

20 March 2013

Mr Richard Home
General Manager, NBN Engagement and Group Coordination Branch
Australian Competition and Consumer Commission
GPO Box 520
Melbourne Vic 3001

Dear Mr Home,

NBN Co Special Access Undertaking – Request for Further Information

We refer to your 15 March 2013 request for further information to assist the ACCC to analyse the information provided by NBN Co on 15 February 2013. NBN Co's responses to the questions posed by the ACCC are set out below.

The contents of this letter are not confidential, and may be published on the ACCC's website.

Explanation of demand forecasts

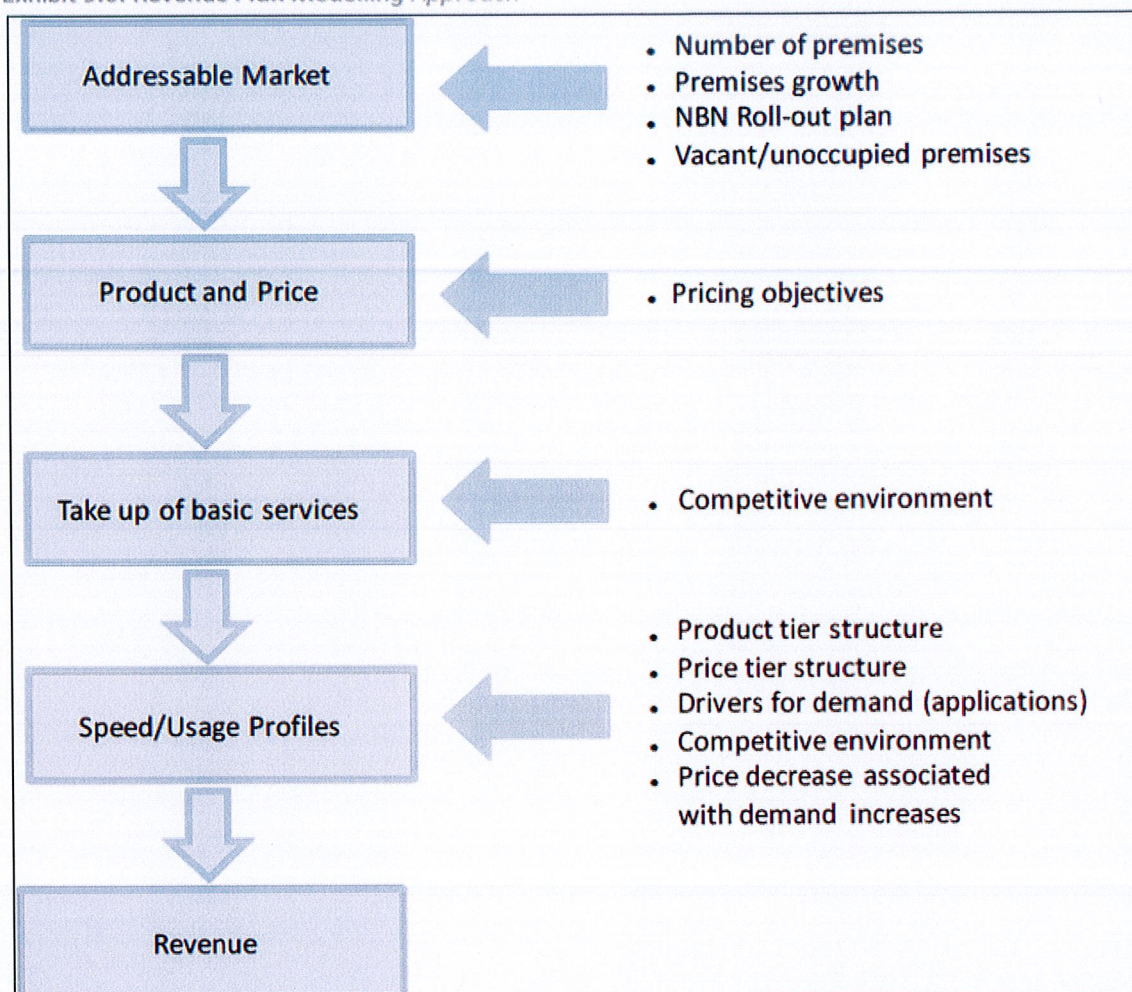
Attachment B to the information provided by NBN Co on 15 February 2013 included some explanation of how NBN Co developed the demand forecasts in the Corporate Plan pricing scenario and the maximum pricing scenario. The following provides a more detailed supplementary explanation that should be read together with that provided in Attachment B.

Demand forecasts in the Corporate Plan pricing scenario

The demand forecasts in the Corporate Plan pricing scenario are drawn from NBN Co's 2012-15 Corporate Plan. As described in section 8 of that Plan, the approach taken to developing the demand forecasts is the same as in NBN Co's 2011-13 Corporate Plan, with some refinements in assumptions based on experience to date and adjustments to the rollout profile (particularly for the Fibre network and new developments, and to reflect the migration of Optus HFC subscribers over time).

