



**EXPLANATORY MEMORANDUM ISSUED BY
THE INFO-COMMUNICATIONS MEDIA DEVELOPMENT AUTHORITY**

**DIRECTION OF THE INFO-COMMUNICATIONS MEDIA DEVELOPMENT
AUTHORITY MADE PURSUANT TO SECTION 27 OF THE
TELECOMMUNICATIONS ACT (CHAPTER 323) IN RESPECT OF THE REVIEW
OF NETLINK TRUST'S INTERCONNECTION OFFER FOR THE PROVISION OF
SERVICES OVER THE NATIONWIDE BROADBAND NETWORK**

8 May 2017

PART I: INTRODUCTION

**PART II: SUMMARY OF KEY COMMENTS RECEIVED AND IMDA'S
DECISIONS**

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EXPLANATORY MEMORANDUM

1. This Explanatory Memorandum sets out the reasons for IMDA's Direction dated 8 May 2017 (the "**Direction**"), issued by IMDA to NetLink Management Pte Ltd (as Trustee-Manager of NetLink Trust) (the "**NetLink Trust**"), directing it to incorporate IMDA's Required Modifications to its Interconnection Offer (the "**ICO**").
2. For the avoidance of doubt, NetLink Trust shall give effect to IMDA's Required Modifications as specified in this Explanatory Memorandum, in addition to IMDA's other Required Modifications as specified in other parts of the Direction.
3. Unless the context requires otherwise, all capitalised terms used in this Explanatory Memorandum shall have the same meanings as in the ICO.

PART I: INTRODUCTION

4. For residential units built in accordance with versions of the Code of Practice for Info-communication Facilities in Buildings ("**COPIF**") before the Code of Practice for Info-communication Facilities in Buildings 2013 ("**COPIF 2013**") ("**Pre-COPIF 2013 Buildings**"), NetLink Trust deploys its fibre infrastructure into residential units for the purpose of providing its fibre services to end-users. For residential developments built in accordance with COPIF 2013 ("**COPIF 2013 Buildings**"), building owners/developers of residential developments ("**BO/BDs**") provide each residential unit with a 2-core optical fibre cable, which terminates into a fibre interface point ("**FIP**") located in the telecommunication riser/ gate pillar (as the case may be) at one end and terminates into a fibre termination point ("**FTP**") in the premise at the other end to facilitate the provisioning of fibre services to the residential unit.
5. Since the initial ICO that NetLink Trust offered to its Requesting Licensees ("**RLs**") in 2009 to date, the one-time charges ("**OTCs**") of the ICO have remained unchanged. Considering that NetLink Trust is now into its eighth year of operation as the Network Company of the Nationwide Broadband Network ("**NBN**") and that the above-mentioned COPIF 2013 Buildings are progressively completed, it is an appropriate juncture for IMDA to perform a holistic review of the OTCs so as to ensure that the prices suitably reflect the current market conditions as well as to create a more sustainable arrangement in the longer term to harmonise the one-time provisioning activities between the two groups of buildings (i.e., COPIF 2013 Buildings and Pre-COPIF 2013 Buildings).
6. IMDA has been engaging NetLink Trust on changing the ICO to effect the above. In view of the new arrangements, NetLink Trust had proposed changes to the ICO to, among other things, clarify its provisioning processes in delivering services to residential premises in COPIF 2013 Buildings ("**Draft Revised ICO**") for IMDA's approval.
7. On 26 January 2017, IMDA sought comments from the public on the Draft Revised ICO ("**Public Consultation**"). IMDA received responses from six (6) organisations. IMDA thanks the respondents for their responses and has given

careful consideration to the views and comments received. The following sections highlight the key issues raised in the Public Consultation. The other issues are addressed in the respective Appendices.

PART II: SUMMARY OF KEY COMMENTS RECEIVED AND IMDA'S DECISIONS

Section 1 – Scope of ICO Charges

8. NetLink Trust had indicated in Schedule 1 and Schedule 15 of the Draft Revised ICO that RLs would be liable for the Service Activation Charge of \$53 for various scenarios under which a Residential End-User Connection (“**Residential EUC**”) was requested. NetLink Trust had also indicated in Schedule 2 and Schedule 15 of the Draft Revised ICO that RLs would be liable for the Installation of Network Charge where a Non-Residential End-User Connection (“**Non-Residential EUC**”) installation order was requested.

