly, IDA directs OpenNet to propose, for IDA’s approval, modifications to clauses 5.3(a)-(c) to give effect to the above.

IDA further refers OpenNet to section 10 of the Explanatory Memorandum to this Direction. Accordingly, IDA directs OpenNet to propose, for IDA’s approval, the necessary modifications to give effect to the directed modifications set out therein. Without limitation to the foregoing, OpenNet should update clauses 5.3(a)-(c) to reflect that OpenNet has launched its Platform, commenced B2B transactions and that orders are processed through such means. JON Comments 11 Apr 12 : The term “real-time” is a subjective and abstract expression. It serves to confuse and give rise to misunderstanding. Hence, ON’s proposed modifications did not include this term.

(d) the Requesting Licensee has committed a material breach of the ICO Agreement or this Schedule.

Where OpenNet receives a Request for FTTP Node to DP Connection (Request Date) via the OpenNet Platform, OpenNet will validate and notify the Requesting Licensee.

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

- (a) the Request for FTTB Node to DP 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;
- (c) the service activation date requested is less than ten (10) Business Days from the date of receipt of a Request; or

Within one (1) Business Day of the date on which OpenNet receives the Request via the OpenNet Platform for FTTB Node to DP Connection (**Request Date**) 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:

- (a) the information provided is inaccurate or misleading; or
- (b) the Requesting Licensee has committed a material breach of the ICO Agreement or this Schedule; or
- (c) where the OpenNet Platform is experiencing technical problems.

5.4 Within ten (10) Business Days of the Request Date 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) whether its Request is accepted, or if rejected, for any one of the following reasons:

- (a) the equipment or services that the Requesting Licensee proposes to use or to provide interfere with, or cause deterioration to services supplied by OpenNet;

CLAUSE 5.4(b) – MODIFICATION REQUIRED

- (b) there is obstruction from building owner or building management to OpenNet installation or installation schedule including any breach by building owner, building management, home owner or End-User of applicable regulatory

requirements including for example COPIF. OpenNet shall use its best endeavours to resolve such obstructions and where applicable, OpenNet shall refer any breaches of regulatory requirements to the Authority for the Authority's action and follow up;

IDA Directed Modifications: IDA received a number of comments on this clause:

(a) An industry respondent commented that it should be for IDA to decide if there is any obstruction or regulatory breach, and that by its proposed amendments, OpenNet is effectively arrogating to itself the power to make a regulatory determination, which cannot be allowed.

(b) Another industry respondent observed that OpenNet's proposed amendments potentially widens OpenNet's ability to delay notifying Requesting Licensees of the order status. This delay will translate into greater uncertainty and prolonged waiting times for customers. The respondent therefore submitted that it is necessary for this clause to be amended so that:

(i) OpenNet must demonstrate that it has exhausted its efforts in attempting to resolve the obstruction with the building owner / building management / customer before rejecting a request; and

(ii) IDA and not OpenNet should determine whether the building management or customer has breached any regulatory requirements, and should therefore be denied service.

IDA has considered the comments carefully.

In respect of (a), IDA considers that OpenNet's proposed amendments should be removed as any breaches of regulatory requirements should be left to IDA to enforce, and should not be used as a reason for rejection.

In respect of (b), IDA considers that it would be reasonable to require OpenNet to use its best endeavours to resolve the issue with the relevant party before declaring that there is an obstruction.

Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to clause 5.4(b) to give effect to the above. [ON's Comments 11 Apr 12 : ON should be entitled to rely on regulatory breaches as an obstruction as otherwise would render such regulatory requirements nugatory. To remove reference to regulatory breaches leaves ON with an impossible situation of complying with its obligations when the other relevant parties do not perform their obligations under the law. However, ON recognise IDA's concerns and will, where applicable (ie. In cases of breaches of regulatory requirements) refer such cases to IDA for its action and followup.]

CLAUSE 5.4(c) – MODIFICATION REQUIRED

- (e) (c) OpenNet has not rolled out its Network to the requested Residential or Non-Residential Building and as at the date of such Request is received, OpenNet was not required to roll out its Network to such location under the terms of OpenNet's FBO License; or

IDA Directed Modifications: An industry respondent commented that OpenNet should not be allowed to reject a Request if it failed to roll out its Network due to its own default.