NBN Co's 2011-13 Corporate Plan provides an extensive discussion of how NBN Co undertakes its revenue planning. The Revenue Plan is built from the ground up and Exhibit 9.6 (reproduced below) illustrates the Revenue Plan modelling approach. Each element of that approach is discussed in some detail in pages 114 to 132 of the 2011-13 Corporate Plan.

Exhibit 9.6: Revenue Plan Modelling Approach



Source: NBN Co

There are three aspects of the Revenue Plan modelling approach that are particularly relevant in the current context.

1. All elements (including prices and demand) are in effect forecast simultaneously so as to arrive at an internally consistent scenario. Projected future demand for average speed and average data usage are based on historical trends, reasonable assumptions on future trends, and benchmark forecasts. In arriving at these projected future demands, there is a significant implicit assumption about the ongoing affordability of each element in isolation and in combination. The nature of this assumption is evident in the relationship over time between ARPU and take-up, average speed and average data usage.
2. NBN Co faces competition from wireless networks that are increasing in capability over time, subject to significant economies of scale and scope (and therefore decreasing cost per GB delivered), and are expected to offer a potential substitute for NBN Co's voice only and entry level voice and broadband services.
3. In the Corporate Plan pricing scenario, growth in wireless-only substitution is projected to be held to moderate levels (starting at 10% of total premises and increasing to 13% by 2039-40) by the assumption that both AVC and CVC prices will fall over time in both real and nominal terms, maintaining a similar relative value proposition to wireless services.

Demand forecasts in the maximum pricing scenario

The demand forecasts in the maximum pricing scenario were developed using the same assumptions as in the Corporate Plan pricing scenario (including NBN Co's rollout schedule and forecasts of new development growth). The effect of nominal prices rising at CPI-1.5% from year to year is modelled in a number of steps.

1. The change in average AVC speed from year to year is based on the inverse relationship observed in the Corporate Plan pricing scenario between average AVC speed in Mbps and average AVC ARPU per Mbps over the period to 2039-40. As average AVC ARPU per Mbps increases from year to year in the maximum pricing scenario, the associated decrease in average AVC speed (measured across those End Users that remain on the NBN and those that leave and become wireless-only – the latter are modelled as having a zero AVC speed) is modelled as:
 - an increase in wireless-only premises (starting at 10%, as in the Corporate Plan pricing scenario, and rising steadily to around 30% by 2039-40); and
 - a modest increase in average AVC speed amongst the remaining base of NBN End Users (but this increase is still less than in the Corporate Plan pricing scenario).

The combined effect of these is balanced so that, on average over the period to 2039-40, the maximum pricing scenario exhibits a similar inverse relationship between average AVC speed and average AVC ARPU as in the Corporate Plan pricing scenario.

2. The change in average data usage from year to year is based on the relationship between average data usage and average AVC speed observed in the Corporate Plan pricing scenario. With average AVC speed (amongst End Users connected to the NBN) increasing at a lower rate than in the Corporate Plan pricing scenario, average data usage also increases at a lower rate.
3. Demands for specific AVC speed tiers and CVC capacity are estimated from average AVC speed and average data usage using the same assumptions as in the Corporate Plan pricing scenario (such as in regard to the distribution of AVC speed tiers between entry-level / voice-only and all other speed tiers).
4. Demands for other products are estimated based on their assumed relationship to AVC and CVC demand, and expectations of price sensitivity.
 - Symmetric access capacity – demands for TC-1 and TC-2 are assumed to be the same between the two scenarios, while demand for TC-3 is assumed to be lower reflecting a wider base of End Users and thus broader degree of price sensitivity.
 - Multicast – demands for Multicast Domain and Multicast Media Streams are assumed to be the same between the two scenarios, while demand for Multicast AVC is assumed to be lower due to the proportionally smaller pool of End Users connected to the NBN.
 - NNI – demand for NNI is assumed to be in proportion to CVC demand and would otherwise be assumed to be the same between the two scenarios.

Clearly, it would be possible to develop variants around the maximum pricing scenario involving a greater or lesser degree of demand response, and in particular a greater or lesser degree of wireless substitution. However, given that affordability will always be a significant factor (especially in the residential segment), significant reductions in average speed and average data usage relative to the Corporate Plan pricing scenario are inevitable, as is a greater exposure to wireless substitution. In view of this, although there may be variants in which revenue is close to that in the Corporate Plan pricing scenario, it seems more likely that revenue would be lower in the maximum pricing scenario, which is consistent with what NBN Co has modelled.

