30 December 2011

Ms Aileen Chia
Deputy Director-General (Telecoms & Post)
Infocomm Development Authority of Singapore
10 Pasir Panjang Road
#10-01 Mapletree Business City
Singapore 117438
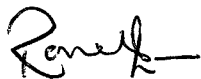
(sent via email to ida_ilo@ida.gov.sg)

Dear Ms Chia

REVIEW OF OPENNET PTE LTD'S INTERCONNECTION OFFER

Nucleus Connect is pleased to submit our response to the above consultation paper which was released by IDA on 8 November 2011.

Please feel free to contact the undersigned should IDA require any clarification on our submission.

Yours sincerely
For and on behalf of
Nucleus Connect Pte Ltd

Ronald Lim
Head (Regulatory)

INTERCONNECTION OFFER FOR THE PROVISION OF SERVICES ON THE NEXT GENERATION NATIONWIDE BROADBAND NETWORK – NETWORK COMPANY

-

REVIEW OF OPENNET PTE LTD'S INTERCONNECTION OFFER

Submission by Nucleus Connect Pte Ltd to the Info-communications Development Authority of Singapore

30 December 2011

1. Introduction

Nucleus Connect is Singapore's official Next Generation Nationwide Broadband Network (Next Gen NBN) Operating Company. Incorporated on 14 April 2009, Nucleus Connect is responsible for designing, building and operating the world's first open access ultra high-speed fibre network. As the Next Gen NBN Operating Company, Nucleus Connect plays a pivotal role in the development of a competitive and vibrant broadband market in Singapore by providing all Retail Service Providers (RSPs) with fair and non-discriminatory access to superior wholesale connectivity services on the Next Gen NBN.

As the appointed Network Company of the Next Gen NBN, OpenNet supplies fibre connections to Nucleus Connect.

2. General Comments

Nucleus Connect thanks IDA for the opportunity to provide feedback on the proposed changes to OpenNet's ICO. As the only supplier of passive infrastructure to the Next Gen NBN, OpenNet's role cannot be overstated. As OpenNet's services underpin the entire Next Gen NBN, IDA must ensure that OpenNet performs at a level of reliability and efficiency to enable the Next Gen NBN to be competitive when compared to the networks operated by SingTel and StarHub. Unfortunately, based on the number of problems highlighted in the media, as well as the numerous issues that Nucleus Connect has escalated to IDA in the past 16 months, OpenNet's performance has clearly fallen far short of even the most basic of expectations of end users and operators. We would note that many of these issues remain unresolved to date. OpenNet can no longer attribute such unresolved issues to teething problems, as they are now chronic in nature.

This is unfortunate since the Singapore Government is providing funding of up to $750m to OpenNet for rolling out the passive infrastructure of the Next Gen NBN. Unless OpenNet is able to improve its performance as a matter of extreme urgency, the Next Gen NBN will fail, and the $750m wasted.

Nucleus Connect therefore agrees and supports IDA's review of OpenNet's ICO. It is clear that OpenNet's ICO and its operational performance have been found wanting, and that extensive improvements are clearly required.

2.1   IDA's evaluation and approval must take into account the 3-layer model.

The 3-layer model was chosen by IDA as the model for Singapore's Next Gen NBN. On the basis of this model, the Next Gen NBN NetCo (OpenNet) and OpCo (Nucleus Connect) were selected. Therefore, in evaluating OpenNet's ICO, IDA must take into consideration the operating environment in the Next Gen NBN to ensure a continued level playing field for all operators. This is especially important for Nucleus Connect since Nucleus Connect relies totally on OpenNet for fibre connections to End Users. For example, Nucleus Connect is required to provide Mandated Services under an IDA-approved ICO. If IDA were to approve OpenNet's ICO and make it effective before the review and approval of Nucleus Connect's ICO is completed, RSPs that are dependent on Nucleus Connect for services will not be able to benefit from the "improved" OpenNet ICO. Instead, integrated operators that are not reliant on Nucleus Connect will immediately benefit from the improved OpenNet ICO. Such integrated operators are usually the larger and more established FBOs. We believe that the Next Gen NBN was setup by the Singapore Government to create a more vibrant and competitive eco-system, and therefore the level playing field should be maintained at all times. As the regulator approving OpenNet's ICO, IDA can and must ensure that all parties are able to benefit from OpenNet's revised ICO at the same time.

This principle must apply not only to ICO services, but also to any services/products introduced by OpenNet. A recent example is OpenNet's extension of "additional slots" for the November PC Show. In that situation, IDA had allowed OpenNet to provide a short notification lead time to RLs, leaving Nucleus Connect (and the RSPs reliant on Nucleus Connect) with too short a lead time to utilise the "additional slots" optimally. Therefore, only integrated service providers benefited from the "additional slots".

2.1.1   OpenNet should not hide behind the 3-layer model

OpenNet should also not be allowed to hide behind the 3-layer model and not do what is logical and efficient. For example, in situations where an End User requests for a service from a RSP but may not have a TP installed in his/her home, OpenNet has insisted that it will only deal with the End User through the 3-layer model i.e. the RSP will have to deal with the End User for an appointment date, the RSP will then have to inform Nucleus Connect, and finally, Nucleus Connect will have to confirm that OpenNet is available to carry out installation on the selected date. If at any point, the dates chosen are not suitable for either the End User or OpenNet, the entire process is repeated. This is clearly inefficient and

simply complicates a simple process. Also, OpenNet has refused to bill the End User directly for such services (TP installation) or even collect its fees for installation upfront. OpenNet repeatedly used the excuse that it cannot deal with End Users, and it is the RSPs' job to deal with them. This is ridiculous, and clearly not aligned with industry best practices. It is also illogical and inefficient. OpenNet must therefore be required to discharge its duty in a manner that is logical, customer-oriented and aligned with industry best practices.

2.2   OpenNet operates in a monopolistic environment

OpenNet is a dominant licensee that operates in an environment that is not subject to competition. This is evident from the way OpenNet has sought and is seeking to impose unreasonably high charges on RLs, as well its lack of urgency in resolving issues. OpenNet clearly has no incentive to be more efficient or customer-oriented as OpenNet is aware that it is the only fibre provider in the Next Gen NBN, and service providers wanting to offer fibre-based services have no choice but to obtain services from OpenNet.

For example, IDA is well aware of the problem of TP's lacking signal at the point of ONT installation that has plagued NC's operations from the day of launch 16 months ago. The frequency of such occurrences has averaged between 4-8% over the course of the entire 16 months. Scant little has been done by OpenNet to address the root cause of the problem. As a result, end users have experienced significant frustration in delayed service readiness and inconvenience to their own personal time. Even though the problem was flagged to OpenNet 16 months ago, the current "fix" that OpenNet has implemented (its 1-hour activation process) is only effective in about a third of these instances. Such a poor service delivery performance would be entirely untenable in a competitive environment with disastrous commercial consequences for such a service provider. No such impact is experienced in the case of OpenNet and OpenNet can continue its operations without any significant business loss.

OpenNet's labour charges for drilling holes as part of OpenNet's Co-location service are much higher than the industry standard. Based on Nucleus Connect's experience, OpenNet imposes a charge of $528 for drilling services. However, the typical charge in the industry is $230 ($150 for transport and $80 for drilling 4 holes).

Therefore, as the regulator, the onus is on IDA to be OpenNet's "shadow competition", and to ensure that OpenNet offers services at terms and conditions that are competitive, and in line with industry standards.

2.3   Services cannot improve until OpenNet changes its mindset

While Nucleus Connect is in full agreement with IDA that there is a need to improve OpenNet's ICO, we would note that the experience with the Next Gen NBN cannot improve unless OpenNet changes its mindset. It is impossible to encapsulate and cover every scenario and eventuality in an agreement/contract. However, based on Nucleus Connect's experience, OpenNet will strictly abide by its obligations set out in the ICO, and is unwilling to go beyond what is stipulated in its ICO (no matter how logical) unless forced to by the regulator. One example of this is the case of incident reports for faults. It is industry best practice that each time a fault occurs; an operator will provide an incident report to its customers. However, in the case of OpenNet, because there is no such obligation spelt out in its ICO, OpenNet has refused to provide such reports citing that "its ICO does not require it to do so". As OpenNet adopts such a position, OpenNet's downstream operators are similarly not able to provide incident reports to their customers. Therefore the Next Gen NBN is seen to be not-customer-friendly, and to provide a service level that is lower than that of existing networks/operators i.e. a regression in service levels. This is clearly not acceptable for a network that is supposed to be "next generation".

Another example is OpenNet's reluctance to inform RLs when it makes changes to its ICO or operational practices, leaving RLs to discover the changes for themselves, and therefore have short lead times to react to such changes. This is clearly inefficient. It is industry practice for operators to inform their customers when changes are made to ensure that their customers can similarly make changes to their own operations. It is clear that unless required to do so by the regulator, OpenNet will not go beyond its regulatory or ICO obligations. On the other hand, we would note that Nucleus Connect informs all our customers each time changes are made to our ICO.

Therefore, unless OpenNet changes and adopts a more commercially-driven mindset that is in line with industry best practice, no amount of revisions to OpenNet's ICO will ensure that the Next Gen NBN can match up to the benchmarks that have been set by existing operators (and which end users in Singapore have come to expect), and therefore be competitive.

To this end, we would note that OpenNet is a dominant licensee that does not operate in a competitive environment. Therefore only IDA is in the position to ensure that OpenNet behaves and operates in a manner that is befitting the awarded NetCo of the Next Gen NBN.

2.3.1   OpenNet's refusal to rollout to new buildings is not acceptable

It is the normal practice for operators to rollout their network to new buildings, in conjunction with the construction program of the building. This is not only cost-efficient, but also minimises subsequent inconvenience to homeowners.

However, it has come to Nucleus Connect's attention that OpenNet is unwilling to rollout to new buildings as such buildings were not part of the original list provided by IDA when OpenNet was awarded the NetCo contract, and therefore OpenNet receives no financial support for rolling out to such buildings. Given the number of issues OpenNet faces rolling out to existing buildings, Nucleus Connect is puzzled with OpenNet's position since rolling out to new buildings as they are being constructed presents OpenNet with the best possibility of successful rollout, and the opportunity to avoid "building management" issues which OpenNet often cites as the obstacle to its rollout.

This is another clear example where OpenNet's mindset needs to change and not only rollout because it is able to obtain financial support, but to execute its network rollout program in accordance with industry best practice, and what is logical and efficient.

OpenNet should therefore be required by IDA to immediately commence its rollout to new buildings, and provide service to such buildings as soon as such building receive their Temporary Occupation Permit.

2.4   Lack of Incentives to Improve Service Standards

Compensation frameworks in agreements are typically to ensure that operators provide a level of service that is acceptable to its customers. Therefore the level of compensation set must be at a level to ensure that operators have sufficient incentives to ensure timely resolution of issues and/or provision of services. In the case of OpenNet's ICO, the levels of compensation for OpenNet's failures (which have been significant) is much too low and, based on Nucleus Connect's experience, not sufficient to ensure that OpenNet resolves issues expediently, or meets the RFS dates for service delivery. For example, from April to

September 2011, OpenNet has not met its 8 hour MTTR in any month, but only paid out a total rebate of $958 (residential) and $54 (non-residential) for the 6 months. Further, OpenNet's SLA from April to September 2011 was below its committed 99.99% availability (and for non-residential orders OpenNet's SLA was below 83% for 5 out of the 6 months), but OpenNet only provided a total compensation of $606 (residential) and $100 (non-residential) for the 6 months. Such compensation is clearly insufficient to ensure that OpenNet takes its obligations seriously since OpenNet continues to consistently fail in its performance.

On the other hand, we would note that in the proposed ICO, OpenNet is seeking to introduce new charges for many of the "improvements" proposed. We believe that there must be a balance struck. If OpenNet's customers are expected to pay for services, then the same customers must be adequately compensated when OpenNet does not deliver the services or fails to deliver such services on time. Similarly, if OpenNet wants to penalise RLs for non-performance, then OpenNet must be similarly penalised for its non-performance. As currently drafted, OpenNet has no incentive to meet service delivery timelines or resolve faults in a timely manner.

As OpenNet has no competition, it is even more important that the compensation framework in OpenNet's ICO is set at a level to ensure that OpenNet "plays ball", since service providers wanting to use the Next Gen NBN have no choice but to use OpenNet's passive infrastructure.

In addition, we would note that IDA has imposed a QoS framework on OpenNet in relation to installation-related faults. While Nucleus Connect supports IDA's framework especially the financial penalty of $10,000 for each breach of the framework, we would note that it is OpenNet's downstream users that have suffered from OpenNet's incompetence. Therefore there is a need to introduce a compensation framework, in addition to the QoS framework to ensure that at least a part of the costs incurred by RLs as a result of OpenNet's incompetence is recovered from OpenNet.

Finally, the current SAP does not address delays beyond 30 days and there are no punitive measures to ensure that further delays are avoided. OpenNet also has no incentive to ensure that such orders are expedited since it is already facing the maximum penalty, and it therefore makes no difference to OpenNet whether such orders face further delays. Based on our current statistics, there are at least 28% of orders that are delayed beyond 30 days.

Thus a penalty framework is needed to arrest further delay to such orders. We would propose that any delay beyond 30 days be subject to a multiplier of 0.5 times more than the current daily rate for every subsequent 30-day delay. i.e for a delay of between 31 and 60 days, an SAP claim rate of 1.5 times should be applicable, and that for delays of between 61 and 90 days should have an applicable SAP claim rate of 2 time the current rate.

2.5   OpenNet's track record with Non-residential orders is appalling

Service delivery delays

Nucleus Connect notes that between January and October 2011, OpenNet failed to deliver 70% of its non-residential orders within its stipulated SAP. In many cases, the eventual length of delay lasted several months. This is extremely appalling for a service provider that is the awarded NetCo of the Next Gen NBN. The commercial consequences for such a service provider in a competitive environment would be disastrous.

The effect of OpenNet's service delivery performance in the Non-Residential market has caused significant frustration to RSPs and corporate end users. Corporate end users, and in turn their RSPs, require definitive delivery dates. When such delays were experienced, OpenNet was unable to provide a revised delivery date definitively and instead kept moving the expected delivery date. For corporate end users whose circuits support significant company operations have been very frustrated with the overall experience they have had to deal with.

Timely status updates

Further, we would note that OpenNet does not provide timely or useful updates on the status of each order, making it difficult for RLs to address the concerns of downstream users. The lack of updates (interim or otherwise) also creates much uncertainty for such non-residential end users whose businesses may be impacted by OpenNet's failures. Such delays have already resulted in a loss of confidence in the Next Gen NBN by non-residential end users.

