



**DECISION ISSUED BY
THE INFO-COMMUNICATIONS MEDIA DEVELOPMENT AUTHORITY**

**ON THE REVIEW OF NETLINK TRUST'S INTERCONNECTION OFFER FOR THE PROVISION OF
NATIONWIDE BROADBAND NETWORK SERVICES AND INTERCONNECTION RELATED
SERVICES**

31 JANUARY 2023

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DECISION ON THE REVIEW OF NETLINK TRUST'S INTERCONNECTION OFFER FOR THE PROVISION OF NATIONWIDE BROADBAND NETWORK SERVICES AND INTERCONNECTION RELATED SERVICES

PART I : INTRODUCTION

1. Under the NetCo Interconnection Code ("**Code**"), NetLink Trust's Interconnection Offer ("**ICO**") for the provision of Nationwide Broadband Network ("**NBN**") services will generally be reviewed every five (5) years. The last review of NetLink Trust's ICO was completed in 2017.
2. Under the Code of Practice for Competition in the Provision of Telecommunication and Media Services 2022 (also known as the Telecom and Media Competition Code, or the "**TMCC**"), NetLink Trust's reference interconnection offers for Interconnection Related Services ("**IRS**") will be reviewed every five (5) years. NetLink Trust's reference interconnection offers for IRS has been incorporated into its ICO since 26 June 2020. While still within the five (5)-year period of the previously approved ICO Schedules for IRS, IMDA will review the ICO Schedules for IRS at the same time as the review of NetLink Trust's ICO for NBN Mandated Services. This will align the review cycle of all of NetLink Trust's ICO service schedules.
3. NetLink Trust had submitted its final proposed changes to the ICO ("**Draft Revised ICO**") on 26 April 2022. NetLink Trust's proposed changes included its self-initiated changes to address operational issues and to ensure that its service offerings and procedures are up-to-date, as well as changes required by IMDA.
4. On 17 May 2022, IMDA sought comments from the public on the Draft Revised ICO ("**Public Consultation**"). IMDA received responses from four (4) organisations. IMDA thanks the respondents for their responses and has given careful consideration to the views and comments received. The following sections address the key issues raised in the Public Consultation.
5. Unless the context requires otherwise, all capitalised terms used in this Explanatory Memorandum shall have the same meanings as in the ICO and the Common Service Duct Framework (the "**CSD Framework**") published on IMDA's website.

PART II: SUMMARY OF KEY COMMENTS RECEIVED AND IMDA'S DECISIONS FOR ICO FOR NBN MANDATED SERVICES

Section 2.1: New Provisions and ICO Schedules

Personal Data Provisions

6. In its Draft Revised ICO, NetLink Trust proposed new personal data protection provisions in the ICO Main Body to ensure that each party would comply with their respective obligations under the relevant personal protection and privacy laws in force in Singapore.

Industry's Submission

7. The respondents were generally supportive of the inclusion of personal data provisions in the ICO. However, one respondent proposed that the legal language of the personal data provisions be amended such that data protection obligations were similarly imposed on NetLink Trust and not one-sided and only in favour of NetLink Trust. Further, disclosure of such personal data should not be limited only to service provisioning but also for service relocation, fault management and deactivation. The respondent had proposed clause CI19A.2 in the ICO main body be amended as below (amendments in red):

*"19A.2 The Requesting Licensee shall not disclose or transfer any Personal Data belonging to the Requesting Licensee's employees, agents, contractors and End-Users or any other Third Party to NetLink Trust unless the disclosure or transfer of the said Personal Data is expressly required under this Agreement or **allowed under any applicable law, or the said Personal Data is reasonably required for the provisioning of any Services.** In the event that any Personal Data is disclosed or transferred to NetLink Trust pursuant to this Agreement, ~~the Requesting Licensee will~~ **both Parties shall** comply with all applicable data protection and privacy laws **to safeguard the Personal Data that is necessary pursuant to this Agreement, including and not limited obtaining** In relation to such Personal Data that is necessary pursuant to this Agreement, **the Requesting Licensee shall be responsible to obtain** consent from the Requesting Licensee's employees, agents, contractors, customers or End-Users, whichever applies, allowing the collection, use and disclosure of their Personal Data to NetLink Trust and NetLink Trust's agents and contractors, ~~for the purpose of carrying out all activities reasonably required for the provisioning of any Services under this Agreement.~~"*

8. The same respondent also proposed to amend the definition of “Personal Data” in ICO Schedule 18 to below, to adopt the wordings under the Personal Data Protection Act (“PDPA”) for consistency.

“Personal data” means data, whether true or not, about an individual who can be identified –

(a) From that data; or

(b) From that data and other information to which the organisation has or is likely to have access”

IMDA’s Assessment

9. In relation to the proposed amendments to clause 19A.2, IMDA agrees that the collection and use of personal data pursuant to the ICO need not be limited to only service provisioning. The respondent’s suggested amendments are reasonable. In addition, IMDA has suggested additional edits in the revised clause 19A.2 for clarity. In this regard, NetLink Trust shall adopt the amended drafting for clause 19A.2 as below (edits in red). For the avoidance of doubt, in the event that NetLink Trust receives Personal Data that is not required under the ICO, NetLink Trust should not retain such Personal Data in its systems.

*“19A.2 The Requesting Licensee shall not disclose or transfer any Personal Data belonging to the Requesting Licensee’s employees, agents, contractors and End-Users or any other Third Party to NetLink Trust unless the disclosure or transfer of the said Personal Data is expressly required under this Agreement or **allowed under** any applicable law, ~~or the said Personal Data is reasonably required for the provisioning of any Services.~~ In the event that any Personal Data is disclosed or transferred to NetLink Trust pursuant to this Agreement, ~~the Requesting Licensee will~~ **both Parties shall** comply with all applicable data protection and privacy laws **to safeguard the Personal Data that is necessary pursuant to this Agreement, including and not limited obtaining** ~~If the Requesting Licensee is relying on express consent of the individuals to disclose or transfer the Personal Data to NetLink Trust, in relation to such Personal Data that is necessary pursuant to this Agreement, the Requesting Licensee shall be responsible to~~ **obtain** consent from the Requesting Licensee’s employees, agents, contractors, customers or End-Users, whichever applies, allowing the collection, use and disclosure of their Personal Data to NetLink Trust and NetLink Trust’s agents and contractors. ~~for the purpose of carrying out all activities reasonably required for the provisioning of any Services under this Agreement.~~”*

10. Regarding the definition of “Personal Data”, IMDA agrees that the same definition of “Personal Data” as that in the PDPA should be adopted for consistency. In this regard, NetLink Trust shall amend the definition of “Personal Data” such that it is consistent with the definition used in the PDPA.