Industry's Submission

9. The respondents were generally of the view that the Draft Revised ICO would still allow NetLink Trust to impose the Service Activation Charge for relocation of the FTP within a premise, contrary to IMDA's requirement that the Service Activation Charge should only be imposed when relocation was performed from one premise to another premise. It was hence suggested that the ICO be amended to clarify the above requirement, and that NetLink Trust provide more clarity to the ICO in specifying the scenarios under which the Service Activation Charge would be levied.
10. In response to NetLink Trust's introduction of the Service Activation Charge, two respondents commented that the “Patching Charge in the CO”, “Per Patch Cable deactivated/removed in CO (where applicable)” charge and “Per Patch Cable deactivated/removed in MDF Room” charge under Schedule 15 should accordingly be removed since the Service Activation Charge would have covered the cost of all instances of patching and subsequent un-patching in a service order.
11. The respondents also commented that the ICO should clarify the types of third-party work that would be covered and not covered within the Installation of Network Charge for the Non-Residential EUC service. In particular, two respondents suggested that NetLink Trust should specify whether the Installation of Network Charge would cover the cost of purchasing maps for purposes of deploying the Non-Residential EUC, security deposits for BO/BDs, purchase of insurance for licensees' access into the non-residential building, escort charges, overtime charges for BO/BDs' presence during installation and cost of specific building restoration requirements imposed by the BO/BDs. A respondent also proposed that NetLink Trust clarify in the ICO that the Installation of Network Charge would not be applicable if the Non-Residential EUC is requested for a premise pre-installed with an FTP.

IMDA's Assessment

12. IMDA agrees with the respondents that the ICO should clarify the scope of the charges so that there is a higher level of transparency with regard to what NetLink Trust's charges cover and to minimise future billing disputes. IMDA notes that NetLink Trust had clarified the scope of works that the Service Activation Charge would cover (i.e., works related to patching at the MDF room, FIP and/or FDP as well as any subsequent corresponding un-patching at the MDF room arising from service deactivation, termination or relocation from one address to another) in clauses 1.18.2 and 2.19.2 of Schedule 15 to the ICO. However, NetLink Trust will be directed to modify the ICO to clarify that the Service Activation Charge does not apply when an RL requests a relocation of the Residential/Non-Residential EUC within a premise. For requests to relocate an end-user connection from one premise to another premise, the cost of deactivating the connection at the old address would have been included in the Service Activation Charge levied upon service activation of that connection. NetLink Trust may subsequently impose a separate Service Activation Charge for the activation of the connection at the new address.
13. The Service Activation Charge covers works related to patching at the MDF room, FIP and/or FDP as well as any subsequent corresponding un-patching at the MDF room arising from order deactivation, termination or service relocation. Accordingly, NetLink Trust shall be required to remove the "Per Patch Cable deactivated/removed in MDF Room" charge of \$37.05 from Schedule 15. The other two patching related charges quoted by the respondents (i.e., the "Patching Charge in the CO" charge and the "Per Patch Cable deactivated/removed in CO (where applicable)" charge) relates to patching activities at the CO and not at the MDF room. Specifically, the "Patching Charge in the CO" is levied only when a patching service is required at NetLink Trust's Fibre Distribution Frame in the CO and where the requested service is the first order on the new splitter card for a dedicated RL. This specific patching activity at the CO is not covered under the scope of the Service Activation Charge. Hence, IMDA will allow NetLink Trust to retain the patching at CO charges in the ICO but will require the charges to be updated with their respective revised quantum.
14. Under IMDA's Decision, IMDA had clarified that the Installation of Network Charge under the Non-Residential EUC service shall cover NetLink Trust's cost of the actual work done (cost of materials and labour for fibre deployment) for a standard order installation as well as third-party works necessary for the provisioning of the connection. Such third-party works include NetLink Trust's engagement of third-party contractors to create access panels to access cable trays and NetLink Trust's deployment of scissor lifts or any other suitable means to access cable trays. In other words, if a Non-Residential EUC order requires the use of such third-party works, NetLink Trust shall provision the service order without requiring the RL to incur additional third-party costs and ensure that the service order is provisioned in accordance to the ICO service activation periods.
15. With regard to the purchase of maps for the purpose of deploying the Non-Residential EUC, IMDA notes that it is a requirement under COPIF 2013 for the

