

5 March 2012

Mr Michael Cosgrave
Group General Manager
Communications Group
Australian Competition and Consumer Commission
GPO Box 520
Melbourne VIC 3001

By email: michael.cosgrave@accc.gov.au

Dear Michael,

NBN Co's Special Access Undertaking (SAU)

In NBN Co's 20 December 2011 supporting submission in relation to the SAU we noted that a number of expert reports were being prepared on NBN Co's behalf and would be lodged once finalised.

The purpose of this letter is to lodge with the ACCC the attached expert report from Analysys Mason Limited (Analysys Mason) in support of NBN Co's SAU. This report, along with this letter can be posted on the ACCC's website.

Analysys Mason is an internationally recognised consulting firm that has provided expert advice to a number of regulators worldwide on technical and costing matters in the areas of telecom, media and technology. Some notable projects undertaken by Analysys Mason include preparing a fixed-network cost model and conducting an international benchmarking analysis on wholesale fixed line prices for the ACCC as well as providing advice to Ofcom on various next generation networks issues including a report on capacity of future fibre networks incorporating a GPON market review and a report on duct access in the UK.

Analysys Mason was instructed by Webb Henderson, on behalf of NBN Co, to provide independent advice on the efficiency and prudence of NBN Co's design of its fibre and fixed wireless networks. In so doing, Analysys Mason was instructed that they did not need to assess the merits of policy decisions that have been made by the Australian Government in its Statement of Expectations. Rather, the focus of the Analysys Mason report is on the key choices and decisions made by NBN Co in designing its network in the context of the parameters established by the Statement of Expectations. Analysys Mason was not asked to provide their opinion on NBN Co's long-term satellite network design given its relatively early stage of development.

After examining the key network design decisions made by NBN Co, Analysys Mason has advised that NBN Co's design of its fibre-to-the-premises (FTTP) and fixed wireless networks reflects an efficient and prudent network design. In reaching this view, Analysys Mason provided specific views on a number of technology, architecture and infrastructure decisions made by NBN Co including the following:

NBN Co's fibre network:

- The choice of Ethernet as a layer 2 protocol is both efficient and prudent as it aligns with global standards and is a proven technology.
- NBN Co's adoption of a centralised GPON architecture is both efficient and prudent, as it represents the best choice of architecture from long-term cost-management, network scalability and flexibility perspectives.
- NBN Co's network design is prudent from a resiliency perspective.
- The choice of ribbon technology for fibre cables is both efficient and prudent.
- NBN Co's proposed end-to-end service availability target of 99.9% is prudent from a network design perspective, having regard to the geography of Australia.
- NBN Co's decision to re-use Telstra's infrastructure is considered prudent, as there are strong operational reasons to use underground infrastructure wherever it exists and is fit for purpose.
- The approach to the architecture and features provided on the Network Termination Device is prudent.
- NBN Co's decision to provision a single fibre in the local fibre network for the initial service connection to the premises, along with a second fibre to meet future capacity requirements in respect of that premises is both efficient and prudent. They also consider that NBN Co's overall provisioning of fibre in the local network to cover non-addressable premises is prudent.
- The decision to pre-build the final drop to premises is efficient and prudent.
- The decision to implement Fibre Distribution Hubs using street cabinets is a prudent choice.
- NBN Co's design of the distribution fibre network is prudent, as it allows for different levels of protection to be implemented.
- NBN Co's design and architecture for the transit network is prudent.
- NBN Co's fibre network design is likely to have a sufficient upgrade path to meet the reasonably anticipated requirements of access seekers and end-users for bandwidth over the next 30 years. Analysys Mason found no bottlenecks in the choice of technology or design of the physical network that would mean the fibre network cannot be upgraded in terms of bandwidth or functionality.

NBN Co's fixed wireless network

- NBN Co's decision to deploy a TD-LTE solution is efficient and prudent as it is being adopted by major operators around the world, creating economies of scale.
- The development of a core wireless network based on 3GPP standards is prudent, as it will ensure inter-operability of different vendors' equipment, and is also efficient due to the large global volumes of equipment based on this standard.
- NBN Co has followed a rigorous and best-practice planning methodology to design the wireless access network, with test results showing that the estimated cell sizes are prudent.
- The use of the same POIs for the wireless and fibre footprints will reduce infrastructure duplication and will be more efficient than using separate POIs. The same is true for the transit network.
- NBN Co's decision to use microwave technology in the last mile backhaul is prudent for the short to medium term, as it represents the best choice in consideration of bandwidth requirements and costs.
- The fixed wireless network design is future-proofed as it uses standardised technology with a clearly defined roadmap, which is also supported by major mobile network operators worldwide and is backed by most equipment vendors. The wireless core network is based on fibre technology, which provides sufficient scalability to accommodate future demand.

Analysys Mason also found that NBN Co has used a prudent and efficient methodology to determine the boundary between premises served by fibre and those served by fixed wireless. NBN Co's methodology ensures that a maximum number of end-users are covered by the FTTP network, while at the same time not resulting in disproportionate costs for NBN Co in the relevant circumstances.

The Analysys Mason report adds weight to NBN Co's proposed approach to prudence based on the Prudent Design Condition (clause 2 of Schedule 8 of the SAU) and the Prudent Cost Condition (clause 9 of Schedule 8 of the SAU). The Prudent Design Condition establishes that for capital expenditure (capex) to be considered prudent, it must be incurred consistent with the Network Design Rules, which have been provided to the ACCC with the SAU. The Analysys Mason report provides support for these Network Design Rules themselves being efficient and prudent. This is relevant to the ACCC's assessment of whether the terms and conditions of the SAU are reasonable in accordance with section 152CBD(2)(b)(ii) of the *Competition and Consumer Act 2010* (CCA), particularly in considering whether the prudence commitments in Schedule 8 of the SAU will:

- promote the long-term interests of end-users through encouraging the economically efficient use of, and the economically efficient investment, in the infrastructure by which listed services are supplied and any other infrastructure by which listed services are, or are likely to become, capable of being supplied; and
- the economically efficient operation of a carriage service, a telecommunications network or a facility.

The conclusions provided by Analysys Mason provide additional support to NBN Co's previous submission that the terms and conditions of the SAU are reasonable and should be accepted by the ACCC.

Please do not hesitate to contact me if you have any queries in relation to the documentation provided.

Yours sincerely,



Caroline Lovell
Principal, Regulatory Affairs & Industry Engagement