



Axia NetMedia Corporation

Fibre-to-the-Premises In Greenfield Estates Consultation Paper

National Broadband Network

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Introduction

Axia NetMedia Corporation is pleased to respond to the Department of Broadband, Communications and Digital Economy's (DBCDE) consultation paper outlining considerations with regards to Fibre to the Premise (FTTP) for greenfield estates in Australia. Axia would like to submit our views, based on international experience, on the most effective deployment of FTTP networks. Axia's response should be taken in context of the Australian Government's overall objective of creating a National Broadband Network (NBN) that delivers FTTP to 90% of Australians over the next eight years.

Many angles must be considered while the roll out of the NBN is being contemplated. While it is imperative that fibre be deployed in all greenfield estates it is also important that this infrastructure is operated and managed to be a part of the NBN and maximize its utility.

Experience

Axia has Next Generation Network (NGN) initiatives in Alberta, France and Singapore. The Alberta SuperNet was Axia's first NGN implementation. It utilizes the Community Interconnect model that Axia is proposing as the base of the NGN. The Alberta SuperNet proved the concept that if a government facilitates the creation of a wholesale broadband network infrastructure, uses that network for their own broadband needs and at the same time makes the network available to the whole market, then the knock-on benefits to the economy are many times the value of the up-front investment and recurring services commitment.

Axia is also building and operating 13 regional broadband networks in France under a variation of a Public Private Partnership model called a Délégations de Service Public (DSP). These Open Access DSP networks in France have more of a regional character than the SuperNet. Rather than the focus being solely on connecting all communities in a jurisdiction, it goes one step further and creates a fibre backbone within a community and uses FTTP selectively depending on the situation. Once again Axia, through its joint venture company Covage, offers broadband services on an un-conflicted Open Access basis to Local Access Service Providers of all types – DSL, WiMax, 3G/4G mobile carriers and FTTP.

Axia led the OpenNet consortium which was recently awarded the FTTP Network Operating Company (NetCo) project in Singapore. OpenNet is responsible for creating a fibre grid that connects every one of Singapore's approximate 1.4 million residences and businesses. Axia surprised the global communications sector by demonstrating that a brand new metropolitan FTTP grid can be built for the low network access fees of \$15/month for residential and \$50/month for non-residential.

Fundamental Approach to Axia's FTTP for Greenfield Estates Response

Before addressing the specifics of any of the 36 questions in this Consultation Paper, Axia would like to make the following observations and comments:

- While we fully support the Commonwealth's desire to ensure that greenfield developments are built utilizing future-proof fibre infrastructure, we recognise the significant challenge presented by trying to develop a greenfield estate policy in parallel to the NBN Implementation Study and subsequent structuring and organization of NBN Co. We have existing experience in the deployment of FTTP in Singapore and to a lesser degree in France.
- Axia believes that any policy put in place regarding greenfield estates has to be fully complementary to the eventual NBN structure and business model.
- Implementing a greenfield estates FTTP approach that is not in line with the FTTP model adopted for the NBN as a whole will result in significant confusion in the marketplace and most likely a compromised greenfields FTTP solution.

- In the near term prior to the full operation of NBN Co. in the market, the greenfield FTTP estates initiative should be most concerned with ensuring that the pit, pipe and fibre infrastructure is created. The provision of services over this infrastructure is then best left to the scope of NBN Co.
- Axia's experience is that quick decision making by the NGN Co. minimizes confusion, by creating certainty for the end state and then any transition issues work within planned environment. To the extent that the greenfield asset is deployed prior to NBN Co., inevitably it will end up looking like any other existing fibre that NBN Co. will determine the use of such fibre through negotiations.
- Therefore, the basis of Axia's answers below will be that any greenfield process or policy decision should be structured such that it allows for subsequent adjustment or alignment to the Commonwealth's final FTTP approach as defined by NBN Co.'s scope, funding approach and operational mandate.

Delivering FTTP Technology in Greenfield Developments

1. What are the relative merits of the models outlined? Which is the preferable approach? Why?

The approach where the Australia Government legislates directly to require developers to ensure pit, pipe and FTTP infrastructure and services is much more in line with the desired outcomes than state, territory and local government approaches. While the states, territories and local governments do have responsibilities at the building code and development permit level, the requirements on the FTTP infrastructure, its architecture, operation and services stem from a federally driven and co-ordinated approach (i.e. the NBN). The only way to ensure consistency of outcome is to regulate this infrastructure at the national level. Furthermore, the availability and architecture of the infrastructure placed has implications on the eventual Universal Service Obligation for these services, which is also a federally regulated obligation.

