

15th November 2019 (as per granted extension request)

Committee Secretary

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RE: Inquiry into the Deployment of 5G in Australia

Dear Sir/Madam,

My name is Lauren Dry [REDACTED], amongst other qualifications – foremost I am a mother of 2 children, who were my original reason for becoming so thoroughly **concerned not only about the deployment of 5G, but about the apparent holes in our system that are related to this technology which require urgent remedy.** These holes have allowed such technology to proliferate in our environment without the appropriate checks and balances that would normally be required of any other pollutant.

Below I have outlined why 5G is,

- Quite clearly a danger and a pollutant,
- How Industry historically has provided undue weight and influence on our safety standards,
- Why our current protections in legislation are insufficient and are placing every individual in Australia in serious danger (most pertinently – the very future of our country – our children),
- How the deployment of 5G is placing the economic, social and generational integrity of Australia at imminent and severe risk, and
- Proposed **reasonable** solutions/recommendations to the issues surrounding the deployment of 5G in Australia.

1) 5G IS A POLLUTANT

There is no argument that the Electromagnetic Radiation (EMR/EMF/RF – or “Microwave” Radiation) that also **encompasses all 5G technology is “...classified as a “pollutant” alongside smoke, chemicals and asbestos”** and that **“due to the high risk that electromagnetic (EMF) field exposure poses, most insurance companies do not cover electromagnetic fields and have very clear “electromagnetic field exclusions.”** (*Reference 1*).

It is important to ask: Do the insurance companies mentioned above have access to more detailed or thorough information than the Australian Government (and more specifically – than ARPANSA, who are legislated to **“protect the health and safety of people, and to protect the environment, from the harmful effects of radiation”** (*Reference 2*)) that would provide them with more thorough insight into why RF radiation is so dangerous and therefore too much of a liability to be insurable? The answer is quite clearly, no.

- a) **Clear, readily available evidence of harm** (and in some cases, evidence already acknowledged and disseminated by governing bodies), and why the Australian government cannot, and should not proceed with the 5G rollout and needs to call a moratorium on 5G, urgently:

Should they require access to it, evidence is as follows that outlines how the deployment of 5G would irreversibly harm the health of Australian Citizens and create a liability for the government that cannot, and should not, be insured against using Australian taxpayer

funded dollars, to simply attempt to “mitigate” any foreseen damages. These damages shall be proven to be far too severe for such a measure and as a consequence, nor should 5G be insured via any other means, and instead – a moratorium called for:

- i) A publicly available summary on the APH website, written by the Chair of the Standards Australia technical committee (TE/7 Committee). **This Committee was established in 1984 and responsible for considering standards for human exposure to electromagnetic RF radiation**, also being a joint Australian/New Zealand responsibility working collaboratively from 1992 through to 1999. (*Reference 3*)

Below, the Senate Committee Chair outlines a review of the ICNIRP guidelines on RF radiation when it was proposed that Australia should adopt these standards for our own safety limits. Of particular importance are the references to scientific statements on the inadequacies of ICNIRP:

- (1) The **ICNIRP Guidelines are failing to encompass the totality of the dangers** that RF Radiation presents:

*“Dr Neil Cherry, a New Zealand scientist and academic, asserted that the **ICNIRP Guidelines are not based on a public health assessment of the evidence and they only take into account the thermal effects of RF radiation**. He claimed he represented many scientists in Europe in criticising the ICNIRP Guidelines, saying that:*

*“They decide that there is no evidence of genotoxicity but they do not cite any studies that have been published that do show that RF microwaves damage chromosomes – and that is the classic test of genotoxicity. They do not even cite one study that is available in the literature that says it damages chromosomes. **Secondly, when I looked at two of their studies on cancer, they said that two recent studies do not show any significant effects. I have those studies and they do show significant effects.** ... [I looked] at other studies, and they similarly misused them or they took the author’s conclusion when the data contradicts the author’s conclusion”.*” (*Reference 3*)

- (2) **Industry desires are applying unbalanced weight to discussions surrounding the safety of RF radiation**, resulting in incrementally higher safety standards despite the weight of the Scientific evidence stating that these standards need to be reduced, not increased:

*“... since 1985, the Australian Standard has come under sustained industry **pressure to revert to much higher levels** of exposure to radiofrequency (RF) radiation; to completely delete any references to fundamental principles of radiation safety; to minimise any explicit references to harmful effects; and to **delete the previous acknowledgment of the existence of non-thermal effects** on living organisms.*

*1998: Evidence suggested that the IRPA/ICNIRP methodology would lead to progressively rising derived levels and thereafter to a level which is constant with frequency between 400 MHz and 2 GHz. **The TE/7 Committee did not support this approach.***

One of the major objections to the standards was that they only take account of thermal effects of exposure to radiofrequency radiation, and not to non-thermal effects. The Electromagnetic Radiation Alliance of Australia states that:

The existing standard is based on the erroneous presumption that adverse health effects occur only if the body is heated by 1°C.

There is ample evidence that adverse effects occur at much lower, or athermal, levels that do not require heating of the body.