BO/BD to provide telecom licensees with at least one set of the relevant building plans, floor plans or blueprints at no cost to the licensees for purposes of network routing and deployment, should the BO/BD require the telecom licensee to submit proposals for cabling works. Paragraph 2.5.6 of COPIF 2013 provides that *“the developer or owner shall not impose any charge or rent on the licensee (e.g., administrative charges, security escort charges, costs to reinstate access panels or openings) or impose any additional requirements on the licensee (e.g., requiring any insurance policy or additional insurance coverage to be taken) in connection with the grant of access to and use of the space and facilities under paragraph 2.5.1. Without prejudice to the foregoing, the developer or owner may require that a licensee place a deposit in connection with any upgrading, installation or removal works to be carried out by the licensee at the relevant space and facilities ...”*. Accordingly, it is IMDA’s understanding that NetLink Trust would generally be responsible to settle any deposits payable to BO/BDs for purposes of gaining access to the buildings. IMDA would like to reiterate that the Network Installation Charge covers the cost of a standard installation of the Non-Residential EUC. Should the service order involve post-installation customised building restoration techniques (e.g., the use of concealed trunking) imposed by the BO/BD, IMDA would expect NetLink Trust and the service providers to inform the end-user of the additional costs involved in the order and to settle the responsibility for charges during the site survey.

16. Where a Non-Residential EUC is requested for a premise with an FTP pre-installed by the existing/previous owner/tenant, it is generally not necessary for a new FTP to be installed if the FTP is still in working condition. In such cases where NetLink Trust will not be required to install an FTP, the Installation of Network Charge shall not apply. In cases where the existing pre-installed FTP has aged, turned faulty or has been damaged, NetLink Trust may impose the Installation of Network Charge for the installation of a new FTP necessary for the service provisioning. Accordingly, NetLink Trust is required to specify in the ICO the scenarios under which the Installation of Network Charge would apply or not apply, including the aforementioned cases.

Section 2 – Fault Management

Fault Management Process

17. NetLink Trust made the following changes in the Draft Revised ICO in relation to fault management:
 - (a) NetLink Trust shall be responsible for the maintenance of the Residential EUCs installed under Schedule 1 of the ICO. For COPIF 2013 Buildings, NetLink Trust shall only be responsible for the maintenance of the Residential EUC up to NetLink Trust’s FDP (including the patch cord from the FDP to the FIP).
 - (b) Where it is discovered that any part of NetLink Trust’s network located in the residential premise is damaged, NetLink Trust will proceed to

rectify the fault and impose the repair and replacement charges on the RL.

- (c) Where any fault is discovered in the BO/BD's network in COPIF 2013 Buildings, the RL may submit a request for NetLink Trust to carry out the fault rectification and NetLink Trust shall impose the repair and replacement charges on the RL. Alternatively, the end-user may approach any contractors authorised by NetLink Trust to carry out the fault rectification.

Industry's Submission

- 18. One respondent raised concerns with NetLink Trust's revised clause 11.8(d) of Schedule 1 in the Draft Revised ICO, where NetLink Trust specified that it would rectify faults and directly charge RLs for faults discovered within the residential premise. It was submitted that NetLink Trust should directly charge end-users if the works are requested by the end-user, especially when NetLink Trust's field engineers would have been on-site with the end-user, and would hence be able to seek the end-user's agreement instead of relying on service providers to seek agreement on the charges downstream. The respondent hence suggested that NetLink Trust should bill the fault repair charges to the end-user directly for a fault occurring in NetLink Trust's network that was evidently caused by the end-user. For faults found in the BO/BD's network in COPIF 2013 Buildings, the same respondent sought confirmation that NetLink Trust would not be automatically carrying out fault repairs without instructions from RLs.
- 19. There were several other comments raised with regard to NetLink Trust's fault management, including: (a) the revised fault management regime in Schedule 1 should be duplicated in Schedule 8 of the ICO; (b) the Draft Revised ICO did not specify how NetLink Trust would apportion repair charges for faults in common areas (e.g., common corridor); (c) NetLink Trust should clarify the process for handling faults in COPIF 2013 Buildings that were still under BO/BDs' warranty and how the associated charges should be determined; and (d) where an RL engaged NetLink Trust's authorised contractors for fault management, and discover that the fault extended into NetLink Trust's network, authorised contractors should be allowed to work directly with NetLink Trust on the fault.