It is possible, and without proper controls even likely, that the fibre architecture constructed could cause limitations on the possible operational technologies that can be later deployed. Only careful design and application of consistent design standards will avoid causing significant detrimental limitations on the performance and future-proof characteristics of the infrastructure.

Role of Government

2. Is any action required by the Australian Government to facilitate local councils and planning authorities requiring the installation of FTTP facilities?

Axia believes that FTTP for greenfield estates should be nationally coordinated and regulated. The Australian Government may need to work with local councils and planning authorities to ensure that none of the local regulations contradict or override the nationally driven obligations. The government need only regulate performance and architectural requirements for the FTTP installation that align with the NBN, while leaving local councils the right to specify the mode and method of installation (i.e. overhead, buried, duct, etc.) that is appropriate for the given location.

Local councils still have the rights of specifying, controlling and approving certain construction standards that are appropriate for their jurisdictions. It is important to understand the difference between these construction standards, and the architectural and operational standards that will be nationally driven through NBN Co. NBN Co. will have the responsibility to define acceptable architectural models and technical specifications for the NBN as a whole. The details of any FTTP specifications encapsulated in local council's building codes and bylaws should be specified by the Australian Government and specifically NBN Co.

3. Would the preparation of model laws, templates and/or national specifications or guidelines assist local councils and planning authorities with implementation?

Please refer to #2.

4. Would the development of educational tools for industry assist? If so, what?

Educational tools that are similar in nature and approach to existing industry educational materials would be appropriate.

5. Would the introduction of a certification system for the installation and performance of FTTP networks be beneficial?

As with any infrastructure or technology, the proper installation is critical to the ultimate performance (as defined by NBN Co.) and longevity of the system. Certification of installation of FTTP networks will be necessary just as it is for any other trade including structural engineering, plumbing and electrical infrastructure.

6. To what extent is a nationally co-ordinated approach preferable to one where state and territory or local governments take the lead?

An approach that is nationally coordinated by NBN Co. is not only preferable, but is essential to ensure that consistent end user outcomes and pricing are achieved. The NBN is considered a national priority, and creating FTTP infrastructure in all new greenfield estates are one means of achieving early success in the NBN project. Greenfield estates should be thought of as setting the precedent for the end user outcomes – not as exceptions to those outcomes. In this regard, it will be critical to align the FTTP greenfield estate approach with that adopted by NBN Co. for the NBN as a whole.

Other Roles and Responsibilities

7. If the Australian Government were to place obligations on developers and builders, at what stage of development should obligations be placed and on whom?

Obligations that are placed on the developers and builders should be defined as early as possible. These can be aligned with (and in fact replace) the obligations that currently drive copper infrastructure installation. There is a direct correlation between when timing of such obligations and costs, such that the early the FTTP requirements are incorporated into the design and planning, the lower the eventual costs. At all stages in the development cycle, the consideration of FTTP infrastructure should be considered as “code”. While this perspective could be considered similar to that for water and power, the federal nature of the FTTP initiative and the need for common outcomes drives will drive an even more co-ordinated approach.

8. Is there scope for the provision of lead-ins in greenfields to be made contestable?

Axia believes that it is much more practical if NBN Co. itself takes on the obligation of creating the fibre lead-ins, using the same contestability model(s) as for the rest of the NBN. In our view, NBN Co. should be, and can be driven to be organized and ready for this obligation in line with the proposed timing of the greenfield obligations.

Greenfield Estates

9. What is the appropriate number of lots or premises required for a development to qualify as a greenfield development requiring FTTP? What other issues or factors should inform the definition?

It is most functional for the fibre infrastructure to be installed at the same time as other basic infrastructure, such as power, sewer and water, regardless of the size of a particular greenfield installation. This is the lowest cost approach.

Of utmost importance is alignment with the NBN Co. policy objectives and deployment plan.

Currently, the size of community that will be included in NBN Co.'s fibre roll-out is a matter of debate. The current common benchmark is that communities of 1000 people or more will be eligible for fibre to the premise under the NBN. Therefore, all greenfield developments within a reasonable distance (i.e. 2 km) of eligible NBN communities should require FTTP to ensure alignment and integration with the National NBN.