... ICNIRP Guidelines do take thermal effects into account

Mr Alexander Doull also suggested that **exposure limits are set to suit industry products rather than for health reasons**. He asserted that the refusal of TE/7 members to support the Interim Standard was a rejection of:
... the practice of setting numerical safety exposure limits to suit existing industry products and then dressing those limits up by retrospectively applying an inadequate, crude, supposedly 'scientific' rationale for those limits. This practice enables the telecommunications industry to increase limits bringing products like the mobile phone which failed to comply with previous public exposure standards within the boundaries of what can then be presented as responsible, acceptable and legally safe.

This view was echoed by Dr David Mercer in a paper which he wrote on the radiofrequency standard setting process:

... **the push for harmonisation with ICNIRP was in part stimulated by the development of new RF-producing technological applications not covered by the Australian and New Zealand standard but actually built with the ICNIRP standard in mind**. It was also suggested that exposures to these frequencies were pushing standard setters to consider frequencies even less well understood than existing ones.

Mr Les Dalton concurred when he related how the existing radiofrequency standard was developed:

"We had a **CSIRO representative on the standard setting committee**. ... He **argued for a maximum public exposure of 40 microwatts per square centimetre [equivalent to 400 milliwatts/m²]**. The industry eventually insisted that it be 100. But then they learned that some broadcasting antennas, and particularly one in Adelaide, were well above that. **So what happened was that they made it 200. That is the reason we have 200 microwatts per square centimetre [equivalent to 2,000 milliwatts/m²], today, for public exposure. It had little to do with science**". (Reference 3)

- (a) *N.B. Our current safety standard in 2019 in Australia no longer sits at 2,000 milliwatts/m². As consistent with the parliamentary notes above, stating that the limit continues to experience "**sustained industry pressure to revert to much higher levels** of exposure to radiofrequency (RF) radiation", **the limit is currently sitting at 10,000 milliwatts/m², to align with ICNIRP recommendations, despite all ICNIRP's above listed and recognised flaws**. Please refer to the **below table for a more visual representation on why these numbers in relation to 5G have such significance**: "**...the potential risk to human health gradually increases with higher exposure levels**" – **World Health Organisation (Reference 6)**

The RF measurements that 5G technology requires to function are many, many times higher than what we are currently experiencing.

A Cell phone tower on a Water Tank in the middle of Joondalup City in Western Australia (**only footsteps from children's bedrooms**) is experiencing an upgrade to 5G, whereby the RF measurements will imminently be changing from 2.086 milliwatts/m², to 1,329.69 milliwatts/m² for the same distance. **This is an increase of 633.6 fold in radiation for the purpose of a 5G upgrade**

(Reference 5).

SUMMARY OF HEALTH EFFECTS vs AUSTRALIAN SAFETY THRESHOLDS: " <u>...the potential risk to human health gradually increases with higher exposure levels</u> " – World Health Organisation (Reference 6)			
Radiation level milli W/m ²	Studied Health effects (or safety level threshold)	Reference	Safety limit/ phone tower
0.00001	Sleep disturbance, depression, fatigue, heart related problems	Oberfield 2004	

0.02	Sleep disorders, abnormal blood pressure, digestive problems	Altpeter 1995, 1997 (Firstenberg)	
0.6	Altered EEG, structural changes in brain, liver, testes in rats and rabbits	Dumanskij 1974 (Firstenberg)	
1	3x increase in cancer rates	Eger (Naila study) 2004	
1.3	Decreased cell growth (human epithelial amnion cells)	Magone 1996 (Firstenberg)	
* 2.086	CURRENT level of exposure at a WA 3G tower Located at 33 Moondarra Way JOONDALUP WA 6027 between 0-50m	https://www.rfnsa.com.au/6027008/detail	CURRENT 3G Phone Tower
10.53	1.68-10.53mW/m2 - Irreversible infertility in mice after 5 generations	Magras & Xenos, 1997 (Sage, Lai)	
16.4	3-16.4mW/m2 - Children had reduction in memory/attention, motor function and reflexes compared to controls	Santini 1998	
25	Breakdown in blood-brain barrier (a digital cellular phone was used for the radiation)	Salford 1997 (Firstenberg)	
40	Altered white blood cell activity in school children	Chiang 1989 (Firstenberg)	
66	Decreased Sperm count	Adey 1982 (Bevington)	
100	Decreased litter size/ increased number of <u>stillborn mice</u>	Il'Chevich (reported in McRee 1980) (Firstenberg)	
100	Maximum Russian and Brussels safety limits that are based on the actual effects on workers	https://www.aph.gov.au/parliamentary_business/committees/senate/environment_and_communications/completed_inquiries/1999-02/emr/report/c04#c04f17	Inactive Safety Limit
300	Immune system effects - elevation of PFC count (antibody-producing cells)	Veyret, 1991 (Sage)	
* 400	Maximum safety limit recommended by CSIRO scientist during 1985 safety limit negotiations (the limit was set at 2,000 despite this, as industry interests were taken into account)	https://www.aph.gov.au/parliamentary_business/committees/senate/environment_and_communications/completed_inquiries/1999-02/emr/report/c04#c04f17	Inactive Safety Limit
500	An 18% reduction in REM sleep (important to memory and learning function)	Mann, 1996 (Sage)	
1,000	A 24% reduction in Testosterone after 6 hours exposure	Navakatikian, 1994 (Sage)	
* 1,329.69	IMMINENT UPGRADE level of exposure at a WA 5G tower Located at 33 Moondarra Way JOONDALUP WA 6027 between 0-50m	https://www.rfnsa.com.au/6027008/detail	5G PHONE TOWER
* 1827	67-1827mW/m2 - Levels measured next to active Smart Meters in Victoria, AU	https://www.buildingbiology.com.au/wpcontent/uploads/2007/07/Smart_Meters_ACNEM_Journal.pdf	CURRENT Smart Meter
* 10,000	Current 2019 ARPANSA Maximum RF Safety limit	ARPANSA.GOV.AU	CURRENT SAFETY LIMIT