Non-standard Installation Materials or Deployment Techniques

11. In its Draft Revised ICO, NetLink Trust proposed to introduce a charging mechanism to Requesting Licensees (“**RL**”) for the use of non-standard installation materials or deployment techniques, as requested by the owner of a non-residential premises.

Industry’s Submission

12. One respondent disagreed and was of the view that NetLink Trust should bear the additional cost for the use of non-standard installation materials or deployment techniques. The respondent added that it was unfair and unreasonable to pass the cost burden to RLs or end-users (“**EU**”) who first request for non-standard installation materials or deployment techniques when such infrastructure would benefit all EUs within the building and the building owner. The RL or EU who first request for this would effectively subsidise subsequent RLs or EUs who would derive a benefit from such installation. Further where the non-standard installation materials or deployment techniques was implemented within EU’s premise at the EU’s request, NetLink Trust must reach an agreement directly with the EU on the scope and cost of work prior to proceeding with the request. NetLink Trust should also bill the EU directly for the use of non-standard installation materials or deployment techniques.

IMDA’s Assessment

13. IMDA understands that NetLink Trust will bear the cost if non-standard installation is requested during “Building Passed” phase. IMDA notes that in past requests for non-standard installations by EUs, such requests had been conveyed to NetLink Trust via the RLs, and NetLink Trust had billed the RLs for the non-standard installations. Given that this is the current practice, IMDA has no objections with the proposed clause by Netlink Trust and will approve this proposed change.

Schedule 22 for Central Office Diversity (“COD”) Connections and Schedule 23 for Point-to-Point (“P2P”) Connections

14. Currently, RLs procure COD connections and P2P connections from NetLink Trust through customised agreements. In its Draft Revised ICO, NetLink Trust proposed new ICO Schedule 22 and 23 to provision COD and P2P connections respectively. The new ICO schedules will result in NetLink Trust providing the COD connections and P2P connections through its ICO, instead of through customised agreements.

Industry’s Submission

15. One respondent disagreed with the provision of COD and P2P connections under ICO because these are not standard services to be acquired by the EU. Another respondent suggested an amendment to the schedules for NetLink Trust to advise the RLs the theoretical optical power loss of the COD or P2P connection based on the address provided, upon receipt of RL’s order request and before it commences any of its

desktop study and/or site surveys. This is so that the RL will be given the opportunity to decide whether or not to proceed with the project study without incurring cancellation charges.

IMDA's Assessment

16. Given that COD and P2P connections are new services that NetLink Trust would like to provide under the ICO, IMDA will need to review the introduction of these new services more thoroughly. As such, this decision will exclude the consulted ICO Schedules 22 and 23 for now. IMDA will issue the decision on ICO Schedules 22 and 23 when the review of these schedules is completed. In this regard, NetLink Trust shall remove the mention of ICO Schedules 22 and 23 from the Main Body, and the charges and definitions for ICO Schedules 22 and 23 from ICO Schedules 15 and 18 respectively.

Section 2.2: One Time Charges ("OTC") and Billing Processes

OTC for Clean Up of Unnecessary (Personal) Data

17. In the event that any Unnecessary Data was submitted to NetLink Trust in connection with any order request or fault reporting, NetLink Trust proposed to impose an OTC for the removal of the Unnecessary Data from NetLink Trust's records. Unnecessary Data was defined as data such as National Registration Identification Card number ("NRIC") or Foreign Identification Number or any personal data belonging to an EU which was unnecessary for the processing of a Request or a fault that had been reported by the RL.

Industry's Submission

18. The respondents disagreed with the new OTC for the removal of unnecessary personal data from NetLink Trust's records and made the following comments:
 - (a) RLs would provide data according to NetLink Trust's form. However, there were instances where the RL had no control over the amount of personal data that the EU would submit to the RL. The respondent cited an example where an RL might be required to attach supporting documents such as emails from the EU and the EU might choose to include more personal data in their email than required, which the RL would have no control over;
 - (b) NetLink Trust, as the data intermediary, would not have the right to amend data or deem data as unnecessary or unacceptable as any amendment to the data might affect the EU's order. NetLink Trust should allow RLs to make necessary amendment to customer information on NetLink Trust's platform instead. Failing which, NetLink Trust ought to assist the RLs to amend the EU's information at no charge; and

- (c) Checks should instead be built into NetLink Trust's system to ensure that unnecessary personal data would not be inadvertently entered into its system.

IMDA's Assessment

- 19. IMDA notes that there have been past incidents where NetLink Trust discovered Unnecessary Data submitted by its RLs. IMDA would like to remind NetLink Trust and its RLs to abide by its obligations under the PDPA. It is the RL's responsibility and obligation to ensure that it does not disclose Unnecessary Data to NetLink Trust, especially after NetLink Trust had informed the RLs on various occasions that it does not require the Unnecessary Data for service provisioning or fault rectification. Having said that, in the instances where the EU chooses to include more personal data in their email to the RL/Retail Service Provider ("**RSP**"), RLs should remove or redact such Unnecessary Data before submitting them to NetLink Trust. On the other hand, NetLink Trust's responsibility and obligation is to only retain personal data that it needs for the purpose of service provisioning and fault rectification. In this light, while IMDA notes that NetLink Trust will incur cost in the removal of Unnecessary Data from its system, IMDA does not agree that an OTC for the removal is necessary. All parties should bear their own cost in ensuring that they comply with the PDPA. Notwithstanding this, should there be exceptional circumstance that warrant NetLink Trust to impose a charge, e.g., on an RL who repeatedly submits Unnecessary Data to NetLink Trust, IMDA will review NetLink Trust's request. In this regard, NetLink Trust shall remove the imposition of Unnecessary Data Removal Charge in the ICO. NetLink Trust may include a provision in the ICO to reflect the abovementioned circumstance to impose a charge, subject to IMDA's approval.

