



The Hon Malcolm Turnbull MP

MINISTER FOR COMMUNICATIONS

---

Dr Dennis Jensen MP  
Chair, Standing Committee on Petitions  
PO Box 6021, Parliament House  
CANBERRA ACT 2600

## **National Broadband Network – Petition regarding the fixed wireless infrastructure in Maleny, Queensland**

Dear Dr Jensen

Thank you for your letter dated 2 March 2015 in relation to receipt of a petition by the Standing Committee on Petitions (ref. 1021/1506) concerning the proposed rollout of National Broadband Network (NBN) fixed wireless infrastructure in the Maleny district of Queensland.

The five issues the petitioners raise fall into two main groups. Firstly, they would prefer the NBN Co Limited (NBN Co) to service their area with fibre-to-the node (FTTN) rather than fixed wireless technology. They consider FTTN will provide superior performance and will provide access to the same outcomes available over the NBN in other areas of Australia. Secondly, they are concerned about possible health effects from exposure to electromagnetic emissions from wireless transmitters on towers. After making some general observations I will respond to each of these broad topics in turn.

### *General observations*

The Australian Government appreciates that some people have concerns about the rollout of NBN fixed wireless towers and other telecommunications infrastructure. These concerns need to be balanced against the community's need for modern communications services.

In the case of the Maleny area, my understanding is that when this issue first arose NBN Co was undertaking preliminary work to identify possible suitable sites for wireless towers. Before construction of towers can commence, suitable sites need to be identified, access to the sites needs to be negotiated on commercial terms with the land owner, and then normal state planning processes need to be followed. NBN Co is only in the earliest stages of this process. It has recently advised that it has identified five possible initial sites. These include

three co-location sites at Montville, Wilkes Knob and Witta, and two new sites, one at Peachester and the other at Palm Street. It will be providing further information for the community to review on 14 May 2015, at the Community Centre Main Hall, 23 Maple Street, Maleny, between the hours of 4pm and 7pm.

If NBN Co wished to proceed with fixed wireless towers, the installation of new free-standing towers is subject to normal state and territory planning laws, just the same as with other large construction projects. NBN Co needs to follow normal development approval processes. This ensures local communities have a say about such facilities, just as they would with any other large construction project. Participation in the usual development approval processes is the appropriate channel for raising concerns about a specific tower. The Commonwealth does not involve itself in such state, territory and local government planning processes.

I would now like to turn to the two broad issues the petitioners have raised.

*Technology choice: fixed wireless and fibre-to-the-node (FTTN)*

On 8 April 2014, Shareholder Ministers issued a new Statement of Expectations to NBN Co. The statement makes clear the Government's expectation that the NBN Co should continue the NBN rollout using a multi-technology mix model to complete the rollout as quickly and cost-effectively as possible. This approach will match the right technology to the right location and make use of existing infrastructure where possible. It is predicted to cost \$32 billion less to implement and get the NBN finished four years sooner. The Statement of Expectations does not provide that equivalent broadband speeds will be delivered across fixed line and fixed wireless technologies, but rather it provides that Australians will have access to the most cost-effective next-generation broadband solution according to their locality.

NBN Co has been given the responsibility to determine the best and most effective technology to service an area. NBN Co is building the network at arm's length from the Government. The Government is not involved in day-to-day technology selection decisions, nor should it be. This is an operational decision. NBN Co has determined fixed wireless is the most cost-effective solution for the Maleny area.

The Maleny area, and adjacent small rural communities, are typical of the areas that are planned to be serviced by fixed wireless. Fixed wireless will generally be used in areas like the rural outskirts of larger regional centres and small rural villages. In such low population density areas, fixed-line broadband is not a cost-effective option. The Government does not support the provision of fixed-line broadband infrastructure by NBN Co where it is not the cost-effective option.