- ii) **ARPANSA's latest summary of evidence** from the scientific reports they've selected to use: "*Review of Radiofrequency Health Effects Research – Scientific Literature 2000-2012 TR-164*". This report shows in many instances, **clear majority evidence of Health Effects to Humans as a result of RF radiation**. Unfortunately for reasons unknown, ARPANSA continually issue statements such as there is "**no indication that [RF radiation inclusive of 5G] might constitute a human health hazard**" which is baffling, as ARPANSA state clearly in this report that in summary, 46 – 49% of in-vivo and in-vitro studies show evidence of clear Health effects as a result of RF radiation, with **proof as high as 94% for damage to Proteins**. (Reference 4)

Some extremely important summary's from **TR-164** are listed below. It is important for the 5G Parliamentary Committee to ask – is this majority evidence (as outlined and issued as evidence by ARPANSA themselves), relevant?

Is **Protein/ the immune system/ Testicular function** within the human body considered necessary to human life and health? Is this proof of harm that is evidenced in a governing body's report considered important or necessary enough to act upon, particularly in regards to **Protein – a cornerstone of life/ bodily function – which is sitting at a 94% proof of harm**, in a study where ARPANSA were able to select the proof of evidence at their leisure?

Important summary's of evidence relating to the Health Effects of RF radiation within this report are as follows:

- (1) 15 studies show clear evidence of harm to **Proteins**, vs 1 study that doesn't, a clear majority of **94%** (15 vs 1 = 94%).
- (2) The majority of studies on TR-164 (**62%**) show clear effect of harm to **Testicular function**.
- (3) The majority of studies on TR-164 (**63%**) show clear effect of harm to the **Immune System/ Haematological effects**.
- (4) It is also important to note that a whopping **47%** of studies show harm to **Pregnancy and Foetal development**. If the 5G deployment is to continue to proceed, Do ARPANSA, the 5G inquiry Committee and the Australian Government regard this particular weight of evidence to be:
 - Relevant for families to be aware of who are struggling to conceive/ experiencing regular and/or consistent foetal loss - in order for them to decide for themselves whether they would like to reduce their exposure to non-ionising radiation and have 47% chance of improving their fertility/ success of life for their children?
- (5) **ARPANSA in their TR-164 report, also recommend that a “Precautionary Approach” is undertaken with regards to the deployment of RF radiation – which encompasses 5G**. As listed above in point 1) a) i) (2) (a), there are cell phone towers that are currently experiencing an **increase in RF radiation by 633.6 fold, solely to allow for the upgrade of these towers to a 5G capacity**. This 5G inquiry must ask, and answer the question:
 - **In support of the evidence that ARPANSA themselves have provided relating to the clear dangers of RF radiation, what part of these upgrades is in any way “Precautionary”, as recommended as a course of action by ARPANSA themselves?**

iii) **The Scientific American – recently released an article titled “We Have No Reason to Believe 5G Is Safe”** which outlines the weight of the evidence on RF radiation dangers and re-highlights the undue influence of Industry (*Reference 7*). Evidence provided by Australian Scientific organisation **ORSAA** (*Reference 10*) also supports this.

If the committee is seeking credible resources, the Scientific American has been **lauded by fact-checkers as a highly credible resource and staunchly pro-science**. It is also highly influential and has a widespread reputation for rigorous scientific practices. Not to mention being the oldest continuously published monthly magazine in the United States, founded by inventor Rufus M. Porter in 1845.

The author of this article is Joel M. Moskowitz, PhD – a director of the Center for Family and Community Health in the School of Public Health at the University of California, Berkeley. He has been translating and disseminating the research on wireless radiation health effects since 2009 after he and his colleagues published a review paper (*Reference 8*) that found long-term cell phone users were at greater risk of brain tumors. His Electromagnetic Radiation Safety website (*Reference 9*) has had more than two million page views since 2013 and he is an unpaid advisor to the International EMF Scientist Appeal and Physicians for Safe Technology.

Important points are made in this article that again **reference and challenge the undue influence that Telecommunication Industry are providing in a debate that so**

dangerously impinges on our health. “The telecommunications industry and their experts have accused many scientists who have researched the effects of cell phone radiation of “fear mongering” over the advent of wireless technology’s 5G. **Since much of our research is publicly-funded, we believe it is our ethical responsibility to inform the public about what the peer-reviewed scientific literature tells us about the health risks from wireless radiation.**”

