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To: Committee Secretary  
Senate Select Committee on the National Broadband Network  
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## National Broadband Network: Implementation Study

The Internet Society of Australia (ISOC-AU) welcomes this opportunity to provide our submission to the Senate Select Committee on the National Broadband Network (NBN) Implementation Study (the Study). Because of the size of the Study and the limited amount of time in which to respond, our submission concentrates on higher level themes for the implementation of the NBN. This submission should be read together with our earlier submission to this Committee of March 2010, outlining our previous submissions on the NBN: its topology and design, the competitive framework surrounding it and the protections that should be in place to ensure the NBN is available, accessible and affordable for all Internet users. The submissions are available either on our home page at [www.isoc-au.org.au](http://www.isoc-au.org.au) or, for earlier submissions, at [www.isoc-au.org.au/Submissions/index.html](http://www.isoc-au.org.au/Submissions/index.html).

ISOC-AU's fundamental belief is that the Internet is for everyone. We provide broad-based representation of the Australian Internet community both nationally and internationally from a user perspective and a sound technical base. We also consistently promote the availability of access to the Internet for all Australians. Because the Internet is a central driving factor in the demand for broadband, ISOC-AU has a direct interest in the outcomes of the arrangements that will underpin the provision of the NBN.

ISOC-AU continues to applaud the Government's 2009 commitment to the NBN. High speed broadband will be the main driver not only for new, faster communications services, but a critical factor in the delivery of Government services such as e-health and online education and training. It will also be a critical factor for innovation and economic growth in a digital economy.

ISOC-AU has consistently put forward its objectives, on behalf of Internet users, for broadband access connectivity that is:

- High quality and bandwidth;
- Available as high bandwidth for both upstream and downstream capacity;
- Accessible to all Australians, wherever they reside or work;
- Sufficient to meet the communications needs of people with disabilities;
- Affordable; and
- Provided in a competitive environment that will give Internet users genuine choice of service and service provider, and provide the market forces to encourage improvements in services and pricing.

# 1. National Infrastructure

The NBN will be a critical part of Australia's national infrastructure. As such, it must be built to maximise its longevity and utility as a communications platform for all Australians. Therefore, the structure and priorities of NBN Co must be focussed on achieving those national policy objectives.

Being part of the national infrastructure means that NBN Co can, and should, take a longer term view of the investment case and therefore use time frames greater than the telecommunications industry norm when calculating its return on investment (RoI). In addition, NBN Co should use policy outcomes such as industry development as part of the benefits case for the investment.

## 1.1 NBN Co Ownership

Recommendations 58 and 60 propose full public ownership of NBN Co at least until NBN roll out is complete and that there be flexibility in the privatisation of NBN Co after that. We support NBN Co remaining in full government ownership while the NBN is being built to ensure that the policy objectives of the Company are focussed solely on achieving high speed quality broadband for all.

Once the NBN coverage targets have been met, there should be a public inquiry into whether and/or how the privatisation of NBN should occur. Recommendation 78 proposes that the Government conduct an independent review of the telecommunications market structure and competition before privatisation. While the NBN Co will consist of both competitive backhaul and access infrastructure to the premises, to the extent that the access line into the premises will most likely be monopoly infrastructure, it should not be privatised before there a public inquiry into its privatisation. The Study also suggests there be a 'rebuttable presumption' that NBN backhaul not be privatised (Recommendation 79)

*Recommendation:*

*That NBN Co remain in full Government ownership until, at the least, the NBN is built and operational. Before NBN Co is privatised or partially privatised, there should be a public inquiry into the privatisation.*

## 1.2 NBN Funding

Recommendation 59 suggests that NBN Co will be initially funded with Government equity until it 'can support private sector debt without explicit Government support' and that NBN Co can access private sector debt to 'repay Government capital' while maintaining an investment grade credit rating. Again, the task of the NBN is to build a critical part of the national infrastructure. Our concern is that the economic objectives of NBN Co not overtake the longer term objectives of nation building. If NBN Co is to be privatised, it is particularly important that, in making financial decisions on construction of the NBN, the company be required to have the national benefit of access to quality, high speed broadband as its top priority.

*Recommendation:*

*That in NBN Co's governance documents, the building of a high quality NBN that reaches all Australians be given explicit priority over repaying Government capital. If NBN Co is to be privatised, Government policy objectives for the NBN should be enshrined in legislation on the NBN Co.*

### **1.3 NBN Longevity**

Again, the NBN should be built for the longer term national interest. We note and applaud Recommendations 33 and 37 that suggest that services will be upgraded over time and that new ducts and trenches are built to ensure sufficient space for future expansion.

The Study envisages that a significant amount of the NBN will be provided by aerial fibre cable, and, in some cases, HFC cable might be used in the short term (Recommendation 22). The difficulty with HFC cable is that it is strung a minimum distance from the wires that transmit electricity, making the HFC cable unsightly, and more easily damaged by passing traffic. Aerial cable is also more vulnerable to natural disasters such as floods and bushfires.

While aerial fibre may assist in meeting short term RoI and speed to market goals, a longer term economic view would lead to a decision to deploy substantially underground cabling in the interest of better preservation of such a national infrastructure asset.