Fault Investigation Charge in Schedules 12 and 12C

- 20. In its Draft Revised ICO, NetLink Trust proposed to include a Fault Investigation Charge in Schedules 12 and 12C. NetLink Trust would only impose the said charge if an RL requests NetLink Trust's contractor to be present during investigation of co-location issues or faults. In the event that the fault was determined to be caused solely by NetLink Trust, NetLink Trust would not impose the Fault Investigation Charge on the RL.

Industry's Submission

- 21. The respondents disagreed with the proposal to impose a Fault Investigation Charge and submitted the following comments:
 - (a) Fault investigation charge should not be passed down to the RLs if it is NetLink Trust that determines that its own contractor should be present for the investigation;

- (b) NetLink Trust and RLs should absorb their own costs of any joint investigation of fault and care should be taken to ensure that NetLink Trust does not pass unjustifiable charges to RLs downstream; and
- (c) NetLink Trust must provide evidence to demonstrate that the fault is clearly attributable to the RL prior to recovering the Fault Investigation Charge. Where NetLink Trust is unable to prove that the fault is clearly attributable to the RL, NetLink Trust must compensate the RL. The respondent further elaborated that RLs are already paying co-location escort fees for access into co-location space, and NetLink Trust's staff costs are already fully covered by the RL for the full duration of investigation and resolution of co-location issues or faults. Further, where RLs request for Joint Investigation to resolve the fault, RLs are already paying a Joint Investigation Charge. As such, NetLink Trust should not seek to recover a further Fault Investigation Charge.

IMDA's Assessment

22. IMDA notes that there were very few instances in the past where RLs had requested for NetLink Trust's contractors to be onsite for the investigation although NetLink Trust had deemed such attendance unnecessary. In those cases, IMDA notes that NetLink Trust had complied with RLs' request for its contractor to be onsite and did not charge RLs the additional charge of activating its contractor. Given the low number of such cases, IMDA is of the view that there were no signs of abuse by RLs for the activation of NetLink Trust's contractors onsite. IMDA is therefore of the view that there is no need for this additional charge. However, IMDA would like to remind RLs to be mindful in their request for NetLink Trust's contractors to be present onsite despite NetLink Trust's confirmation that there is no need for its own contractor to be present. In this regard, NetLink Trust shall remove the imposition of Fault Investigation Charge in Schedules 12 and 12C.

Site Preparation and Installation Charge in Schedule 12B

23. Currently, NetLink Trust has been providing quotations to RLs outside of the ICO for the activation of cooling hats or relocation of existing cooling hats. In its Draft Revised ICO, NetLink Trust proposed to formalise this charge in the ICO for clarity as the Site Preparation and Installation Charge for Co-Location Supplementary Cooling Service is currently not reflected in Schedule 15.

Industry's Submission

24. One respondent commented that this charge should only be applicable to new requests for co-location space under Schedules 12 and 12C. The respondent further elaborated that NetLink Trust should not charge existing RLs for any periodic review, reconfiguration, replacement, renewal or maintenance of its cooling system.

IMDA's Assessment

25. IMDA understands that NetLink Trust will not impose this charge on RLs if the review, configuration, replacement, renewal of cooling system is initiated by NetLink Trust. As a rule of thumb, NetLink Trust will impose the Site Preparation and Installation Charge if the request for a new cooling unit or change in position of the cooling unit is from an RL. As such, IMDA approves the Site Preparation and Installation Charge by NetLink Trust.

Billing of Fault Rectification Charges

26. Where there is a disruption to an EU's broadband services, the RL will raise a trouble ticket for fault rectification to NetLink Trust. Upon receipt of the trouble ticket, NetLink Trust will investigate the reported fault and carry out fault rectification at the EU's premise if necessary. Currently, NetLink Trust will bill the EU directly for the fault rectification. In its Draft Revised ICO, NetLink Trust proposed for the fault rectification cost to be billed to RLs instead of the EU.

Industry's Submission

27. Respondents disagreed with the proposal to bill the RLs for the fault rectification cost. The respondents provided the following comments:
- (a) NetLink Trust had already established a direct contractual relationship with the EU when NetLink Trust discussed directly with the EU on the repair and reached an agreement with the EU on the scope of work and applicable charges before carrying out the fault rectification work at the EU's premise. As RLs/RSPs were not a party to such discussions and agreements, RLs/RSPs should not be the party to bill the EU and front any disputes from the EU;
 - (b) There was a grave concern that the proposed change would result in shifting the responsibility of dealing with billing disputes raised by EUs to the RLs/RSPs;
 - (c) The proposed change would also lead to delayed billing to the EUs (NetLink Trust would usually bill the RLs 30 days after work performed and the RL/RSP would take another 30 days to bill EU), and this would result in confusion and complaints from EUs on the billing;
 - (d) An RL's processes were also not designed to support billing on NetLink Trust's behalf and the RSP's service agreement with the EU did not include recovering charges for third parties; and
 - (e) It would be a major change and deviation from the processes established and agreed upon since 2012 if the proposed change is allowed.

IMDA's Assessment

28. In the review of NetLink Trust's ICO in 2012, IMDA had assessed that in some instances, it would be more efficient and convenient if EUs were able to deal directly with NetLink Trust and be billed directly by NetLink Trust for fault rectification in EU's premises. IMDA has reviewed the feedback and is of the view that the said assessment is still valid and will hence maintain its decision. Accordingly, NetLink Trust shall revert the relevant clauses in Schedule 1, 2, 8 and 9 to its original drafting, i.e., NetLink Trust shall impose the relevant repair and replacement charges in accordance with Schedule 15 (Charges) to the EU and charge the EU directly unless the damage is caused by the RL.

Onsite Charges for Co-Location Services

29. Two (2) respondents commented that the current onsite charges for access to NetLink Trust's central offices under ICO Schedules 12 to 12C were too high and should be reviewed. IMDA notes the respondents' comments and will review the onsite charges accordingly during the ongoing price review.