Over the course of the last 16 months, Nucleus Connect has suggested on several occasions to OpenNet and IDA that OpenNet needs to provide interim updates at agreed 'gating points' within the 10 business day SAP period. We would reiterate that OpenNet be

required to include interim milestones for the key activities that it undertakes (eg. Contact with Building Manager, site survey, submission of documents, installation activity etc) during the SAP period and provide the RLs the status of those milestones when those interim dates are reached. This is the bare minimum that would be needed in order for the RLs to provide meaningful order status information to their RSPs who in turn would be better able to manage the experience of their end user customers.

OpenNet's typically cites the reasons for the delays as "Building Management" or "Pending MCST" issues. Unless IDA mandates that OpenNet resolve such issues in a timely manner, and ensure that OpenNet proactively engages building owners/managers, OpenNet's failure to deliver timely connections to non-residential end users will result in a Next Gen NBN that is only good for the residential market, which is clearly not IDA's objective for creating and funding a Next Gen NBN.

<u>OpenNet's network design and architecture are flawed</u>

OpenNet's choice of rollout strategy has caused significant unhappiness amongst end user customers and is one of the main contributors to its delayed service delivery. OpenNet's use of spring boarding to rollout its network has contributed to significant delays where building managers of the buildings used for spring boarding now have effective influence over coverage of areas outside of their building. This is a clear design flaw on the part of OpenNet – an approach that appears clearly motivated by OpenNet's economic drivers and a complete disregard of the service consequence it creates for OpenNet's customers and their end users. In one instance, a landed residential property which was covered via a spring board scenario from a nearby condo MDF room experienced problems. However, since the building manager denied access to OpenNet to the condo MDF room, the end user in the landed residential property suffered the inability of his service being investigated and rectified. This is a clear example of a poor design philosophy that has had far reaching consequences of the overall delivery timelines and service performance experienced by end users.

Finally, we would note that OpenNet does not provide path redundancy for non-residential end users. This is not acceptable as it is common in the industry for non-residential end users to require path redundancy. Being a Next Gen NBN, it is difficult to RLs to explain to End Users why a "next generation network" is unable to provide path redundancy when the existing traditional networks have been doing so for years. We would also note that many

Government End Users require path redundancy, and it is therefore ironical that a Government-funded network is unable to support its own Government End User requirements.

2.6 OpenNet's coverage database is still subject to much errors

Despite the implementation of OpenNet's MSI Remedy Framework and numerous assurances by OpenNet that it has cleaned up its database, Nucleus Connect still discovers and highlights errors in OpenNet's database on a regular, weekly basis. We would note that OpenNet's coverage database is fundamental to the entire Next Gen NBN as it determines whether an order can be placed or not. Further, we would note that OpenNet has displayed a complete lack of urgency to correct its database (and therefore allow RLs to place orders successfully) even when such errors are highlighted to OpenNet, and OpenNet admits to such errors.

IDA is well aware of the several examples of such occurrences that have been raised by Nucleus Connect. One such example that illustrates the extent of lack of logic is where OpenNet's system showed that a building was not covered and rejected an RSPs attempt to place an order at the building, when in fact it was covered.

This has resulted in much misunderstanding between RLs and their customers, as well as contributed to delays in provision of services to End Users. IDA should impose a heavier penalty on OpenNet for such failures, including imposing a QoS framework on OpenNet to ensure accuracy of its coverage database. This is especially so given that OpenNet's database determines whether an order can be placed on the Next Gen NBN, and is therefore effectively the gatekeeper to the Next Gen NBN.

2.7 The ICO only addresses the manual processes although OpenNet has launched its B2B

Nucleus Connect notes that OpenNet's ICO has not been updated to reflect that OpenNet has launched its B2B and a large number of orders received by OpenNet are via the B2B, and not the manual process. OpenNet should therefore be required to update its ICO to reflect the B2B processes, and not just the manual process.

Also, although its ICO reflects largely a manual process, OpenNet has started to reject orders submitted manually, instead requiring RLs to only submit orders via its B2B/Portal.

Further, it has been Nucleus Connect's experience that RLs who use the OpenNet's B2B are often disadvantaged as OpenNet's system is unable to adequately handle new measures/processes introduced by OpenNet. Therefore, RLs using the B2B are disadvantaged. OpenNet therefore needs to ensure that whether its RLs are using a manual system or the B2B, the RLs able to compete on a level playing field, and are treated in a non-discriminatory manner. OpenNet must ensure that its B2B system is updated before launching new services/products.

OpenNet also needs to ensure that any changes to its B2B meets the needs of its RLs, and are not made in a unilateral manner, and with too short a lead time for its RLs to adequately change their own processes to cater to such changes.

Finally, OpenNet's systems must reflect its own operational needs. For example, the OpenNet operations team requires RLs to provide an alternative contact person. However, when input into OpenNet's system, the system actually discards this information. The system also discards additional comments that are provided to OpenNet to facilitate OpenNet's planning (for example, notification that a non-residential end user's TP location will only be determined during the site survey). Such inadequacies are an impediment to the efficient operations of the Next Gen NBN.

2.8   No Fault Found Charges should be removed until OpenNet gets its act together

Currently, the majority of the problems (95%) faced by the Next Gen NBN are caused by OpenNet's incompetence. At the same time, OpenNet has imposed No Fault Found charges on RLs for any mistake attributable to RLs. Nucleus Connect submits that OpenNet should not be allowed to impose No Fault Found Charges until it is able to provide services at an acceptable standard. In the current situation, the 95% of faults attributable to OpenNet have and continue to increase the costs to RLs, and yet RLs are not adequately compensated for OpenNet incompetence. Therefore OpenNet should not be allowed to penalise RLs for the occasional lapse.

2.9   Proposal to limit its Request Quota to 480 per day is not acceptable

We would note that OpenNet is seeking to change its Request Quota from a weekly quota to a daily quota. This is not acceptable and will lead to inefficiencies as there is a higher chance of daily quotas not being fully utilised, as compared to weekly quotas.

Nucleus Connect therefore submits that IDA must reject OpenNet's proposal. Instead, OpenNet should be required to divide the weekly quota between Residential and Non-residential orders. This will ensure that Non-residential orders (which are typically lower in number than Residential orders) do not get delayed when the Request Quota for residential orders is fully utilised. A case in point is the quarterly PC shows (e.g. COMEX and SITEX) which typically drive up Residential orders, and therefore cause backlogs in Non-residential orders as well.

Further, notwithstanding having separate Request Quotas for Residential and Non-residential orders, OpenNet should also ensure that where the Request Quota from one service is not fully utilised, it is automatically used to fulfil orders from another service. This will ensure that the full quota of 2,400 orders per week is fully utilised, and therefore minimise the chances of an order backlog.

Also, IDA should impose on OpenNet a requirement to monitor its backlog, and where there is evidence that OpenNet is unable or has been unable to meet its SAP for a specified time period, OpenNet must increase its Request Quota (at no additional cost to its RLs) to meet its SAP. Nucleus Connect submits that this is a customer-oriented approach which is in line with industry practice.

Finally, this quota should not be applicable to requests for termination, and should be solely used for orders for new services.

2.10   It is unreasonable for RLs to be responsible for damage to the TP

OpenNet is proposing to make RLs liable for damage to the TP at End User premises. This is totally unreasonable and unacceptable. OpenNet is the awarded NetCo and is contracted by IDA to rollout the passive network of the Next Gen NBN. RLs have no control over what occurs at the End User premises, and therefore cannot be held liable or accountable for any damage to the TP. OpenNet should instead deal with the End User directly to repair any

damage to the TP. This is especially since OpenNet does not allow any 3rd party contractors to install TPs, but monopolises the TP-installation service. OpenNet cannot therefore be allowed to pick and choose what it wants to be responsible for. Also, OpenNet's insistence on working through RLs is inefficient, and only results in higher costs, as well as delays in repairing the damage.

Further, Nucleus Connect believes that there is a need for OpenNet to introduce a process to resolve fibre-cut incidents and TP repair work at End User premises. This will ensure that such issues are resolved in a timely manner, and End Users are not faced with extensive service disruption. For example, in one incident involving services to a Government agency, OpenNet refused to carry out fibre restoration, and simply left the Government End User's premises. It was only after Nucleus Connect informed OpenNet that the End User is a Government agency that OpenNet agreed to carry out restoration. It is noteworthy that OpenNet did not seem to realise who the End User was (until alerted by Nucleus Connect), which indicates OpenNet's over-reliance on its key sub-contractor (SingTel), and a complete lack of control over its own operations.

In addition, OpenNet should also provide a SLA to ensure that it arrives at the End User premises within a specified time (e.g. 1 hour) to support troubleshooting and fault restoration. At present, OpenNet requires a lead-time of 24 hours to dispatch an engineer to the site. As faults are urgent in nature, this demonstrates a complete lack of urgency to ensure that End Users are faced with minimal inconvenience and service disruption, and is clearly unacceptable.

2.11 The Missed Appointment Charge must be reciprocal

OpenNet is seeking to impose a Missed Appointment Charge on RLs. However, based on Nucleus Connect's experience, OpenNet itself has a track record for missing appointments and deadlines. Should IDA allow OpenNet to impose such a charge, then RLs must also be able to make a claim (of at least an equivalent amount) on OpenNet when OpenNet misses its appointments/deadlines. OpenNet cannot expect to recover all its costs, and yet have no incentive to ensure that it provides a service of level that meets industry standards.

Further, OpenNet's introduction of the 1-hour activation process for TPs which lack signals has introduced additional costs for the RLs. The RLs personnel are now required to wait for an hour for the OpenNet staff to arrive at the location and further time while the fault is

being resolved. The RLs own operational delivery capability is impacted as fewer installations can be carried out each day due to having to allow for this additional waiting time in cases of such problems. This additional burden on the RLs is entirely a cause of OpenNet's inability to ensure that the TPs it installs are fit for purpose at the outset. There is however no recognition in OpenNet's ICO of the additional costs its own operational ineffectiveness is placing on the RLs or any recourse for those costs to be recovered by the RLs from OpenNet. We submit that IDA should require OpenNet to include the ability for RLs to make claims against such costs from OpenNet in OpenNet's ICO.

2.12 OpenNet should offer a 1-month minimum licence term for Residential EUCs

Nucleus Connect notes that OpenNet is currently only offering a 1-month licence term for Non-residential EUCs. Nucleus Connect believes that there is a demand for short term contracts by Residential End User as well (for example, a person with a less than 1-year lease, or a person intending to move house). Nucleus Connect therefore requests that IDA require OpenNet to offer a 1-month licence term for Residential EUCs as well.

2.13 The Express Service charge cannot apply if OpenNet fails to meet the RFS date

Nucleus Connect is glad to note that OpenNet has finally agreed to offer an Express Service. However, we believe that the ICO should clearly state that where OpenNet is unable to provision a service by the "express service RFS date", OpenNet should not charge the Express Service Activation Request Charge, but only the "normal charges". If not, RLs may be paying for a service with no guarantee that OpenNet will fulfil its end of the bargain.

2.14 The Express Service should be applicable to "Homes Passed"

OpenNet should be required to offer an Express Service for Homes Passed as well. Since End Users with Homes Passed are able to apply for services over the Next Gen NBN, there is no reason that this category of End Users be precluded from requesting for an express service. OpenNet should therefore offer an Express Service for such premises.

2.15 There is a need for a practical classification of property-types

OpenNet is seeking to classify properties in accordance with the definition used in the COPIF. This is unacceptable and impractical. The COPIF is meant to be a guide for building owners and developers to ensure that a minimum amount of infrastructure (space etc) is reserved for telecommunications networks. The definition and classification of property types in the COPIF are therefore meant to serve a different purpose from the ICO. For example, by following the definition is the COPIF, OpenNet will now treat residents in staff quarters as Non-residential End Users and therefore such End Users will have to pay the higher Non-residential charges for services. OpenNet needs to adopt a more practical approach to property classification. Surely it cannot expect an End User who rents an apartment from his/her employer, but subscribes to fibre services on his/her own to pay Non-residential rates for services.

OpenNet must be required to have clear and practical criteria on how it would decide whether a property in Residential or Non-residential in nature. OpenNet should also provide a process where End Users can submit to OpenNet proof (such as their Sing Power utilities bill) to have their property re-classified in the event there is a dispute over property-classification. Such updates must be subject to a SLA (for example, 3 days from End Users provision of documentary proof) to ensure that End Users are not subject to further delay from obtaining services on the Next Gen NBN.

2.16 Relocation Charges should not be applicable in situations where OpenNet has installed the TP in an inappropriate location.

While Nucleus Connect supports the proposal to offer relocation of TPs, we would note that there have been incidents where OpenNet has been found to have installed its TP at locations within End User premises which is not appropriate. Examples of such locations are areas where there are no "power points". As the awarded NetCo, OpenNet must be held responsible for installing its TP in proper locations, failing which OpenNet must be responsible to rectify its mistakes, and to relocate the TPs at no cost to its downstream users.

2.17 The proposed Fibre Handover Process is onerous

OpenNet's proposed Fibre Handover Process should be deleted in its entirety. Deactivation of an Existing RL's Residential End-User Connection carries serious implications e.g., customer service issues and termination charges for minimum contract period. Unilateral deactivation of an existing Residential End-User Connection cannot be permitted without the Existing RL's express consent. The decision of whether to deactivate an existing connection should be left to the discretion of the Existing RL, and not OpenNet as long as the Existing RL continues to pay the MRC for the connection.

Further, if the Existing RL agrees to the deactivation, OpenNet should not be allowed to charge any Early Termination Charges for the existing connection.

2.18 Provision of Incident Reports and Updates

OpenNet should be required to provide Incident Reports and status updates for ALL faults and delays. OpenNet must recognise that its customers are service providers, and therefore have to provide such reports to their own customers and End Users (especially corporate end users). It is an industry norm for corporate end users and wholesale customers to expect such incident reports/updates, and as the Next Gen NBN NetCo, OpenNet must be required to support this requirement, failing which the Next Gen NBN will be seen to be providing a service that is inferior to that provided by existing service providers.

3. Specific Comments

Nucleus Connect's specific comments on the ICO are tabulated below. We would note that OpenNet has repeated the same clauses/modifications throughout the Service Schedules. Therefore, Nucleus Connect would request that where relevant, IDA takes into account the comments on such clauses although the comments may have been provided in other Service Schedules.