#### *Recommendation*

*Because fibre will be the communications lifeline to premises, fibre should be installed underground, particularly in areas that are of heritage value, or prone to natural disasters such as bushfires or flooding. In other areas, aerial fibre that combines electricity transmission and fibre for communications should be used sparingly as it runs counter to the principle of serving the national interest in the longer term. National infrastructure assets should not be deployed on electricity poles, nor should they be deployed so as to degrade the local amenity for end-users.*

## **2. Quality of Service**

The performance metrics of the transmission service (e.g., latency, jitter, etc) provided by the NBN are critical not only for business customers, but for all end users. The NBN will be the platform for communications services to the home – which can include voice, access to the Internet, communications devices for people with disabilities, online education and lifeline services such as health monitoring. Unless there are minimum performance metrics for transmission to the premises, the effectiveness and value of services provided over the NBN could be compromised.

A number of recommendations deal with policy requirements for coverage of the NBN, whether provided by fibre (by NBN Co or others), by fixed wireless services or by satellite.

#### *Recommendation:*

*In all cases where adequacy of coverage is to be determined, one of the requirements must set out performance metrics to be met by that service to the premises. Such metrics could be determined by ACMA, in consultation with industry and end users, but should conform to internationally recognised service quality standards.*

## **3. Affordability**

We support Recommendations 23, 25 and 44 that deal with the affordability of NBN service, but would go further. NBN Co's wholesale pricing should be cost based only, to ensure that retail services offered to customers can still be affordable. However, there may be a gap in affordability for those who are provided with broadband services over

wireless means. Under Recommendation 5, NBN Co will provide fibre to 93% of the population, with satellite services to the other 7%. It will not, under Recommendation 5, provide wireless to the 4% of the population for whom fibre is not an economic proposition, unless there are no 'acceptable tenders' from the private sector to do so.

Again, what constitutes an acceptable tender from the private sector should include, aside from minimum bandwidth speed and performance metrics, service that meets an affordability test for the transmission service. We also note that, under Recommendation 44, affordability issues for those receiving satellite services may be augmented by a Government subsidy for the customer equipment. Again, there may also need to be Government support to ensure the actual communications *service* is also affordable.

*Recommendation:*

*That the Study Recommendations on affordability of NBN services be adopted, based on uniform, cost based pricing across each platform*

## **4. Universal Service Obligation (USO)**

The Study has some discussion of universal service (Recommendations 13 and 30) including the possibility that NBN Co be the Infrastructure provider of last resort.

The USO now covers both the provision of basic infrastructure and a voice telephony service (or its equivalent), both provided by the USO provider. In an NBN environment, the functions will be split. NBN Co will be the provider of last resort for infrastructure, including fibre to 93% of the population, and satellite to the remaining 7%, with the possibility of also providing wireless services to 4% of the population. As we have recommended above, the transmission service should be affordable and meet minimum performance metrics. The issue now, therefore, is whether there should be a retail service provider of last resort.

In our submission to the Department's 2007 Inquiry into the USO, we called for a definition of universal service that recognises the new and different ways people are choosing to communicate, examples of which include a fixed line telephony service, a computer or a mobile device (which, increasingly, is also a computer). What the new universal service should look like, therefore, is a high speed, high quality PSTN and Internet service, with any-to-any connectivity, allowing individual choice of communications device. (see <http://www.isoc-au.org.au/Submissions/index.html>).

Because the provider of last resort for infrastructure (NBN Co) does not intend to provide retail services, there should be a mechanism to ensure public access to a minimum retail service. To support individual choice, this should be done through a scheme similar to the current Australian Broadband Guarantee program: if a minimum level service (that sets out performance metrics, affordability and accessibility requirements) is not available in an area, the Government provide a subsidy for its provision.

*Recommendation*

*That the Government, through a public inquiry process, develop criteria for a minimum level of retail service that should be available to all Australians. The criteria should include minimum transmission speeds, performance metrics, and connectivity, affordability and accessibility tests. If that defined retail service is not available in an area, the Government should subsidise retail service providers for its provision.*

## 5. Competitive Environment

To provide services, retail service providers (RSPs) will need to connect to the NBN at its various Points of Interconnect (POIs). Because there will be costs involved for RSPs to connect from their own network to the locality POI, the number and/or location of POIs could serve to discourage smaller RSPs from entering the market because of costs involved. Therefore, we support Recommendation 50, for the siting of a POI in the three listed circumstances:

- At a fibre exchange where there are multiple alternative backhaul providers;
- At a fibre exchange linked to the Regional Backbone Blackspots program; or
- At a point accessible from the fibre exchange over an NBN backhaul link.

We also support Recommendation 51, that the number and location of POIs be reviewed to determine whether their number and/or location is supporting the availability of competitive services, particularly in smaller local areas.

In addition, we encourage NBN Co to provide aggregated services whereby RSPs may elect to provide regional services, as well as disaggregated services whereby RSPs could provide locality only services.

## 6. Consultation

Recommendation 31 of the Study proposes that NBN Co develop a Charter on how it will conduct its affairs to best meet the needs of stakeholder groups, and gives as an example, consultation with industry and end user groups.

*We support the proposed Charter and believe the suggested example of talking to end user groups should be a requirement on NBN to ensure end user groups are consulted on the design, building, costing and structure of the NBN.*

We will be happy to provide any further comments on issues raised by our NBN submissions.

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