

**Senate Standing Committee on Environment and Communications**

**Answers to Senate Estimates Questions on Notice**

**Additional Estimates Hearings February 2016**

**Communications Portfolio**

**nbn**

**Question No: 90**

**nbn**

**Hansard Ref: Page 105-106, 9/02/2016**

**Topic: Second satellite - total capacity**

**Senator Conroy, Stephen asked:**

**Senator CONROY:** How much of the total capacity in that second satellite was dedicated to contingency for a disaster?

**Mr Morrow:** As an estimate, I would say 90 per cent. If you wanted the details, I would have to take that on notice.

**Senator CONROY:** If you could, I would appreciate it. I am genuinely interested.

**Mr Morrow:** Again, it is a large majority of it. But remember: this was \$300 million sitting in the sky as an insurance policy. When we started talking to the experts, they looked at the probabilities of a satellite going wrong. Once you get through the initial phases—the launch, positioning it in the orbit, the connection, all of the expansion of the solar panels and the antenna arrays that talk to the Earth—that probability of failure diminishes quickly and gets down to such a low point that it does not make sense to have a \$300 million insurance policy for it. When we looked around the world, we could not find another commercially based application—there are some military ones—that kept two satellites in the sky for this sort of thing.

Given the second factor, that more and more people are using more and more data, as evidenced by my 112 gigabyte download—a number I mentioned earlier—we needed to think of other solutions in order to be able to give the people served by the satellite greater capacity levels. So we weighed the option—what if we had the two beams coming into every house, from Sky Muster and Sky Muster 2? By utilising both of those beams, I can have more data download capability than I could if I were only relying on the one, because the other is sitting there as a backup. Let us now take the case of Sky Muster 1 going wrong—or either of them going wrong. What it really means is that the amount of data consumption for those peak users goes down while we figure out what the alternative plan is. We have thought about priority services—educationally based services, for example—how we can make sure that they do not suffer in any way. What limiting or balancing the load over two satellites means is that you are going to have to have a program to look at which antennas you have to repoint at the second satellite in the event of a catastrophic failure of one of the satellites. But again the probabilities of this ever occurring are low—ultralow.

**Senator CONROY:** You know what those engineers are like. They are incredibly conservative.

**Senator BACK:** Just like those economists!

**Senator CONROY:** No, tragically, they are not. I understand that Skymesh has been selling 100/100 but they are using the 250/100 AVC to sell it. I am just wondering whether you could give us a breakdown. If you have it handy, that would be good, but, if not, you can take it on notice. That is just how they are selling their product. I am just interested in the actual number of the 250/100.

**Mr Morrow:** I will find out. I do not have it here.

**Senate Standing Committee on Environment and Communications**

**Answers to Senate Estimates Questions on Notice**

**Additional Estimates Hearings February 2016**

**Communications Portfolio**

**nbn**

**Answer:**

1. Under the original product concept, approximately nine percent of a second satellite's capacity would have been required to support end-user connections in otherwise congested beams served by a single satellite. The remaining capacity, up to ninety-one percent, would have been available for redundancy. However, given a number of beams were not anticipated to reach capacity, the practical requirement for redundancy was modelled at sixty-nine percent of the satellite's capacity.
2. Questions regarding how Skymesh is selling their products or the volume of sales are best directed to Skymesh.