After careful consideration, IDA agrees that the suggestion above is reasonable as the Requesting Licensee should not be penalised for OpenNet's default. Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to incorporate this suggestion. For example, to satisfy this requirement, the following line could be added immediately at the end of clause 5.4(c): "and as at the date such Request is processed, OpenNet was not required to roll out its Network to such location under the terms of OpenNet's FBO Licence." [ON 11 Apr 12 : Amended as per IDA's Direction.]

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

~~5.2~~ 5.5 The Requesting Licensee shall pay OpenNet the applicable Installation Charge specified in Schedule 15 (Charges) for provisioning the FTTB Node to DP Connection.

CLAUSE 5.6 – MODIFICATION REQUIRED

~~5.3~~ 5.6 Where OpenNet rejects any Request for the FTTB Node to DP Connection, OpenNet shall provide reasons explaining the basis for rejection promptly.

IDA Directed Modifications: To ensure that Requesting Licensee is informed of any rejection as soon as possible, IDA is of the view that it would be reasonable to require OpenNet to promptly notify the Requesting Licensees of any rejection and explain the basis of such rejection. Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to clause 5.6 to incorporate the above requirements. [ON 11 Apr 12 : Amended as per IDA's Direction.]

CLAUSE 6 – MODIFICATION REQUIRED

6. DELIVERY

IDA Directed Modifications: IDA refers to section 9 of the Explanatory Memorandum to this Direction, in relation to the timely status updates of any delays. Accordingly, IDA directs OpenNet to propose, for IDA's consideration, modifications to clause 6 to comply with the above.

6.1 Subject to clauses 5.2, 5.3, 5.4 and 6.2, OpenNet shall provide the FTTB Node to DP Connection by the end of ten (10) Business Days from the receipt of a valid Request from the Requesting Licensee.

6.2 Where there is insufficient capacity to provide the FTTB Node to DP Connection and additional capacity is required to be installed between the FTTB Node and the DP, OpenNet shall provide the FTTB Node to DP Connection within ten (10) Business Days from the receipt of a valid Request from the Requesting Licensee.

CLAUSE 6.3 – MODIFICATION REQUIRED

6.3 Where OpenNet has not rolled out its Network to the DP in the Non-Residential Building, OpenNet will install in-building enclosure, ducting, cable tray and cabling from the FTTB Node to the DP at an additional charge to the Requesting Licensee as stated in Schedule 15 (Charges) (“Installation of Network Charge”).

Provided that OpenNet has received the necessary approval from and is granted access by the building owner or building management (or such other relevant party) within ~~five (5) two (2)~~ Business Days from the Request Date, OpenNet shall, within six (6) Business Days of the Request Date, provide a quotation for the Installation of Network Charge. In the event that OpenNet does not receive the necessary approval or is not granted access within ~~five (5) two (2)~~ Business Days of the Request Date, the Request shall be rejected. The quotation for the Installation of Network Charge shall be valid and binding for ~~ten (10) five (5)~~ Business Days from the date of the quotation. The Requesting Licensee shall, within ~~ten (10) five (5)~~ Business Days from the date of the quotation, inform OpenNet in writing whether it accepts the quotation. If the Requesting Licensee cancels its Request after the site survey has taken place but before OpenNet has provided the Requesting Licensee with a quotation, or if the Requesting Licensee does not accept the quotation, or if the Requesting Licensee does not (for any reason whatsoever) inform OpenNet in writing of its acceptance of the quotation within ~~ten (10) five (5)~~ Business Days from the date of the quotation, the quotation and the Request shall be deemed cancelled, and the Requesting Licensee shall be liable for and shall pay OpenNet the Rejection Charge as provided for in Schedule 15. For the avoidance of doubt, if the Requesting Licensee cancels its Request after it has accepted the quotation and OpenNet has already started work, the Requesting Licensee shall pay OpenNet the Cancellation Charge as stated in Schedule 15. For avoidance of doubt, the time taken by the building management to consider to grant approval of access to OpenNet and the time taken by Requesting Licensee to accept the quotation would be excluded from the service provisioning timeframe.

IDA Directed Modifications: Comments were received that the two Business Days timeframe for the building owner/management to grant approval and access to OpenNet to install its infrastructure (failing which OpenNet may reject the Request) is too short, and building owners/management should be given a longer period of time to consider whether to approve the granting of access to OpenNet. Further, comments were received that the 5 Business Days validity period for OpenNet's quotation for Installation of Network Charge is too short. More time (for example, fifteen Business Days) would be required for communication between the various parties such as OpenNet, the Requesting Licensee, Requesting Licensee's contractor, the Retail Service Provider and the End-Users before a decision whether or not to accept OpenNet's quotation is eventually made.