Section 2.3 – Other Operational Issues

Planned Service Interruption Periods

30. In its Draft Revised ICO, NetLink Trust amended the planned service interruption hours as below:
- (a) Residential End-User Connections – from “between 9am and 6pm” to “between 1am and 6am”, with exceptions. Should any of the exceptions be met, NetLink Trust can carry out the planned service interruption in the day between 9am and 6pm; and
 - (b) Non-residential connections in ICO Schedule 2 to 11 – from “between 1am and 6am” to “between 12am and 6am”.

Industry's Submission

31. Regarding the change in planned service interruption period for Residential End-User Connections, the respondents were agreeable with the proposed change. One respondent had commented that NetLink Trust should also include the reason for carrying out maintenances during the day in its notification on planned service interruptions to RLs, and this practice should be formalised in Schedule 1.

32. On the change in planned service interruption period for non-residential connections, one respondent disagreed with the proposed change. The respondent explained that the proposed change would cause inconvenience to its F&B customers who were subscribing to its RSP's Pay-TV service as the F&B customers would televise "live" sport matches or events. The respondent also commented that NetLink Trust should not be making use of the time permitted within the planned service interruption window to conduct its own preparatory works in relation to the planned service interruption.

IMDA's Assessment

33. With regard to the planned service interruption for Residential End-User Connections, IMDA agrees that, for transparency, NetLink Trust should indicate the reason for carrying out maintenances during the day in its notification to the RLs. However, IMDA is of the view that it would be sufficient for NetLink Trust to indicate which exception it is exercising for the said maintenance to be carried outside the default maintenance window instead of providing detailed explanation. IMDA notes that NetLink Trust has already implemented this practice this since July 2022. In this regard, NetLink Trust shall amend clause 9.8 in Schedule 1 accordingly to formalise the abovementioned practice.
34. For planned service interruptions for both Residential End-User Connections and non-residential connections, IMDA understands that where possible, preparatory work will be completed before the planned service interruption. Moreover, it is possible that some planned service interruptions will affect NetLink Trust fibre network serving both Residential End-User Connections and non-residential connections at the same time. As such, IMDA is of the view that the planned service interruption hours ought to be standardised across all connections. Given this, IMDA will require NetLink Trust to commence the planned service interruptions for non-residential connections at 1am, same as the Residential End-User Connections. In this regard, NetLink Trust shall revert the relevant clauses in Schedules 2 to 11 to its original drafting.

Request for Change in Planned Service Interruption Date for Residential End-User Connections, Non-Residential End-User Connections and NBAP Connections

35. In its Draft Revised ICO, NetLink Trust proposed amendments such that where the RL objected to the proposed period of service interruption, the RL ought to substantiate the objection within two (2) business days with the appropriate reasons. NetLink Trust would give due consideration for the RL's request for change in period of service interruption to the extent feasible.

Industry's Submission

36. The respondents were generally agreeable to the proposed change. However, a respondent had requested for at least three (3) weeks to respond and request for a change in the period of service interruption. The respondent explained that two (2) business days would not be enough as time was required for the information on the planned service interruption to travel downstream, to the EU, and for the EU to respond on the proposed period of service interruption.

IMDA's Assessment

37. IMDA notes the respondent's request for more time but a three (3) – week timeline for RLs to request for changes to planned service interruption dates is too long and unrealistic as this would only leave NetLink Trust with one (1) week to assess the RL's request and reschedule the planned service interruption, if NetLink Trust agrees to change the date. As a balance, the timeline for RLs to request for change in planned service interruption date will be increased to five (5) business days. In this regard, NetLink Trust shall amend the timeline in Schedules 1, 2 and 3 to allow RLs to request for change in planned service interruption dates within five (5) business days.

Provision of 5th Installation Slots and Saturday Installations for Residential End-Users Connections under ICO

38. In its Draft Revised ICO, NetLink Trust proposed an amendment such that the 5th installation slot and service activation slots (Installation only) on Saturdays for Residential End-User Connections will be offered under the ICO as Seasonal Slots and not through its tariffs. NetLink Trust will notify the RLs of the availability of such slots two (2) weeks in advance through the Seasonal Slots Notification.

Industry's Submission

39. One respondent commented that it preferred to maintain the current arrangement because it would provide more certainty and the EU would have more time slots to choose from regardless of whether it was via walk in or through online. Another respondent, while agreeing with the proposed change, commented that patching or installation work ought to be allowed for the "5th slot", instead of installation work only.

IMDA's Assessment

40. IMDA would like to clarify that there is no change to the current arrangement on the provision of 5th slots and Saturday installation slots. As explained in the Public Consultation, the intent of the proposed change is to formalise the provision of such additional installation slots under the ICO, instead of through tariffs. There will be no change to the current arrangements except that RLs will be notified of the additional slots through the process outlined in the ICO. With regard to the type of work provided for the 5th slot, IMDA understands that while the past tariffs on 5th slot only indicate

installation service, patching services are already included in the installation service. Hence, there is no need for NetLink Trust to offer a standalone patching service for the 5th slot. In the event that NetLink Trust does not need to install the Termination Point at the address provided by the RL, NetLink Trust's system will provide only patching slots for such buildings for the 5th slot.

41. Notwithstanding the above, IMDA notes that the proposed drafting may cause confusion to RLs. In this regard, NetLink Trust shall rename "Seasonal Slots" to "Additional Slots" as the slots, regardless of whether it is 5th slot or seasonal slot, are additional installation or patching slots offered by NetLink Trust.

Request for Optical Power Reading

42. Currently in ICO Schedules 4 to 11, RLs can request for optical power readings for any completed orders. In its Draft Revised ICO, NetLink Trust proposed to include a timeframe of 30 Business Days after completion of orders within which the RL could request for the optical power readings. This was to ensure that the information received by the RL would be current.

Industry's Submission

43. One respondent disagreed with the proposed change and proposed that NetLink Trust automatically provide optical power readings upon completion of each order and after NetLink Trust rectifies the fault to a new order. Another respondent requested for the request for optical power reading to be made available for ICO Schedules 1 to 3 as well. A third respondent preferred to maintain the current arrangement.

IMDA's Assessment

44. IMDA has assessed the respondents' comments. IMDA notes that there had been very low demand for this service over the past years and where there were requests for optical power reading under the ICO, the requests were usually made within 30 business days from the date of order completion. As such, IMDA has no concern with the proposed change and approves the inclusion of a timeframe of 30 Business Days after completion orders for which the RL may request for the optical power readings.