Relevant Provision of OpenNet ICO	NC's Comments
PART 1 – ACCEPTANCE PROCEDURES	
Clauses 1.6(c) & 1.6(d)	The obligation on RL to submit banker's guarantee/security deposit and insurance policy within 5 Business Days of date of submission is too tight. Usually,

Relevant Provision of OpenNet ICO	NC's Comments
	it will take a longer time for RL to arrange for banker's guarantee and insurance policy. There is no reason why the 5-Business Days' timeframe cannot be extended to 14 Calendar Days.
Clause 6.2	The word "IDA" in line 2 ought to be replaced by "the Authority".
PART 2 – INTERCONNECTION OFFER AGREEMENT	
Recital B	Recital B ought to stipulate the dates of all IDA-approved amendments to OpenNet ICO. This practice is currently being applied by IDA to OpCo's Interconnection Offer. There ought to be equal and fair treatment of both ICO regimes.
General	From experience, OpenNet has shown it tends to strictly adhere to the letter of OpenNet ICO. On many occasions, it fails or refuses to do what a reasonable competitive service provider would do on the grounds that it is not required to do so by the terms of OpenNet ICO. Therefore, a clause ought to be incorporated into OpenNet ICO which imposes a positive obligation on OpenNet to comply with both the letter and spirit of OpenNet ICO.
General	OpenNet needs to tidy up the drafting throughout the OpenNet ICO. For example, terms which are already defined in Schedule 18 ought to be used in the same capitalised font in the respective Schedules. Also, should be consistent in <u>either</u> using "clause" or "Clause" (and not interchangeably) throughout the OpenNet ICO.
Clause 5.5	Clause 5.5 ought to be amended such that OpenNet is obliged to notify RL of all amendments to Schedule 15.
Clause 7.5	Clause 7.5 ought to be deleted. IDA did not previously allow a similar clause for OpCo's Interconnection Offer.

Relevant Provision of OpenNet ICO	NC's Comments
	There ought to be equal and fair treatment of both ICO regimes.
Clauses 8.1 & 9 and Definition of "Network" in Schedule 18	Definition of "Network" in Schedule 18 ought not to be changed to refer to OpenNet's network only. What will then be the objective of clauses 8.1 & 9 which is clearly intended to be of mutual application? If OpenNet wants to refer its own network, then it would be clearer to use a new defined term e.g.: "OpenNet Network". To effect necessary amendments throughout OpenNet ICO.
Clause 11.1(j)	For clarity, the words "within the meaning of that expression in section 254(2) of the Companies Act" ought to be inserted immediately after the words "..unable to pay its debts" in line 1. IDA insisted on such wording for OpCo's Interconnection Offer. There ought to be equal and fair treatment of both ICO regimes.
Clause 11.5	The words "(or in the case of clause 11.1(a) or 11.1(c) only, either Party may)" ought to be inserted immediately after the words "…the Suspending Party may" in line 2. IDA insisted on such wording for OpCo's Interconnection Offer. There ought to be equal and fair treatment of both ICO regimes.
Clause 12.1(e)	For clarity, the words "within the meaning of that expression in section 254(2) of the Companies Act" ought to be inserted immediately after the words "..unable to pay its debts" in line 1. IDA insisted on such wording for OpCo's Interconnection Offer. There ought to be equal and fair treatment of both ICO regimes.
Clause 12.2	For clarity, the words "giving not less than" ought to be inserted immediately after the words "…Agreement upon" in line 2.
Clause 12.5(a)(ii)	The first sentence "costs incurred by the Terminating Party in terminating this ICO Agreement or Schedules."

Relevant Provision of OpenNet ICO	NC's Comments
	ought to be deleted in its entirety. It is too widely crafted. Termination Charges are already addressed in clause 12.5(a)(i). If there are any other costs, such costs ought to be specifically addressed in Schedule 15 or the relevant Schedules.
Clause 12.5(a)(ii)	The word "reasonable" ought to be inserted immediately after the words "…at the RL's…" in line 7.
Clause 12.6	The word "reasonable" ought to be inserted immediately before the words "cost incurred in…" in line 1.
Clause 13.1	OpenNet must be responsible for the acts of its suppliers and cannot evade such responsibility by virtue of relying on clause 13.1. Therefore, the following words ought to be incorporated at the end of Clause 13.1: "For the avoidance of doubt, any failure or delay by the affected Party's suppliers and/or contractors shall not constitute Force Majeure under this clause 13.1, unless the Authority determines that such suppliers and/or contractors are parties for whom the affected Party is responsible". IDA insisted on such wording for OpCo's Interconnection Offer. There ought to be equal and fair treatment of both ICO regimes.
Clause 13.6(b)	For clarity, the word "13.6(b)" ought to be inserted immediately after the words "…under this clause" in the last line.
Clause 14.7	Clause 14.7 ought to be deleted. There is no valid reason to retain it. A Party must be responsible for delivering the Service it is obliged to do so. It should not be allowed to evade responsibility on the basis that the innocent party ought to have better protected itself legally vis-à-vis its customer. IDA did not allow for such wording for OpCo's Interconnection Offer. There ought to be equal and fair treatment of both ICO regimes.

Relevant Provision of OpenNet ICO	NC's Comments
Clause 14.9	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. Therefore, clause 14.9 ought to be deleted in its entirety.
Clause 15.5	"Service" & "Services" are defined terms in OpenNet ICO which refers to services provided by OpenNet. Thus, the obligations in Clause 15.5 ought to apply to OpenNet only and ought to be amended accordingly.
Clause 16.5	The test ought to be objective and not based on OpenNet's discretion. Accordingly, the words "it considers" in line 2 ought to be deleted. Similarly, the words "it considers in good faith to be" in line 4 ought to be amended to "are".
Clause 18.8	The words "OpenNet may require a variation of the Security Requirement provided by the RL" ought to be amended to "OpenNet may reasonably require a variation of the Security Requirement provided by the RL in accordance with this clause 18.8"
Clause 18.8(a)	The criteria must be comprehensive, not open-ended. Therefore, the words ", but not limited," ought to be deleted.
Clause 18.8(a)(ii)	Clause 18.8(a)(ii) ought to be amended to "No valid reasons given for persistent late payment".
Clause 18.8(a)(iv)	Clause 18.8(a)(iv) ought to be amended to "Any other matters including public news or market intelligence which validly demonstrates that the RL's financial condition has been materially and adversely affected"
Clause 18.8(b)(i)	Clause 18.8(b) ought to be deleted. A banker's guarantee is as good as cash security deposit and vice-versa. There is no valid reason to insist that RL change its mode of

Relevant Provision of OpenNet ICO	NC's Comments
	security.
Clause 18.8(b)(ii)	The words "highest invoice in the past year" ought to be amended to average monthly invoiced amount in the past year.
Clause 18.8(c)	OpenNet must provide valid reasons of the changes to the Security Request in its written notification to RL. Clause 18.8(c) ought to be amended accordingly.
Clause 18.9	There is no reason why OpenNet requires 14 days to return the Security Deposit to RLs. The original 7-day timeframe should be retained.
Attachment A Page 4	The words "at its own discretion," ought to be deleted. The amendment needs to be in accordance with the ICO Agreement, period.
Attachment A Page 3	The words "at its own discretion," ought to be deleted. The amendment needs to be in accordance with the ICO Agreement, period.
Attachment C	For drafting consistency, words such as "this Guarantee", "This Guarantee" and "this guarantee" ought to be amended to "The/the Guarantee".
SCHEDULE 1 (RESIDENTIAL END-USER CONNECTION)	
General	Deactivation Charge: The Deactivation Charge should not be applicable as long as an RL has fulfilled the minimum term of contract. The cost of service deactivation should already be recovered by OpenNet in the MRC.
Clause 1(i)	This should apply to the Second TP as well, and not be limited to the First TP only.

Further since OpenNet is now offering to install a Second TP, all relevant clauses should be amended to be |

Relevant Provision of OpenNet ICO	NC's Comments
	applicable to the Second TP as well.
Clause 1.2	This should apply to the Second TP as well, and not be limited to the First TP only.
Clause 2.1	The words "is solely caused by OpenNet" in line 5 ought to be amended to "is caused by OpenNet". This is to remove any ambiguity and to impose a higher degree of deterrence on OpenNet to comply with the SLAs. Further, the words "Clause 6.10" ought to be replaced by "Clause 6.9".
Clause 2.2	There must be a timeframe stipulated within which OpenNet must process all claims. In this respect, Nucleus Connect submits that 30 days is a reasonable timeframe. Should OpenNet not process the claims within 30 days, it should automatically be assumed that OpenNet agrees with all the claims and will therefore credit the full amount of the claims to the RL's account. Based on Nucleus Connect's experience, OpenNet has taken up to 12 months to process claims against it and therefore such a process will ensure that while OpenNet expects to be paid in a timely manner, it also processes claims against it in a timely manner. Further, should OpenNet fail to process the claims on time or is late in crediting the rebate amounts, a late charge should be imposed on OpenNet equivalent to the amount of late interest charges imposed on RLs by OpenNet for late payments.
Clause 2.6(c)	In determining whether the SLA have been met by OpenNet, the time taken from the start of arranging any site-coordination meeting,....etc, cannot be excluded for the following reasons: • OpenNet could be tardy in the arrangement of the

Relevant Provision of OpenNet ICO	NC's Comments
	commencement of such meetings; or • OpenNet is incompetent and as a result pro-longs the duration of such meetings, while during this period, service is impacted. OpenNet should only exclude any time delay attributable to the RL.
Clause 2.6(d)	Many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 2.6(d) ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to obtain any necessary licence or permission expeditiously and (2) OpenNet must provide RL with reasonable evidence of such licence/permission, the steps taken to obtain it expeditiously and why OpenNet cannot obtain the licence/permission.
Clause 2.6(e)	Many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 2.6(e) ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such difficulty expeditiously and (2) OpenNet must provide RL with reasonable evidence of such difficulty, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the difficulty.
Clause 2.6(f)	Clause 2.6(f) ought to be amended to incorporate 1 qualifier: OpenNet must be responsible for the acts and omissions of its suppliers and contractors.
Clauses 2.8 & 2.9	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. Therefore, clauses 2.8 and 2.9 ought to be deleted in its entirety.

Relevant Provision of OpenNet ICO	NC's Comments
Clause 3.1	Based on Nucleus Connect's experience, OpenNet is unable to fulfil its obligation to utilise at least 90% of the connections in each splitter before provisioning a new splitter. OpenNet's current fill ratio is low and should be required to carry out inter-rack patching in the MDF Room to improve the fill ratio.
Clause 3.1(A)	Schedule 15 – 1.3.2 indicates that installation charge comprises of the charge payable for the patching service within the building MDF room. It is unreasonable to impose another patching charge at MDF room. This modification should be rejected. OpenNet cannot be allowed to introduce new charges based on its whims and fancies.
Clause 4.1	In the event that the RL is connected to OpenNet via B2B, then all ordering and provisioning should be fully supported via B2B.

Clause 4.2	OpenNet must allow the re-location request to be submitted in the same request as a new order and OpenNet should allow the RL to indicate via B2B and Portal,
	
	    a. TP relocation is required
	    b. Additional detailed related to the relocation
	
	Prior to installation OpenNet should allow the RL to revise the order to request for TP relocation or cancel TP relocation without impacting the original RFS date.
	
	Further, OpenNet should deal with fibre-related issues in End User premises directly with the End User. This will ensure better End User experience and will be more efficient since it eliminates 2 layers of intermediaries

Relevant Provision of OpenNet ICO	NC's Comments
	(OpCo-layer and RSP-layer).
Clause 4.2(a)	The words "building owner, building management," ought to be deleted. This clause deals with the relocation of service within the same premises. Why should the building owner or building management be involved? In addition, Clause 4.2(a) also ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such obstruction expeditiously and (2) OpenNet must provide RL with reasonable evidence of such obstruction, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the obstruction.
Clause 4.2(c)	OpenNet should deal with requests for relocation of the TP directly with the End User, since the RL/RSP does not add value to the process but instead RL/RSP involvement can result in delays and inefficiencies. Further, if the relocation results from a poor installation by OpenNet in the first place, then no charges should apply and OpenNet must rectify its mistake at no cost to RLs.
Clause 4.2(d)	The Cancellation Charge should not apply if OpenNet fails to discharge its duty in accordance with the ICO i.e. OpenNet misses its SAP etc. Surely RLs should not be penalised for OpenNet's failures. The clause should be amended to state this. Further, as long as RLs give OpenNet at least 1 day's notice to change an appointment or cancel the relocation, no charges should be applicable since OpenNet would not have incurred any costs associated with the TP relocation at that stage.