After careful consideration, IDA agrees that more time should be extended to building owners/management to consider whether to approve OpenNet's request for access. IDA notes that it is not uncommon for the respective building owners/managements to seek approval from higher management and such process is unlikely to be completed within 2 Business Days, IDA also agrees that the validity period of OpenNet's quotation for Installation of Network Charge is inadequate and should be extended to a longer period. This would allow the Requesting Licensee more time to seek confirmation from their respective Retail Service Providers/End-Users on whether to proceed.

IDA understands that, where OpenNet is unable to rollout using the existing telecom infrastructure in the building, it may install its own cable tray (which cost would be included in the Installation of Network Charge). Since OpenNet would recover the cost on a Cost Oriented Basis, there is no reason for OpenNet to remove the item of cable tray from this clause. In this regard, IDA requires the reference to "cable tray" to be reinstated.

Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to clause 6.3 to incorporate IDA's requirements as set out above. [JON 11 Apr 12 : Amended as per IDA's Direction.](#)

6.4 ___ Upon receiving the Requesting Licensee's acceptance of the quotation, OpenNet shall proceed with the installation of the FTTB Node to DP Connection in accordance with the timeframe provided for in this Schedule 7. Notwithstanding the Requesting Licensee's acceptance of the quotation, OpenNet shall be entitled to subsequently reject the Request for any of the following reasons:

- (a) the equipment or services that the Requesting Licensee proposes to use or to provide interfere with, or cause deterioration to services supplied by OpenNet;
- (b) there is obstruction from building owner or building management to OpenNet installation or installation schedule; or
- (c) there are security and confidentiality requirements or restrictions imposed on OpenNet by Government Agencies.

6.5 Unless otherwise stated, OpenNet shall retain the responsibility for working at OpenNet's FDF at the FTTB Node and the DP, including Patching Service at

OpenNet's FDF at the FTTB Node in accordance with Schedule 13 (Patching Service). The Requesting Licensee shall bear the Charges for such work carried out by OpenNet.

- 6.6 OpenNet will provide the necessary Patching Service at OpenNet's FDF in the FTTB Node 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 the Requesting Licensee shall not request for any rebate or discount over the Patching Service or the FTTB Node to DP Connection.
- 6.7 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) to deliver the FTTB Node to DP Connection.
- 6.8 OpenNet will test the optical fibre cable from OpenNet's FDF at the FTTB Node to the DP to ensure that the FTTB Node to DP Connection falls within the specified optical performance. Testing will be conducted at wavelengths of 1310nm, 1490nm and 1550nm.
- 6.9 OpenNet shall ensure that the optical power loss does not exceed -0.4dB per km and -0.5dB per connector.

CLAUSE 6.10 – APPROVED

- 6.10 If the Requesting Licensee wishes to obtain the optical power readings, the Requesting Licensee shall submit its request furnishing the Order Request Identifier on a Business Day. OpenNet shall provide the requested information within three (3) Business Days of receipt of such request. The Requesting Licensee shall pay a charge to provide the optical power readings in accordance with Schedule 15 (Charges).
- 6.11 OpenNet shall promptly notify the Requesting Licensee on the completion of provisioning the FTTB Node to DP Connection.

CLAUSE 6.12 – MODIFICATION REQUIRED

- 6.12 Subject to clause 6.1~~3~~, 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 FTTB Node to DP Connection, subject to a maximum of 30 times the weekly recurring charge for the FTTB Node to DP Connection (**Weekly Recurring Charge**), where:

Weekly Recurring Charge = Monthly recurring charge x 7 / 30

IDA Directed Modifications: IDA notes that the reference to clause 6.11 is incorrect, as the relevant clause providing for the circumstance is clause 6.13. Accordingly, IDA directs OpenNet to propose, for IDA's consideration, modifications to clause 6.12 to correct the wrong reference. JON 11 Apr 12 : Amended as per IDA's Direction.

CLAUSE 6.13 – MODIFICATION REQUIRED

6.13 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 by the building owners/management to install the required Network within the said building. In the event the Requesting Licensee raise a dispute questioning OpenNet's effort in remedying the obstruction, OpenNet will provide such evidence as may be available of its best endeavours;
- (b) The Requesting Licensee requests the deferment of the service activation date;
- (c) The building which was initially under network coverage has been reconstructed and OpenNet has to reinstall its Network within the building.