10. What mechanisms could be used to achieve a consistent approach across large developments involving multiple developers and/or over an extended period of time? For example, what provision should be made in relation to estates in which lots are released over a number of years?

Please refer to the response for #8.

Multi-Dwelling Units and Office Blocks

11. Are there any special requirements for multi-dwelling units or office blocks?

In Axia's experience, there are a number of crucial decisions that need to be made, and made consistently with respect to the infrastructure design and implementation in multi-dwelling units and/or office blocks. It is easy to design the infrastructure from the perspective of a specific access technology; it is much harder to design it such that it is effective regardless of the access technology chosen (e.g. PON versus Optical Ethernet), and thus future proof. The fibre infrastructure should be, and can be, designed in such a manner that it does not preclude or limit the availability of current and future technologies. NBN Co. itself should be charged with making such decisions in line with its obligations to provide FTTP.

In addition, the construction of the FTTP infrastructure to individual premises in greenfield estates should be done during construction and include a termination in each premises. A two stage approaches where construction to an intermediate location in the building is done, with final termination in the premises is delayed until a service is taken up is not appropriate in greenfield situations.

12. Should the threshold for the connection of FTTP for new multi-dwelling units be lower than other estates or should all new multi-dwelling units be connected with FTTP? What threshold, if any, should apply?

The costs of retro-fitting FTTP technology after construction far out-weigh any savings that might be incurred by designing a threshold size for FTTP deployment. All new multi-dwelling units within an NBN Co. designated FTTP community should be constructed with FTTP whenever the associated basic infrastructure is constructed, regardless of size.

Fibre-to-the-Premises

13. What specified characteristics should be considered for the purposes of defining FTTP for greenfields?

All characteristics should be aligned with the design specifications of the NBN as a whole. Allowing islands of differing specifications at this level will be detrimental to the NBN's ability to deliver efficient and consistent services.

As a minimum, two independent fibre strands should be installed in each premises, that have direct connectivity back to a logical aggregation point. No assumptions should be made that require the

existence of any optical splitting on these fibres beyond the aggregation point. Differing methods of construction will be used based on localized factors. However, construction techniques must adhere to and meet a common set of specifications for buried and aerial plant to ensure consistency and quality throughout the NBN.

The same principal must be applied to the technical specifications of the FTTP network. Fibre type, performance characteristics, and architecture must be dictated by the overall design specifications of the NBN. Again this will be critical to the success of the NBN as a whole and the overall user experience.

14. Are there particular issues in relation to backhaul between the greenfield estate and point of interconnection to a national network that need to be considered?

The greenfields FTTP and interconnection of the national network FTTP should be managed by NBN Co. via a universal service obligation. The greenfield FTTP must be deployed within the design characteristics specified by NBN Co. to facilitate an efficient process of interconnection. Any failure to ensure a consistent design and point of construction demarcation between the development and NBN Co. will result in a complex and inefficient interconnection process.

Exemptions

15. What exemption arrangements, if any, would be appropriate and how should they be administered?

While it could be conceivable that exemptions could be granted under extra-ordinary circumstances, this should be evaluated against the planned life of the proposed estate and of the fibre infrastructure. i.e. It would only be reasonable to exempt the requirement if it can be shown that there is no likelihood of fibre (or alternative high speed connectivity) being available to the estate during its planned lifetime. If any other basic infrastructure is constructed, the fibre should be installed along with it.

The reality of this is threefold:

- No-one can accurately predict that over the lifetime of a newly built greenfield estate that such connectivity will not be available.
- The costs of building in the fibre infrastructure after the fact are orders of magnitude higher than at construction time.
- Estates without such infrastructure will be disadvantaged over their entire lifetime.

We can not foresee any situations where such an exemption would be appropriate.

16. Are there any particular circumstances under which developments should be exempt from the Australian Government's requirements for FTTP in greenfields (for example, for large area subdivisions in rural and remote Australia)?

It may be tempting to consider exemptions for communities that do not meet the NBN Co. minimum size to qualify for FTTP rollout. However, it is worth noting that any such exemptions would only further reduce the likelihood that fibre would ever reach such locations, as they would be significant barriers to adoption should the fibre (or other means of broadband backhaul delivery) arrive. Since the cost of including this infrastructure at construction time is so low, exempting it for this reason may still be ill-advised and the suggested two fibre installation should proceed with the installation of other basic infrastructure in all greenfield estates.

