



24 February 2011

Committee Secretary
House of Representatives Standing Committee on
Infrastructure and Communications
PO Box 6021
Parliament House
CANBERRA ACT 2600
AUSTRALIA

Dear Committee Secretary

This submission, in response to the Inquiry into the role and potential of the National Broadband Network, is provided on behalf of the Space Industry Association of Australia (SIAA).

The NBNCo has declared an intention to deliver in the order of 10% of the high speed network envisaged for Australia by wireless and satellite communications infrastructure. The SIAA understands that the space segment may comprise two high capacity Ka Band communications satellites placed in geostationary orbit (GEO) over Australia. The two satellites will provide on orbit redundancy planned in order to provide high levels of service in terms of availability and quality.

The SIAA strongly endorses this approach.

In doing so, we offer the following points:

1. Irrespective of how these satellites end up being owned and operated, they will represent important additions to Australia's critical national infrastructure. They add to the commercial services provided by Optus, SES, Intelsat and other companies across Australia and the Asia Pacific region. They also join communications satellites operated for the Australian Department of Defence by Optus, the United States Air Force and, shortly, Intelsat. The NBN satellites represent a growing national commitment to space based capabilities. They foreshadow increasing, explicit dependencies on space based communications to deliver the sorts of services envisaged in this Inquiry's Terms of Reference to many Australians who live in those parts of the nation which are beyond the reach of the terrestrial broadband network.
2. A corollary of the first point is that Australia's national interest in maintaining the space environment as a domain which is safe and secure for human activity into the foreseeable future will be significantly increased once the NBN satellites are in service. The GEO orbit in which the NBN satellites will be placed is comparatively congested physically and the radio spectrum, which allows these satellites to work effectively, is also increasingly crowded. These matters are well known to the Australian Government and to the NBNCo. However, the SIAA encourages the Australian Government to become considerably more active in international space diplomacy, in and beyond the mechanisms of the United Nations, than has been the case for many years. The SIAA notes the commitments announced in the communiqué from the 2010 AUSMIN talks concerning Australia's commitment to developing Space Situational Awareness (SSA) capabilities in Australia. This provides a

substantial basis and opportunity for Australia to show international leadership commensurate with its standing and aspirations as a middle power in space security matters.

3. Consistent with the view that the NBN satellites represent important additions to Australia's critical national infrastructure, the SIAA notes the in principle prospects of placing smaller secondary or "hosted" payloads on the NBN satellites. These payloads might include devices which assist with precision navigation and sensors which monitor green house gases and other atmospheric and solar phenomena. The SIAA understands that the opportunity may have passed already to consider incorporating such payloads on the first generation of NBN satellites. However, the SIAA commends the NBNCo and Government to consider the opportunity of fitting hosted payloads to future NBN satellites, noting that this opportunity may be some years away.
4. There is mounting evidence of the utility of satellite communications in the response and especially the recovery phases of disasters, irrespective of their cause (flood, fire earthquake, tsunami, cyclone, etc). These events invariably cause sometimes considerable damage to both fixed communications infrastructure and also to the power grid in affected areas on which the telecommunications infrastructure is often dependent. Handheld satellite phones and small satellite terminals powered by rechargeable batteries and solar cells are being used with increasing effect to better direct the efforts of response and recovery operations in Australia and globally. This has the immediate impacts of reducing the numbers of dead and injured and of helping those who are injured or in need of non medical assistance in the immediate aftermath of the disaster. The longer term economic consequences of the rapid restoration of communications are profound and derive from the highly integrated or tightly coupled nature of most wealth producing activities in advanced economies such as Australia's. The rapid restoration of physical supply chains is directly dependent on the rapid restoration of communications infrastructure. Single days, even hours, lost in the production cycle can and do cost companies and the broader economy many millions of dollars. Communications satellites provide a layer of resilience and robustness to the national information infrastructure the social and economic impact of which is very hard to exaggerate.
5. The SIAA draws the Committee's attention to the experience of several communications companies which provide satellite broadband services in the continental United States. In several instances the business cases were built largely on serving remote users in the Mid West and Rockies. However, the companies have found lucrative markets in a number of large cities as well. In effect, broadband satellite has become a viable alternative to cable and DSL services. Whilst care needs to be taken to avoid apples and oranges comparisons the point remains that disadvantaged users are not confined to remote, rural and regional areas. In fact, based on measured demand, the US model reflects a market base that includes rural remote areas, metro fringe and metropolitan zones. Simply put, US demand maps directly to population density despite the existence of fixed and wireless services. The SIAA foreshadows, on the basis of this experience and our knowledge of forthcoming technological developments in satellite communications, notably in Europe and the USA, that the NBNCo may have been unduly conservative in only planning for something less than 10% of the national broadband network to be delivered by satellite. US experience

may indicate that the number of anticipated users may grow substantially and quickly exceed the predictions made by the NBNCo.

6. The SIAA understands that the proposed NBN satellites are likely to have capabilities well in excess of any current satellites which serve the Australian market. They will offer the potential for new methods of service delivery, new jobs and new ways of working and collaborating throughout Australia and internationally. The SIAA encourages Government to be sensitive to the potentials for innovation which the NBN offers and, by inference and analogy, the potential for new export markets. As processes and applications are developed to meet Australian requirements we should be alert to their adoption and adaption by users beyond Australia. Importantly, the NBN satellites, if procured promptly, offer the fastest means to deploy high capacity, low contention broadband communications to Australia's underserved users irrespective of their locations and SIAA believes that this attribute is being significantly undervalued.

7. Finally, the SIAA notes that the May 2010 Defence Industry Policy Statement lists satellite communications expertise as a Strategic Industry Capability (SIC). In other words the Government has concluded that there exist compelling national security reasons to ensure a level of satellite communications expertise in Australian industry. The key to achieving this goal is a sustainable and predictable market. Government is encouraged to ensure that every opportunity is afforded to Australian industry to participate in the design, development and operation of the first generation of NBN satellites. The SIAA accepts that these will be built and launched overseas, however, conscious efforts must be made to ensure appropriate technology transfer and the development and retention of requisite skills and capabilities in Australian industry which are necessary and sufficient to satisfy stated national security needs.

We would be happy to appear before the Committee to provide additional material in support of the points we have made above and to otherwise provide perspectives to the Committee that might not be available to it from other sources.

Yours sincerely,

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