For the avoidance of doubt, where the service activation date has been revised pursuant to any of the circumstances contemplated in this clause 6.11 or elsewhere in this ICO Agreement (unless otherwise stated), OpenNet shall nevertheless be required to compensate the Requesting Licensee if it fails to meet the revised implementation timeline.

IDA Directed Modifications: Clause 6.13 sets out several circumstances under which OpenNet would not be required to compensate Requesting Licensees.

IDA received a number of comments concerning this clause. In particular, it was suggested that clause 6.13(a) should be subject to two requirements: (a) OpenNet must have used its best endeavours to obtain any licence or permission expeditiously; and (b) OpenNet must provide Requesting Licensees with evidence of such licence/permission, the steps taken to obtain it expeditiously and why OpenNet cannot obtain the licence/permission.

After careful consideration, IDA agrees that OpenNet should be required to use its best endeavours to obtain expeditiously the necessary licences or permission mentioned in clause 6.13(a). However, IDA is of the view that it is not necessary to require OpenNet to furnish evidence of this in every case. Instead, it would be more efficient if OpenNet were required to furnish evidence only in the event that a challenge or dispute is raised by Requesting Licensees as to whether OpenNet has used its best endeavours in the manner described above.

Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to clause 6.13(a) to incorporate the above requirements.

[ON 11 Apr 12 : Amended as per IDA's Direction]

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 FTTB Node and the DP.

7.2 Where the Requesting Licensee wishes to change the existing patching connection at OpenNet's FDF at the FTTB Node, the Requesting Licensee shall submit an application for termination of the existing Patching service and order for a new Patching Service at the FTTB Node in accordance with Schedule 13 (Patching Service).

8. DEACTIVATION

CLAUSE 8.1 – APPROVED

8.1 Subject to the minimum contract term, the Requesting Licensee may deactivate the FTTB Node to DP Connection by giving OpenNet not less than one (1) month prior written notice.

- 8.2 If the FTTB Node to DP 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 FTTB Node to DP Connection, OpenNet shall remove the Patching Service at all the relevant access points and the Requesting Licensee shall be liable for the termination charges 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 FTTB Node to DP 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 FTTB Node and DP from which the FTTB Node to DP Connection is provided.
- 9.2 OpenNet shall be responsible for the maintenance of the FTTB Node to DP Connection installed under this Schedule.
- 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 FTTB Node to DP Connection.
- 9.5 If it is necessary to carry out any scheduled service interruption, including but not limited to planned repair, or replacement or upgrade to any equipment or facility forming part of the FTTB Node to DP Connection, OpenNet shall provide the Requesting Licensee with at least one (1) month's ~~written~~ notice in advance of such interruptions, repairs or upgrades. OpenNet shall take reasonable measures to minimise any service disruption to the Requesting Licensee.

CLAUSE 9.6 – MODIFICATION REQUIRED

9.6 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.

~~The Requesting Licensee is required to acknowledge receipt of OpenNet's notification within one (1) Business Day.~~

IDA Directed Modifications: Comments were received that there is no justifiable reason for OpenNet to require the Requesting Licensee to acknowledge receipt of its notification within one Business Day.

In this regard, IDA requires OpenNet to provide justification as to why it requires the Requesting Licensee to acknowledge the request in the first place, as well as the short timeframe of only one Business Day. If OpenNet is unable to provide valid justification, IDA may further direct that this requirement to provide notice be removed altogether or subject to a more reasonable period. Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to clause 9.6 to address the above. [ON 11 Apr 12 : Amended as per IDA's Direction.]

9.7 If the scheduled service interruption affects FTTB Node to DP Connections, OpenNet will carry out the scheduled service interruption between 1am and 6am, unless it is not feasible for OpenNet to do so.

9.8 Subject to Requesting Licensee acquiring redundancy service, OpenNet shall, where technically feasible, provide assistance to Requesting Licensee to divert its FTTB Node to DP Connection to the redundancy service before commencing the scheduled service interruption.