IMDA's Assessment

- 20. At the outset, IMDA would like to clarify that the RLs' service experience for NetLink Trust's fault management shall be no different for both Pre-COPIF 2013 Buildings and COPIF 2013 Buildings. While the fibre network configuration may differ in both buildings, NetLink Trust shall offer the same set of fault management process to all buildings to avoid confusion to the industry and end-users. In this regard, IMDA had required in IMDA's Decision for NetLink Trust to clarify in the ICO that:
 - (a) RLs can continue to send requests to NetLink Trust for fault investigation or fault rectification through the system and that NetLink Trust shall be

the sole party fronting RLs on the status of fault management for both Pre-COPIF 2013 and COPIF 2013 Buildings;

- (b) NetLink Trust shall continue to be responsible for fault investigation and identification for the passive fibre infrastructure for all faults reported by the RLs, including faults between the FIPs in the risers to the FTPs in residential premises of COPIF 2013 Buildings.
 - (c) where the fault occurs in the fibre network of a Pre-COPIF 2013 Building, or between the CO and the FIP (including NetLink Trust's patch cable connecting the FDP and FIP) of a COPIF 2013 Building (i.e., NetLink Trust's infrastructure), and where the fault is attributable to NetLink Trust, the principle of NetLink Trust bearing the cost and responsibility for fault identification and/or rectification shall continue to apply.
 - (d) Where the fault occurs between the FIP and the FTP in COPIF 2013 Buildings (i.e., BO/BD's infrastructure), NetLink Trust shall continue to bear the responsibility for fault identification and be the operator of last resort for fault rectification.
21. While NetLink Trust had proposed changes to reflect some of the above requirements, the Draft Revised ICO did not give full effect to IMDA's Decision. In this regard, IMDA directs NetLink Trust to modify specific clauses in the service schedule under the ICO to give full effect to IMDA's decision on fault management.
22. IMDA is cognisant that there may be end-users who would engage their respective Retail Service Providers ("**RSPs**") when they encounter faults in their fibre connections. In such cases, end-users could raise faults to NetLink Trust through NetLink Trust's RLs via the ICO for fault management. Notwithstanding this, IMDA disagrees with NetLink Trust's proposed change to clause 11.8(d) which allows NetLink Trust to impose the repair and replacement charges on the RL where it is discovered that any part of NetLink Trust's network located in the residential premise (i.e., for the case of Pre-COPIF 2013 Buildings) is damaged. IMDA had considered this issue in the review of NetLink Trust's ICO in 2012, and assessed that in some instances, it would promote greater efficiency and convenience if end-users were able to deal directly with NetLink Trust and be billed directly by NetLink Trust for FTP-related services (under an existing tariff arrangement¹). IMDA is of the view that the said assessment is still valid and will hence maintain its decision. Accordingly, NetLink Trust is required to revert clause 11.8(d) to the language used in the existing approved ICO, i.e., NetLink Trust shall impose the relevant repair and replacement charges in accordance to Schedule 15 (Charges) to the end-user and charge the end-user directly unless the damage is caused by the RL.

¹ Service tariff titled "Re-Location, Repair and Replacement and Removal of First Termination Point for Residential Premises".

23. For clarity, IMDA would like to clarify the options available for fault management under the ICO, applicable to both Pre-COPIF 2013 Buildings and COPIF 2013 Buildings, where NetLink Trust is actively servicing a Residential EUC:

- (a) The end-user may choose to report the fault to its RSP/RL, where the RL may trigger NetLink Trust to manage the fault via the ICO. The ICO charges (the Fault Identification Charge and any repair charges in accordance with Schedule 15 to the ICO) will apply accordingly for any fault identification or fault rectification performed by NetLink Trust.
- (b) Where fault rectification is necessary within homes, NetLink Trust shall directly engage the end-users on the works needed and bill the end-users accordingly via the tariff mentioned in paragraph 22.

For the segment of fibre infrastructure built by the BO/BD in COPIF 2013 Buildings, the BO/BD/end-user has the flexibility to directly engage contractors authorised by NetLink Trust to perform such fibre-related works to manage the faults in the fibre network. NetLink Trust is expected to provide the list of these authorised contractors and their contact information on its website and through its hotline. For the avoidance of doubt, NetLink Trust shall be responsible for the identification and rectification of in-service faults found within its network in COPIF 2013 Buildings.

24. IMDA's responses to the other comments raised in the consultation (as described in paragraph 19 above) are as follow:

- (a) Given that COPIF 2013 Buildings will be pre-installed with fibre from the FIP to the FTP, NetLink Trust will not be the party deploying the said infrastructure beyond the FIP. Accordingly, Schedule 8 of the ICO, which offers the deployment of NetLink Trust's fibre infrastructure from the Building MDF Room to the residential premise (including the FTP), will not be applicable to COPIF 2013 Buildings. As such, it would not be necessary for the revised fault management regime in Schedule 1 to be duplicated in Schedule 8 of the ICO.
- (b) IMDA is of the view that it remains the BO/BD's responsibility to perform regular maintenance of common fibre infrastructure built by the BO/BD in COPIF 2013 Buildings. However, in cases where a Residential EUC experiences a fault and the isolated fault lies in the common fibre infrastructure of the building, the end-user who is served by that connection should be responsible for the cost in identifying/rectifying the fault. While NetLink Trust need not be responsible for the identification and rectification of faults in such common areas, NetLink Trust is required to assume the role of a contractor should NetLink Trust be engaged for the repair of a segment of the common infrastructure that serves a live Residential EUC. NetLink Trust is allowed to charge the end-user/BO/BD in accordance with the tariff as mentioned in paragraph 22 above.