There are difficulties in using fixed-line infrastructure to provide faster broadband services to a locality like Maleny and its surrounds. Because broadband signals supplied over copper lines attenuate with distance, it is necessary to install new fibre infrastructure to a node or the

premises to provide faster broadband, even if there are existing copper connections to individual premises. The more premises are spread out, the greater the difficulty in using existing copper lines to provide higher speeds and greater the need for additional fibre cabling to be installed. This all means a higher cost is involved in servicing rural premises by fixed-line infrastructure like FTTN and fibre-to-the-premises.

The next-generation NBN fixed wireless network is being engineered specifically to deliver high-speed broadband to regional and remote communities. Fixed wireless networks are not like mobile phone networks, in terms of congestion. They are designed to meet the speed and service requirements for a specific number of users in each coverage area. This means that, unlike mobile phone networks, only these customers are connected to the network, so the speed and connection remain consistent and stable, even during peak times like early evening.

NBN Co's fixed wireless network uses 4G technology to deliver services to a fixed number of premises within each coverage area. The technology offers peak speeds of up to 25 Mbps download and 5 Mbps upload on the fixed wireless network. These speeds exceed those typically available to ADSL2+ users in metropolitan Australia today. These improved speeds will allow users to take advantage of telehealth and e-learning applications using videoconferencing. Downloading files, sending email attachments and using cloud backup services will be quicker on a 25/5 Mbps connection.

If there is clear community opposition to the use of fixed wireless technology to provide better broadband in an area, NBN Co has advised that the area would then be serviced by a satellite solution. While satellite will still provide a high grade of service, it has some limitations such as longer latency that fixed wireless does not have.

On 13 March 2015, NBN Co released its *Technology Choice* policy. *Technology Choice* will enable consumers to obtain an alternative technology to that which they would receive under NBN Co's general rollout plan, where they are willing to meet the additional cost. A copy of the policy is attached for the Committee's reference. If the residents of the Maleny area are interested in such an option, further information about *Technology Choice* can be found at [www.nbnco.com.au/connect-home-or-business/technology-choice-program.html](http://www.nbnco.com.au/connect-home-or-business/technology-choice-program.html).

#### *Exposure to electromagnetic energy*

The petition also raised concerns about possible health effects from exposure to electromagnetic energy (EME) coming from transmitters on NBN Co's fixed wireless towers. The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) is the Government agency responsible for setting the exposure standard for radiofrequency (RF) EME. The ARPANSA exposure limits are set well below the level at which adverse health effects are known to occur and include a wide safety margin to protect the public. Typically transmitters on NBN fixed wireless towers operate at a tiny percentage of the ARPANSA

standard. ARPANSA has produced a factsheet on the National Broadband Network wireless base stations and health. A copy is attached for the Committee's reference.

Before an NBN fixed wireless base station is built, a report is produced that shows the predicted maximum levels of EME at ground level around the new facility. It should be noted that predicted EME levels are for a base station operating at its highest capacity and assumes that all transmitters are working at full rated power. In reality base stations typically operate below full rated power levels.

The effects of RF EME exposure have been, and continue to be the subject of extensive and rigorous scientific study around the world. It is the assessment of ARPANSA and other leading health authorities such as the World Health Organisation that there are no known health effects at low RF EME levels, such as those emitted by NBN Co's fixed wireless base stations.

ARPANSA maintains continual oversight of emerging research into the potential health effects of RF EME emissions. If credible scientific evidence ever indicates that the current ARPANSA Standard does not adequately protect the health of Australians, the Government would take immediate action to rectify the situation.

Further information about EME can be found on the ARPANSA's website at [www.arpansa.gov.au/Science/rf/](http://www.arpansa.gov.au/Science/rf/).

For your information, my Department in conjunction with ARPANSA and the Australian Communications and Media Authority has developed a video and two fact sheets to help improve community understanding of EME regulation. The video can be viewed at [http://youtu.be/XGI\\_LcqtDIQ](http://youtu.be/XGI_LcqtDIQ) and the factsheets can be accessed at [www.communications.gov.au/eme](http://www.communications.gov.au/eme).

Thank you for bringing the petition to my attention. I trust this information will be of assistance.

Yours sincerely

Malcolm Turnbull