- 9.9 Where there are available resources, OpenNet will, where possible, first divert critical links to alternative routings before commencing the scheduled service interruption.
- 9.10 Subject to clause 9.6, OpenNet shall not be liable for any loss caused by such scheduled service interruption, except for any Service Level Guarantee rebate that arises from OpenNet carrying out the scheduled service interruption outside of the stipulated period and the Requesting Licensee has reported the fault in accordance to clause 11.
- 9.11 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.
- 9.12 The Requesting Licensee must procure and maintain at its own cost:
- (a) any equipment or software needed to implement, receive or use the FTTB Node to DP Connection; and
 - (b) any space near the FTTB Node for its equipment.
- 9.13 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 FTTB Node to DP Connection.

CLAUSE 9.14 – MODIFICATION REQUIRED

- 9.14 Onsite charges are applicable whenever Requesting Licensee requests for OpenNet to be onsite for any reason other than for reasons caused by OpenNet's fault or error.

IDA Directed Modifications: Comments were received that OpenNet should not be allowed to impose onsite charges in cases where OpenNet needs to be present to provision the service or to be present due to its own fault or error. After careful consideration, IDA agrees that it would be unreasonable for any onsite charge to be imposed under such circumstances as it is not caused by the Requesting Licensee.

Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to this clause 9.14 to give effect to the above requirement. ION 11 Apr 12 : Amended as per IDA's Direction.

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 FTTB Node to DP 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.

CLAUSE 11.2 – APPROVED

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 own 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.

CLAUSE 11.3 – MODIFICATION REQUIRED

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.

11.3 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 ~~as~~ and also updates when there is a change in status of the fault investigation/rectification work through OpenNet Platform, when available.

IDA Directed Modifications: IDA refers OpenNet to section 9 of the Explanatory Memorandum to this Direction. Accordingly, IDA directs OpenNet to propose, for IDA's approval, modifications to clause 11.3 in the manner specified therein. Without limitation to the foregoing, OpenNet should provide Requesting Licensees with (a) periodic updates on the status of the fault rectification; and (b) updates when there is a change in status of the fault investigation/rectification work. [ON 11 Apr 12 : Amended as per IDA's Direction.]

CLAUSE 11.4 – MODIFICATION REQUIRED

11.4 If, following investigation, OpenNet determines that the fault is at the Patch Cable at the FTTB Node, OpenNet will replace with another Patch Cable and charge the Requesting Licensee a Patching Charge in accordance with Schedule 15 (Charges). ~~OpenNet will charge the Requesting Licensee a Patching Charge~~ if the Requesting Licensee was responsible for the fault at the Patch Cable at the FTTB Node.

IDA Directed Modifications: IDA notes that as currently drafted, clause 11.4 appears to be unclear in relation to the differing circumstances for Patching Charges. For clarity, IDA directs OpenNet to propose, for IDA's approval, modifications to clause 11.4, to state that Requesting Licensees will only be charged a Patching Charge if they are responsible for the fault at the Patch Cable at the FTTB Node. [ON 11 Apr 12 : Amended as per IDA's Direction.]

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:

CLAUSE 11.6(a) – MODIFICATION REQUIRED

~~(d)~~(a) For each of the three (3) wavelengths of 1310nm, 1490nm and 1550nm, the optical power shall be measured in accordance with clause 6.9 above where possible, and the findings shall be clearly recorded using the "Fault Rectification Service Report" (Annex 7B).

IDA Directed Modifications: Comments were received that power loss should not be the only criterion for "no fault found" as there are numerous scenarios where the FTTB Node to DP Connection could be disrupted due to faults by OpenNet. In particular, it was commented that service may continue to be disrupted even though the fibre reading is within the range due to wrong patching at the FTTB Node.

In this regard, IDA considers that it is reasonable to require OpenNet to propose measures to address the concerns relating to wrong patching. As an example, IDA refers to the first bullet point of clause 11.6(b), and considers that OpenNet could ensure that patching at the FTTB Node and the patch cords are properly installed as part of the investigation process before concluding that there is "no fault found".

Accordingly, IDA directs OpenNet to propose, for IDA's approval, modification to clause 11.6(a) to incorporate the above requirements.

[ON 11 Apr 12 : Amended as per IDA's Direction.]