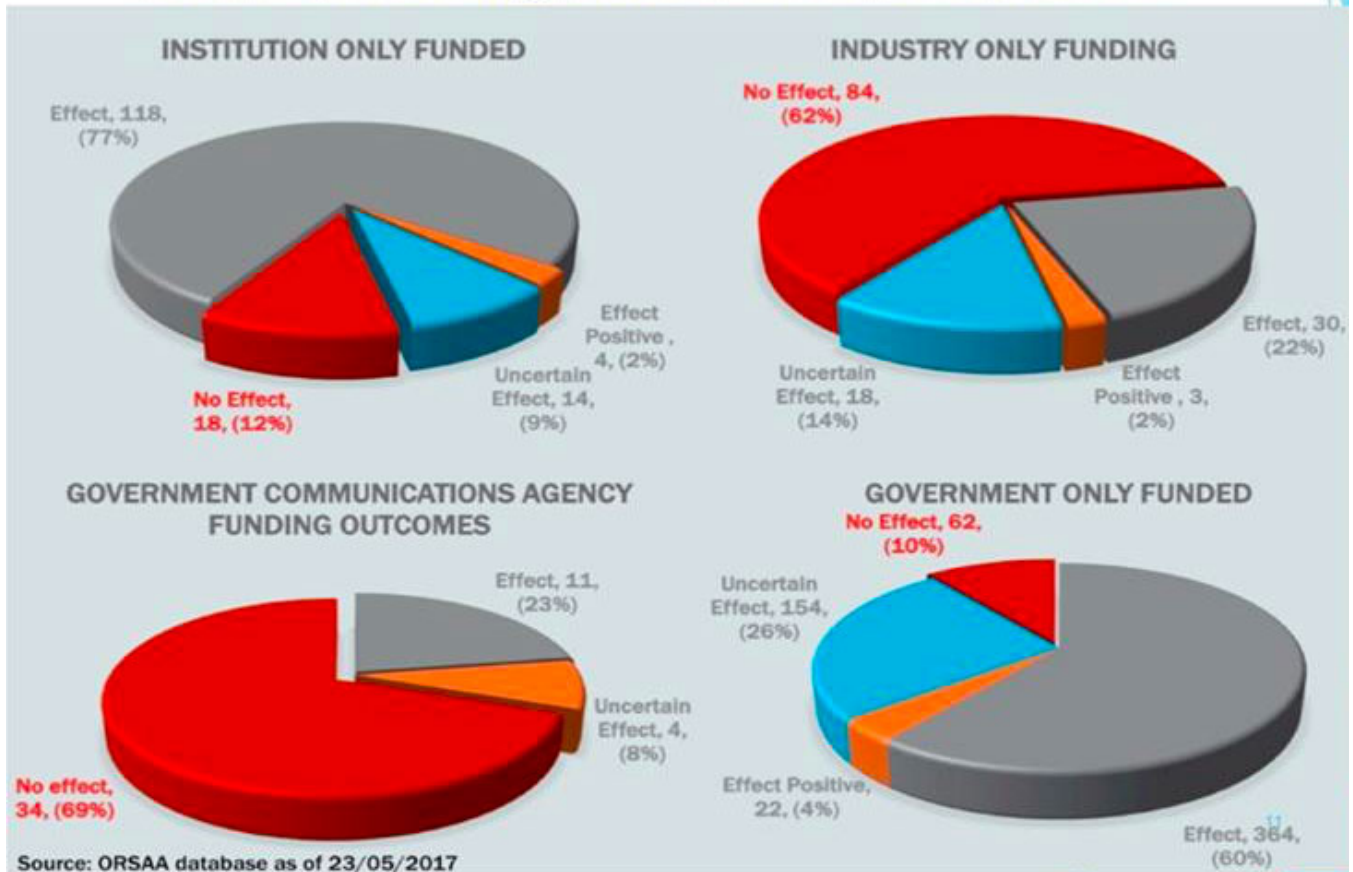
He goes on to say that the “scientists who signed [an international scientific appeal against RF radiation such as 5G] **arguably constitute the majority of experts on the effects of nonionizing radiation. They have published more than 2,000 papers and letters on EMF in professional journals.**” Inviting readers and policy makers to consider the weight of more than 500 peer-reviewed research studies finding, **“harmful biologic or health effects from exposure to RFR at intensities too low to cause significant heating...”**.

It is an important summation from much of the above evidence, to note that **any scientific evidence supplied for review by Telecommunication Industry’s can arguably by its’ nature be deemed inherently biased toward achieving the aims of a business with vast amounts of future profit planning at risk, should the deployment of 5G not go ahead.** So the comparing and valuing of disparaging comments from a company whose main aim is to profit, against the evidence provided from independent scientists’ regarding the dangers we’re facing should quite frankly be a no-brainer.

If the government chooses to weigh evidence from Industry that is biased toward profit, over evidence from truly independent scientists who have nothing to gain save for the protection of life and health, it can surely be argued that in the very near future **there will be no Australians left – supportive of 5G or not – who are physically capable of either employment or the capacity to purchase (or use) 5G mobile phones, or smart cars, or fridges that can tell you you’re out of milk.** Perhaps it is a pertinent time for the government and Industry to recognise this. I, for one, can drive my own car, my phone does quite enough, and I am quite capable of opening my fridge door and using my own eyes. I am not willing to trade in these physical capabilities in order to watch a youtube video with barely discernably different download speeds.