- (c) IMDA notes that there may be various models on the ground with regard to (a) the arrangement for management of infrastructure within or outside the building's Defect Liability Period; and (b) the responsibilities for common fibre infrastructure after the BO/BD hands over the residential property to the end-user. Notwithstanding the model, IMDA would like to clarify that NetLink Trust should not be responsible for the cost and repair of faults on infrastructure that does not belong to NetLink Trust and where the fault is not evidently caused by NetLink Trust. NetLink Trust shall continue to hold the obligation of investigating any fault on such network and to assume the role of the operator of last resort for fault rectification should there be requests from RLs to rectify the fault.
- (d) In cases where RLs engage NetLink Trust's authorised contractors for fault management and discover that there are faults that extend into NetLink Trust's network, IMDA does not recommend that the contractors proceed with fault resolution without first notifying NetLink Trust of the fault. It would be more appropriate for such faults, that would involve investigation or rectification work done on NetLink Trust's network, to be managed solely by NetLink Trust. Accordingly, RLs should raise the fault to NetLink Trust via the ICO fault management process.

Fault Identification Charge

25. In the Draft Revised ICO, NetLink Trust introduced the Fault Identification Charge which would apply upon NetLink Trust completing fault investigation of the passive network in both Pre-COPIF 2013 Buildings and COPIF 2013 Buildings. NetLink Trust clarified that the Fault Identification Charge would only apply in the following instances:
- (a) where an RL requested NetLink Trust to identify a fault on NetLink Trust's network in both Pre-COPIF 2013 Buildings and COPIF 2013 Buildings and NetLink Trust had determined that the fault identified was evidently attributed to the end-user, RSP and/or the RL; and
 - (b) where it was determined that the fault reported resided in the BO/BD's network in COPIF 2013 Buildings and the fault was not evidently caused by NetLink Trust.

NetLink Trust also clarified in clause 1.9.3 of Schedule 15 to the Draft Revised ICO that it would not impose any Fault Identification Charge in the event that NetLink Trust determined that the fault identified resulted from a cause that could not be attributed to the end-user, RSP and/or the RL. In clause 2.8.2 of Schedule 15 to the Draft Revised ICO, NetLink Trust specified that it would not levy any Fault Identification Charge for instances whereby the fault was due to NetLink Trust's network or equipment.

Industry's Submission

26. In relation to the Fault Identification Charge, a few respondents were of the view that the time-based charging mechanism would not incentivise NetLink Trust to

be time-efficient in identifying faults. There were concerns on how RLs could verify the actual time spent by NetLink Trust in fault identification and if NetLink Trust would overcharge by taking an extended and unnecessary period of time in identifying the fault. It was hence suggested that the Fault Identification Charge be capped at a fixed quantum, and for the ICO to clarify when the timeline for charging the Fault Identification Charge would start (a) if a fault ticket is raised on a non-working day; or (b) should NetLink Trust encounter difficulty accessing the site where the fault was located.

27. A respondent highlighted that the Draft Revised ICO lacked clarity on how NetLink Trust would determine that a fault was evidently attributed to the RL/RSP/end-user before NetLink Trust would impose the Fault Identification Charge. Another respondent proposed that NetLink Trust should provide RLs with an investigation report (detailing the investigation findings, evidence showing location of the fault, measured readings and justification why NetLink Trust should impose the Fault Identification Charge) before imposing the Fault Identification Charge and any other repair charges under the ICO.

