

Inquiry into the deployment, adoption and application of 5G in Australia

(This submission addresses the first term of reference only)

There are 3 main areas of concern for the capability, capacity and deployment of 5G:

- Health
- Privacy
- Security

I note that Security does not come under the scope of this inquiry.

Considering people are encouraged to have a say, I have two questions for the committee:

1. Why did the Federal Government make an amendment to the Telecommunications (Low Impact Facilities) Determination 2018 with the inclusion of small cell antennas (necessary for 5G), effectively denying community, councils and the states the opportunity to voice concerns or oppose the location of these antennas, *and*
2. Why is the telecommunications industry continuing to build infrastructure to support the rollout when we are yet to adequately address public concerns? In an article published in the Sydney Morning Herald, 6th September, “*Government promises Telstra support on 5G Safety*”, it states that the government would be backing the high speed rollout of 5G and also acknowledged that there was still public concern about health impacts.

This does little to foster trust between communities and government.

In the parliamentary media release, 19th September, ‘*5G opportunities and challenges to be examined*’, Dr David Gillespie stated,

“5G will transform the way we live and work, and provide opportunities for family life, industry and commerce. It will power smart homes and cities and provide new ways to experience entertainment, and at the same time transform transport, logistics and industry.”

While I admire Dr Gillespie’s enthusiasm, I do find it concerning that the Chair of the Inquiry Committee has put forward this rather biased comment on what 5G will actually deliver. This tends to give a false sense of security with the belief that there’s no cause for concern.

In recent reports, 5G has been downplayed and likened to the technologies we already have such as 3G, 4G and wifi as well as commonplace items such as microwaves and baby monitors.

It’s interesting that ARPANSA made mention of baby monitors, mobile phones and wireless routers in Fact Sheet 14, “*How to reduce exposure from mobile phones and other wireless devices*” released in 2013 and in a subsequent Fact Sheet of the same title released in 2015.

Fact Sheet 14 stated,

“The technology is very new and it’s impossible to be completely sure there isn’t some risk. This is particularly true for children where there is little research evidence.”

Both Fact Sheets state,

“You can reduce your exposure from these devices (wireless devices) by:

- Keeping them at a distance, for example placing the wireless router away from where people spend time*
- Reducing the amount of time you use them”*

Although this is 2013/2015 information, I’d like to know what research evidence has been updated to clearly show the safety of these devices for children. It’s very concerning that our children, some starting as young as 4 years of age, will spend 13 years sitting under wireless routers all day at school when this was ARPANSA’s position only a few years ago.

If 5G is being compared to commonplace wireless devices, university studies reported on our nightly news regarding the impact of increased screen time must be recognised. It’s being promoted that 5G will enable us to have faster and better access on our devices, so how does this bring a benefit when these studies are linking such activities to impaired sleep and cognitive function, decrease in family and social interaction as well as the potential for addiction, anxiety and depression.

There are still so many unanswered questions regarding the use of our current technology and until we find a safer and more responsible way to use and enjoy the technologies we already have, should we really be proceeding with the deployment of something new? **The public should have the knowledge from adequate independent scientific testing that proves safety as well as being completely informed on privacy and security issues before deployment.** At this point, we have the ability to intervene, review all the information as well as the reasons why the deployment of 5G is being halted and delayed elsewhere.

More and more of these technologies and associated infrastructure are being integrated into our communities without the consideration of individual health needs and concerns. An unfortunate side effect of our modern day living is that environmental illness and sensitivities are on the rise. There are thousands of people worldwide and many here in Australia who have to cope with electromagnetic sensitivity (or EHS as it’s often referred) on a daily basis. This is a very real and debilitating condition that impacts every area of a person’s life including family, work, finance, social interaction and fulfilment. People with this sensitivity cannot live in ‘smart’ homes or work in wireless environments. They have difficulty accessing public facilities in the same way as others and have a right to do so. Given the policies around discrimination, human rights, equality and inclusive access, people with electromagnetic sensitivity surely must be considered. This is occurring elsewhere but sadly not here in Australia.

Over the years, there have been many substances brought into our environment that were deemed to be safe and generations are now dealing with the consequences of poorly informed and hastened decision making. The haunting legacy we're all left with is the knowledge of public concern and scientific studies decades prior to anything being done for public health and safety. Here in Australia, we're not that great when it comes to taking a proactive approach, learning from other countries and admitting there might be a problem. We seem to be preoccupied with placing blame, fault finding and 'passing the buck'. Surely it would be far more productive to take a precautionary approach and create environments for the benefit of everyone. I personally believe this is far more important than faster downloads.

The public is constantly told two things by industry and governing bodies:

1. Emissions are below our standards for exposure, and
2. There is insufficient scientific evidence showing adverse health affects

In regards to our emissions being below our standards for exposure, I don't understand why our standards here in Australia are higher than elsewhere (*EMR and Health*, Oct 2019, www.emraustralia.com.au) and why our standards are based on heat / thermal effects when there is growing scientific evidence of non-thermal adverse health effects. Scientists and doctors worldwide, with several from Australia including Dr Charles Teo (one of, if not *the* leading neurosurgeon in the southern hemisphere), have come together to demand a revision of the international standards for exposure and have presented the United Nations with the EMF Scientist Appeal with the signatures of over 250 scientists. On the website, www.emfscientist.org, Dr Martin Blank gives a chilling but well informed announcement on a short explanatory video of the emerging health crisis:

"Biologists and scientists are not being heard on the committees that set safety standards. The biological facts are being ignored and as a result, the safety limits are much too high. They are not protective . . . The time to deal with the harmful biological and health effects is long overdue."