On this point of industry perceptions and their influence on any relevant scientific debate, we need only view the below chart that has been put together by the scientific team at ORSAA (*Reference 10*) to view the **clear evidence of how studies on RF radiation that have been funded by industry are not providing a clear reflection of the science:**

Review of funding sources in ORSAA database



2) CURRENT PROTECTIONS IN LEGISLATION AGAINST HARM FROM 5G ARE INSUFFICIENT

Australian Governing body ARPANSA is responsible for setting the RF safety standards in Australia. These safety standards are reliant on recommendations from the World Health Organisation (WHO) and the International Commission on Non-Ionizing Radiation Protection (ICNIRP). **ICNIRP is an international non-governmental organisation – answerable to no one within Australia for their flaws** – and is formally recognised by WHO as the body that they refer to for evaluating scientific results from all over the world.

- a) The sole reliance by ARPANSA on information provided by non-Australian organisations WHO and ICNIRP to set RF safety standards is insufficient, and is putting Australians in harms way:

Some of the many continuing inconsistencies surrounding ICNIRP and their interpretation of RF safety data have already been covered in point 1) a) i), earlier in this document. Additional important information to consider alongside of this, relates to the publicly available information listed on WHO's website regarding ICNIRP's recommendations (*Reference 6*). These points and their flaws are listed below:

- Refer to the entirety of point 1) above, particularly in relation to evidence already gathered by the government at point 1) a) i)**
- WHO clearly outline that their MAXIMUM expectation of cell phone base tower measurements overall is only 100 milliwatts/m2.**

As already stated (and clearly viewable in *Reference 5*), towers in Australia that are right now experiencing an upgrade to **5G are having their RF measurements listed in excess of 1,300 milliwatts/m2.** 5G towers in Australia are experiencing a increase in RF radiation that is in general, **13 times higher than the maximum expected level of RF radiation for a cell phone tower by the World Health Organisation.** As a reminder, the WHO state themselves, "...the potential risk to human health

gradually increases with higher exposure levels” (Reference 6)

This should be a fact that arises extremely serious and immediate concerns.

- iii) The science of ICNIRP’s safety limit number is based **only** on the behaviour of rats.

Not on in-vitro or in-vivo studies – based on the behavior of rats. As clearly evidenced on WHO’s publicly available website, WHO state that:

“Abnormal behaviour...has been selected as the lowest observable adverse health effect. Guidelines recommend the prevention of electromagnetic field exposure levels, at which behavioural changes become noticeable... ICNIRP applies a safety factor of 10 to derive occupational exposure limits, and a factor of 50 to obtain the guideline value for the general public”.

As already covered and evidenced in points 1) a) ii) and as recognized and advertised by ARPANSA, **there are multitudes of clearly verifiable effects that are not related to behavior.**

As such, it is reasonable to state that WHO relying on animal behavior as the lowest observable effect on which to base their safety standards is completely insufficient. Australia’s reliance and dependence on these organizations to provide reliable and thorough data by which to protect the Australian people – **both organizations that remain completely unanswerable to Australia and to ARPANSA if the information that they choose to use is both outdated and insufficient** – will quite literally cost us our health and our lives.

It is clearly outlined in The Scientific American article mentioned in Reference 7, that these limits **“should be based on a biological effect, not a change in a laboratory rat’s behavior.”** (Reference 7).

- iv) ICNIRP and WHO’s guidelines are based on a **MAXIMUM exposure time of just six minutes.**

I personally – and I am confident that the Australian public also will share my views – am extremely interested in **identifying a singular 5G tower or small cell (either active, or planned to be active within Australia) that will only be active for a maximum time period that is averaged over only a six minute period in total.** I’m confident in stating that not a single cell phone tower in Australia meets these testing guidelines, of only being active for 6 minutes at a time.

“...According to ICNIRP, radiofrequency and microwave exposures should be averaged over time to address cumulative effects. The guidelines specify a time-averaging period of six minutes and short-term exposures above the limits are acceptable” (Reference 6).

- b) **ARPANSA are not bound to Australian Safety Standards** when determining the safety limits for RF radiation – unlike other organisations when determining the acceptable handling and exposures to pollutants in the environment.

There is no ‘AS’ (or AS/NZS) number assigned by which to investigate whether appropriate checks, balances, science and procedures have been followed when ensuring a truly ‘safe’ limit has been established. There is also no ‘ISO’ number available which raises similar questions as to the process by which Australia’s safety limits were determined, and whether they meet the stringent review process that other pollutants in the environments must go through before these pollutants are allowed to be exposed to the public.

The “The Standards Australia standards development process is based on three internationally recognised principles: openness and transparency of process, consensus, and balance of representation”...why is ARPANSA exempt from this? And how urgently can this oversight be corrected.

3) ECONOMIC, SOCIAL AND GENERATIONAL INTEGRITY OF AUSTRALIA’S WORKFORCE AND POPULATION AT IMMINENT AND SEVERE RISK

a) ECONOMIC DANGERS – LIABILITY

As already covered in the introduction of point 1), the majority of insurance companies refuse to cover any damages related to RF radiation. So, **who will bear the cost when the class action lawsuits and claims for damages arise? This is an important question of “when” this will happen, not “if”**.

Reference 11 outlines **at least one already pending class action within Australia** that encompasses those prior mentioned cell phone base stations that have not been given the due safety guards in legislation that they require (flaws in Australian legislation covered in point 2 in this submission).

Legal actions relating to EMR in Europe have already succeeded, and in Australia, a government worker has successfully sued the Federal government body and obtained compensation for an EMR related injury for nausea, disorientation, and headaches (*Reference 11*).