Service Level Availability for Schedule 12B

45. Two (2) respondents commented that Schedule 12 and 12B should be reviewed to include a service level availability of 99.9x% with an associated compensation scheme to the RLs. IMDA notes that other dominant telecom licensees did not provide a service level availability with an associated compensation scheme for a similar co-location cooling service. IMDA is of the view that there is no need to require NetLink Trust to do so in its baseline ICO offer. RLs that require such service guarantees may negotiate a customised agreement.

Installation of Co-Location Equipment in Schedule 12

46. A respondent commented that an RL might need to replace its co-location equipment at the co-location room and would require NetLink Trust's support to provide a new transmission tie cable to minimise service disruption during replacement. Further, NetLink Trust should standardise such service in its ICO. IMDA understands that Schedule 12 already contains basic provisions to allow RLs to replace its co-location equipment. Given that RLs can negotiate a customised agreement for any services over and beyond what is provided in the ICO, IMDA does not see a need to amend Schedule 12 at this point.

PART III: SUMMARY OF KEY COMMENTS RECEIVED AND IMDA'S DECISIONS FOR ICO FOR INTERCONNECTION RELATED SERVICES

Section 3.1: Schedule 19 Administrative Charge in Schedule 15

47. Under Schedule 19, RLs must pay an Administrative Charge to cover the cost of processing the withdrawal of any request. However, the charge is not reflected in Schedule 15. In its Draft Revised ICO, NetLink Trust had included this charge item in Schedule 15.

Industry's Submission

48. One respondent disagreed to the proposed change. As the Administrative Charge would be in addition to the existing Cancellation Charge for withdrawal of any request before installation of Underground Equipment, the respondent was of the view that having multiple charges for cancellation of service at different stages of provisioning was confusing to RLs. The Cancellation charge should include all cancellation of requests regardless of whether the cancellation request was made prior to the request for Connection Duct or installation of Underground Equipment. IMDA could determine the quantum of cancellation charges depending on when the cancellation request was made.

IMDA's Assessment

49. IMDA notes that the said Administrative Charge already exists in the current Schedule 19 and the addition of the Administrative Charge in Schedule 15 is just to provide clarity. In addition, IMDA also notes that the practice of charging of Administrative Charge in addition to Cancellation Charge is adopted by other licensees as well. Given the above, IMDA has no concern and approves the proposed change.

Section 3.2 – New ICO Schedule 21 for Common Service Ducts or Duct Space and/or Access to Associated Telecom Manholes

3.2A – General

Definition of Common Service Duct in Schedule 21

50. In its Draft Revised ICO, NetLink Trust has defined “Common Service Duct” as:

“Common Service Duct” means a dedicated conduit for telecommunication cables that is solely owned or controlled by NetLink Trust and which has been designated by NetLink Trust for licensing to Requesting Licensees under Schedule 21. For the avoidance of doubt, Common Service Ducts exclude ducts within a Common Service Duct network that have been designated by NetLink Trust for its own use and/or for the NGNBN.”

Industry’s Submission

51. One respondent commented that the proposed definition might not reflect the true nature of common service ducts accurately and proposed the following amendment (*in red*) to the definition of “Common Service Duct” in the ICO:

“Common Service Duct” means a dedicated conduit for telecommunication cables that is ~~solely~~ owned or controlled by NetLink Trust, or co-owned by NetLink Trust with other FBOs under the Authority’s Common Service Duct ownership framework, and which has been designated by NetLink Trust for licensing to Requesting Licensees under Schedule 21. For the avoidance of doubt, Common Service Ducts exclude ducts within a Common Service Duct network that have been designated by NetLink Trust for its own use and/or for the NGNBN”

IMDA’s Assessment

52. IMDA is of the view that there is no need to include the “co-ownership” of ducts by NetLink Trust in the ICO as the ICO only governs the lease of ducts or ducts space owned by NetLink Trust as the Designated CSD Owner. However, IMDA agrees that the word “solely” is not required and notes that the reference to “NGNBN” is outdated. In this regard, NetLink Trust shall remove the word “solely” from the definition of “Common Service Duct”, and to replace “NGNBN” with “NBN”.

Security Requirement

53. In its Draft Revised ICO, NetLink Trust proposed for the security requirement for the RL acquiring IRS under ICO Schedule 21 (either with or without NBN Mandated Services or IRS under Schedule 19 and/or 20) to be S\$75,000.

Industry's Submission

54. The respondents were of the view that the S\$75,000 security requirement should be applied only to new RLs acquiring the ICO agreement or existing RLs who could have high risk of default or have exhibited payment default before. The respondents disagreed that the proposed security requirement should be applied to all existing RLs.

IMDA's Assessment

55. IMDA is cognisant that the risk undertaken by NetLink Trust for the provision of Common Service Duct services is higher as compared to other IRS services such as the provision of lead-in ducts space and lead-in manholes. As such, IMDA is agreeable to the imposition of a new security requirement for Schedule 21 which is for the purpose of securing the performance of the RLs' obligations. However, IMDA is of the view that there is no need to impose the security requirement on the CSD co-owners, if CSD co-owners are obtaining the Telecom Manhole access service from NetLink Trust under the ICO.
56. Regarding the quantum of the security requirement, IMDA understands that the imposition of the security requirement is to cover the risk of default payment by RLs or default on contractual obligations and the cost of cable recovery in the event that an RL is unable to remove its cables. However, IMDA disagrees that the security requirement should be at \$75,000 to cover all potential types of risks. As the Common Service Duct is at the nascent starting-up stage, there is currently no data on the RLs' risk of default payment for the Common Service Duct services and the number of cables that RLs will install. On balance, IMDA is of the view that a security requirement of \$20,000 would suffice at this point in time, given that the current security requirement for other IRS services or equivalent is also \$20,000. In this regard, NetLink Trust shall amend the additional security requirement of \$75,000 for all RLs taking up Schedule 21 in the Main Body to \$20,000 and applicable only to RLs taking up the long-term duct lease (including Telecom Manhole access) and short-term duct space lease (including Telecom Manhole access).