Commencement Date

17. Are there any factors that the Australian Government should be aware of in relation to the commencement of FTTP requirements?

The Australian Government needs to co-ordinate the requirements and timing of such obligations (and the deliver of services over the infrastructure) with the eventual rollout of the NBN. Smart planning terms of the operational arrangements, commercial arrangements for assets, etc., can make this transition as simple as possible.

The government needs to avoid the creation of a separate class of estate; i.e. those that were approved in the period between some arbitrary start date and the time when the NBN is ubiquitous. Axia would recommend that where at all possible the setting of commencement dates should be done once a certain level of insight and assurance in regards to NBN Co.'s approach to the FTTP standards and rollout methodology is received. The Commonwealth should ensure that one of the first tasks undertaken by NBN Co. is to define the appropriate NBN fibre and installation standards so that these standards may be applied to greenfield estates. Such an approach is completely feasible within the proposed times for new greenfield estates policy.

18. Under what circumstances, if any, should transitional arrangements allow for the installation of copper-based infrastructure?

We do not see a need for the installation of any further copper based infrastructure. From an end user's perspective, all services that are delivered over copper can now be delivered using the new fibre infrastructure. This should be a cornerstone of the NBN strategy, and can be achieved using today's technology. The focus should be on enabling NBN Co. as quickly as possible and make NBN Co. responsible for the provision of service over the greenfield FTTP infrastructure.

19. Should the FTTP requirement apply to developments approved before 1 July 2010 but for which telecommunications infrastructure has not yet been contracted or provided? What transitional arrangements may be appropriate in these circumstances?

The sooner such requirements are in force, the better will be the outcome for end users. There is no value in waiting any longer than is necessary for developers to get organized for FTTP deployment. As stated previously, as soon as there is adequate guidance from NBN Co. regarding standards then they should be enforced.

Competition and Regulatory Framework

20. Is the Australian Government's intention that the NBN company not overbuild existing FTTP developments in greenfield estates appropriate?

Axia believes that the commercial arrangements can be engineered such that the FTTP developments in the greenfield estates would be motivated to transition into, and become part of, the NBN. In this respect, there is no need for overbuild of such infrastructure.

21. Are there any specific issues that should be considered in relation to the role of the NBN company in greenfield estates?

In Axia's opinion, NBN Co. should be responsible to provide network services under a utility model to all FTTP implementations – greenfield or not. The primary issues are directly related to how the FTTP in greenfield estates will be rolled into the NBN. As stated above, Axia is aware of commercial models that make this possible. The reason that greenfield estates can be addressed before the rest of the NBN is because it is possible to do so, not because the government has any objective that new greenfield estates be treated any differently, nor have any different character in the long term, as compared to other FTTP premises. At the end of the day, FTTP premises should result in a consistent end user experience, regardless as to the timing of construction or type of building.

Competition to Service Greenfield Estates

22. What measures could the Australian Government introduce to facilitate competition for the provision of FTTP infrastructure in greenfield developments?

Axia believes that the competitive model for greenfield estates can be very closely aligned to that which enables competitive for the provision of FTTP infrastructure in the NBN as a whole. In fact, there is nothing inherent in greenfield estates that requires that the competitive landscape be considered differently. Axia's approach to the structure and scope of NBN Co. would create a competitive landscape for the provision of FTTP infrastructure in all communities.

23. Could the competitive provision of FTTP in greenfields be facilitated by a national online database of proposed developments accessible either publicly or to licensed carriers? Could this also assist with the planning of telecommunications infrastructure in such estates?

This is one method, though it is likely not the most efficient, nor the most commercially attractive approach. It is Axia's view that specific NBN Co. commercial arrangements can be set so as to create an appropriate and consistent level of competition to encourage the contribution of both new greenfield FTTP assets and existing assets to the NBN.

Open Access Arrangements

24. Is it sufficient for access to wholesale FTTP services in greenfield estates to be delivered through the telecommunications-specific access regime in Part XIC of the Trade Practices Act?