~~(e)~~(b) if the power loss do not exceed the limit specified in clause 6.9 then a ~~finding of "no fault found" will be recorded, otherwise~~ the following steps shall be carried out before a finding of "no fault found" will be recorded:

- determine that the patching at the FTTB node and the patch cord are properly installed
- determine that no macro bending that produces high loss
- _____ determine that no dirty/damaged connector
- determine that there is no wrong patching
- _____ measurements of the following shall also be taken :

- optical time-domain reflectometer
- power loss

CLAUSE 11.6(c) – MODIFICATION REQUIRED

(c) Upon completion of ~~the~~ any joint investigation, OpenNet will hand over the connection to the Requesting Licensee and both Parties shall jointly sign off on the “Fault Rectification Service Report” (Annex 7B), which will state the outcome of the joint investigation. In non-joint investigation, ie where Requesting Licensee is absent despite notification from OpenNet, OpenNet shall conclude the investigation on-site and inform the Requesting Licensee of the outcome accordingly which Requesting Licensee shall not dispute. OpenNet shall provide periodic updates to the Requesting Licensee on the status of the non-joint investigation and also updates when there is a change in status of the non-joint investigation through OpenNet Platform, when available.

IDA Directed Modifications: Comments were received that as currently drafted, clause 11.6(c) can be read to imply that a joint investigation is always required for the process of fault investigation, whereas this is not always the case. In addition, OpenNet should only require the Requesting Licensee to jointly sign off on the “Fault Rectification Service Report” if both parties are present onsite for fault rectification.

IDA agrees that joint investigations are not required for every case. The resources required to co-ordinate and carry out a joint investigation would likely be more onerous and burdensome than a non-joint investigation. Accordingly, IDA directs OpenNet to propose, for IDA’s approval, modification to clause 11.6(c) to clarify that the proposed process is also applicable to non-joint investigation or to provide for an additional process in relation to non-joint investigation.

In addition, IDA refers OpenNet to section 9 of the Explanatory Memorandum to this Direction. IDA reminds OpenNet that it is required to provide timely status updates to Requesting Licensees, and without limitation to the foregoing, OpenNet must inform Requesting Licensees of the cause of the fault when it resolves the fault. [ON 11 Apr 12 : Amended as per IDA’s Direction.]

CLAUSE 11.7 – MODIFICATION REQUIRED

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. The OpenNet Platform 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:

IDA Directed Modifications: IDA notes that clauses 11.7(a)-(c) apply to both fault identification coordination meetings initiated by OpenNet and joint investigations initiated by Requesting Licensees. For clarity, IDA requires OpenNet to propose, for IDA's approval, modifications to clause 11.7 to state that clauses 11.7(a)-(c) will also apply to joint investigations under clause 11.9. JON 11 Apr 12 : Amended as per IDA's Direction. Please refer to clause 11.10

- (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 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 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.

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

CLAUSE 11.9 – MODIFICATION REQUIRED

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 suspects that there is a fault with the FTTB Node to DP Connection, the Requesting Licensee may request OpenNet for a joint investigation. Additionally, where the Requesting Licensee disputes OpenNet's findings, the Requesting Licensee shall 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 with OpenNet, otherwise OpenNet will waive the Joint Investigation Charge. ~~Where the Requesting Licensee changed the appointment for the joint investigation without giving OpenNet sufficient notice of at least one (1) Business Day, the Requesting Licensee shall pay OpenNet the Missed Appointment Charge in accordance with Schedule 15 (Charges).~~ 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 conducted 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.

IDA Directed Modifications: IDA refers OpenNet to its directed modifications to clause 11.7 above. For consistency, IDA directs OpenNet to propose, for IDA's approval, modifications to state that clauses 11.7(a)-(c) will apply to joint investigations under clause 11.9.

While IDA agrees that there should be a process available for Requesting Licensees to raise any disagreements with the findings of OpenNet's fault investigations, IDA disagrees that such a process should be treated as a joint investigation process. IDA's view is that it is

more reasonable for OpenNet to resolve such disagreement through the fault identification coordination meeting.. Accordingly, IDA directs OpenNet to propose, for IDA’s approval, modifications to clause 11.9 to provide for the above process.

Further, IDA refers OpenNet to section 12 of the Explanatory Memorandum to this Direction. Accordingly, IDA directs OpenNet to propose, for IDA’s approval, modifications to clause 11.9 in the manner specified therein. Without limitation to the above, OpenNet should remove all references to Missed Appointment Charges. [ON 11 Apr 12 : Amended as per IDA’s Direction.]