Relevant Provision of OpenNet ICO	NC's Comments
Clause 4.3	For clarity, OpenNet should clearly state the applicable patching charge since it has proposed other patching charges in Schedule 15.
Clause 4.4	OpenNet should provide the MSI for the serving CO and Building MDF as part of feasibility check for an address. There should be one service CO and building MDF provided per address. The information provided should be accurate for the provisioning of services.
Clause 4.5	With the availability of OpenNet's platform, OpenNet should state clearly that the MSI shall also be provided via B2B.
Clause 5.2	Please refer to our comments in Section 2 of this submission. OpenNet should welcome the increased business and not attempt to limit the number of orders it will process. Only a monopolistic dominant licensee can behave this way.
Clause 5.3	OpenNet should provide accurate MSI to facilitate correct submission of orders. With the availability of the OpenNet platform, OpenNet should provide a feasibility check function providing RLs with accurate information indicating the coverage status per unit (home-reached, home-passed, in-service, new TP required), TP charges (TBA is not acceptable), building type, serving CO, and serving MDF. In cases of landed property and shop houses where there is no floor-unit. OpenNet should not mandate floor-unit to be provided for order submission or alternatively accept a default #01-00 for all addresses. End-users, RSP and RLs cannot be working on unit numbers assigned by

Relevant Provision of OpenNet ICO	NC's Comments
	OpenNet.
Clauses 5.3(a), (b) and (c)	OpenNet's ICO should be amended to address the operational requirements of RLs connected to OpenNet via B2B. Nucleus Connect notes that although OpenNet has launched its B2B, the ICO still caters largely to manual processes. For example, clauses 5.3(a), (b) and (c) should not apply in the case of B2B orders. Such "errors" should be checked in real-time and feedback provided immediately so that corrections can be made on the spot. We believe that IDA has imposed such a requirement on Nucleus Connect's B2B system as well, and there is no reason that OpenNet does not have to comply with the same.
Clause 5.3(e)	As the NetCo of the Next Gen NBN, OpenNet must be required to provide a connection when requested, and not be allowed to reject requests on the basis that both fibre pairs are not available. This is especially so in a multi-OpCo environment. Further since OpenNet is now offering to install a Second TP, OpenNet should check with the RL if it requires a Second TP, rather than reject the order outright.
	This clause should therefore be deleted, or modified accordingly.
Clause 5.4	Nucleus Connect submits that within 1 Business Day of an order being accepted, OpenNet must provide RLs with the ORI and the transmission cable ID.
Clause 5.4(b)	Does COPIF impose mandatory legal obligations or merely guidelines? Therefore, OpenNet's initiated changes ought to be deleted.
	Further, many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 5.4(b) also ought to be

Relevant Provision of OpenNet ICO	NC's Comments
	amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such obstruction expeditiously and (2) OpenNet must provide RL with reasonable evidence of such obstruction, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the difficulty.
Clause 5.4(c)	It is OpenNet's responsibility and fully within OpenNet's control to ensure that the Tie Cable is operational and sufficient. Therefore, this is not a basis for rejection. Tie Cable information is essential for RLs and RSPs to commence network design. Therefore, OpenNet should be required to provide such information to RLs within 1 Business Day of receiving the order, and not on the RFS date itself. The tie cable information should be sent as per the B2B API with the appropriate B2B response. Currently, there are incidents where tie cable information is sent with the Completion Notice. This is not acceptable in a B2B scenario, as there are agreed responses between the 2 systems (OpenNet's and RL's), and OpenNet cannot simply append a message/information to a response without prior agreement. Such a practice results in inefficient and/or order processing failures and impacts the operations of RLs.
Clause 5.4(d)	The words "and as at the date such Request is processed, OpenNet is not required to be rolled out to such location under the terms of the NetCo FBO Licence" ought to be inserted immediately after the words "…to the Building". OpenNet cannot be allowed to reject the Request on the basis that it fails to roll out due to its own default. IDA insisted on such wording in OpCo's Interconnection Offer. Further, when an order is placed via B2B, the system

Relevant Provision of OpenNet ICO	NC's Comments
	should not allow an order to a "non-covered site" to go through. The onus is on OpenNet to ensure that its system is updated and accurate. Therefore this clause should be deleted.
Clause 5.5	OpenNet must inform RL of the status of the order within 3 business days whether the order is successful or not, and not only when the order is successful.

When the connection cannot be successfully completed, OpenNet must inform the RL when it will be completed, failing which a penalty should be imposed on OpenNet.

It is any self-respecting and competent operator's responsibility to ensure sufficient capacity in its network. In the rare chance when an incidence of insufficiency happens, OpenNet must provide reasons to RL and to justify why it needs to take the proposed number of days to fix the issue.

Today, OpenNet would simply push back the RFS date by 40 days, without giving any reason, nor why there is insufficient capacity.

This clause in its current form is subject to abuse by OpenNet.

Further, when there is insufficient capacity, RLs must have the option to re-select a new Appointment Date, or cancel the order. Since OpenNet is unable to fulfil the initial order, it is only fair the RLs be given the opportunity to seek concurrence with the RSPs/End Users, and not be subject to accepting any Appointment Date determined by OpenNet. |
| Clause 5.6 | OpenNet should state clearly what is the applicable patching charge. Nucleus Connect is not agreeable to the additional patching charge at the MDF room as proposed |

Relevant Provision of OpenNet ICO	NC's Comments
	by OpenNet. This patching work in the MDF room is part of the installation charge (Schedule 15).
Clause 5.8	OpenNet should duly inform RL in the order completion notice for cases where installation charges are waived.
Clause 5.9	For clarity, we propose that it be stated that such orders should be provisioned as non-residential orders, using non-residential network resources i.e. non-residential splitters and tie cables.
Clause 5.10	Given the significant number of errors in OpenNet's MSI discovered by Nucleus Connect since the MSI Remedy Framework was implemented, Nucleus Connect would submit that a 1-month rebate is not sufficient to motivate OpenNet to ensure accuracy of its MSI. To this end, we would propose a rebate of 12 months MRC, given that such errors put RLs in a difficult situation with their RSPs, and RSP with its customers. It is difficult to explain to End Users why a covered site can subsequently become "uncovered". A 12 month rebate is also commensurate with the level penalties OpenNet has been imposing on its RLs (e.g. OpenNet's No Fault Found Charges). OpenNet should also duly inform RL in the order completion notice for cases where rebate is provided.
Clauses 5.8, 5.9, 5.10 & 5.11	The words "is solely caused by OpenNet" ought to be amended to "is caused by OpenNet". This is to remove any ambiguity and to impose a higher degree of deterrence on OpenNet to comply with the SLAs.
Clause 5.11(a)	At the point OpenNet notifies its RLs, the correction to the error should already have been made. The commitment to correct errors within 1 business day is meaningless to RLs as they are not able to verify if the

Relevant Provision of OpenNet ICO	NC's Comments
	correction was indeed carried out in that timeframe. We would therefore suggest that IDA monitor OpenNet's performance in this respect.
Clause 5.11(b)	OpenNet should be required to correct the error within 1 business day as long as it receives proof from the RL. End Users should not have to wait while OpenNet rectifies its mistakes. In fact, in such situations, OpenNet should proceed to accept and process the order. Also, by the time a RL is notified of the error, OpenNet should already have corrected the error.
Clause 5.11(c)	In clause 5.11(a), OpenNet has already discovered the error when it notifies the RL. Therefore there is no reason that there can be delays caused by 3rd parties. This clause should be amended accordingly.
Clause 5.11(d)	This should be supported by OpenNet in the B2B scenario, which is currently not the case.
Clause 5.12	It cannot be an absolute obligation on RL to submit the request at least 2 Business Days before the original appointment date. Changes in appointment date may be beyond RL's control. There must be flexibility. Clause 5.12 ought to be amended accordingly. This is a clear example of OpenNet being not commercially driven and willing to support the Next Gen NBN eco-system. Any commercially-minded operator will know that in cases of appointments, there is a need to be flexible. Further, subject to Clause 5.13, RLs should be allowed to change the appointment dates to either an earlier or later date. Also, this clause should include change of appointment for TP relocation, TP fault rectification etc.

Relevant Provision of OpenNet ICO	NC's Comments
	Finally, OpenNet should support this in a B2B scenario which is currently does not.
Clause 5.13	Changes in appointment should not be subject to a minimum of 3 business days or the Request Quota. The number of changes in appointments can be expected to be small and OpenNet should, in the spirit of being customer-oriented, be willing to accommodate such requests. By subjecting such requests to a minimum of 3 business days' lead time and/or the Request Quota, the End User may face a significant delay in obtaining services, especially based on the current backlog faced by OpenNet. Also, OpenNet should support this in a B2B scenario which it currently does not.
Clause 5.14	Please see comments on clause 5.12 above. OpenNet must be responsible and to take positive action to confirm the availability of the home owner, or representative. This is the standard practice which even deliverymen adopt. If OpenNet is interested in ensuring the success of the Next Gen NBN, it should take steps to be more customer-oriented and commercially-driven, and not simply use its ICO to limit its obligations. Further, if OpenNet is allowed to levy a Missed Appointment Charge on RL, RL must be entitled to impose a corresponding Missed Appointment Charge payable by OpenNet to it if OpenNet misses a scheduled appointment.
Clause 6.2	There is no reason that OpenNet should run out of capacity on its network. As the NetCo, OpenNet must monitor its network capacity and be required to increase its network capacity once a specified threshold is reached. Further, who is to determine whether OpenNet

Relevant Provision of OpenNet ICO	NC's Comments
	has really run out of capacity or is simply using this as a reason because it knows that RLs are unable to establish the truth. Nucleus Connect therefore submits that all clauses related to insufficient capacity in the ICO be removed. However, should IDA allow such clauses to remain, then in such cases, OpenNet should allow RLs to cancel the order, at no cost to RLs.
Clause 6.3	OpenNet should deal with the End User directly for such charges, which is more efficient and minimises disputes. In any case, if OpenNet insists on requiring RLs to bill on its behalf, then OpenNet must provide timely information to RLs. Nucleus Connect proposes that the final charge should be provided in the Completion Notice, with supporting documents made available for FTP download via B2B. The download link should also be provided in the Completion Notice. Also, OpenNet should still be subject to a SLG which should be based on the agreed RFS date.
Clause 6.5	To have a clearer demarcation point, the patch cable should be provided by OpenNet together with the patching service.
Clause 6.8	OpenNet should promptly notify RL via B2B of changes to appointment and tie cable prior to sending the completion notice. The tie cable information should be sent as per the B2B API with the appropriate B2B response. Currently, there are incidents where tie cable information is sent with the Completion Notice. This is not acceptable in a B2B scenario, as there are agreed responses between the 2 systems (OpenNet's and RL's), and OpenNet cannot

Relevant Provision of OpenNet ICO	NC's Comments
	simply append a message/information to a response without prior agreement. Such a practice results in inefficient and/or order processing failures and impacts the operations of RLs. In the event that OpenNet is not able to complete the activation on time, OpenNet shall promptly notify RL of the delay indicating reason for failure and provide the next installation date. The completion notice and delay notice should be provided on the same day within business hours. Any failure by OpenNet to notify RLs accordingly should be subject to a penalty framework.
Clause 6.9	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. Nucleus Connect submits that the cap on the compensation should be removed. Based on OpenNet's total lack of urgency in resolving faults, it is evident that the current compensation framework in the ICO is too low to encourage urgency on OpenNet's part. This has been highly detrimental to the Next Gen NBN. To this end, Nucleus Connect proposes that compensation be payable by OpenNet as long as the fault remains unrectified. Further, any fault that remains unrectified over an extended period (30 days) should be subject to a higher compensation.
Clause 6.10(a)	Many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 6.10(a) ought to be amended to

Relevant Provision of OpenNet ICO	NC's Comments
	incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to obtain any necessary permission expeditiously and (2) OpenNet must provide RL with reasonable evidence of such permission, the steps taken to obtain it expeditiously and why OpenNet cannot obtain the permission.
Clause 6.10(b)	This scenario should still be subject to compensation but based on the mutually agreed RFS date. This clause should be amended accordingly.
Clause 6.10(c)	This should still be subject to compensation but based on the deferred RFS date. This clause should be amended accordingly.
Clause 6.10(d)	OpenNet should be required to provide documentary proof that such is the case.
Clause 6.11	OpenNet should support express service periods of between 1 business day to SAP-1 business day.
Clause 6.11 (a)	OpenNet should indicate via B2B whether a particular address is available for express service as part of feasibility check.

Further, we believe that OpenNet should use the term Homes Reached which is clear and can be determined from its MSI. |
| Clause 6.11(b) | The express service should not be subject to the Maximum Quota as both have different lead time requirements. Further, based on the current situation where OpenNet has been facing a backlog of orders, the express service can never be utilised. Also, since OpenNet is seeking to impose an additional charge for this service, then it should continue to be responsible to |

Relevant Provision of OpenNet ICO	NC's Comments
	fulfil the quota for its normal services. If not, OpenNet will be incentivised to "encourage" use of its express service by being tardy on its normal service. If OpenNet is genuine in its offer of an express service, it should offer more practical terms for the service. Finally, the slots for express service must be clearly defined in OpenNet's B2B and portal.
Clause 6.11 (c)	OpenNet should clearly indicate via B2B the timeslot that is applicable for express service. If the timeslot is not available for that day, it should be provided in the B2B result. Also, the cut off time of 10am is impractical. OpenNet should offer a more practical and useful window for ordering of services. Nucleus Connect would propose that a cut off time of 2pm would be more practical.
Clause 6.11(d)	We note that the express service is only offered for Homes Reached premises. Therefore it is not clear why OpenNet expects to face obstruction from building owners, building management and End Users, since OpenNet is not required to carry out any work within the homes. This is further evidenced by Clause 6.11(g) which clearly states the amount of work OpenNet will do/not do, which does not include any work in the homes. Further, many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 6.11(d) also ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such obstruction expeditiously and (2) OpenNet must provide RL with reasonable evidence of such obstruction, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the obstruction.

Relevant Provision of OpenNet ICO	NC's Comments
	Further, if OpenNet is unable to meet the express service SAP, OpenNet should not be allowed to impose any "express service" charges, but only "normal service" charges.
Clause 6.11(f)	Cancellation charges should not apply if OpenNet is unable to provision the order on time, and the RL decides to cancel the order.
Clause 6.11(g)	OpenNet cannot expect to "sell" a service and shirk its responsibility of being the NetCo. It is unacceptable that just because an End User requests for a service faster (and pays for the effort of the service provider), the End User should accept a lower quality of service. This clause should be deleted.
Clause 6A.1	The 7-day window should not apply to those circuits where OpenNet misses its SAP. The reason is End Users may be not available, and since the missed appointment is attributable to OpenNet, OpenNet must exercise flexibility and do its utmost to do service recovery instead of simply passing the problem on to its RLs.