3.2B – Scope of Services

Damages caused to CSD co-owner's ducts

Industry's Submission

57. One respondent provided feedback that, as the Designated CSD Owner controlling access to the Telecom Manholes, NetLink Trust should take measures to ensure that any party accessing the Telecom Manholes would not cause damage to the equipment owned or installed by the CSD co-owners. In light of the above, the respondent suggested to include the following clauses to Schedule 21:

- (a) That NetLink Trust take immediate action to inform the CSD co-owner(s) should it discover any damage or interference caused to the CSD co-owner's equipment;
- (b) That NetLink Trust fully cooperate with any investigations that the CSD co-owner may require, in order to determine the cause of any of the damage or interference caused to the CSD co-owner's equipment; and
- (c) That any RL accessing the Telecom Manholes agree to be fully liable for any damage caused to the CSD co-owner's equipment.

IMDA's Assessment

58. IMDA agrees that liabilities for damage of ducts and/or equipment should be stated up front and clearly for transparency purposes. However, Schedule 21 is meant to govern the obligations between NetLink Trust and the RLs with respect to the ducts owned by NetLink Trust. IMDA is of the view it would be more appropriate to include the abovementioned clauses in paragraph 57 in the co-owner's agreement that is commercially negotiated between NetLink Trust and the co-owner instead.

Co-owner's Access to Telecom Manholes

59. In requesting for any of the services in Schedule 21, an RL will need to apply for the corresponding licence for the required service. The licenses available are:

Service		Licence
a	Long Term Duct Lease and Access to Telecom Manholes	Long-term Licence
b	Short Term Duct Space Lease and Access to Telecom Manholes	Short-term Licence
c	Access to Telecom Manholes alone	Telecom Manhole Access Licence

The Drafted Revised ICO indicated that FBOs can apply for Schedule 21. Under Schedule 21, the Telecom Manhole Access Licence provides access to Telecom Manholes alone in circumstances where a RL requires access to NetLink Trust's Common Service Ducts or a Third Party CSD (which is defined as a dedicated conduit for telecommunication cables within a cable Service Duct Network that is solely owned by an FBO who is a public telecommunication licensee).

Industry's Submission

60. One respondent had the following comments regarding the Access to Telecom Manholes alone service in Paragraph 59:

- (a) Access to Telecom Manholes for co-owners, for the purpose of access co-owner's own ducts, should be commercially negotiated under the co-owner agreement with NetLink Trust and not be provided under Schedule 21. The respondent elaborated that NetLink Trust's obligation to provide a cost-based regulated offering of CSD Services would not prohibit it from providing "non-dissimilatory" access under the co-owner agreement or compel the co-owner to be subject to two separate agreements for access to CSD ducts and manholes; and
- (b) As it was currently drafted in Schedule 21, NetLink Trust had no right to impose the price, terms and conditions for access to co-owner's ducts through the Telecom Manhole Access Licence. The co-owner would offer its price, terms and conditions for the access to its ducts through the Telecom Manholes independent and separate from that of Schedule 21.

IMDA's Assessment

- 61. Regarding Paragraph 60(a), IMDA understands that the respondent did not agree that access to Telecom Manholes for co-owners to access their own ducts should be provided through the ICO by NetLink Trust, notwithstanding NetLink Trust's obligations under the CSD Framework. The CSD Framework requires the Designated CSD Owner to provide manhole access to FBOs through a Reference Interconnection Offer pursuant to Section 6 of the Telecom and Media Competition Code. After careful consideration, IMDA will not require the Designated CSD Owner to offer manhole access to CSD co-owners under the Reference Interconnection Offer. Instead, the Designated CSD Owner and CSD co-owners can commercially negotiate the use of manholes owned by the Designated CSD Owner for access to the CSD co-owner's ducts. However, in the event that both parties are unable to agree on the price, terms and conditions, the parties shall fall back onto the ICO for the provision and procurement of this service.
- 62. With respect to Paragraph 60(b), IMDA understands that the respondent's concern was that the Telecom Manhole Licence in NetLink Trust's ICO Schedule 21 would allow other FBOs (who are leasing duct/duct space from co-owner) to access the co-owner's ducts. Instead, the access to the co-owner's ducts by FBOs (who are leasing duct/duct space from co-owner) should be provided by the co-owner, and commercially negotiated with the FBOs. In the event that NetLink Trust were to provision the Access to Telecom Manholes service to co-owners through the ICO, for the purpose of access to CSD co-owner's ducts, NetLink Trust shall ensure that the drafting of the ICO provides sufficient clarity that the service is for a co-owner to access its own ducts, and not for other FBOs to access co-owner's ducts.

Cancellation of Long-term Licence or Reduction of Long-Term Duct requirement

63. In clause 1.7 of Schedule 21, NetLink Trust proposed that if an RL cancels its Long-term Licence before the completion of the Common Service Duct construction or reduces its duct requirement after the finalisation of the Common Service Duct design, the RL will be required to indemnify NetLink Trust for all reasonable costs incurred in respect of all works related to the construction and installation of the Common Service Duct that the RL no longer wishes to lease. The RL shall also remain liable for all charges which apply to the original Long-term Licence for the use of Common Service Ducts and access to relevant Telecom Manholes on long-term basis for the entire duration of the said Licence.

Industry's Submission

64. One respondent disagreed and was of the view that FBOs cannot be allowed to cancel their request for long-term ducts as the Designated CSD Owner had already dimensioned and included the requirements for long-term duct lease in its planning and construction for the Common Service Ducts.

IMDA's Assessment

65. IMDA is of the view that the Designated CSD Owner cannot deny an RL its right to terminate or amend its request for long-term ducts, so long as the Designated CSD Owner is reasonably compensated. Regarding the indemnity for the termination or reduction of the long-term duct requirement, IMDA is of the view that it is reasonable for the Designated CSD owner to be indemnified in the form of all reasonable costs incurred in respect of all works related to the construction and installation of the Common Service Duct and associated Telecom Manholes that the RL no longer wishes to lease
66. Having said that, IMDA notes that the proposed indemnity in clause 1.7 of Schedule 21 includes charges that applies to the access to relevant Telecom Manholes on long-term basis for the entire duration of the said Licence. IMDA is of the view that it is unreasonable for NetLink Trust to hold the RL liable for any future repair and maintenance cost that NetLink Trust would incur during the operation of the Common Service Duct and associated Telecom Manholes. The recovery of reasonable upfront costs incurred by NetLink Trust for works related to the construction and installation of the Common Service Ducts and associated Telecom Manholes that the RL no longer wishes to lease should be sufficient in these circumstances. In this regard, NetLink Trust shall amend clause 1.7 accordingly to reflect the abovementioned.

