

Tuesday, 23<sup>rd</sup> March 2010

Senator The Hon Stephen Conroy  
 Minister for Broadband, Communications and the Digital Economy  
 Parliament House  
 CANBERRA ACT 2600

Dear Minister

I write to provide you with feedback on behalf of NBN Co on the Implementation Study delivered to the Government recently.

NBN Co has stated publicly on a number of occasions that it believes it was prudent of the Government to undertake the Implementation Study and we have worked constructively with the Lead Advisor as they have undertaken their task on the Government's behalf. As is acknowledged in the Implementation Study itself, the Study complements rather than duplicates NBN Co's work. In particular the Implementation Study acknowledges that:

"Details of implementation planning, engineering analysis, technology evaluation and roll-out planning remain the responsibility of NBN Co."

NBN Co agrees with and endorses the general thrust of the Implementation Study and the vast majority of its findings and recommendations. However there are a number of areas where NBN Co holds a different view to that expressed in the Implementation Study. These differences and NBN Co's position on each are set out in this correspondence and fall into two main categories.

Firstly, there are a number of *broad principles* which drive several recommendations. Where NBN Co has concerns about the overall principle, it has commented on the principle rather than the specific recommendations. Secondly, we have a number of concerns around *specific recommendations*. In this case, we have provided targeted feedback on the specific recommendation.

## **BROAD PRINCIPLES AND ASSOCIATED RECOMMENDATIONS**

NBN Co is concerned that the following broad principles are inconsistent with the three objectives set for NBN Co by the Government – coverage, competition and commerciality. In a number of cases, they also raise significant issues with respect to “implementation planning, engineering analysis, technology evaluation and roll-out planning”:

**NBN Co should act now in anticipation of Layer 1 unbundling and deploy “home run” topology (Rec 32; 36.1; 70; 71; 75; 76; 77)**

NBN Co does not believe Layer 1 unbundling is an appropriate short to medium term objective. Whether it is ever an appropriate objective from a competition perspective is heavily dependent on how the retail market structure evolves. In an environment where one player has a substantial retail share advantage over other RSPs, unbundling of Layer 1 infrastructure would significantly favour that entity given the Layer 1 unbundling entrenches scale advantages.

Provision of Layer 1 unbundling absent a substantial rebalancing of retail market share would significantly undermine NBN Co’s ability to deliver against one of its three key objectives, the delivery of a level competitive playing field in retail. It is worth noting that while our industry consultations have produced some discussion of the benefits of offering a Layer 3 product, no feedback has been received suggesting the need for future Layer 1 unbundling.

Further, the Layer 2 solution that NBN Co is designing supports retail competition within the home through the provision of multiple ports on the ONT by providing concurrent access to multiple RSPs and services on the bitstream. This will be considerably more difficult if Layer 1 unbundling is implemented.

In order for NBN Co to plan now for Layer 1 unbundling down the track it would need to deploy point-to-point (or “home run”) passive fibre architecture as opposed to a field based distributed splitter architecture. NBN Co’s concerns and suggested approach to this issue is contained in its Position Paper NBN-CS-HCS-013 forwarded to Mr Peter Harris and Mr Mark Tapley on March 3, 2010.

Beyond concerns around the appropriateness of Layer 1 unbundling from a competition perspective, NBN Co remains concerned that the Implementation Study has not put sufficient weight on a number of the disadvantages of a “home run” architecture, which are:

1. The cost of the “home run” deployment is significantly higher than GPON and the differential, in NBN Co’s opinion, has been significantly under-estimated in the Implementation Study.
2. The physical space required to implement this type of architecture will complicate the deployment considerably.
3. Based on our discussions with the ACCC, they may not view a “home run” deployment as constituting efficient network build which could raise significant issues around our ability to achieve full cost recovery.

Even with the aggressively low cost estimates used by the Implementation Study, the Lead Advisor accepted that “home run” topology is not an acceptable solution for the entire fibre footprint. The Implementation Study modelled 50 percent “home run” coverage. This would mean that NBN Co would not be offering a consistent product set over the fibre footprint and with introduction of a Layer 1 offer, there would likely be significant variation in the products and services available across the footprint.