We would note that once an SAP is missed, RLs and RSPs will need to co-ordinate amongst themselves and the End User to fix another appointment. This will typically take more than 7 days. Therefore, in such cases, there should not be a time limit imposed. |
| Clause 6A.3 | It is totally unreasonable for OpenNet to insist that the RL's representative remain on-site. Based on Nucleus Connect's experience, the majority of such faults are attributable to OpenNet's failure to perform its duty to handover the connection in a proper working condition. This is another clear example of OpenNet being totally unreasonable, and not commercially-minded. Despite |

Relevant Provision of OpenNet ICO	NC's Comments
	being at fault, OpenNet expects RL's representative to wait at least 1 hour for OpenNet to come on-site. In the meantime, the RL is faced with stranded resources as the representative is unable to proceed with the next installation. This can have a snowballing effect, and result in missed appointments.
Clause 6A.4	Nucleus Connect submits that OpenNet is over-complicating the issue of billing start date. There is no reason for OpenNet to commence billing for services until the services are delivered to the RLs in proper working condition. It is therefore illogical that OpenNet should even contemplate billing for a service that has not been proven to be in proper working condition. This clause should be amended accordingly.
Clause 6A.5	OpenNet must support the non-chargeable cancellation scenario on its B2B and portal.
Clause 6A.6	RLs should be entitled to make a claim against OpenNet as long as the fault is attributable to OpenNet.
Clause 8.1	The words "Additionally where OpenNet performs a Fibre Handover pursuant to clause 20, the Existing RL shall remain liable for the minimum contract term." ought to be deleted in their entirety. See comments on clause 20 below.
Clause 8.4	We would note that OpenNet is attempting to impose additional charges on RLs, and therefore this modification should be rejected. OpenNet is not carrying any new activity, and so should not be allowed to impose additional charges by simply modifying the clause.
Clause 9.5	Should OpenNet fail to comply with the requisite notice period, OpenNet must seek the agreement of the affected RL before carrying out any works, and must not

Relevant Provision of OpenNet ICO	NC's Comments
	proceed with the planned maintenance without first receiving such agreement from the RL. Should OpenNet not comply with this requirement and choose to take unilateral action, OpenNet should be severely penalised. Based on Nucleus Connect's experience, OpenNet has, on occasion, provided extremely short notice for planned maintenance (even as short as a few hours). Even though OpenNet had been advised not to proceed with the planned maintenance as there was insufficient time for Nucleus Connect to inform its RSPs, and in turn, the RSPs, their End Users, OpenNet chose to ignore the request and proceeded with the planned maintenance, resulting in inconvenience and frustration from RSPs and End Users. At present, planned and unplanned maintenance are notified by OpenNet via email. This is not efficient given that OpenNet has a B2B system in place. OpenNet should notify its RLs of any planned and unplanned maintenance via the B2B system. Finally, for scheduled service maintenance, OpenNet should ensure that service disruption for each connection should not exceed 1 hour.
Clause 9.6	The words "The RL is required to acknowledge receipt of OpenNet's notification within one (1) Business Day." ought to be deleted in their entirety. There is no cogent reason why RL must acknowledge the notification within the tight 1-Business Day timeframe. What purpose does it serve? Also, OpenNet must be required to provide the ORI of the individual affected order as well as the duration which each order will be affected. This is to facilitate planning by RLs, RSPs and End Users.

Relevant Provision of OpenNet ICO	NC's Comments
	Further, OpenNet should also provide the notice via B2B planned maintenance notification. Where the schedule service maintenance affects non-residential connections, OpenNet should only be allowed to carry out such maintenance between 1am and 6am to minimise the impact on non-residential end users. Nucleus Connect would also propose that during restoration of services, priority should be given to restoring affected non-residential connections.
Clause 9.13	"Termination Point" is a defined term in Schedule 18. Accordingly, all references to "termination point" ought to be amended to "Termination Point". To effect global change throughout OpenNet ICO. Further, the word "OpenNet shall endeavour" in line 7 ought to be amended to "OpenNet shall use its best endeavours".
Clause 9.15	Onsite charges should only be applicable if the fault is attributable to the RL. OpenNet should also be required to clearly define when such onsite charges are applicable, and not be allowed to impose such charges for "any reason".
Clause 11.1	For planned outages, OpenNet should inform RLs with the list of affected ORIs and Trouble Ticket ID via B2B. Once the fault is cleared, OpenNet should also update RLs via B2B.
Clause 11.2	If OpenNet has not completed any substantial investigations into the reported fault, it ought not to be allowed to levy any cancellation charges. In addition, Clause 11.2 must be subject to clause 11.8. Clause 11.2 ought to be amended accordingly.
Clause 11.5	It is unclear why RLs are required to pay a Patching

Relevant Provision of OpenNet ICO	NC's Comments
	Charge for a fault at Building MDF since it was OpenNet that installed the patch in the first place. This sentence should be deleted.
Clause 11.6	OpenNet should not have the sole right to determine whether a NFF charge is applicable. If RLs can prove that the fault lies with OpenNet, then OpenNet should not have the right to levy the NFF charge. Further, Nucleus Connect submits that the NFF charge in Schedule 15 is too high, and should be commensurate with the amount of compensation provided by OpenNet for its failure to meet its MTTR obligations. If OpenNet insists on a high NFF charge, then the compensation for OpenNet's MTTR failures should also be increased accordingly.
Clause 11.7	We would suggest the addition of wavelengths 1577nm and 1270nm to support 10G PON. Further, besides ensuring that power loss is within a specified limit, OpenNet should also ensure that the power loss over a specified distance is within an acceptable limit, and that the "eye diagram" is acceptable. The reference should be amended to clause 6.7, and not 6.8.
Clauses 11.8 (b) and (c)	OpenNet should only be entitled to impose charges on RLs if, and only if, it can be proven that the faults are solely attributable to RLs. Such charges include access charges. OpenNet chose to situate its COs in buildings that are not customer-friendly or easily accessible and should absorb such charges as part and parcel of being in the NetCo-business. It is not fair or reasonable for RLs to pay the charges

Relevant Provision of OpenNet ICO	NC's Comments
	when the fault is not due to it or its contractors or End Users. It must be part of OpenNet's responsibility as a service provider to carry out investigation of any fault on the Network and if the fault is not due to RL or its contractors or End Users, OpenNet ought not to levy the charges on RLs. Therefore, clause 11.8(c) ought to be amended accordingly.
Clause 11.8(d)	Clause 11.8(d) ought to be deleted in its entirety. OpenNet is solely responsible for the Network. RL and its contractors are not permitted to tamper with or repair any part of the Network even if the Network is located within the Residential Premise. Thus, RL ought not to be liable to OpenNet for damage to the Network.
Clause 11.10	If OpenNet is allowed to levy a Missed Appointment Charge on RL, RL must be entitled to a corresponding Missed Appointment Charge payable by OpenNet to it if OpenNet misses the scheduled appointment or changes the appointment without giving RL at least 1 Business Day's notice.
Clauses 11.14 and 11.15	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. The maximum cap on the amount of compensation ought to be removed. Therefore, clauses 11.14 and 11.15 ought to be amended accordingly.
Clause 16.7	The reference should be to clause 16.5(b), and not 16.6(b).
Clause 18.1	Nucleus Connect would note that NRIC/FIN/Passport number of the End User is not required in the current process, and there should not be any need for them in cases of relocation.

Relevant Provision of OpenNet ICO	NC's Comments
Clause 18.3	Is there any cogent reason to treat the Request for Relocation Service as 2 Requests for Basic Mandated Services? OpenNet's operational requirements ought to be transparent to RL. It ought to be treated as a single Request. Clause 18.3 ought to be deleted.
Clause 18.4	There is no reason that a change in residential address be treated as a Cancellation. This is yet another example where OpenNet is not being commercially-minded. As long as the End User remains the same, OpenNet should allow the End User to continue with the service with minimal disruption, and at no additional costs. This is especially so given that this occurrence will be low. Further, as stated above, the Cancellation Charge should not apply in cases where OpenNet is unable to deliver the requested service on time or in a proper working condition. In such cases, End Users may decide to cancel the service out of frustration with OpenNet, and RLs should not be penalised. Finally, it should be clearly stated that a request for relocation will not be treated as a new order and the minimum contract term is computed from the date of the initial order.
Clause 19.2	OpenNet should state accurately in the feasibility check result that a Second TP is required in order provide service to the premises.
Clause 19.3	Request for Second TP should be part of the order for the end-user connection. RLs should not need to submit a separate order.
Clause 20	Clause 20 ought to be deleted in its entirety. Deactivation of an Existing RL's Residential End-User Connection carries serious implications e.g.: customer's issues and termination charges for minimum contract

Relevant Provision of OpenNet ICO	NC's Comments
	period. Unilateral deactivation of an existing Residential End-User Connection cannot be permitted without the Existing RL's express consent.
Annex 1A	The need to provide OpenNet with the End Users NRIC/FIN/Passport No must be removed. The RLs does not deal with the End User and may not have such information.
SCHEDULE 2 (NON-RESIDENTIAL END-USER CONNECTION)	
Clause 2.1	The words "is solely caused by OpenNet" in line 5 ought to be amended to "is caused by OpenNet". This is to remove any ambiguity and to impose a higher degree of deterrence on OpenNet to comply with the SLAs.
Clause 2.6(d)	Many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 2.6(d) ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to obtain any necessary licence or permission expeditiously and (2) OpenNet must provide RL with reasonable evidence of such licence/permission, the steps taken to obtain it expeditiously and why OpenNet cannot obtain the licence/permission.
Clause 2.6(e)	Many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 2.6(e) ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such difficulty expeditiously and (2) OpenNet must provide RL with reasonable evidence of such difficulty, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the difficulty.
Clause 2.6(f)	Clause 2.6(f) ought to be amended to incorporate 1 qualifier: OpenNet must be responsible for the acts and

Relevant Provision of OpenNet ICO	NC's Comments
	omissions of its suppliers and contractors.
Clauses 2.8 & 2.9	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. Therefore, clauses 2.8 and 2.9 ought to be deleted in their entirety.
Clause 3.1	Based on Nucleus Connect's experience, OpenNet is unable to fulfil its obligation to utilise at least 90% of the connections in each splitter before provisioning a new splitter. OpenNet's current fill ratio is low and should be required to carry out inter-rack patching in the MDF Room to improve the fill ratio.
Clause 3.1(A)	Schedule 15 – 2.3.1 indicates that installation charge comprises of the charge payable for the patching service within the building MDF room. It is unreasonable to impose another patching charge at MDF room. This modification should be rejected.
Clause 3.3	We believe that in practice OpenNet only "hangs" the patch cord in the MDF room and the RL is left to carry out the connection to the building owner's in-building cable. Therefore this patching service is unnecessary, and should therefore be removed.
Clause 4.1	Please define "Service Portal" (see line 4) in Schedule 18. It is not defined. The classification of the premises should be provided via OpenNet's B2B system.
Clause 4.3	OpenNet should accept additional site installation contact via portal and B2B.

Relevant Provision of OpenNet ICO	NC's Comments
Clause 4.4(a)	The words "building owner, building management," ought to be deleted. This clause deals with the relocation of service within the same premises. Why should the building owner or building management be involved? In addition, clause 4.4(a) also ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such obstruction expeditiously and (2) OpenNet must provide RL with reasonable evidence of such obstruction, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the obstruction.
Clause 4.4(d)	The Cancellation Charge should not apply if OpenNet fails to discharge its duty in accordance with the ICO i.e. OpenNet misses its SAP etc. Surely RLs should not be penalised for OpenNet's failures. The clause should be amended to state this.
Clause 4.7	OpenNet should promptly update RLs of the actual serving CO and MDF in the case where an address may be served by more than 1 CO/MDF. However this should not deviate from the original list of serving CO/MDF provided during feasibility checks, or else it should be considered as a MSI error.
Clause 5.3(e)	Nucleus Connect understands that for Non-Residential EUC, OpenNet will install a new TP for each order. This clause is therefore not applicable.
Clause 5.4(b)	Does COPIF impose mandatory legal obligations or merely guidelines? Therefore, OpenNet's initiated changes ought to be deleted. Further, many of the building access issues emanate from OpenNet's reluctance to resolve them

Relevant Provision of OpenNet ICO	NC's Comments
	expeditiously. Therefore, clause 5.4(b) also ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such obstruction expeditiously and (2) OpenNet must provide RL with reasonable evidence of such obstruction, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the difficulty.
Clause 5.4(c)	Tie Cable information is essential for RLs and RSPs to commence network design. Therefore, OpenNet should be required to provide such information to RLs within 1 Business Days of receiving the order, and not on the RFS date itself.
	The tie cable information should be sent as per the B2B API with the appropriate B2B response. Currently, there are incidents where tie cable information is sent with the Completion Notice. This is not acceptable in a B2B scenario, as there are agreed responses between the 2 systems (OpenNet's and RL's), and OpenNet cannot simply append a message/information to a response without prior agreement. Such a practice results in inefficient and/or order processing failures and impacts the operations of RLs.
Clause 5.4(d)	The words "and as at the date such Request is processed, OpenNet is not required to be rolled out to such location under the terms of the NetCo FBO Licence" ought to be inserted immediately after the words "…to the Building". OpenNet cannot be allowed to reject the Request on the basis that it fails to roll out due to its own default. IDA insisted on such wording in OpCo's Interconnection Offer.
Clause 5.5	When there is insufficient capacity, RLs must have the option to re-select a new Appointment Date, or cancel the order. Since OpenNet is unable to fulfil the initial order, it is only fair the RLs be given the opportunity to

Relevant Provision of OpenNet ICO	NC's Comments
	seek concurrence with the RSPs/End Users, and not be subject to accepting any Appointment Date determined by OpenNet.
Clauses 5.8, 5.9 & 5.10	The words "is solely caused by OpenNet" ought to be amended to "is caused by OpenNet". This is to remove any ambiguity and to impose a higher degree of deterrence on OpenNet to comply with the SLAs.
Clause 5	Why is there no process for RL to submit a Request to change scheduled appointment, unlike in Schedule 1?
Clause 6.3	OpenNet should provide details of the actual location of the TP in the completion notice, bearing in mind the location of TP may not be accurately identified by the floor-unit when the order is placed.
Clause 6.7	To have a clearer demarcation point, the patch cable should be provided by OpenNet together with the patching service.
Clause 6.11	OpenNet should promptly update RLs on the status of an order via extending current B2B notification API to provide order progress update for all orders. Information should include site survey date, BM approval document submission, BM approval date, TP installation, delay reasons, etc.
Clause 6.12	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. The maximum cap on the amount of compensation ought to be removed. Therefore, clause 6.12 ought to be amended accordingly.
Clause 6.13(a)	Many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously.

Relevant Provision of OpenNet ICO	NC's Comments
	Therefore, clause 6.13(a) ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to obtain any necessary permission expeditiously and (2) OpenNet must provide RL with reasonable evidence of such permission, the steps taken to obtain it expeditiously and why OpenNet cannot obtain the permission.
Clause 6.14(e)	Many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 6.14(e) also ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such obstruction expeditiously and (2) OpenNet must provide RL with reasonable evidence of such obstruction, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the obstruction.
Clause 6.15(e)	Many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 6.15(e) also ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such obstruction expeditiously and (2) OpenNet must provide RL with reasonable evidence of such obstruction, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the obstruction. Further, if OpenNet is unable to meet the express service SAP, OpenNet should not be allowed to impose any "express service" charges, but only "normal service" charges.
Clause 6.16	OpenNet must be required to provide a weekly update, and/or an update each time the status of an order changes, even if the delay is not within OpenNet's control.