This global recognition of the inadequacy of our standards was also articulated in the *Canadian Medical Association Journal*, May 2015. Multiple international experts on radiation and cancer reported that the microwave levels allowed in Canadian classrooms, homes and workplaces were "*a disaster to public health*". Further information can be found on the Canadians For Safe Technology website (www.c4st.org).

The Bioinitiative Report outlines peer-reviewed published scientific literature that draws the conclusion: "*Bioeffects are clearly established to occur with very low exposure levels (non-thermal levels) to electromagnetic fields and radiofrequency radiation exposures.*" Websites such as www.ehtrust.com and www.mdsafetech.org also list scientific literature.

Information regarding the National Toxicology Program (designed by Dr Ronald Melnick), which found evidence of tumour growth and DNA damage in animals, can also be found on the Environmental Health Trust website (www.ehtrust.com).

Dr Melnick states that *“Even a small increase of cancer risk would have a significant health impact due to the millions of people worldwide using cell phones. The study began under the assumption that any health effect of non-ionising radiation was caused by heating and we now know this assumption was wrong. It makes no sense to make assumptions about other wireless technologies until they have had adequate testing to be safe.”*

The FDA is now in a position to use the data for quantitative risk assessment to determine the risk to human health.

It’s interesting here to note a comment by Dr Sharon Goldberg in a recent 5G summit interview. Dr Goldberg explained that the ability to conduct direct research of electromagnetic radiation on humans is not possible due to ethical reasons. *“Approval by the institutional review board must show there’s no harm in exposure.”* Dr Goldberg then raises the ironic, yet very obvious question; *“If you can’t expose humans to microwaves in a lab in a controlled situation, then how can we be rolling this out?”* (5G)

Also from the 5G Summit, Dr Magda Havas expressed her concern of the detrimental health effects of electrosmog (all forms of non-ionising radiation) including cancer, reproductive issues, neurological and hormonal problems as well as electromagnetic sensitivity. Dr Havas has also conducted studies showing the effects of exposure to emfs and blood sugar levels.

Dr Martin Pall has presented a paper to the authorities of the European Union titled, *“5G; Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them.”* Further documentation from Dr Pall also outlines the effects of non-thermal emf exposures, the role of voltage-gated calcium channels and how wifi may be particularly damaging to young people.

Dr Martha Herbert, a pediatric neurologist, brain researcher and signatory on the EMF Scientist Appeal, has published a study, now peer-reviewed, titled *“Autism and EMF? Plausibility of a Pathophysiological Link Part 11”*, Journal of Pathophysiology (2013), which outlines that *“the evidence is sufficient to warrant new public exposure standards benchmarked to low-intensity (non-thermal) exposure levels now known to be biologically disruptive and strong, interim precautionary practices are advocated.”*

The latest newsletter from EMR Australia, *EMR and Health Oct 2019*, www.emraustralia.com, contains further information about the impacts of 5G, the inadequacy of current standards and more evidence of scientific studies revealing health effects.

How much evidence is it going to take? It’s such a tragedy and betrayal to each and every one of us that those who have the authority to instigate change decide over and over again to do nothing but support the continuation of potential risk. At the very least, where there is uncertainty or where understanding in the science is not yet complete, we should be taking a precautionary approach. We are certainly *not* doing this here in Australia.

Worldwide, there are scientists, doctors, health experts, neurologists, physicists, professors, electrical engineers, building biologists and now lawyers warning of the risks associated with

exposure. Medical and scientific experts are pointing to a direct link between the increase in chronic health conditions and the environments we're creating, while lawyers are pointing to lack of consent and assault.

The ramifications are far reaching and insurers such as Lloyds of London and Swiss Re have acknowledged exposure to electromagnetic radiation and radiofrequency radiation as an emerging risk. In its recent publication of *SONAR, New Emerging Risk Insights May 2019*, Swiss Re outlines that **"5G will require more antennas which will bring higher levels of electromagnetic radiation and increased concern over public health effects with liability claims being a long-term consequence."** 5G is rated in the publication as high impact risk.

Concerns are also raised regarding **cyber exposures**, stating that:

"Moreover, hackers can also exploit 5G speed and volume, meaning that more data can be stolen much quicker . . . security features will need to be enhanced at the same pace. Without, interruption and subversion of the 5G platform could trigger catastrophic, cumulative damage."

*"There are also worries about **privacy issues (leading to increased litigation risks), security breaches and espionage**. The focus is not only on hacking by third parties, but also potential breaches from built-in hard-or software "backdoors".*

In a previous publication of SONAR, Swiss Re also acknowledged the WHO classification of extremely low-frequency magnetic fields and radiofrequency electromagnetic fields, such as radiation emitted by cell phones as potentially carcinogenic to humans (Class 2B carcinogen) as well as an Italian court ruling of a suggested link between mobile phone radiation and human health.

In summary, Swiss Re lists potential impacts of 5G including:

- health and biological effects
- information security and national sovereignty
- cyber exposure and challenges to defence
- dispute over 5G contractors
- espionage / sabotage
- uncertainty for investors and insurers
- impact on financial markets

SONAR, New Emerging Risk Insights, May 2019, p. 30.

There is also the issue around sustainability and considering the continued infrastructure required to update towers and antennas, there's the possibility of increasing our carbon footprint.

The impact on wildlife and the environment is also uncertain. There is already concern regarding the decrease in various insect populations. Many of these species depend on natural

frequencies for their survival and with the saturation of unnatural frequencies it's not difficult to see where there could be a problem.

I would like to thank the committee for considering my submission as well as the other submissions put forward. The concerns about the deployment and applications of 5G are significant and I hope the committee takes this into account, along with the fact that there are many people who may have been unable to make a submission or felt uncomfortable in doing so.

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Date: 1st November 2019

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