Further, to date, NBN Co has not received a direction from Government to design products, systems and processes which anticipate Layer 1 unbundling and therefore has not done so. Our work to date on product, systems and processes has anticipated a Layer 2, Ethernet based, GPON solution. This solution has received consistent industry support and all submissions received as a part of our consultation process endorsed this decision. Passive Optical Networks (and GPON in particular) have been the preferred solution for most recent fibre deployments around the world as this is consistently viewed as the most efficient network architecture.

Accepting this recommendation would set the project back by months and delay announced initiatives such as the First Release Sites. If NBN Co is instructed to deploy or partially deploy a “home run” architecture with the intention of unbundling Layer 1 at some future time, it would simply be unavoidable that NBN Co would need to rework much of the work already completed, including its product definition, network and systems design, business case and project plan.

As an alternative NBN Co has proposed to continue with its current direction and to undertake relatively early in the volume roll out, a trial of the technology and systems needed to anticipate unbundling. In this way, our current momentum will not be lost but the costs, benefits consequences and implications of unbundling can still be tested.

Exempt under s. 47C of the FOI Act

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**Commercial tender process for a Fixed Wireless network covering Premises from 93 percent to 97 percent (Rec 5.2; 5.3; 46; 47)**

NBN Co has been operating on the basis of its original mandate from Government, which included the use of fibre, wireless and satellite technologies. NBN Co understands its obligation to create a ubiquitous national broadband network and takes seriously the need to "solve the last 10 percent".

NBN Co believes that the Implementation Study's recommendations on this matter compromise the coverage and competition requirements of the project. Splitting the design and operation of the two technologies in the last 10 percent dramatically increases the likelihood of a sub-optimal solution, the emergence of a non-competitive wireless market and gaming at the boundaries of technologies as commercial entities seek to under-serve marginal customers.

In NBN Co's view, the optimal solution for the last 10 percent is partly influenced by whether NBN Co and Telstra are able to agree a migration deal. If a deal is done with Telstra, NBN Co, or another Government entity, should take responsibility for the last 10 percent in total, including the voice USO. If Telstra commits to migrate customers from copper and eventually de-activate the network, a solution for copper in the last 10 percent should be included and valued in the deal. In these circumstances, NBN Co would strongly urge the Government to review the USO to allow for it to be flexibly met using both fixed and wireless access networks with satellite as a last resort given issues of latency when using satellite to satellite voice services. This would mean some end-users who currently receive voice via copper would receive voice via wireless and some end-users would receive their voice service via wireless but data service via satellite.

If there is no deal with Telstra, NBN Co should be required to provide a broadband only (i.e. not voice) service in the last 10 percent using a combination of wireless and satellite (with the possibility of the whole solution being provided by satellite). In this latter scenario, the wireless part of the network will need to perform the “in-fill” function. This in-fill function is needed because the boundaries of the FTTP footprint will not be precisely known until the time of the actual fibre deployment within an area. Given it is necessary to define up-front the capacity and spot beam parameters of the satellite solution, the wireless solution must provide the flexibility required in the approx 7% of premises to be covered between the FTTP and satellite solutions. This will be very difficult to optimise in co-ordination with a commercially based wireless operator.

**Subsidising transit backhaul and offering it to other access providers within and beyond the fibre footprint (Rec 47; 52.2; 53; 54)**

For the sake of clarity, transit backhaul refers to backhaul above the fibre serving area (FSA) but below the NBN Co Pol. This product element will be provided as part of the Aggregated Bitstream Product (AEB) for FSAs where the Pol is not located within the FSA but rather a number of FSAs are aggregated at a Pol. This will occur when competitive backhaul is not available at the FSA so the traffic needs to be taken back to a Pol on a competitive link. Less than 20 percent of premises will be covered by an AEB product with a transit component.