Term of Telecom Manhole Access Licence

67. In Schedule 21, the Long-term Licence consists of the long-term duct lease and access to Telecom Manholes. In clause 17.1 of Schedule 21, the term of Long-term Licence (including the associated service on the access to Telecom Manholes) was proposed to be 35 years. In clause 17.2 of Schedule 21, NetLink Trust proposed that the Short-Term Licence and the Telecom Manhole Access Licence be valid for two (2) years and subsequently be renewed for successive two (2)-year terms automatically.

Industry's Submission

68. One respondent disagreed and commented that the CSD co-owner's rights to access the Telecom Manholes should be on the basis of the entire duration of ownership of its ducts.

IMDA's Assessment

69. IMDA notes the respondent's comment. Regarding the term of the Telecom Manhole Access Licence for RLs committing to a Long-term Licence, IMDA agrees that the term of the Telecom Manhole Access Licence should be 35 years, similar to the term for Long-term duct lease. This is to align the use of the ducts and manholes for the entire lease duration.
70. In the event of a mid-term termination of the Long-term Licence by an RL, which will mean a similar mid-term termination of the Telecom Manhole Access Licence, IMDA is of the view that it is reasonable for NetLink Trust to recover the RL's remaining share of the upfront manhole construction and installation cost, if it had not already been paid by the RL. However, the RL should not be charged for works related to the maintenance of the manhole which NetLink Trust may carry out in future since the RL will no longer be accessing the manhole.
71. In relation to CSD co-owners, as explained earlier in Paragraph 61, IMDA will not require the Designated CSD Owner to offer manhole access to CSD co-owners under the Reference Interconnection Offer. In the event that CSD co-owners are obtaining the Telecom Manhole access service from NetLink Trust under the ICO, the parties can adopt the Telecom Manhole access service offering to the RLs on a Long-term Licence.
72. For RLs on Short-term Licence, as the duct space lease and the access to Telecom Manhole are a packaged service (i.e., one single charge for duct space lease and Telecom Manhole access), the Telecom Manhole access can continue to have a 2-year rolling term pegged to the duct space lease. If an RL terminates licence before expiry of a 2-year term, the RL will need to pay the charges for the remainder of the 2-year term.

73. In this regard, NetLink Trust shall (a) amend the drafting to provide clarity that the term for the Telecom Manhole Access Licence for RLs under the Long-term Licence is 35 years; and (b) amend Schedules 21 and 15 to allow NetLink Trust to recover the remaining upfront construction and installation cost of the Telecom Manholes from the RL in the event of early termination of the Long-term Licence.

Operation & Maintenance (“O&M”) Work Scope and Charges

74. There is no separate O&M charge proposed for Long-term Duct Lease in Schedule 21.

Industry’s Submission

75. One respondent commented that NetLink Trust should provide more clarity on the O&M work scope and charges.

IMDA’s Assessment

76. IMDA agrees that there should be a standalone O&M work scope and charge for the long-term Duct Lease provision under Schedule 21. In this regard, NetLink Trust shall include standalone O&M charge for long-term Duct Lease and specify the work scope covered under the O&M charge in Schedule 15 and 21.

3.2C – Ordering and Provisioning Procedure

Request for Joint Site Verification During Desktop Study

77. In clause 5.5 of Schedule 21, it was proposed that during the Desktop Study, in the event that NetLink Trust informed an RL that the requested shared use of Common Service Duct or access to the requested Telecom Manhole was not available, NetLink Trust ought to provide the reason for rejection in accordance with the Guidelines for Assessment set out in Annex 21-5. Within five (5) business days of NetLink Trust’s rejection notice, the RL could request for a Joint Site Verification to verify that physical unavailability of Common Service Duct space and/or access to Telecom Manhole was indeed the basis of the rejection for Short-term Licence or Telecom Manhole Access Licence.

Industry’s Submission

78. One respondent disagreed and commented that there was no need to have a Joint Site Verification to determine the availability of the telecom manholes.

IMDA’s Assessment

79. IMDA understands that the Joint Site Verification in clause 5.5 is not to determine availability of telecom manholes for purpose of approving the request. Rather, it is an option for the RL to exercise to verify the basis of NetLink Trust’s rejection (i.e., manhole is unavailable). As such, there is no need to amend this clause.

Joint Site Verification for Pipe Testing

80. In clause 6.3 of Schedule 21, NetLink Trust proposed that the RL should liaise with building managers and/or owners to procure the necessary approvals (including approval to access their development and/or premises), in order to facilitate any pipe testing work by NetLink Trust during Joint Site Verification.

Industry's Submission

81. One respondent disagreed and was of the view that NetLink Trust should be the party to liaise with the building managers/owners to obtain and maintain all necessary approvals for the installation of ducts into their development and/or premises, including pipe testing work which was to be conducted by NetLink Trust. The RL would be responsible to obtain and maintain the necessary approvals for its cables.

IMDA's Assessment

82. IMDA understands that NetLink Trust will obtain building manager/owner's approval for pipe testing if there is a need to enter the building manager/owner's premises in order to access the Telecom Manholes. However, if a duct segment has to be tested from an opening in the MDF room, and if the RL already has or is planning to locate its equipment in this MDF room, it would be more appropriate for the RL (in its capacity as user of the building manager's MDF room) to seek the building manager/owner's approval for the pipe testing work. In this regard, NetLink Trust shall amend clause 6.3 in Schedule 21 accordingly to reflect the above understanding. For consistency in practice, NetLink Trust shall replicate the same amendment to clause 6.3 in Schedule 19.

3.2D – Installation of Underground Equipment and Physical Access Procedure

Installation of New Trenches/Ducts/Sub-Ducts

83. In clause 9.3 of Schedule 21, NetLink Trust proposed that RLs would be strictly prohibited from installing any new trenches, new ducts and/or sub-duct in any Common Service Duct or Telecom Manhole; or in any areas served by a Common Service Duct(s).