Government are not the only ones at risk in this scenario. Every business who will ever refer to the government when claiming that their 5G specific technology is safe for use by the population will also be open to lawsuits and criminal claims of negligence. **By disregarding the weight of the evidence that 5G will irreparably harm the population, the government would also be leaving our economy open to irreparable harm.** If 5G were to become as pervasive as planned (with devices aligned to 5G in everything from mattresses to socks), it is not a dramatic statement to claim that **the approval and encouragement of 5G by our governing bodies could also lay down the groundwork for the collapse of our economy in totality.**

b) SOCIAL AND ECONOMIC DANGERS

5G may provide us with autonomous cars, self-ordering fridges and multitudes of other shiny new non-essentials, but at what cost? Where will the jobs be for the Australian people, if every single task a human being is capable of – is removed from them, in the interests of consumerism? **Consumerism can only function if there is a physically and mentally able society, available to build, earn an income, and satisfactorily be capable of procuring/purchasing and utilising said technology.**

In regards to Social and Economic dangers, **the effect that 5G will have on Australia’s workforce and their purchasing and manufacturing capabilities** is 2-fold: allowing such pervasive technology to replace almost every functional aspect of our day to day lives will undoubtedly damage i) **workers mental health**, and ii) their **physical health**, from the significant increase to RF radiation via 5G radiation levels.

Such damages will effectively render our workforce incapable of both contributing to the economy (by assisting with manufacture of any 5G related products and services), and **via the inability to procure any income as a consequence of their inability to work (due to ill physical health) to use for the purchase any of the 5G related products and services that the industry is so confident that the population will desire, at all.** These Mental And Physical health damages will **also place an enormous additional burden on our Public Health Care system – financially and in a functional capacity.** Because if 5G is to be as pervasive as planned, it is a natural summation to make that even our health care workers will be equally impacted and physically handicapped, **leaving our population sick and unable to care for itself.**

i) Mental health of the Australian Workforce and Economic Impacts

“Act Belong Commit” is a government initiative run through governing entity “Be active WA”. As the name suggests, it is an evidenced-based initiative aimed at building positive mental health by keeping physically, mentally and socially active (Act); by keeping involved in family and community activities and participating in community events (Belong); and by taking on challenges or causes that provide **meaning and purpose** in their lives (Commit) (*Reference 12*).

One of the most fundamental contributions that an individual can make in a society is the contribution of meaningful employment, and having “challenges or causes that provide meaning and purpose in their lives”. Sanctioning by the government of the increasing reach of 5G related technology to supersede every single

aspect of our lives (whether this be the ability to drive our own cars, or order our own groceries) challenges some of the most basic fundamentals that society requires in order to “Act, belong and Commit”.

In addition to having many functional day to day aspects of our lives replaced by 5G robotic equipment, **the replacement of every employable role in a functioning economy with a robot designed with 5G in mind removes the capacity for a person within the Australian economic system to gain satisfaction, “meaning and purpose” from occupying that role.** How will Australians meaningfully occupy their time in a satisfactory manner – that provides a tangible impact on society – without a form of employment that shows realistic evidence of a job that has been achieved? If (and when) replacement roles can no longer be found for this influx of newly unemployed Australians – it is important to note that in 2014, **Forbes released an article outlining how rates of depression more than doubled in those without meaningful employment** (*Reference 13*), from 5.6% to 12.4%. These rates increased more than **3 and a half fold** for those who had been unemployed for more than 52 weeks to 19% – a **heavy weight on the mental health care system to bare.** **Not to mention of course the weight that will be placed on governing bodies such as Centrelink who will be called upon to support those who require financial assistance** – additional supplementary economic impacts on a heavily unemployed society, aside.

Ultimately, the deployment of 5G technology (that has the intent of replacing every element of our day to day tasks, lives and jobs) will benefit neither our economy, nor our lives. It is arguably a false promise on all fronts and should be thoroughly investigated for its’ purported benefit in any manner – aside from “keeping up with the Jones’s”.

ii) Physical Health of the Australian Workforce and Economic Impacts

The Health Effects from RF radiation are varied and alarming. More detail on this can easily be viewed at Reference 14 via the Bioinitiative Report which is a site committed to providing up to date and thorough research of RF/EMF radiation health effects. This information has been **compiled by 29 authors from ten countries, ten holding medical degrees (MDs), 21 PhDs, and three MsC, MA or MPHs. Among the authors are three former presidents of the Bioelectromagnetics Society, and five full members of BEMS.** These aforementioned health effects extend from insomnia, through to cancer, immune system destruction, infertility, heart disease, amongst countless other serious concerns. **There is not a single one of these health effects that would not impact on the Australian workforce’s ability to be physically capable of providing a meaningful contribution to the workforce.** The consequential questions that arise from this problem are starkly simple:

- (1) Who will be capable of manufacturing all of the planned 5G infrastructure if our workforce is too unwell to be physically capable of any kind of labour?**
- (2) Who will be capable of purchasing and utilising this planned 5G infrastructure if there are no workers within Australia who are employed and receiving an income, and therefore have the capacity to purchase any of these 5G related products?**

c) GENERATIONAL INTEGRITY OF AUSTRALIAN WORKFORCE

The World Health Organisation predicts **infertility among males and females will be the third most serious condition after cancer and cardiovascular diseases in the 21st century.** Crucially – a study in the journal Human Reproduction Update in 2017 found **that sperm count in men from North America, Europe, Australia and New Zealand had dropped by 59.3% since 1973.** If it continues to decline at this rate, soon humans will no longer be able to reproduce naturally (*Reference 15*).