NBN Co understands the need to subsidise transit backhaul in the context of its fibre access service given its coverage objective. However, until more detailed analysis has been performed it believes it is premature to specify the affordability test. The benchmark proposed by the Implementation Study of not more than 10 percent of the entry level wholesale product may be appropriate but before this decision is made we need to understand:

1. The scope of the subsidy implied
2. The extent to which this cap covers the opex and replacement capex required to support the on-going functioning of each link
3. The implications for competitive entry over time. NBN Co would prefer to preserve market signals through economic pricing where links are potentially contestable and move the relevant Pols deeper into the network as competitive build occurs.

The requirement to provide subsidised transit to competitive access providers whether fixed or wireless raises a number of concerns:

1. It puts competitors at a commercial advantage to NBN Co and encourages over-build where it might not otherwise be rational, undermining both the NBN Co business case and the concept of a level competitive playing field in infrastructure provision.
2. It creates particular problems with respect to competition with wireless given it undermines NBN Co's ability to price services to base stations commercially and the subsidy occurs at the time when wireless is most likely to act as a substitute and to undermine fibre uptake and thus NBN Co's business case.
3. It creates a precedent for unbundling of the fibre access product below the Pol. If the requirement to unbundle was extended to fibre access and NBN Co was required to offer a Pol at all FSAs, this would put any player with existing scale in these regions at a substantial advantage to any other RSPs. [Exempt under s.7\(3A\) & 47 of FOI Act](#)

Exempt under s.7(3A) & 47 of FOI Act

Further, the requirement to provide subsidised backhaul beyond the fibre footprint would appear to be sub-optimal for the following reasons:

Exempt under s.7(3A) & 47 of FOI Act

2. If NBN Co is not participating in wireless for the last 10 percent, there is no mechanism to optimise the overall cost of provision of this capability. NBN Co could find itself offering subsidised backhaul to competitors (with the NBN Co satellite product) who have optimised network design with little regard for the cost of backhaul provision.

#### **Service to mobile base stations (Rec 36.2; 47; 84)**

This recommendation represents a significant expansion of NBN Co's current mandate. It has significant implications in that:

1. It amounts to a subsidy for private commercial entities.

Exempt under s.7(3A) & 47 of FOI Act

3. Given wireless may act as a substitute in the short term, though we anticipate it will be complementary in the longer term, it makes early fibre adoption more challenging which appears counter to the Government's commitment to fibre as its preferred access technology.
4. It undermines the business case for NBN Co's fibre based product as early uptake is critical to the overall case.

NBN Co does not support this recommendation, but if there were to be such a requirement it should:

1. Be introduced at the end of the fibre deployment and
2. Subject to a discrete (commercially based) pricing regime

#### **Preparing for separation (Rec 61; 79; 80; 81; 82)**

The benefits of structural separation are far clearer for a vertically integrated entity than for a wholesale-only, open access provider with significant equivalence obligations. In line with the concerns we have around the benefits of Layer 1 unbundling, the arguments for separation of NBN Co into multiple different entities seem unclear.

The benefits for structural separation should be carefully weighed up against the following considerations. To date, NBN Co has not received a direction from Government to design products, systems, processes and a corporate structure which anticipate structural separation and therefore

has not done so. If NBN Co is instructed to prepare for structural separation at some future time, it would simply be unavoidable that NBN Co would need to rework much of the work already completed, including its systems design, business processes, corporate structure, enterprise systems and project plan.

This would likely:

1. Create significant additional costs as a result of separating and running independently network elements and systems.
2. Reduce momentum and delay launch of initial services given the requirement for re-work.
3. Create additional organisational complexity, as a result, for example of keeping and maintaining dedicated vehicles for different categories of assets.

### **Level competitive playing field for infrastructure**

NBN Co believes that certain requirements should be placed on all infrastructure providers given potential problems associated with unregulated over-build or cherry picking, specifically:

1. Lack of consistency (or quality) in the build may compromise the services available to RSPs and end-users.
2. The Government's objective of a level retail playing field might be compromised (given some Greenfield developments have tied their premises to one RSP for an extended period as part of the pre-emptive Greenfield build).
3. Risks associated with viability of some access providers may lead to the potential for service interruption.
4. Uniform pricing requirements create incentives for cherry picking (either pre-emptive or overbuild) that may significantly undermine NBN economics and place it at a further competitive disadvantage.