IMDA's Assessment

28. In response to the industry's concerns regarding the above-mentioned time-based mechanism, IMDA would like to clarify that the quantum of the Fault Identification Charge has been fixed at \$64 for cases where the fault is identified within two hours. The Fault Identification Charge excludes the time for NetLink Trust to rectify the fault. IMDA notes from NetLink Trust's recent statistics that it has been able to identify *and* rectify at least 60% of faults within two hours. The statistics also show that NetLink Trust has been able to identify *and* rectify at least 80% of faults within four hours. IMDA considers it reasonable to retain the time-based charging mechanism given that the intent of the mechanism in the Fault Identification Charge is to allow NetLink Trust to recover additional cost of labour that it may incur in situations where prolonged fault investigation is necessary. Considering that the scope of work in the Fault Identification Charge is related to fault identification alone, and it is in NetLink Trust's interest to identify (and rectify) the faults as soon as practicable, IMDA is of the view that there is merit in limiting the time factor in the Fault Identification Charge time-based charging mechanism to four hours. In other words, should NetLink Trust take more than four hours to identify a fault, it would only be allowed to recover the Fault Identification Charge based on the first four hours of work done. Accordingly, IMDA will require NetLink Trust to amend its ICO to reflect the above. Further, the ICO should also clarify that the timeline for charging the Fault Identification Charge shall start only (a) on the first working day immediately after the non-working day if the trouble ticket is raised on a non-working day; and (b) after NetLink Trust gains access to the location where the fault is located should NetLink Trust encounter building access problems.
29. Under IMDA's Decision, NetLink Trust is allowed to impose the Fault Identification Charge in instances where the RLs request NetLink Trust to identify faults that (a) lie in NetLink Trust's network (of both Pre-COPIF 2013 and COPIF 2013 Buildings) and which are evidently caused by end-users, the RSP and/or the RL; or (b) lie in the BO/BD's network (of COPIF 2013 Buildings)

and which are not evidently caused by NetLink Trust. IMDA understands from NetLink Trust that there are operational challenges in positively establishing that the fault is “evidently attributable to the end-user, RSP and/or the RL”, before NetLink Trust is allowed to claim the Fault Identification Charge for faults on NetLink Trust’s network. Upon further review of the fault management framework, IMDA has considered that objectively, NetLink Trust should be responsible for faults which are evidently caused by NetLink Trust’s contractors, NetLink Trust’s network or NetLink Trust’s equipment. While NetLink Trust remains obligated to maintain its fibre network to ensure a healthy passive infrastructure on the NBN, it is reasonable for NetLink Trust to recover the cost of fault identification (i.e., cost of truckroll to identify the fault and cost of the actual fault finding) whenever NetLink Trust is activated to identify faults on its network which are not caused by NetLink Trust. Accordingly, IMDA will allow NetLink Trust to recover the cost of fault identification through imposing the Fault Identification Charge for faults found on its network when it is able to provide evidence to the RLs that the fault is not caused by NetLink Trust, NetLink Trust’s network or NetLink Trust’s equipment.

30. More importantly, IMDA is of the view that it is more practical to derive a better solution for preventing disputes over Fault Identification Charges. Today, because parties tend not to conduct joint investigations, disputes on NetLink Trust’s imposition of No Fault Found Charges arise when they each assert that they are not responsible for the fault. Additionally, as each party will generate its own evidence separately to support its own position, parties end up in a stalemate as it is difficult, if not impossible, to determine whose evidence should prevail as neither may be conclusive of where the fault lay. To reduce the incidence of such disputes going forward, IMDA will require NetLink Trust to offer RLs the opportunity to be present for a joint investigation (at no additional Joint Investigation Charge to the RLs) at the point of NetLink Trust going onsite to investigate the fault trouble ticket logged by the RL. Accordingly, the ICO shall be amended to set out how the liability for the Fault Identification Charges will apply if any party chooses not to participate in such joint investigations. For example, if an RL does not participate in the joint investigation, the RL should rely on NetLink Trust’s evidence to assess if it is appropriate for NetLink Trust to impose the Fault Identification Charge. IMDA encourages NetLink Trust and its RLs to implement the above regime and to work together in good faith to refine the operational details of the regime. IMDA will monitor the effectiveness of this regime and, where necessary, convene an industry work group involving all parties to devise a mutually agreed and effective framework to minimise such disputes.
31. With the above-mentioned joint investigation procedure within the fault investigation process, IMDA is of the view that NetLink Trust and RLs can make use of the joint investigation opportunity to mutually share investigation findings and make a determination onsite without NetLink Trust having to produce an investigation report after the fault investigation exercise. In this regard, IMDA would not require NetLink Trust to provide RLs with an investigation report at this juncture.

32. Further, IMDA notes that the Draft Revised ICO does not clarify that NetLink Trust shall not impose the Fault Identification Charge for identification of faults lying on NetLink Trust's network that are not evidently caused by end-users, the RSP and/or the RL (e.g., where NetLink Trust's network is destroyed by rodent bite, cable cuts by contractors, wear and tear of the fibre in NetLink Trust's network). Accordingly, IMDA directs NetLink Trust to amend the ICO to clarify that NetLink Trust would not impose the said charge for identification of such faults.