Explanation of Fibre network capex forecasts

Attachment B to the information provided by NBN Co on 29 January 2013 included some general explanation of how NBN Co developed the capex forecasts in the Corporate Plan pricing scenario and the maximum pricing scenario. The following provides a more detailed supplementary explanation in relation to the Fibre network only and should be read together with the general explanation provided in Attachment B.

Consistent with the capex categories described in Attachment B, references below to capex on the Fibre network relate to: Fibre Activations; Fibre Lead-ins; Passive – Fibre Deployment; and Civil Works – Fibre Deployment.

Fibre network capex in the Corporate Plan pricing scenario

For the Corporate Plan pricing scenario, NBN Co's Fibre network capex forecasts are drawn from NBN Co's 2012-15 Corporate Plan. They are based on the deployment schedule, network rollout and cost assumptions, and connection profile as described in detail in sections 5, 6 and 8 of the 2012-15 Corporate Plan. In the current context the most relevant points are as follows.

1. Under the deployment schedule, of the 12.2 million Fibre premises forecast to be passed by 30 June 2021, 10.1 million are forecast to be brownfield and 2.1 million greenfield (refer to Exhibit 5-3 of the 2012-15 Corporate Plan, p.37).
2. The Fibre network rollout plan is now based on a build drop approach, which refers to the practice of making the connection from the street to the premises when the distribution and local segments of the Fibre network are being built (refer to section 6.2.3 of the 2012-15 Corporate Plan, p.45). In the previous Plan, NBN Co assumed a demand drop approach, which refers to the practice of making the connection from the street to the premises only when an order for a service is received from a retail service provider. Further analysis suggested that a build drop approach will be more effective and efficient. This is, in part, a consequence of the expected uptake associated with the implementation of the Telstra Definitive Agreements and the Optus HFC Agreement. Note that even with a build drop approach, the final step in activating a service (installing the network termination device (NTD)) will generally still only occur when an order for a service is received from a retail service provider.
3. Over the long term, growth in the Fibre network due to new developments is expected to continue, and is forecast to generate an ongoing level of capex over time. The 2012-15 Corporate Plan (p.63) assumes forecast average growth in the Fibre footprint of approximately 163,000 new occupied residential and business sites each year over the period 2009-10 to 2024-25 and an average growth of approximately 154,000 per year over the period 2009-100 to 2039-40.
4. Over the period to 2039-40, a number of elements in the Fibre network are forecast to be progressively replaced based on their expected useful lives. Active components, such as NTDs installed at End User premises, have shorter useful lives than passive network elements, and so may need to be replaced a number of times over the next 30 years¹.

¹ The same is true of active network elements on the transit network, including OLTs, DWDM and Aggregation Switches installed at the Fibre Access Nodes (FANs) and Aggregation Nodes / Points of Interconnect (Pols),

Fibre network capex in the maximum pricing scenario

In the maximum pricing scenario, although End User numbers are projected to be substantially lower than in the Corporate Plan pricing scenario (due to the extent of assumed wireless-only substitution), the effect on Fibre network capex is relatively muted both during and after the rollout period². The main reason is that, irrespective of differences in the level of activations, the capex projections in the maximum pricing scenario assume the same level of premises passed and the same level of build drops deployed as in the Corporate Plan pricing scenario.

The lower level of Fibre End Users being activated in the maximum pricing scenario results in a lower level of connection capex at End User premises (e.g. NTD installs)³.

As always, we would be pleased to discuss this or any other SAU issue with you.

Yours sincerely,



Caroline Lovell
Head of Regulatory Affairs & Industry Analysis

² In mapping the detail in the Corporate Planning framework to the capex categories listed in Attachment B, a direct (one to one) allocation is used in most cases, but some fixed capex items are indirectly allocated across the capex categories in proportion to the amount of direct capex in each of those categories. The direct capex that is mapped to the capex categories for Passive – Fibre Deployment and Civil Works – Fibre Deployment is the same in both scenarios, but the direct capex mapped to Fibre Activations and Fibre Lead-ins is lower in the maximum pricing scenario. As a result, the indirect allocation to Passive-Fibre Deployment and Civil Works – Fibre Deployment is higher and the indirect allocation to Fibre Activations and Fibre Lead-ins commensurately lower. Therefore, the sum of direct and indirect capex allocated to Passive-Fibre Deployment and Civil Works – Fibre Deployment ends up higher in the maximum pricing scenario due solely to the change in the basis of indirect allocation of the fixed capex items. However, the indirect allocation effects net out across the capex categories, leaving total Fibre network capex lower in the maximum pricing scenario as compared to the Corporate Plan pricing scenario.

³ This in turn leads to lower traffic throughput on the Transit network, reducing the need for active equipment installs in Fibre Access Nodes (FANs) and Aggregation Nodes / Points of Interconnect (Pols).