A number of recommendations in the Implementation Study help address this issue, specifically the requirement that all super-fast fixed access networks commit to:

1. The provision of wholesale, open-access, equivalent services (Rec 72)
2. Compliance with technical specs mandated for FTTP Greenfields (Rec 72)
3. The potential for introduction of a universal service levy (Rec 74)

NBN Co believes that all super-fast access networks should also be required (like NBN Co) to submit an access undertaking to the ACCC or be subject to declaration.

### **SPECIFIC RECOMMENDATIONS**

In relation to specific recommendations, NBN Co would make the following comments:

**Rec 11: FTTP requirement for MDUs.** NBN Co will make every attempt to install fibre but recognises that in some cases this will not be possible or prohibitively expensive. In these cases, NBN Co recognises that VDSL can deliver an appropriate and cost effective solution and flexibility in deployment options should be preserved.

**Rec 13: Provider of last resort.** For clarity, this recommendation should read “wholesale provider of last resort”, not “network provider of last resort”. NBN Co does not anticipate offering any retail services and any retail service requirement would add substantial cost and complexity to the project.

**Rec 22: Use of HFC networks as interim technology solution.** The relevant use of HFC networks is technically challenging and is a technology that is at this stage only being trialled in some parts of the world, for example Belgium. We agree with the creation of this option but would flag that there should be no commitment to its utilisation.

**Rec 26: Voice capability.** NBN Co should be required to provide a basic voice capability only, not industry standard PSTN as this implies NBN Co would be need to provide “backward compatibility” to a full range of existing voice features that would take NBN Co up the technology stack beyond Layer 2 and require significant incremental investment.

**Rec 28: Support for emergency services.** NBN Co agrees with this requirement. For clarity, the provision and maintenance of the IPND should sit with the regulator rather than an industry participant. NBN Co is not well positioned to manage the IPND given it does not have a direct relationship with end users.

**Rec 33.1: Technology upgrade path.** NBN Co agrees with the thrust of this recommendation provided upgrades are consistent with the requirement for an efficient network build. Clear criteria for the evaluation of appropriate upgrade paths and a consultation program should be agreed in advance with both ACMA and the ACCC. Intervention by either entity should be limited to situations in which the criteria have not been met.

**Rec 33.2: Comparable levels of performance within a technology footprint.** NBN Co notes this would no longer be possible across the entire fibre footprint if Layer 1 unbundling were to occur.

**Rec 33.3: Satellite CPE standards.** NBN Co intends to supply satellite CPE in order to implement key requirements such as enabling multiple retail service providers to deliver retail services to one end-user.

**Rec 34: RF service.** Should NBN Co be obliged to support multiple RF providers on its infrastructure, it would be unlikely to make the RF channel available due to the cost, complexity and technical difficulty of supporting multiple RF providers.

**Rec 38: ONT provision.** NBN Co should not be constrained to one solution when considering the location or precise deployment method of ONT equipment. There are complex trade-offs and considerations which should be assessed on a case by case basis, in consultation with RSPs and other stakeholders, for example electricity distributors who may be considering concurrent Smart Meter deployments.

**Rec 39.1: Entry level product definition.** The Implementation Study recommendation is made in the context of the Peak Information Rate paradigm. NBN Co is currently considering a Committed Information Rate model which commits it to far better end-user outcomes than delivered under the Peak Information rate paradigm currently in the market.

Exempt under s.7(3A) & 47 of FOI Act

**Rec 44: Satellite CPE funding.** NBN Co recommends no separate subsidy for satellite CPE and no RSP involvement in CPE as this could significantly distort the market.

Exempt under s.7(3A) & 47 of FOI Act

NBN Co would welcome the opportunity to discuss these issues prior to the Government finalising its consideration of the recommendations. In particular, NBN Co suggests a process of engagement with the Government Departments involved in the Implementation Steering Committee.

Yours sincerely



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CC: Peter Harris  
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