The entire approach to wholesale services needs to be co-ordinated with the overall NBN approach including possible changes to the Trade Practices Act to facilitate the mandate and operation of NBN Co. In our view, it is not the intent of the Government to define greenfield estates as a special case of broadband into the future, but merely to recognize that there is an opportunity now to ensure that they are included in the NBN in the lowest cost manner, by incorporating the FTTP infrastructure from the start. As previously mentioned, the focus of the FTTP for greenfield estates initiative should be to ensure the creation of the passive FTTP infrastructure in those greenfield estates so it can be efficiently and cost-effectively leveraged by NBN Co.

25. Should the ACCC conduct a Part XIC inquiry into the specification/definition of the access service to be supplied over FTTP networks, with particular reference to greenfield estates?

Please see our response to #24.

26. Should an alternative approach to providing access such as mandatory access to FTTP networks in greenfield estates be adopted? If so, what? Why?

The NBN is envisioned to be a wholesale open access network. Therefore, regulated open access to the FTTP networks in greenfield estates should be available on the same basis. The challenge facing FTTP networks in greenfield estates arises due to the potential elapsed time between the creation of the greenfield network and the creation of the NBN policy, economics, regulation and infrastructure. The emphasis of the Australian Government should be to start NBN Co. operations as quickly as possible and thereby aligning the policy and timing of greenfield FTTP deployments with the NBN as a whole. Axia recommends against implanting a special or parallel policy specific to greenfield estates.

27. Should it be mandatory that new FTTP networks in greenfield estates after 1 July 2010 be wholesale-only networks? If introduced, should there be exceptions to this type of rule and if so how should they be administered?

As mentioned above, Axia strongly believes that the FTTP for greenfield sites should be placed under the NBN umbrella from a regulatory, ownership and operational standpoint. NBN Co. will be best positioned to provide open access services to residents and businesses in Australia. Wholesale-only services provided by NBN Co. facilitate market competition at each premise and allow for increased customer choice. As applications and services continue to evolve, Australians will have the opportunity to utilize these Next Generation services right at their doorstep.

28. What are the minimum equivalence arrangements that should be put in place to ensure wholesale services are provided on equivalent price and non-price terms and conditions in greenfields?

NBN Co. will be delivering FTTP to 90 percent of Australian homes and businesses, offering service and access on an equitable basis for price and non-price terms. As the regulation is implemented for the NBN, greenfield projects will be required adhere to the same regulatory structure. The idea of a greenfield estate FTTP network falling under a separate network framework is not functional. The NBN Co. has the ability to set price and non-price terms on a national basis therefore the process of attaining existing fibre assets as well as future fibre assets must be well formulated to ensure equivalency for all end users and a commercially viable solution.

Equivalence over the greenfield estate FTTP network should:

- Adhere to the same price and non-price terms of the NBN;
- Be operated by the NBN Co. in the future;
- Have access to the minimum wholesale services that are implemented on a national bases; and,
- Be built on a basis that the fibre architecture does not limit the NBN's technology platform in the future.

29. Would it be appropriate and workable to have different access and equivalence arrangements for greenfield FTTP networks depending on whether or not they were operating before 1 July 2010?

For the most part, it would not be workable to have different access and equivalence arrangements for greenfield FTTP networks before 1 July 2010. As FTTP networks are built out in greenfield estates consideration should be made during the planning stage for the fibre assets to be leveraged by the NBN when the NBN is built. Developers who begin their planning phase between today and July 2010 should anticipate at minimum, a long term lease arrangement to NBN Co. The NBN Co. structure needs to be put in place as soon as possible in order to maximize cost savings for FTTP in greenfield estates.

Retail Pricing

30. Should Telstra continue to be the universal service provider in greenfield estates where FTTP is deployed by an alternative provider and retail providers are able to use these networks to supply voice services?

Where FTTP networks are deployed there is no need to have copper infrastructure as an overbuild network. Fibre networks are fully capable of providing voice services to businesses and residents offering choice to the end user. The existing regulations that apply to Telstra today do not need to remain when the NBN is in operation and therefore the associated subsidies can also be terminated.

Open access fibre networks have the ability to provide transport and connectivity services that make voice services more cost effective for retail services providers to deploy. If the network remains unconflicted (ie. structural separation between connectivity and web services) retail service providers require less investment and encounter less barriers of entry to provide services to their customers.