Industry's Submission

84. One respondent disagreed with this proposed clause. The respondent was of the view that Public Telecommunication Licensees ("PTL") and FBO Licensees should be allowed to install any new trenches, new ducts and/or sub-duct in any other Common Service Ducts or Telecom Manhole pursuant to its FBO licence. RLs could only install new trenches, new ducts and/or sub-duct in any Common Service Duct or Telecom Manhole along the route of the Common Service Duct, subject to IMDA's specific approval.

IMDA's Assessment

85. Given that FBOs' (including PTLs') licence allows them to install trenches and ducts, it is not for NetLink Trust to deny FBOs, including PTLs, their right to deploy new trenches and ducts, especially in its ICO. However, PTLs or FBOs will need to obtain approval from the relevant authorities for building new ducts or manholes in areas which are already served by a CSD. Accordingly, NetLink Trust shall remove clause 9.3 in Schedule 21.

Withdrawal of Request before Installation of Underground Equipment

86. In clause 9.5 of Schedule 21, NetLink Trust proposed that, where an RL withdrew a request under clause 9.4, NetLink Trust might impose on the RL: (a) an Administrative Charge for processing cancellations; (b) any reasonable cost incurred by NetLink Trust up to the point of cancellation; and (c) NetLink Trust's cost for remediating Common Service Ducts and/or Telecom Manholes to their original state before any work undertaken in relation to the request under clause 9.4.

Industry's Submission

87. One respondent commented that clause 9.5(c) was not applicable because the RL has withdrawn its request before installation of its own Underground Equipment.

IMDA's Assessment

88. IMDA notes that clause 9.5(c) is meant to cover any cost that NetLink Trust may incur in the event that it needs to remediate the Common Service Ducts and/or Telecom Manholes due to an RL withdrawing its request under clause 9.4. IMDA is of the view that there is no need to call out this cost specifically and that clause 9.5(b) can be amended to include the cost for remediating Common Service Ducts and/or Telecom Manholes to their original state before any work undertaken in relation to the request under clause 9.4. In this regard, NetLink Trust shall remove clause 9.5(c) and amend clause 9.5(b) to cover any reasonable cost incurred by NetLink Trust as a result of the cancellation under clause 9.4. For consistency, NetLink Trust shall adopt the same drafting amendments to clause 8.10 in Schedule 19.

3.2E – Others

Planned Service Interruptions

89. In clause 11.18 of Schedule 21, NetLink Trust proposed that it would provide four (4) weeks' advance notice for planned service interruptions. If postponed, NetLink Trust would provide the RL with no less than 1 week's notice prior to original scheduled date of planned service interruption. Where NetLink Trust was unable to give advance notice, NetLink Trust would notify RLs of the service interruption or postponement as soon as practicable. NetLink Trust would use its best endeavors to minimise service

disruption to RLs.

Industry's Submission

90. One respondent commented that NetLink Trust should include provisions for RLs to request for change in the date of the planned service interruptions. The respondent also proposed for RLs to be notified of planned service interruptions six (6) weeks in advance and for RLs to be informed two (2) weeks in advance if the planned service interruption is postponed.

IMDA's Assessment

91. IMDA agrees that provisions can be included to allow RLs to request for change in the date of the planned service interruptions. However, IMDA notes that the timeline on NetLink Trust's notification of planned service interruptions is consistent with that in its other ICO Schedules and propose to retain the timelines. In this regard, NetLink Trust shall amend clause 11.18 accordingly to include provisions to allow RLs to request for change in the date of the planned service interruptions, and NetLink Trust will give due consideration to the extent feasible.

Sub-Licensing

92. In clause 21.2 of Schedule 21, NetLink Trust proposed that in the event that any FBO was unable to lease any ducts/duct space from NetLink Trust or the CSD co-owners, and they approached an RL who had leased duct or duct spaces from NetLink Trust for leasing of unused duct/duct space, the RL could negotiate a Customised Agreement with NetLink Trust.

Industry's Submission

93. One respondent disagreed with this proposed clause and was of the view that there should not be a requirement to enter into a customised agreement with NetLink Trust for sub-leasing to other FBOs. Under the CSD framework, RLs could only sub-lease unused duct or duct space to the other FBO where the other FBO had demonstrated that leasing of a fibre connection was not suitable or possible and had obtained IMDA's prior approval. RLs should provide evidence to demonstrate the same when informing NetLink Trust of their intention to negotiate a sub-licensing agreement with these FBOs. Instead, NetLink Trust should state clearly in the ICO if it seeks to impose any further conditions on sub-licensing.

IMDA's Assessment

94. According to the CSD Framework, FBOs shall seek IMDA's prior approval if they choose to sub-lease their unused duct capacity that was leased from CSD owner. Given this, IMDA agrees that NetLink Trust should remove this requirement and instead state that the RL can only sub-lease unused duct capacity after it has obtained IMDA's prior approval to do so. In this regard, NetLink Trust shall amend clause 21.2 to reflect the

abovementioned decision.

Plant Diversion Costs

95. In clause 16.1 of Schedule 21, it was proposed that in the event that NetLink Trust or an RL was required to divert plant installed in Common Service Ducts as a result of a request from the relevant Authority, the RL and NetLink Trust should comply with the plant diversion procedures set out in Annex 21-7. The Party that was required to divert plant installed in the Common Service Ducts should bear the costs of the diversion.

Industry's Submission

96. One respondent commented that the word "Party" should be replaced by "Plant Diversion Requestor" so as to be aligned with Annex 21-7.

IMDA's Assessment

97. IMDA notes that Annex 21-7 specifies that the respective parties, including cable owners, will submit their invoices and collect payment under the invoices from the Plant Diversion Requestor. Given this, there is no need to amend the word "Party" in clause 16.1 as the Party will bear the cost first and seek reimbursement, where applicable, from the Plant Diversion Requestor subsequently.

PART III: CONCLUSION

98. IMDA will direct NetLink Trust to submit to IMDA further proposed modifications to the ICO to give effect to IMDA's decision.
99. IMDA 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.