Section 3 – Cancellation Charges

33. Under the ICO, NetLink Trust will impose a Cancellation Charge when (a) the RL cancels a service installation request after NetLink Trust's acceptance of the request; (b) the RL cancels a service relocation request after NetLink Trust's acceptance of the request; (c) the RL cancels a request for the enhanced fibre take over process after NetLink Trust approves the request; (d) the RL cancels a manual service installation request after NetLink Trust accepts the order to a premise that returned an "address not found" message on the NetLink Trust Platform; or (e) after the above "address not found" premise has been covered with fibre, the RL fails to submit the service request via the NetLink Trust Platform within two weeks of NetLink Trust's notification. NetLink Trust would waive the Cancellation Charge when: (a) the cancellation is due to the error in the Mandated Services Information caused solely by NetLink Trust, its contractors or suppliers, or to change any parameter in the Residential EUC request for the same reason; (b) there is an undue delay to the service provisioning for more than two weeks after the service activation date; or (c) NetLink Trust fails to repair an installation-related fault within 72 hours from the commencement of the joint investigation and the RL requests to cancel the faulty Residential EUC. The Cancellation Charge is at the same rate as the corresponding Installation Charges.

Industry's Submission

34. One respondent was of the view that the Cancellation Charge imposed by NetLink Trust was at an unreasonable rate because there was no service being rendered prior to cancellation of the order. The respondent proposed that the Cancellation Charge should be based on the concept of an administrative fee and that the quantum should vary according to the time differences between the cancellation request date and the service activation date (e.g., the Cancellation Charge should only be imposed when cancellation was done the day before the service activation date as NetLink Trust would have performed some preparation work for the service installation).

IMDA's Assessment

35. According to NetLink Trust, its contractors will automatically be activated via the system to perform service provisioning works once the RL places a service request with NetLink Trust. The contractor would then charge NetLink Trust the full cost of service provisioning works for that order. IMDA understands that the quantum of the Cancellation Charge has been aligned to the Installation

Charges to not only recover the costs which NetLink Trust would incur for the provisioning of the service, but to also serve as a strong deterrent to discourage RLs from frivolously submitting or cancelling service orders. Hence, IMDA will not alter the quantum of the Cancellation Charge. On the other hand, IMDA appreciates the respondent's concern with the Cancellation Charge charging methodology because it is not apparent to the RLs what extent of work has been performed upon cancellation and it is not reasonable for RLs to be charged for work which may not be performed.

36. IMDA understands from NetLink Trust that it intends to introduce a "point of no cancellation" on its provisioning timeline for service orders under the enhanced NetLink Trust Platform. Under this regime, RLs will be liable for the Cancellation Charge only if the order cancellation is performed beyond the "point of no cancellation" (e.g., beyond Day 2 after RLs submits the order to NetLink Trust). In other words, an RL will not be imposed the Cancellation Charge if the order is cancelled before the "point of no cancellation". IMDA supports this new regime as it provides more transparency to the RLs on when exactly the Cancellation Charge will be imposed on them. As service cancellation would typically entail charges which are not welcomed by end-users, this regime would provide RLs/RSPs with more clarity in communicating the terms of service cancellation on the retail front. IMDA will allow NetLink Trust to implement this feature on the enhanced NetLink Trust Platform once it is operationally ready and after NetLink Trust aligns its service provisioning arrangements for the above regime with its contractors.

Section 4 – NBAP Charges

37. Under the current ICO, NetLink Trust will impose a Standard Installation Charge when (a) the RL takes up an NBAP service and requires NLT to perform the digging/trenching work; or (b) the RL takes up an NBAP service but the RL opts to self-provide the NBAP FTP. In the case of (a), RL will be required to pay a cost-oriented one-time charge to NetLink Trust for the digging/trenching work necessary for the service provisioning. If the RL decides to cancel the NBAP service application before the commencement of any site survey, there will be no cancellation charge. However, if the cancellation is done after the commencement of site survey, NetLink Trust is entitled to impose a cancellation charge.

IMDA's Assessment

38. As part IMDA's review of NetLink Trust's ICO and ICO prices, IMDA has also reviewed the one-time charges in Schedule 3 – NBAP Connection to the ICO to align with the pricing regime in Schedule 1 and Schedule 2, i.e., the charges should clearly reflect the work conducted at different phases of the work order process. IMDA is of the view that segregating the Standard Installation Charge to two charges (i.e., the Site Survey Charge and the Service Activation Charge) will give more clarity and certainty to the RLs. NetLink Trust may impose the Site Survey Charge for each site survey required and conducted by NLT during the project study phase. If the RL proceeds with service activation after the site survey, NetLink Trust may then impose the Service Activation Charge. This

takes after the pricing regime in Schedule 1 and Schedule 2, where the Service Activation Charge covers the cost of patching/un-patching at the MDF room in the activation/deactivation of the connection. Consequently, the Cancellation Charge for NBAP after the commencement of site survey shall be removed as any site survey cost incurred would already be recovered through the Site Survey Charge.