11.10 The Requesting Licensee acknowledges that OpenNet may temporarily disconnect the Requesting Licensee’s FTTB Node to DP Connection to perform reasonable fault analysis and line testing on the FTTB Node to DP Connection. OpenNet shall conduct such disconnection 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 FTTB Node to DP 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 FTTB Node to DP Connection during a month as described above

Y = Total number of affected FTTB Node to DP 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 FTTB Node to DP Connection, subject to a maximum of 30 times the Weekly Recurring Charge for the FTTB Node to DP Connection.

12. SERVICE LEVEL AVAILABILITY

12.1 OpenNet shall offer a service level availability of 99.99% per month for the FTTB Node to DP 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 FTTB Node to DP 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 FTTB Node to DP 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 FTTB Node to DP 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 FDF in the FTTB Node and the DP.

13.2 Each Party shall, so far as reasonably practicable, take all necessary steps to ensure that the licence of the FTTB Node to DP 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 the FTTB Node to DP Connection shall be twelve (12) months starting from the service activation date of the FTTB Node to DP Connection.

15. SUSPENSION

15.1 OpenNet may suspend the Requesting Licensee's licence to the FTTB Node to DP Connection at any time until further notice to the Requesting Licensee if the FTTB Node to DP 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 the FTTB Node to DP Connection licence under this clause 15.

16. TERMINATION OF LICENCE

- 16.1 The Requesting Licensee shall keep OpenNet informed on the Requesting Licensee's utilisation of each FTTB Node to DP Connection six (6) months from the service activation date and when there are changes to the utilisation.
- 16.2 The Requesting Licensee must use or activate a service to a Retail Service Provider using the FTTB Node to DP Connection within six (6) months from the service activation date of the FTTB Node to DP Connection. If the Requesting Licensee fails to do so, OpenNet will deactivate the FTTB Node to DP 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.
- 16.3 OpenNet may immediately terminate a licence of the FTTB Node to DP 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 the FTTB Node to DP Connection under the OpenNet ICO or exempts OpenNet from supplying the FTTB Node to DP 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 FTTB Node to DP 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 FTTB Node to DP 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 licence in respect of Co-Location Space to which the FTTB Node to DP Connection is connected has been terminated or has expired;
- (g) the FTTB Node to DP Connection has become unsafe for its purpose;
- (h) OpenNet's right to own, maintain or operate the FTTB Node to DP Connection has been revoked or terminated or has expired

16.4 Either Party (**Terminating Party**) may terminate the FTTB Node to DP 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 FTTB Node to DP 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 the FTTB Node to DP Connection:

- (a) the Requesting Licensee must immediately discontinue use of the FTTB Node to DP Connection;
- (b) the Requesting Licensee must without undue delay disconnect all equipment connected to the FTTB Node to DP 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 the FTTB Node to DP 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.

CLAUSE 16.7 – MODIFICATION REQUIRED

16.7 If the Requesting Licensee fails to disconnect its equipment from the FTTB Node to DP Connection under clause 16.56(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 FTTB Node to DP Connection.

IDA Directed Modifications: IDA notes that the reference to clause 16.6(b) is incorrect, as the relevant clause providing for disconnection of equipment from the Residential End-User Connection is clause 16.5(b). Accordingly, IDA directs OpenNet to correct this referencing error. [ON 11 Apr 12 : Amended as per IDA's Direction.]

17. REDUNDANCY SERVICE

17.1 The Requesting Licensee may acquire one separate fibre strand from OpenNet's FDF at the FTTB Node to the DP (**Redundancy Service**) at the same prices, terms and conditions as the FTTB Node to DP Connection through a request in the form of Annex 7A either manually or via the 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 FTTB Node to DP 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 FTTB Node to DP Connection.

- 17.3 The Requesting Licensee is eligible to acquire a Redundancy Service for the FTTB Node to DP Connection provided the Requesting Licensee has acquired or is acquiring an equivalent FTTB Node to DP Connection between the FTTB Node and DP. The Requesting Licensee may request OpenNet to reject the Request for the FTTB Node to DP Connection in the event that OpenNet is unable to provide the Redundancy Service, but such Requests for the FTTB Node to DP 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 7A: REQUEST FORM FOR FTTB NODE TO DP CONNECTION