Therefore, it is not necessary to mandate that Telstra provide USO services for greenfield FTTP networks. NBN Co. should have the USO obligation to provide transport and connectivity services to these greenfield locations. Then any telecommunication retail service provider could provide the voice service over the NBN Co. service. Under this model Telstra should be eligible to be the USO provider as should any other licensed telecommunication carrier.

Ultimately, Axia believes that NBN Co. should adopt the USO obligations once it has rolled out the NBN in a particular area. The process of how and when that USO obligation transfers from Telstra to NBN Co. is complex and would require analysis during the planning and rollout of NBN Co.

31. If Telstra should continue as the universal service provider in greenfield estates, would it continue to be appropriate for Telstra to determine the technology it uses to fulfil its USO in those areas?

Telstra should not be determining the technology it uses to fulfil the voice services component of the USO obligation, if it has it, for a particular greenfield FTTP network. Telstra should be required to use the FTTP infrastructure that was created as part of the greenfield network.

32. If Telstra were not to continue as the universal service provider, what, if any, obligations should be imposed on whom to ensure that consumers continue to have access to basic telephony services in greenfield estates?

The NBN Co., when in operation, should be mandated to provide transport and connectivity services over the fibre network to the minimum requirements set forth by the equivalent access arrangements. The universal service provider requirements must be updated to recognize today's requirements for communication. A phone call is no longer the only minimum service Australians must have access to. As part of a converged quad-play approach built on a next generation network, voice communications built on VoIP become less about telephone calls (place to place), and more about communicating between people. In fact with a fully integrated next generation solution, a customer need not know or care about which device to use to communicate in a certain way. He/she should simply decide what communication style is appropriate (IM, email, voice, video, etc) and let the network choose the appropriate technology based on the location of the other party and what types of communication they are willing to receive at any given time.

If the NBN is mandated to provide transport and connectivity services to Australians, Telstra's legacy network based telephony service is inefficient and insufficient in meeting Australian's communication needs. A VoIP service (along with a plethora of other services) should be delivered over the NBN increasing the viability of the networks as well as providing end user choice and competition in the market. With NBN Co. responsible for the transport and connectivity USO then the voice component of this service could be provided on a competitive basis by any voice retail service provider in the market.

As the NBN Co. will have a monopoly fibre network in Australia it is commercially viable to place "provider of the last resort" responsibilities on the NBN Co. when required from ACCC. After the ACCC has determined that the market is in a failure scenario, on a community by community basis, NBN Co. should be required to provide a basic telephony service over the fibre network.

33. Will the proposed greenfields model deliver satisfactory retail pricing outcomes? If not, would new mechanisms to regulate prices in greenfields be necessary and workable? What form might such mechanisms take? What would be the implications for such mechanisms on the broader market?

Axia believes that the business models for greenfields can be aligned with, and result in the same pricing and performance outcomes as with all NBN FTTP deployments. The transition between stand-alone greenfield FTTP deployment and the incorporation of that deployment into the NBN may present challenges in the economics and retail pricing on those networks. It is likely that as part of its NBN Co. planning special consideration will have to be given to greenfield FTTP networks and how they are integrated into the larger NBN.

Reporting

34. How would progress in delivering FTTP in greenfield estates be best monitored and reported?

FTTP in greenfield estates is simply a part of the overall NBN project, and should be monitored, and reported on as such.

Next Steps

35. What further steps should be undertaken to support this initiative?

As discussed, Axia strongly believes that it is not functional to have two parallel processes running to pursue the same objective. Since the NBN is clearly the priority of the Australian Government, it is key to focus on ensuring that all fibre builds have the ability to roll into the NBN when it is deployed. Greenfield estates should be built to ensure the efficiency economies flow through to the end user and benefit Australians ensuring that fibre network builds do not limit the capabilities of the NBN.

It is critical that integration of greenfield FTTP networks be assigned as mandate of NBN Co. and planning for such integration begin as soon as possible. To that extent greenfield FTTP integration should also be a responsibility of the Implementation Study and should not be run as a parallel process to the Study and the creation of NBN Co.

36. Would the establishment of a stakeholder group assist with the implementation? If so, how many members would be appropriate, and who should be represented? What should be its terms of reference?

A greenfield FTTP stakeholder group would likely add value to the effort as long as that stakeholder group was under the larger NBN Implementation Study and not separate from it.