Relevant Provision of OpenNet ICO	NC's Comments
	Further, where the delay is for more than 2 weeks, RLs must have the option to cancel the order without charge.
Clause 6.16(a)	Clause 6.16(a) ought to be incorporated/mirrored in Schedule 1.
Clause 6.16(b)	Many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously. It is critical for the success of the NGNBN that OpenNet must have used its best endeavours to remedy any obstruction or event expeditiously. Therefore, clause 6.16(b) ought to be deleted.
Clause 9.13	"Termination Point" is a defined term in Schedule 18. Accordingly, all references to "termination point" ought to be amended to "Termination Point". To effect global change throughout OpenNet ICO. Further, the word "OpenNet shall endeavour" in line 7 ought to be amended to "OpenNet shall use its best endeavours".
Clause 9.14	It is OpenNet's responsibility as a NetCo to secure the relevant approvals or consents from the relevant building owner or authorities. NetCo receives government funding to roll out the NetCo Network and securing the relevant approvals/consents must surely be part of its responsibility. This responsibility must not to be shifted to RL. Similarly, costs of obtaining such approvals or consents ought to be borne by OpenNet, not RL. Accordingly, clause 9.14 ought to be amended accordingly.
Clause 9.16	Onsite charges should only be applicable if the fault is attributable to the RL. OpenNet should also be required to clearly define when such onsite charges are applicable, and not be allowed to impose such charges for "any reason".

Relevant Provision of OpenNet ICO	NC's Comments
Clause 11.2	If OpenNet has not completed any substantial investigations into the reported fault, it ought not to be allowed to levy any cancellation charges. In addition, Clause 11.2 must be subject to clause 11.8. Clause 11.2 ought to be amended accordingly.
Clause 11.5	It is unclear why RLs are required to pay a Patching Charge for a fault at Building MDF since it was OpenNet that installed the patch in the first place. This sentence should be deleted.
Clauses 11.7 and 6.9	We would suggest the addition of wavelengths 1577nm and 1270nm to support 10G PON. Further, besides ensuring that power loss is within a specified limit, OpenNet should also ensure that the power loss over a specified distance is within an acceptable limit, and that the "eye diagram" is acceptable.
Clauses 11.8 (b) and (c)	OpenNet should only be entitled to impose charges on RLs if, and only if, it can be proven that the faults are solely attributable to RLs. Such charges include access charges. OpenNet chose to situate its COs in buildings that are not customer-friendly or easily accessible and should absorb such charges as part and parcel of being in the NetCo-business. It is not fair or reasonable for RL to pay the charges when the fault is not due to it or its contractors or End Users. It must be part of OpenNet's responsibility as a service provider to carry out investigation of any fault on the Network and if the fault is not due to RL or its contractors or End Users, OpenNet ought not to levy the charges on RL. Therefore, clause 11.8(c) ought to be amended accordingly.

Relevant Provision of OpenNet ICO	NC's Comments
Clause 11.8(d)	Clause 11.8(d) ought to be deleted in its entirety. OpenNet is solely responsible for its Network. RL and its contractors are not permitted to tamper with or repair any part of its Network even if the Network is located within the Non-Residential Premise. Thus, RL ought not to be liable to OpenNet for damage to the Network.
Clause 11.10	If OpenNet is allowed to levy a Missed Appointment Charge on RL, RL must be entitled to a corresponding Missed Appointment Charge payable by OpenNet to it if OpenNet misses the scheduled appointment or changes the appointment without giving RL at least 1 Business Day's notice. Clause 11.10 ought to be amended accordingly.
Clause 11.16	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. The maximum cap on the amount of compensation ought to be removed. Therefore, clause 11.16 ought to be amended accordingly.
Clause 18.3	Is there any cogent reason to treat the Request for Relocation Service as 2 Requests for Basic Mandated Services?? OpenNet's operational requirements ought to be transparent to RL. It ought to be treated as a single Request. Clause 18.3 ought to be deleted.
Annex 2A	RLs who are not RSPs may not have such End User BRNs. The need for End User BRNs should be removed.
SCHEDULE 3 (NBAP CONNECTION)	
Clause 2.1	The words "is solely caused by OpenNet" ought to be amended to "is caused by OpenNet". This is to remove any ambiguity and to impose a higher degree of deterrence on OpenNet to comply with the SLAs.

Relevant Provision of OpenNet ICO	NC's Comments
Clause 2.6(d)	Many of the access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 2.6(d) ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to obtain any necessary licence or permission expeditiously and (2) OpenNet must provide RL with reasonable evidence of such licence/permission, the steps taken to obtain it expeditiously and why OpenNet cannot obtain the licence/permission.
Clause 2.6(e)	Many of the access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 2.6(e) ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such difficulty expeditiously and (2) OpenNet must provide RL with reasonable evidence of such difficulty, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the difficulty.
Clause 2.6(f)	Clause 2.6(f) ought to be amended to incorporate 1 qualifier: OpenNet must be responsible for the acts and omissions of its suppliers and contractors.
Clause 2.6(k)	SLAs ought to apply to NBAP Connections of all contract durations. NBAP Connections of shorter duration ought not to be discriminated against. Therefore, clause 2.6(k) ought to be deleted in its entirety.
Clauses 2.8 & 2.9	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. Therefore, clauses 2.8 and 2.9 ought to be deleted in their entirety.
Clause 3.1	There should be provision to allow RLs to self-provide

Relevant Provision of OpenNet ICO	NC's Comments
	NBAP 1st TP by accessing the NBAP connection at OpenNet's FDF at the Building MDF. RL will be responsible for the installation of the fibre from the Building MDF to the NBAP TP. Any additional cost imposed by OpenNet for such access should be absolute and standard rated.
Clause 3.1(A)	Schedule 15 – 3.3.1 indicates that installation charge comprises of the charge payable for the patching service within the building MDF room. It is unreasonable to impose another patching charge at MDF room to RL. This modification should be rejected.
Clause 4.1	Please define "Service Portal" (see line 4) in Schedule 18. It is not defined.
Clause 4.3(c)	Typo amendment. The words "location; and" ought to be amended to "location;".
Clause 4.3(d)	Typo amendment. The words "OE services." ought to be amended to "OE services; and".
Clause 5	When RL request to self-provide NBAP TP, OpenNet should within 10 Business Days complete the installation of the NBAP Node at Building MDF and activation of the NBAP connection.
Clause 5.2	Nucleus Connect submits that NBAPs should not be subject to a Request Quota. NBAPs are usually undertaken on a project basis and entails project studies etc. It may therefore also not be possible to determine the RFS date at point of order. Therefore, OpenNet should not impose a Request Quota on NBAP orders but instead undertake NBAPs on a "project-basis".
Clause 5.4(a)	Many of the access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore,

Relevant Provision of OpenNet ICO	NC's Comments
	clause 5.4(a) ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to overcome such inaccessibility expeditiously and (2) OpenNet must provide RL with reasonable evidence of such inaccessibility, the steps taken to overcome it expeditiously and why OpenNet cannot overcome the inaccessibility.
Clause 5.4(c)	Does COPIF impose mandatory legal obligations or merely guidelines? Therefore, OpenNet's initiated changes ought to be deleted.

Further, many of the access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 5.4(c) also ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such obstruction expeditiously and (2) OpenNet must provide RL with reasonable evidence of such obstruction, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the difficulty. |
| Clause 5.10 | The service activation period must be reasonably determined by OpenNet. OpenNet cannot simply be left to determine the service activation period at its discretion. Clause 5.10 ought to be amended accordingly. |
| Clause 6.3 | To have a clearer demarcation point, the patch cable should be provided by OpenNet together with the patching service. |
| Clause 6.7 | OpenNet should promptly notify RL via B2B of changes to appointment and tie cable prior to sending the completion notice.

In the event that OpenNet is not able to complete the activation on time, OpenNet should promptly notify RL of the delay indicating reason for failure and provide the |

Relevant Provision of OpenNet ICO	NC's Comments
	next installation date. The completion notice and delay notice should be provided on the same day within business hours.
Clause 6.8	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. The maximum cap on the amount of compensation ought to be removed. Therefore, clause 6.8 ought to be amended accordingly.
Clause 6.9(a)	Many of the access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 6.9(a) ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to secure such permission expeditiously and (2) OpenNet must provide RL with reasonable evidence of such delay, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the delay.
Clause 9.13	It is OpenNet's responsibility as a NetCo to secure the relevant approvals or consents from the relevant building owner or authorities. NetCo receives government funding to roll out the NetCo Network and securing the relevant approvals/consents must surely be part of its responsibility. This responsibility must not to be shifted to RL. Similarly, costs of obtaining such approvals or consents ought to be borne by OpenNet, not RL. Accordingly, clause 9.13 ought to be amended accordingly.
Clause 9.16	Onsite charges should only be applicable if the fault is attributable to the RL. OpenNet should also be required to clearly define when such onsite charges are applicable, and not be allowed to impose such charges for "any reason".

Relevant Provision of OpenNet ICO	NC's Comments
Clause 11.2	If OpenNet has not completed any substantial investigations into the reported fault, it ought not to be allowed to levy any cancellation charges. In addition, Clause 11.2 must be subject to clause 11.8. Clause 11.2 ought to be amended accordingly.
Clause 11.6	We would suggest the addition of wavelengths 1577nm and 1270nm to support 10G PON. Further, besides ensuring that power loss is within a specified limit, OpenNet should also ensure that the power loss over a specified distance is within an acceptable limit, and that the "eye diagram" is acceptable.
Clauses 11.7 (b) and (c)	OpenNet should only be entitled to impose charges on RLs if, and only if, it can be proven that the faults are solely attributable to RLs. Such charges include access charges. OpenNet chose to situate its COs in buildings that are not customer-friendly or easily accessible and should absorb such charges as part and parcel of being in the NetCo-business. It is not fair or reasonable for RL to pay the charges when the fault is not due to it or its contractors or End Users. It must be part of OpenNet's responsibility as a service provider to carry out investigation of any fault on the Network and if the fault is not due to RL or its contractors or End Users, OpenNet ought not to levy the charges on RL. Therefore, clause 11.7(c) ought to be amended accordingly.
Clause 11.7(d)	Is reference to "Residential Premise" in line 2 correct? Should it be "NBAP" instead? In any event, Clause 11.7(d) ought to be deleted in its entirety. OpenNet is solely responsible for its Network.

Relevant Provision of OpenNet ICO	NC's Comments
	RL and its contractors are not permitted to tamper with or repair any part of its Network even if the Network is located within the NBAP. Thus, RL ought not to be liable to OpenNet for damage to the Network.
Clause 11.9	If OpenNet is allowed to levy a Missed Appointment Charge on RL, RL must be entitled to a corresponding Missed Appointment Charge payable by OpenNet to it if OpenNet misses the scheduled appointment or changes the appointment without giving RL at least 1 Business Day's notice. Clause 11.9 ought to be amended accordingly.
Clauses 11.13 and 11.14	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. The maximum cap on the amount of compensation ought to be removed. Therefore, clauses 11.13 and 11.14 ought to be amended accordingly.
SCHEDULE 4 (CO TO CO CONNECTION)	
Clause 2.1	The words "is solely caused by OpenNet" ought to be amended to "is caused by OpenNet". This is to remove any ambiguity and to impose a higher degree of deterrence on OpenNet to comply with the SLAs. The reference in clause 2.1(i) should be to clause 6.9, and not 6.8.
Clause 2.6(d)	Many of the access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 2.6(d) ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to obtain any necessary licence or permission expeditiously and (2) OpenNet must provide RL with reasonable evidence of such licence/permission,

Relevant Provision of OpenNet ICO	NC's Comments
	the steps taken to obtain it expeditiously and why OpenNet cannot obtain the licence/permission.
Clause 2.6(e)	Clause 2.6(e) ought to be amended to incorporate 1 qualifier: OpenNet must be responsible for the acts and omissions of its suppliers and contractors.
Clauses 2.8 & 2.9	Clauses 2.8 and 2.9 ought to be deleted in their entirety to deter OpenNet from persistent poor service delivery.
Clauses 6.5 and 6.6	OpenNet should be required to provide the optical reading report to RLs upon completion of the measurement. In addition, where a fibre diversion is carried out, OpenNet should inform RLs of the distance of the diversion (in addition to the optical readings). This is to ensure that RLs are able to tune and balance their network accordingly, and therefore ensure that the Next Gen NBN continues to function efficiently at all layers.
Clause 6.7	The primary responsibility of the NetCo is to ensure that its fibre is in proper working condition at handover. It should therefore be an obligation for OpenNet to provide the optical power readings to RLs. It is therefore ridiculous for OpenNet to seek to impose charges on RLs to obtain such readings from OpenNet. Nucleus Connect submits that OpenNet should be obligated to provide such readings free of charge to RLs for all such connections. In any case, should IDA only require OpenNet to provide such readings upon request, OpenNet should still provide such readings at NO COST to RLs.
Clause 6.9	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter

Relevant Provision of OpenNet ICO	NC's Comments
	OpenNet from continuing with its poor service delivery. The maximum cap on the amount of compensation ought to be removed. Therefore, clause 6.9 ought to be amended accordingly.
Clause 9.14	Onsite charges should only be applicable if the fault is attributable to the RL. OpenNet should also be required to clearly define when such onsite charges are applicable, and not be allowed to impose such charges for "any reason".
Clause 11.2	If OpenNet has not completed any substantial investigations into the reported fault, it ought not to be allowed to levy any cancellation charges. In addition, Clause 11.2 must be subject to clause 11.7. Clause 11.2 ought to be amended accordingly.
Clause 11.6	We would suggest the addition of wavelengths 1577nm and 1270nm to support 10G PON.
Clauses 11.7(b) and (c)	OpenNet should only be entitled to impose charges on RLs if, and only if, it can be proven that the faults are solely attributable to RLs. Such charges include access charges. OpenNet chose to situate its COs in buildings that are not customer-friendly or easily accessible and should absorb such charges as part and parcel of being in the NetCo-business.