As evidenced in the table at the point 1) a) i) (2) (a) above, **mice begin to experience irreversible infertility at RF levels on a scale from just 1.68 to 10.53 milliwatts/m2.** This in itself is a concern, however we must revisit the quote from the World Health

Organisation once again that states that “...**the potential risk to human health gradually increases with higher exposure levels**” (Reference 6).

If the evidence supports the fact that RF radiation damages the ability of the Australian population to reproduce (and a reminder from point 1) a) ii) (2) above **that ARPANSA themselves cite that the majority of studies on their TR-164 report (62%) show clear effect of harm to Testicular function – with the Bioinitiative Report placing proof of harm closer to 90% (Reference 14)**), and the levels of RF radiation that caused such infertility after 5 generations were as low as 1.68 to 10.53 milliwatts/m², then we must ask the question: **what level of damage, and at what speed can we expect our population and workforce to become incapable of reproduction, when 5G towers are putting out 1300 milliwatts/m²? These 5G levels are 123-774 times higher than the RF radiation levels from a study showing that RF radiation causes permanent infertility after 5 generations.** With 5G towers active, could the statement of possibility that we have even 5 generations left before the country of Australia loses its’ ability to reproduce a functional workforce at all, be overly generous?

If we continue to push on with the deployment of 5G, it is possible that - in many ways, we as a people are contributing to making ourselves quite simply obsolete, via our health (in both a physical and mental capacity) and via the destruction of our economy and sustainable workforce as we know it.

4) RECOMMENDATIONS

Remedies to achieve protection and support for the health of Australians, our economy and the future of Australia’s political and economic landscape are as follows:

- a) The 5G Committee and the government must call for a **moratorium on 5G, urgently.**
- b) **A Standards Australia technical committee must immediately be re-established**, similar to the TE/7 Committee that was established in 1984 and responsible for considering standards for human exposure to electromagnetic RF radiation, also being a joint Australian/New Zealand responsibility working collaboratively from 1992 through to 1999 (Reference 3). Such a committee must have additional protection not granted to the original committee that resulted in the TE/7’s eventual collapse and demise. **This new Standards Committee must have little to no Industry power or input**, and even then, only from a consultancy perspective. This point is 100% essential in order to prevent the previous flaws with TE/7 from repeating again, whereby “exposure limits [were] set to suit industry products rather than for health reasons” (Reference 3).
- c) A new **Public Education drive** in support of providing to the public more thorough knowledge on, and protections from, RF radiation dangers. With accurate information provided regarding its’ impact on Physical and Mental Health, **in particular relating to the effects on children.**
- d) **Legislation changes** to correct all previously mentioned existing flaws, and the creation of stringent new safeguards.
- e) The creation and dissemination of **public health warning signs in public spaces for RF radiation, similar to those that outline the dangers of smoking.**
- f) **“White zones” established around rural areas, schools, hospitals, daycares and health care facility’s, where RF radiation levels must be kept to extreme lows** in order to protect our most vulnerable, and create safe zones for those who do not wish to be exposed to dangerous levels of man-made RF radiation.
- g) **RF measuring devices in all public spaces** that are easily viewable and regularly maintained.
- h) **ARPANSA to be bound to the Standards Australia process** and assigned an AS (or AS/NZS) number where relevant, alongside any relevant ISO references, whether this is in relation to RF radiation or any other protections that are currently not meeting sufficient guidelines in legislation.
- i) The encouragement, utilisation and **sanctioning of the government for the replacement of wireless technology with the widespread and immediate use of wired technology and Ethernet connectivity**, which is faster, safer and more secure than wireless. An incredibly interesting **blueprint for such a plan can be found at Reference 16 – a paper**

titled **“Re-inventing Wires: The future of Landlines and Networks”** which has been compiled by the National Institute for Science, Law & Public Policy, Washington, DC. This paper asks and answers such important questions as “Is wireless access being oversold? Why are existing copper phone lines being abandoned when current protocols allow them to deliver data at gigabit speed? This report seeks to address these questions and propose answers and solutions. It explores the historical forces at play, the emerging technologies that will define the future of landlines and networks, and the public policy choices and opportunities that confront us today... [as well as the] **monumental economic benefits of high-speed wired systems that pay for themselves, bringing tremendous economic growth... It also demonstrates why the mistaken upcoming 5G frenzy, with its millions of small cell antennas destined to clutter all neighborhoods and public right-of-ways, is dangerous, wasteful, and unnecessary**... Wired systems are comparatively far more cost-effective, and are approximately 100x faster than wireless systems. Furthermore, fiber to the home **avoids the potentially disastrous outcome of populations rendered sick and disabled by acute and chronic exposure to wireless radiation pollution**.” (Reference 16).