Request for FTTB Node to DP Connection

Requesting Licensee	Date of Application: _____	Application Reference Number: _____
	Requested Date of Activation: _____	_____
	End-User Premise Address _____	
	Any other info: _____	
<input type="checkbox"/> Redundancy Service is required <input type="checkbox"/> Request for FTTB Node to DP 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	<input type="checkbox"/> Application accepted: Circuit Identification Number: _____ Tentative Provision Date : _____	
	<input type="checkbox"/> Application rejected Reason for rejection: _____	
	OpenNet Name / Signature: _____	Queue Status: _____

Part 2: Date: _____

OpenNet	<input type="checkbox"/> Circuit Provision: Revised Provision Date (where applicable): _____ Reason: _____ <div style="text-align: right;">Any other reason: _____</div>	
	<input type="checkbox"/> Application rejected Reason for rejection: _____	
	OpenNet Name / Signature: _____	

ANNEX 7B: FAULT RECTIFICATION SERVICE REPORT

 Fault Rectification Service Report		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	
END-USER INFORMATION			
Authorized Person Name: _____		*Mr/Mrs/Miss/Mdm/Dr	
*NRIC/FIN/Passport No: _____			
Contact no: _____		(HP): _____	
Company: _____		BRN: _____	
Registered Address:		Blk/House: _____ Unit No: # _____ - _____	
		Street Name: _____	
		Building Name: _____ Postal code: S(_____)	
LOCATION OF INSTALLATION			
A-END (CO/MDF)		B-END (CO/MDF, End-User's Premise)	
Blk/House: _____ Unit No: # _____ - _____		Blk/House: _____ Unit No: # _____ - _____	
Street Name: _____		Street Name: _____	
Building Name: _____ Postal code: S(_____)		Building Name: _____ Postal code: S(_____)	
End User Declaration (check only one box)			
<input type="checkbox"/> I am the owner of the above premises <input type="checkbox"/> I, Name: _____, NRIC _____ 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): _____			
For Official Use Only			
OPTICAL MEASUREMENTS, WHERE POSSIBLE (Measured by RL)			
Fault description: _____			
Test Measurement (CO to Serving Cabinet):	1310nm	1490nm	1550nm
			Distance (m)
Test Measurement (CO to 1 st TP):	1310nm	1490nm	1550nm
			Distance (m)
Test Measurement (Segment Services A-END to B-END)	1310nm	1490nm	1550nm
			Distance (m)
Certified by ON:			
Technician Name: _____		Date: _____	
Technician Signature: _____		Time: _____	

ANNEX 7B: FAULT RECTIFICATION SERVICE REPORT

OPTICAL MEASUREMENTS, WHERE POSSIBLE(Measured by ON)							
Fault description:							
Test Measurement (CO to Serving Cabinet):	1310nm		1490nm		1550nm		Distance (m)
Test Measurement (CO to 1st TP):	1310nm		1490nm		1550nm		Distance (m)
Test Measurement (Segment Services A-END to B-END)	1310nm		1490nm		1550nm		Distance (m)
Certified by :							
RL Name:				Date:			
RL Signature:				Time:			
Fault Root Cause Description							
ACTION TAKEN/ADDITIONAL REMARKS							
CUSTOMER ACKNOWLEDGEMENT AND ACCEPTANCE							
Remarks/Comments:							
This is to acknowledge that the fibre fault rectification has been attended and the fault resolution is effective							
Fault Attended by:				Resolution Accepted by End-User:			
Technician Name:				End-User Signature:			
Technician Signature:							
Resolution Verified and Accepted by RL (Only applicable for 1 hour activation) :							
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 7B – MODIFICATION REQUIRED

IDA Directed Modifications: Comments were received in respect of the “Declaration” section of Annex 7B that the Requesting Licensee should not be the party permitting OpenNet to enter the End-User’s premise.

IDA agrees that the “Declaration” section is intended for the End-User to make the declaration and not the Requesting Licensee.

Several industry respondents have commented that the NRIC/FIN/Passport Number of the End-User is currently not required, and therefore OpenNet should similarly not require the NRIC/FIN/Passport Number of the End-User to be provided. A respondent also raised the issue of maintaining customer privacy. IDA agrees with the comments provided and agrees that OpenNet should not require Requesting Licensee/End-User to provide the NRIC/FIN/Passport Number of the End-User. Similarly, IDA also holds the view that company’s BRN is not necessary.

Accordingly, IDA directs OpenNet to propose, for IDA’s approval, modifications to Annex 7B to reflect the above requirements. [ON 11 Apr 12 : Amended as per IDA’s Direction.]