It is not fair or reasonable for RL to pay the charges when the fault is not due to it or its contractors or End Users. It must be part of OpenNet's responsibility as a service provider to carry out investigation of any fault on the Network and if the fault is not due to RL or its contractors or End Users, OpenNet ought not to levy the charges on RL. Therefore, clause 11.7(c) ought to be amended accordingly. |
| Clause 11.9 | If OpenNet is allowed to levy a Missed Appointment |

Relevant Provision of OpenNet ICO	NC's Comments
	Charge on RL, RL must be entitled to a corresponding Missed Appointment Charge payable by OpenNet to it if OpenNet misses the scheduled appointment or changes the appointment without giving RL at least 1 Business Day's notice. Clause 11.9 ought to be amended accordingly.
Clause 11.14	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. The maximum cap on the amount of compensation ought to be removed. Therefore, clause 11.14 ought to be amended accordingly.
SCHEDULE 5 (CO TO BUILDING MDF ROOM CONNECTION)	
Clause 2.1	The words "is solely caused by OpenNet" in line 5 ought to be amended to "is caused by OpenNet". This is to remove any ambiguity and to impose a higher degree of deterrence on OpenNet to comply with the SLAs. The referencing in clause 2.1(i) should be to clause 6.10, and not 6.9.
Clause 2.6(d)	Many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 2.6(d) ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to obtain any necessary licence or permission expeditiously and (2) OpenNet must provide RL with reasonable evidence of such licence/permission, the steps taken to obtain it expeditiously and why OpenNet cannot obtain the licence/permission.
Clause 2.6(e)	Many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 2.6(e) ought to be amended to

Relevant Provision of OpenNet ICO	NC's Comments
	incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such difficulty expeditiously and (2) OpenNet must provide RL with reasonable evidence of such difficulty, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the difficulty.
Clause 2.6(f)	Clause 2.6(f) ought to be amended to incorporate 1 qualifier: OpenNet must be responsible for the acts and omissions of its suppliers and contractors.
Clauses 2.8 & 2.9	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. Therefore, clauses 2.8 and 2.9 ought to be deleted in its entirety.
Clause 5.4(b)	Does COPIF impose mandatory legal obligations or merely guidelines? Therefore, OpenNet's initiated changes ought to be deleted.

Further, many of the access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 5.4(b) also ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such obstruction expeditiously and (2) OpenNet must provide RL with reasonable evidence of such obstruction, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the difficulty. |
| Clause 5.4(d) | The words "and as at the date such Request is processed, OpenNet is not required to be rolled out to such location under the terms of the NetCo FBO Licence" ought to be inserted immediately after the words "…to the Building". OpenNet cannot be allowed to reject the Request on the basis that it fails to roll out due to its own default. IDA |

Relevant Provision of OpenNet ICO	NC's Comments
	insisted on such wording in OpCo's Interconnection Offer.
Clause 6.4	To have a clearer demarcation point, the patch cable should be provided by OpenNet together with the patching service.
Clauses 6.6 and 6.7	OpenNet should be required to provide the optical reading report to RLs upon completion of the measurement. In addition, where a fibre diversion is carried out, OpenNet should inform RLs of the distance of the diversion (in addition to the optical readings). This is to ensure that RLs are able to tune and balance their network accordingly, and therefore ensure that the Next Gen NBN continues to function efficiently at all layers.
Clause 6.8	The primary responsibility of the NetCo is to ensure that its fibre is in proper working condition at handover. It should therefore be an obligation for OpenNet to provide the optical power readings to RLs. It is therefore ridiculous for OpenNet to seek to impose charges on RLs to obtain such readings from OpenNet. Nucleus Connect submits that OpenNet should be obligated to provide such readings free of charge to RLs for all such connections. In any case, should IDA only require OpenNet to provide such readings upon request, OpenNet should still provide such readings at NO COST to RLs.
Clause 6.10	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. The maximum cap on the amount of compensation ought to be removed. Therefore, clause 6.10 ought to be

Relevant Provision of OpenNet ICO	NC's Comments
	amended accordingly.
Clause 6.11	Many of the access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 6.11 also ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such obstruction expeditiously and (2) OpenNet must provide RL with reasonable evidence of such obstruction, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the difficulty.
Clause 9.14	Onsite charges should only be applicable if the fault is attributable to the RL. OpenNet should also be required to clearly define when such onsite charges are applicable, and not be allowed to impose such charges for "any reason".
Clause 11.2	If OpenNet has not completed any substantial investigations into the reported fault, it ought not to be allowed to levy any cancellation charges. In addition, Clause 11.2 must be subject to clause 11.8. Clause 11.2 ought to be amended accordingly.
Clause 11.5	It is unclear why RLs are required to pay a Patching Charge for a fault at Building MDF since it was OpenNet that installed the patch in the first place. This sentence should be deleted.
Clause 11.7	We would suggest the addition of wavelengths 1577nm and 1270nm to support 10G PON.
Clauses 11.8 (b) and (c)	OpenNet should only be entitled to impose charges on RLs if, and only if, it can be proven that the faults are solely attributable to RLs. Such charges include access charges. OpenNet chose to situate its COs in buildings that are not customer-friendly or easily accessible and should absorb such charges as part and parcel of being in

Relevant Provision of OpenNet ICO	NC's Comments
	the NetCo-business. It is not fair or reasonable for RL to pay the charges when the fault is not due to it or its contractors or End Users. It must be part of OpenNet's responsibility as a service provider to carry out investigation of any fault on the Network and if the fault is not due to RL or its contractors or End Users, OpenNet ought not to levy the charges on RL. Therefore, clause 11.8(c) ought to be amended accordingly.
Clause 11.10	If OpenNet is allowed to levy a Missed Appointment Charge on RL, RL must be entitled to a corresponding Missed Appointment Charge payable by OpenNet to it if OpenNet misses the scheduled appointment or changes the appointment without giving RL at least 1 Business Day's notice. Clause 11.10 ought to be amended accordingly.
Clause 11.15	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. The maximum cap on the amount of compensation ought to be removed. Therefore, clause 11.15 ought to be amended accordingly.
SCHEDULE 6 (BUILDING MDF ROOM TO FTTB NODE CONNECTION)	
Clause 2.1	The words "is solely caused by OpenNet" in line 5 ought to be amended to "is caused by OpenNet". This is to remove any ambiguity and to impose a higher degree of deterrence on OpenNet to comply with the SLAs. The referencing in Clause 2.1(i) should be to clause 6.10, and not 6.9.
Clause 2.6(d)	Many of the building access issues emanate from

Relevant Provision of OpenNet ICO	NC's Comments
	OpenNet's reluctance to resolve them expeditiously. Therefore, clause 2.6(d) ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to obtain any necessary licence or permission expeditiously and (2) OpenNet must provide RL with reasonable evidence of such licence/permission, the steps taken to obtain it expeditiously and why OpenNet cannot obtain the licence/permission.
Clause 2.6(e)	Many of the building access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 2.6(e) ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such difficulty expeditiously and (2) OpenNet must provide RL with reasonable evidence of such difficulty, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the difficulty.
Clause 2.6(f)	Clause 2.6(f) ought to be amended to incorporate 1 qualifier: OpenNet must be responsible for the acts and omissions of its suppliers and contractors.
Clauses 2.8 & 2.9	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. Therefore, clauses 2.8 and 2.9 ought to be deleted in its entirety.
Clause 5.4(b)	Does COPIF impose mandatory legal obligations or merely guidelines? Therefore, OpenNet's initiated changes ought to be deleted. Further, many of the access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 5.4(b) also ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its

Relevant Provision of OpenNet ICO	NC's Comments
	best endeavours to remedy such obstruction expeditiously and (2) OpenNet must provide RL with reasonable evidence of such obstruction, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the difficulty.
Clause 5.4(c)	The words "and as at the date such Request is processed, OpenNet is not required to be rolled out to such location under the terms of the NetCo FBO Licence" ought to be inserted immediately after the words "…to the Building". OpenNet cannot be allowed to reject the Request on the basis that it fails to roll out due to its own default. IDA insisted on such wording in OpCo's Interconnection Offer.
Clauses 6.6 and 6.7	OpenNet should be required to provide the optical reading report to RLs upon completion of the measurement. In addition, where a fibre diversion is carried out, OpenNet should inform RLs of the distance of the diversion (in addition to the optical readings). This is to ensure that RLs are able to tune and balance their network accordingly, and therefore ensure that the Next Gen NBN continues to function efficiently at all layers.
Clause 6.8	The primary responsibility of the NetCo is to ensure that its fibre is in proper working condition at handover. It should therefore be an obligation for OpenNet to provide the optical power readings to RLs. It is therefore ridiculous for OpenNet to seek to impose charges on RLs to obtain such readings from OpenNet. Nucleus Connect submits that OpenNet should be obligated to provide such readings free of charge to RLs for all such connections. In any case, should IDA only require OpenNet to provide such readings upon request, OpenNet should still provide such readings at NO COST

Relevant Provision of OpenNet ICO	NC's Comments
	to RLs.
Clause 6.10	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. The maximum cap on the amount of compensation ought to be removed. Therefore, clause 6.10 ought to be amended accordingly.
Clause 6.11	Many of the access issues emanate from OpenNet's reluctance to resolve them expeditiously. Therefore, clause 6.11 also ought to be amended to incorporate 2 qualifiers: (1) OpenNet must have used its best endeavours to remedy such obstruction expeditiously and (2) OpenNet must provide RL with reasonable evidence of such obstruction, the steps taken to remedy it expeditiously and why OpenNet cannot remedy the difficulty.
Clause 9.14	Onsite charges should only be applicable if the fault is attributable to the RL. OpenNet should also be required to clearly define when such onsite charges are applicable, and not be allowed to impose such charges for "any reason".
Clause 11.2	If OpenNet has not completed any substantial investigations into the reported fault, it ought not to be allowed to levy any cancellation charges. In addition, Clause 11.2 must be subject to clause 11.7. Clause 11.2 ought to be amended accordingly.
Clause 11.4	It is unclear why RLs are required to pay a Patching Charge for a fault at Building MDF since it was OpenNet that installed the patch in the first place. This sentence should be deleted.
Clause 11.6	We would suggest the addition of wavelengths 1577nm

Relevant Provision of OpenNet ICO	NC's Comments
	and 1270nm to support 10G PON.
Clauses 11.7 (b) and (c)	OpenNet should only be entitled to impose charges on RLs if, and only if, it can be proven that the faults are solely attributable to RLs. Such charges include access charges. OpenNet chose to situate its COs in buildings that are not customer-friendly or easily accessible and should absorb such charges as part and parcel of being in the NetCo-business. It is not fair or reasonable for RL to pay the charges when the fault is not due to it or its contractors or End Users. It must be part of OpenNet's responsibility as a service provider to carry out investigation of any fault on the Network and if the fault is not due to RL or its contractors or End Users, OpenNet ought not to levy the charges on RL. Therefore, clause 11.7(c) ought to be amended accordingly.
Clause 11.9	If OpenNet is allowed to levy a Missed Appointment Charge on RL, RL must be entitled to a corresponding Missed Appointment Charge payable by OpenNet to it if OpenNet misses the scheduled appointment or changes the appointment without giving RL at least 1 Business Day's notice. Clause 11.9 ought to be amended accordingly.
Clause 11.14	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. The maximum cap on the amount of compensation ought to be removed. Therefore, clause 11.14 ought to be amended accordingly.
Clause 16.7	The reference to clause 16.6(b) is incorrect. It should be clause 16.5(b).

Relevant Provision of OpenNet ICO	NC's Comments
SCHEDULE 7 (FTTB NODE TO DP CONNECTION)	
Clause 2.1(i)	The reference should be to clause 6.12, and not 6.10.
Clause 6.10	The primary responsibility of the NetCo is to ensure that its fibre is in proper working condition at handover. It should therefore be an obligation for OpenNet to provide the optical power readings to RLs. It is therefore ridiculous for OpenNet to seek to impose charges on RLs to obtain such readings from OpenNet. Nucleus Connect submits that OpenNet should be obligated to provide such readings free of charge to RLs for all such connections. In any case, should IDA only require OpenNet to provide such readings upon request, OpenNet should still provide such readings at NO COST to RLs.
Clause 11.4	It is unclear why RLs are required to pay a Patching Charge for a fault at Building MDF since it was OpenNet that installed the patch in the first place. This sentence should be deleted.
Clause 11.6	We would suggest the addition of wavelengths 1577nm and 1270nm to support 10G PON.
Clauses 11.7 (b) and (c)	OpenNet should only be entitled to impose charges on RLs if, and only if, it can be proven that the faults are solely attributable to RLs. Such charges include access charges. OpenNet chose to situate its COs in buildings that are not customer-friendly or easily accessible and should absorb such charges as part and parcel of being in the NetCo-business.
Clause 16.7	The reference to clause 16.6(b) is incorrect. It should be to clause 16.5(b).

Relevant Provision of OpenNet ICO	NC's Comments
SCHEDULE 12 (CO-LOCATION SERVICE)	
General	Nucleus Connect submits that OpenNet should offer SLA for the availability of power supply as well as cooling, especially since the failure of such systems is disastrous to the Next Gen NBN.
Clause 1.2	The entire wording "Where certain work is to be carried out by OpenNet under this Schedule, and the Charge is not defined under Schedule 15 (Charges), the RL shall pay all the reasonable costs incurred by OpenNet in provisioning Co-Location Service…" onwards ought to be deleted.

For clarity and in order to avoid any potential disputes, all Charges for the Co-Location Service must be clearly stated in Schedule 12 or 15. This is consistent with IDA's position for the charging regime in OpCo's Interconnection Offer. There should not be a generic and vague "backdoor" avenue for OpenNet to impose additional charges. |
| Clauses 1.2(a) to 1.2(d) | Clauses 1.2(a) to 1.2(d) ought to be deleted in their entirety. See comments on clause 1.2 above. |
| Clause 1.5 | To amend the words "a negligent, wilful or reckless breach of this ICO Agreement" in line 5 to "negligence or breach of this ICO Agreement".