- j) The investigation and **support of a far more sustainable/ circular economy within Australia than currently exists**, and an increased reliance and preference for Australian businesses and technology over internationally provided infrastructure to produce more jobs, autonomy and generational/sustainable income for Australians, and as a consequence, more tax feeding back into the economy. Also as an aside, the more interference that technology has in our personal day to day lives and habits, the more opportunities are also available for hacking from both national and international agents (and also of course there is the natural consequence of increased exposure to RF radiation). As such, the benefits of a more circular/ sustainable economy – **that increases our reliance on functional tasks and physical roles in a society instead of farming these roles out to internationally produced robotic equipment** – are endless.
- k) Provide more control and choice for local Councils – and communities – by which they can choose to reject any low or high impact installations simply because the health effects will be too severe, or simply because the community does not wish it to go ahead. There is **not a company in the world that would be given the green light to contaminate our homes with as much exhaust fume as they should please, simply because it would gain them profit** – RF radiation from 5G towers and infrastructure must be given the same due respect as a pollutant. For more detail on the personal impact this is having on communities and how it is tearing apart established families and suburbs, please **review the diary notes from a resident in New Zealand regarding a street with a 95% objection rate to the erection a tower, who could not stop it being placed near their homes** (Reference 17). The destruction to the community as a result of this tower going ahead is undeniable, I encourage you to read these notes and allow Australians and their elected councils much more power in the decision making process of erecting pollutant emitting devices near their homes.
- l) Most importantly, **provide Australians with the simple choice of deciding for themselves how severely they would like to expose themselves to RF radiation in their own homes**, as they would with any other proven pollutant. **The Australian government must not take it upon themselves to remove this inherent right to health from the population by sanctioning the deployment of 5G at the peril of both its' individual citizens and workers, and its' economic future integrity, in totality.**

Foremost, I implore every member of the 5G committee to consider the fact that the above outlined evidence relates to each of us as individuals, equally. The severity of the concerns we are facing with regards to the deployment of 5G cannot be overstated.

They must be treated with the urgency, concern and decisive action that they require in order to protect not only ourselves, but our children, and – if they should be lucky to be able to experience the privilege of producing children themselves – our heirs apparent in the upcoming future. Such a privilege is surely something we can protect for them, should we be **decisive and successful in guarding them from the dangers that they are facing via the recommendations above**, and

assist in producing a new direction for Australia that will lead us into both health and prosperity in the decades to come.

Sincerely,

Lauren Dry

References:

- 1) **Reference 1**
<https://ehtrust.org/key-issues/electromagnetic-field-insurance-policy-exclusions/>
- 2) **Reference 2**
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- 3) **Reference 3**
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- 5) **Reference 5**
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- 6) **Reference 6**
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- 7) **Reference 7**
<https://blogs.scientificamerican.com/observations/we-have-no-reason-to-believe-5g-is-safe/>
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- 11) **Reference 11**
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- 12) **Reference 12**
<http://www.beactive.wa.gov.au/index.php?id=1259>
- 13) **Reference 13**
<https://www.forbes.com/sites/susanadams/2014/06/09/how-unemployment-and-depression-fit-together/#1616ac897b70>

14) **Reference 14**

<https://bioinitiative.org>

15) **Reference 15**

<https://academic.oup.com/humupd/article/23/6/646/4035689>

16) **Reference 16**

<http://electromagnetichealth.org/wp-content/uploads/2018/05/Wires.pdf>

17) **Reference 16**

https://www.facebook.com/Fighting4FairNZ/posts/149783196407525?__tn__=K-R

"October 20th, 2019

*The cell tower set up began this evening. **They snuck in at dusk** and set up a tall wire cage around the entire berm area, wiring it together so that no one can get in. They've also stationed a **security guard in a car alongside** the berm. The contractor was at pains to tell me that a guard will be present 24/7 until the installation is completed.*

"2degrees is very nervous," he told me. "Well, we made a fuss," I said. It's not us that they're worried about though. They're more concerned about "other, outside forces." It all sounds very paranoid and odd. Last week, 2degrees did an installation somewhere up north that ended with violence and arrests. Perhaps that's spooked them.

October 21st, 2019

*Today's walk couldn't help but take me past the cell tower installation site because **they've taken over a good portion of the bottom half of the street**. I took photos and no one was best pleased about it. The contractor told me that I needed to ask for permission to take photos of the workers' faces. I said I'd blank them out. He said thank you. And it was all light and jovial, but not really.*

On my way back up the hill, he invited me over to look at what they'd done so far. I got to admire the vertiginously deep hole they'd drilled out. He wouldn't let me take a photo from inside the construction site though, so I stood outside the fence to take a couple of pictures of their efforts. The security guard was none too keen on me being there – he got out of his car to loiter menacingly nearby, which was disconcerting.

*My daughter and I went for a walk after school and the security guard sat in his car and stared at us as we went round the cul de sac. It's a **very odd experience being surveilled and treated as a threat for walking on my street**. Someone's out there right now, parked a couple of houses down from here, glaring suspiciously at anyone who happens by. It's **menacing and weird**; and I'll be very relieved when they've all gone.*

October 22nd, 2019

Underneath my indignation about the cell tower, my disquiet at the heavy handedness of 2degrees and dismay at our powerlessness, is the simple fact that I'm just very, very sad about what's happening.

*The tower's presence means that I have the **unsatisfactory choice to stay and live eyeball to eyeball with the transmitters, with their potential to harm our health and our financial security; or leave.** And leaving means not just losing my nice house and yard, it also means **leaving the lovely community in the street.** I'm gutted about it. Really gutted."*