Section 5 – Other Operational Issues Raised

Length of Patch Cable Connecting FDP and FIP

39. In the Draft Revised ICO, NetLink Trust had proposed to carry out patching work to connect the FDP to the FIP in COPIF 2013 Buildings using a patch cable not exceeding 10 metres in length. A respondent submitted that the restriction of the 10-metre distance between the FDP and the FIP should be removed from the ICO since the location of the FDP is decided by NetLink Trust. IMDA understands from NetLink Trust that the FIP is typically installed by the BO/BD after NetLink Trust installs the FDP, and the distance between FDP and FIP is hence beyond NetLink Trust's control. Nevertheless, IMDA is of the view that it is not relevant to limit the length of the patching cable to 10 metres in the ICO, given that (a) both NetLink Trust's FDP and BO/BD's FIP are located in the same riser and it is hence unlikely that a patching cable of 10 metres or more is needed; and (b) the distance between the FDP and FIP is beyond the RL's control. Accordingly, IMDA directs NetLink Trust to remove the limit imposed on the length of the patch cable connecting the FDP and FIP in the ICO.

Identifying COPIF 2013 Buildings

40. One respondent suggested that NetLink Trust should make available a list of COPIF 2013 Buildings so that RLs can identify and distinguish the different provisioning and fault management regimes for the two groups of buildings. According to NetLink Trust, the building category (i.e., COPIF 2013 Building or Pre-COPIF 2013 Building) will be identified on the system when RLs submit requests for services to NetLink Trust. Accordingly, IMDA will not require NetLink Trust to provide the list of COPIF 2013 Buildings to its RLs.
41. Another respondent asked if there will be both COPIF 2013 and Pre-COPIF 2013 Buildings existing in the same development, and how NetLink Trust would reflect this in its system. IMDA is currently of the view that in general, any new telecommunication infrastructure to be installed should continue to mirror the existing telecommunication infrastructure in that development, so as to avoid confusion to BO/BDs, home owners and operators over a mixture of differing network installations within the same building. IMDA expects the buildings that have a mixture of COPIF 2013 and Pre-COPIF 2013 installations within the same development to be rare. However, IMDA is cognisant of the possibilities of new buildings erected within the same development, for which the developer should comply with COPIF 2013. IMDA will clarify more on the various configurations in its upcoming COPIF review.

Second and Subsequent FTP Activation in COPIF 2013 Homes

42. There was a suggestion for the ICO to clarify the service provisioning process for requests on second and subsequent FTP activation in COPIF 2013 Homes. The existing ICO, which prescribes the arrangement for Pre-COPIF 2013 Buildings, allows RLs to request a second FTP only when both ports of the first FTP in the premises are fully utilised (“**Restriction**”).
43. For homes where the FTP is connected to an FDP at the riser, the fibre network (including the FDP and FTP) would have been deployed and owned by NetLink Trust. The “Restriction” will continue to apply for such homes to prevent any under-utilisation of NetLink Trust’s fibre infrastructure. For homes where the FTP is connected to a neutral FIP, the Restriction shall not apply. As a default process for buildings with FIPs, NetLink Trust shall connect its fibre to the first available port in the FIP assigned to the premise for every service activation order.
44. Should there be a specific order for NetLink Trust’s connection to be patched to a different port linked to a different FTP in the home, IMDA continues to require NetLink Trust to service the order under the ICO. IMDA considers that there may not be high incidence of such unique service requests at this juncture. While IMDA will not require NetLink Trust to prescribe a detailed service provisioning process in this ICO review, NetLink Trust is required to derive and conclude a set of backend provisioning procedures in anticipating such orders. In deriving the set of provisioning procedures, NetLink Trust should consider all operational details that may be relevant (e.g., how NetLink Trust will communicate with the RL on which exact FTP port in the premise needs to be activated upon service provisioning).

PART III: CONCLUSION

45. In conclusion, IMDA assures the industry that it will continue to review the ICO prices, timelines, processes, terms and conditions from time to time, to ensure that they continue to be relevant and appropriate to the prevailing market conditions in Singapore.