There is no logical or reasonable basis to peg OpenNet's responsibility to a higher test of "wilful or reckless" breach. If the damage is caused by OpenNet's breach of contract, it must be responsible. |
| Clause 1.7(a) | The words "is solely caused by OpenNet" ought to be amended to "is caused by OpenNet". This is to remove any ambiguity and to impose a higher degree of deterrence on OpenNet to comply with the SLAs. |

Relevant Provision of OpenNet ICO	NC's Comments
Clause 1.7(b)	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. Therefore, clause 1.7(b) ought to be deleted in its entirety.
Clause 1.8	OpenNet should also be required to clearly define when such onsite charges are applicable, and not be allowed to impose such charges for "any reason".
Clause 3.4(c)	Any decommissioning of the Central Office must be subject to IDA's approval. To amend clause 3.4(c) accordingly.
Clause 3.5(b)	As a NetCo, OpenNet is obliged to provide the Co-Location Service which is crucial to the success of the operations of Next Gen NGN. OpenNet cannot evade this obligation simply on the basis of arguing that there are "technical or engineering issues". As a NetCo and service provider, it is OpenNet's responsibility to address and resolve these issues. Accordingly, the words "significant health, safety, technical or engineering issues" ought to be amended to "significant health or safety issues".
Clause 4.4	Such charges should not include any charges for "project management" which we believe OpenNet has sought to impose in the past. Nucleus Connect believes that the amount of project management is at best minimal (since cable trays, earthing cables, lighting etc have already been provisioned) and, if any, should be absorbed by OpenNet as part of its business costs.
Clause 6.2	OpenNet treats colocation service as a project and provides the costing after project study. So, it is not

Relevant Provision of OpenNet ICO	NC's Comments
	logical to revise the initial price estimation when it discovers that it is going to incur more without giving any justification for the increase to RL. OpenNet should be required to standby its costing since it is on this basis that an RL would have agreed to proceed with the work. Further, since this is OpenNet's collocation space, it is fully within the control of OpenNet.
Clause 7.3	OpenNet should be required to provide some basic equipment in its CO (such as ladders). We would note that Data Centres provide such equipment so as to be customer-oriented.
Clause 7.5	A SLA for fibre splicing work should be provided by OpenNet, together with penalties for missing the SLA. Currently, OpenNet expects RLs to pay for work carried out by OpenNet, but without any assurance that OpenNet will deliver the service(s) on time. This is especially important given OpenNet's track record for poor SLA performance.
Clause 7.8(a)	The words "resulting from the actions and omissions of the RL" in the indemnification provisions are too wide and one-sided in OpenNet's favour such that clause 7.8(a) could be interpreted that the RL must indemnify OpenNet for losses and damages which result from OpenNet's negligence or breach. Accordingly, clause 7.8(a) ought to be amended to include a carve-out for "any such actions or omissions resulting from OpenNet's negligence or breach of this ICO Agreement".
Clause 7.10	The requirement to provide the 1 month's notice ought to be an absolute obligation (not based on the test of reasonableness) given that it is a planned maintenance. Therefore, the words "use reasonable endeavours to" in line 2 ought to be deleted.

Relevant Provision of OpenNet ICO	NC's Comments
Clause 9.3	The words "not the result of OpenNet's fault" in line 1 ought to be amended to "the result of the RL's fault". The RL ought to be liable for the Reconnection Charge only if it is due to its fault. The words "as set out in Schedule 15" ought to be inserted immediately after "Reconnection Charge".
Clause 9.4	The words ", unless the suspension is the result of OpenNet's fault" ought to be inserted immediately after the words "clause 9" in line 4. OpenNet must be responsible for its own fault.
Clause 11.3	The words "all costs" in line 2 ought to be amended to "all reasonable costs".
Clause 11.4	The words "(such approval not to be unreasonably withheld or delayed)" ought to be inserted immediately after the words "of OpenNet" in line 3.
Clause 11.5	The words "may affect" in line 4 ought to be amended to "may adversely affect".
Annex 12A, clauses 1 to 3	The persistent poor service delivery of OpenNet since its launch clearly shows that the SLA remedy frameworks in OpenNet ICO are not sufficiently adequate to deter OpenNet from continuing with its poor service delivery. The maximum cap on the amount of compensation ought to be removed. The amount of compensation payable under the SLAs ought to be pegged simply to the number of days of delay. Therefore, clauses 1 to 3 ought to be amended accordingly.
Annex 12D, clause 1.1.2	OpenNet should allow for racks taller than 42U, since Nucleus Connect has noticed that many RLs already install racks with a height of 44U. Therefore, OpenNet should update the restriction.

Relevant Provision of OpenNet ICO	NC's Comments
Annex 12D, clause 1.5.2(b)	The words "cost-oriented basis" ought to be amended to "Cost-Oriented Basis" as it is a defined term in Schedule 18.
Annex 12D, clause 1.5.3	We would note that this heat load limit is below the industry standard of 3kVA (minimum). As the NetCo supporting a Next Generation network, OpenNet should be expected to provide co-location space with standards that can support a nationwide OpCo's rollout. It is unfortunate that although the Singapore Government is providing OpenNet with a funding of $750m, OpenNet is not even providing a Co-location service that meets the needs of a nationwide Next Gen NBN OpCo.
Annex 12F	There should be penalties imposed on OpenNet if their escorts arrive late. If RLs are expected to pay OpenNet for access and escort, then OpenNet must ensure that the service it provides meets a minimum standard.
Annex 12F, clause 1.2	The words "as set out in Schedule 18" ought to be inserted immediately after the words "stipulated charges" in line 4.
Annex 12F, clause 1.8.1	The requirements in clause 1.8.1 ought not to apply to scenarios whereby RL is asked by OpenNet to remedy issues or situations which are caused by OpenNet or due to OpenNet's fault. It is unreasonable to require RL to submit a request to obtain physical access in such scenarios, which has been the case in the past. Clause 1.8.1 ought to be amended accordingly.
Annex 12F, clause 1.8.1(f)	The word "clause 1.8.1" ought to be amended to "clause 1.8". The entire clause 1.8 ought not to apply to service-affecting emergencies. Clause 1.8.1(f) ought to be reclassified as clause 1.8.9.
Annex 12F, clause 1.8.2	The restriction on the number of persons that can access

Relevant Provision of OpenNet ICO	NC's Comments
	the co-location space leads to inefficiency and should be removed. OpenNet should not impose any restriction on the number of personnel, except in situations where multiple RLs wish to access the co-location space at the same time. Only in such circumstances should OpenNet be allowed to impose a restriction.
Schedule 14 (OSS/BSS Connection and Professional Service	
Clause 2.1 (a) (i)	The proposed approach is cumbersome and potentially creates technical issues for the connectivity. RL would have to install VPN clients on all our PCs and keep them in sync with OpenNet's firewall model and software upgrades. Not forgetting inoperability issues between VPN clients and firewall and the overall cost for RL to support such connection. RL should be allowed to continue connection via the internet as per current mechanism.
Clause 4.4	For the avoidance of doubt, when RLs subscribe to both secured VPN connection and dedicated leased line or multiples of each, OpenNet should concurrently support all the active connections with full fledge capability.
Clause 5.16	Cancellation charges should not be applicable if OpenNet fails to fulfil RL's requirements. Furthermore, the Cancellation Charge ought to be a fixed amount instead of being computed on a cost-oriented basis.
Clause 7.7	For the avoidance of doubt, the amount shall not be greater than the Project Study Fee.
Clause 8.3	When testing is suspended due to mutual agreement, each party shall bear its own cost.
Clause 8.9	Cancellation charges should not be applicable if OpenNet

Relevant Provision of OpenNet ICO	NC's Comments
	fails to fulfil RL's requirements. Furthermore, the Cancellation Charge ought to be a fixed amount instead of being computed on a cost-oriented basis.
Clause 9.1	The sentence "OpenNet should not be liable for disruption of the OpenNet platform" should be deleted.
Clause 9.6	The No Fault Found charge should be deleted.
Clause 9.8	OpenNet should provide written notification to the RL within 30 minutes that the OSS/BSS Connection has been restored.
Clause 9.9	The duration of temporary disconnection should be clearly defined so as not to be abused by OpenNet.
Clause 9.15	It is unclear how this clause will operate with clause 9.16 in regard to OpenNet's right to suspend the service without notice, when it is required to do so in clause 9.16.
Clause 10.1	OpenNet's system should be resilient and not susceptible to damage by external systems. RLs cannot be liable for OpenNet's inability to protect, or lack of protection for its own system. Otherwise, if OpenNet's system causes the same problems to RL's systems, reciprocally, RLs be allowed to similarly claim against OpenNet. We would note that in clause 9.1, OpenNet accepts no liability for faults on its systems.
SCHEDULE 15 (CHARGES)	
General – "cost-oriented basis" and "cost-oriented"	"Cost-Oriented Basis" is a defined term in Schedule 18. Therefore, all references to "cost-oriented basis" and "cost-oriented" in Schedule 15 ought to be amended to "Cost-Oriented Basis".

Relevant Provision of OpenNet ICO	NC's Comments
General – Missed Appointment Charge	Where OpenNet is allowed to levy a Missed Appointment Charge on RL in Schedule 15, RL must be entitled to a corresponding Missed Appointment Charge payable by OpenNet to it if OpenNet misses a scheduled appointment.
General – Monthly Recurring Charge & Installation Charge	In previous instances, OpenNet had commenced charging for Connections which were not in the working condition. Therefore, the entire Schedule 15 ought to be amended such that OpenNet could commence charging the Monthly Recurring Charges and Installation Charges only when it has delivered the Connections in working condition. This approach would be consistent with the QoS regime imposed by IDA on OpenNet.
Clauses 1.4.1	The Patching Charges imposed by OpenNet are unreasonably high, and are much higher than industry norms. IDA should require OpenNet to lower these charges to be in alignment with industry norms.
Clause 1.4.3 and 2.3.4	Based on the description of work in Schedules 1 and 2, OpenNet will not be retrieving the patch cables but simply un-plugging the connectors. We therefore believe that the charge for such a service is unreasonably high.
Clause 1.7	It is unreasonable to impose such exorbitant Cancellation Charges especially in situations when OpenNet has not carried out any installation works. Cancellation Charges should be commensurate with the amount of work already completed. We would note that there are no clauses in Schedule 1, 2 and 3 which address when the Cancellation Charges apply.
Clause 1.9	We believe that NFF charges should be removed

Relevant Provision of OpenNet ICO	NC's Comments
	completely. There is no reason for RLs to be frivolous in reporting faults, and therefore no need for such a penalty. We also note that the NFF charges are unreasonably high. If OpenNet is allowed to impose such unreasonably high NFF penalties, then we submit that the penalties to be paid by OpenNet to RLs for not meeting its MTTR or SAPs, should be similarly high to ensure that OpenNet has sufficient incentives to meet its obligations. We would note that the current penalties for missing MTTR and SAP are so low that OpenNet does not demonstrate any urgency in resolving such issues.
Clauses 1.14.2 and 2.12.3	It is not clear who will be bearing the cost if damaged is caused by 3rd party (e.g., HDB upgrading work) or rodent. How does this reference back to Schedule 1 – 11.8(d)?
Clause 1.15	The Cancellation Charge ought to be a fixed amount instead of being computed on a cost-oriented basis.
Clause 1.16	If OpenNet is allowed to impose a charge for "missed appointments", then a reciprocal charge on OpenNet should be imposed as well. We would note that OpenNet itself has a track record of missed appointments. It is therefore unreasonable for OpenNet to seek to impose such a charge on RLs.
Clause 1.17.1	It is unreasonable to still charge activation and deactivation of patching in the CO and MDF room as OpenNet is imposing relocation service charge.
Clause 2.6	It is unreasonable to impose such exorbitant Cancellation Charges especially in situations when OpenNet has not carried out any installation works. Cancellation Charges should be commensurate with the amount of work

Relevant Provision of OpenNet ICO	NC's Comments
	already completed. We would note that there are no clauses in Schedule 1, 2 and 3 which address when the Cancellation Charges apply.
Clause 2.14.1	The Cancellation Charge ought to be a fixed amount instead of being computed on a cost-oriented basis.
Clause 3.3.3	Clause 3.3.3 ought to be deleted as there is an overlap with clause 3.3.2. There ought not to be double-recovery of costs.
Clause 4.5	It is unreasonable to impose such exorbitant Cancellation Charges especially in situations when OpenNet has not carried out any installation works. Cancellation Charges should be commensurate with the amount of work already completed. We would note that there are no clauses in Schedule 1, 2 and 3 which address when the Cancellation Charges apply.
Clause 4.10.1	The charge ought to be deleted. The imposition of the charge is unwarranted and unreasonable; provision of optical reading ought to be responsibility of a reasonably competitive and reasonable service provider.
Clause 5.10.1	The charge ought to be deleted. The imposition of the charge is unwarranted and unreasonable; provision of optical reading ought to be responsibility of a reasonably competitive and reasonable service provider.
Clause 6.10.1	The charge ought to be deleted. The imposition of the charge is unwarranted and unreasonable; provision of optical reading ought to be responsibility of a reasonably competitive and reasonable service provider.

Relevant Provision of OpenNet ICO	NC's Comments
Clause 12.7	For clarity, we believe that the following should be added: "In the event that RL has requested for onsite and escort service during office hour but was stretched to after office hour solely due to OpenNet being late for the appointment and/or other reasons attributable to OpenNet, OpenNet shall only be entitled to impose onsite charges based on the original requested timing."
SCHEDULE 17 (DISPUTE RESOLUTION)	
General – Arbitration	Parties should only proceed to arbitration if both parties are agreeable. If either party is not agreeable to arbitrate, the dispute should be submitted to the exclusive jurisdiction of the Singapore courts. The dispute resolution process in the Singapore courts is potentially faster, more efficient and cheaper than that of arbitration. Further, any decision issued by a Singapore court will be a legally binding precedent which can be used to avoid similar disputes in the future.
SCHEDULE 18 (DICTIONARY)	
"Additional Termination Point"	Definition ought to be amended to "means any Termination Point located in the same Non-Residential Premise as the First Termination Point for the same End-User and which is in addition to the First Termination Point;"
"Confidential Information"	The word "Licensee" ought to be amended to "Party".
"Existing Requesting Licensee" & "New Requesting Licensee"	"Termination" and "Deactivation" are not defined terms in Schedule 18. Therefore, ought to be amended to "termination" and "deactivation" respectively.
"Missed Appointment Charge"	Definition ought to be amended to include a sum

Relevant Provision of OpenNet ICO	NC's Comments
	payable by OpenNet for failing to inform RL of changes in appointment date/time.
"Network"	Definition ought not to be changed to refer to OpenNet's network only. What will then be the objective of clauses 8.1 & 9 of main body of OpenNet ICO Agreement which is clearly intended to be of mutual application? If OpenNet wants to refer to its own network, then it would be clearer to use a new defined term e.g.: "OpenNet Network". To effect necessary amendments throughout OpenNet ICO.
"Removal"	"Termination Point" is a defined term in Schedule 18. Therefore, the words "termination point" ought to be amended to "Termination Point". See comments on definition of "Network" above.
"Termination Point"	Definition ought to be amended to "means any network point within a premise where the Wireline is terminated;"

4. Conclusion

Nucleus Connect appreciates the opportunity to comment on the proposed changes to OpenNet's ICO. While we agree that an operational review of the ICO is timely, and largely agree with the IDA-initiated changes, we are concerned with some of the changes proposed by OpenNet. We also believe that unless OpenNet changes its mindset and approach to the Next Gen NBN, no amount of improvements to OpenNet's ICO will ensure improved user experience with OpenNet's services. In this regard, we look to IDA, as the regulator, to ensure OpenNet's compliance with its obligations, as well as ensure that OpenNet adopts a more pro-active, customer-oriented and logical approach, that is in line with industry best practices, in the provision of its services.