STOP SMART METERS AUSTRALIA INC
Reg. No. A0059190N ABN 14 717 028 504

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Paul Lindwall
Commissioner
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Canberra ACT 2601
By email: telecommunications@pc.gov.au

Dear Mr Lindwall

Telecommunications Universal Service Obligation Inquiry

Thank you for the opportunity to comment on the Productivity Commission's draft report, dated November 2016, in respect of the above inquiry.

Stop Smart Meters Australia (SSMA) is a volunteer-based consumer advocacy group which incorporated as an Association in April 2013 in response to widespread community objection to the Victorian State Government mandated Advanced Metering Infrastructure (AMI) rollout. Paramount within our legal purposes is to provide support and assistance to Australians who are opposed to smart meters on the grounds of health; a significant portion of this cohort are sensitive to pulsed radiofrequency electromagnetic fields and, in consequence, rely on landlines for communication.

Australian government has a duty of care to ensure telecommunications are not harmful to the health of the population and the environment

A number of our members and website followers have had their health adversely impacted as a result of increasing levels of man-made electromagnetic fields (EMF). Anthropogenic microwave radiation, from a variety of sources, has increased natural background levels *one million billion times – or more –* in recent years (Johansson 2013, p. 7). Direct proximity to radiation sources, such as mobile phones, dramatically escalates exposure levels beyond this level.

One of the key outcomes of the rollout of wireless smart meters, which emit pulsed radiofrequencies in the microwave range, has been an increase in the prevalence of people identifying as being electrically hypersensitive (EHS). According to the data analysed by Lamech (2014, p. 31) in *Self-Reporting of Symptom Development From Exposure to Radiofrequency Fields of Wireless Smart Meters in Victoria, Australia: A Case Series*, only 8% of this cohort considered themselves to be suffering from EHS prior to exposure to smart

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meters. Victorians who already had the condition prior to the rollout have also reported a worsening in their sensitivities. This has resulted in people suffering debilitating symptoms, not only when in the proximity of smart meters, but also when exposed to radiofrequencies from other sources, such as mobile phones, fixed wireless NBN and WiFi.

In some cases the impact on people's health has been profound, resulting in high personal costs for these people and their families. In addition to the loss of health that EHS sufferers experience to varying degrees, the condition also leads to a need to minimise exposure to wireless emissions. This has forced a number of people to leave their homes and seek out low-EMF rural areas to live in, where a landline is often the primary means of communication. Some sufferers are also unable to tolerate extremely low frequency fields from hardwired computers, and have had to cease availing themselves of this means of communication, reinforcing the need for access to a landline. A growing number of people are also switching off electricity flow to their homes during sleeping hours, either via a demand switch or manually at the switchboard, in order to reduce EMF exposure; again, this makes the role of a landline critical as this may be the only means by which they can be contacted in an emergency.

Estimations of the prevalence of EHS vary. A 2008 research article, based on a statistical Austrian cross-sample in regard to age, gender and Federal State, showed a prevalence rate of 3.5% (Schröttner and Leitgeb). UK-based *EM Radiation Research Trust* state that it is currently estimated that between 2.5% and 8% of the population could have this condition (EM Radiation Research Trust 2017). Research conducted by Hallberg, an independent researcher, and Oberfeld, a medical doctor from the Austrian Department of Public Health, had previously indicated that up to 50% of the population will be electrically sensitive in the near future (Hallberg & Oberfeld 2006).

The World Health Organization's fact sheet on electromagnetic hypersensitivity states that "While some individuals report mild symptoms and react by avoiding the fields as best they can, others are so severely affected that they cease work and change their entire lifestyle" (World Health Organization 2005). According to the WHO, the symptoms most commonly experienced include "dermatological symptoms (redness, tingling, and burning sensations) as well as neurasthenic and vegetative symptoms (fatigue, tiredness, concentration difficulties, dizziness, nausea, heart palpitations, and digestive disturbances)."

In addition to the escalating numbers of Australians becoming EHS, exposure to radiofrequencies from sources such as mobile phones, fixed wireless NBN and WiFi may have serious long-term consequences for both humans and the environment.

The World Health Organization in 2011 classified radiofrequency electromagnetic fields as being a Group 2B carcinogen, that is, as being possibly carcinogenic to humans. Emissions from mobile phones, NBN fixed wireless and WiFi fall into this classification. It appears likely

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that this ranking will be upgraded to a probable carcinogen (Group 2A), given mounting evidence from scientific studies.

For instance, a study commissioned by the German Federal Office for Radiation Protection concluded that carcinogen-induced tumour rates were significantly higher when the animals were exposed to electromagnetic fields which were significantly below existing exposure limits for users of mobile phones (Lerchl et al. 2015).

Other scientific studies show that adverse outcomes as a result of exposure to radiofrequency radiation include DNA single strand and double strand breaks, breaching of the blood-brain barrier and increased production of heat-shock proteins (Maret 2012, p. 19). This may lead to an initiation of cancer or mutations that carry down generations (Johansson 2011). Such effects are a result of non-thermal levels of irradiation, and therefore are outside the scope of the protection intended by compliance with the radiofrequency standard set by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

SSMA wishes to direct the Productivity Commission to an international appeal from scientists addressed to the Secretary-General of the United Nations and the Director-General of the World Health Organization which, in the face of increasing evidence of risk, calls for more protective exposure guidelines for extremely low frequencies and radiofrequencies.

> *"Numerous recent scientific publications have shown that EMF affects living organisms at levels well below most international and national guidelines. Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plant and animal life"* (International EMF Scientist Appeal 2016).

SSMA considers it imperative that the Productivity Commission factors into its review of the voice-based telecommunications universal service obligation (TUSO) the health implications of favouring the rollout of technology which is underpinned by the emission of radiofrequency pollutants, such as deployed for mobile phone communications and NBN fixed wireless, in lieu of landlines.

Productivity Commission cannot rely on ARPANSA's risk assessment

ARPANSA's standard for radiofrequency exposure does not provide a high level of protection when compared with some of the other guidelines and standards in place elsewhere in the world. Forty percent of the world's population live in jurisdictions with significantly lower limits. Radiofrequency exposure limits in place in these jurisdictions are

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ten to hundreds (and even thousands) of times more rigorous than ARPANSA's standard, which is based on the International Commission on Non-Ionizing Radiation Protection's 1998 guidelines (Jamieson 2014).

In addition, mobile phone users in Australia, in the main, have little awareness of harm minimisation in regards to the use of wireless technology. For instance, the Vienna Medical Association's longstanding *Ten Medical Mobile Rules* prescribe that mobile phones should not be placed in trouser pockets as the microwave radiation can interfere with male fertility (Vienna Medical Association 2015). These rules also stipulate that children under 16 years old should only use mobile phones for emergencies.

Israel's Ministry of Health and Environment recommended, in a report titled *Environmental Health in Israel 2014*, that alternatives such as landline telephones and use of a speaker while talking on a mobile phone should be considered, and stated that precautions "should be strictly enforced with regard to children, who are more sensitive to developing cancer" (Environment and Health Fund and Ministry of Health 2014, p. 69). The report points out that findings in Israel, as a result of their participation in the INTERPHONE research project, "clearly indicated a link between cellphone use for more than 10 years and the development of tumors in the salivary glands, particularly among people who held the telephone on the same side where the tumor developed and individuals in the highest category of exposure (heavy use in rural areas)" (Environment and Health Fund and Ministry of Health 2014, p. 71).

If families are no longer given the option to access voice-based communications in as-low-as-reasonably-achievable radiation environment, then even basic precautions cannot be observed.

Radio quiet zones urgently needed in Australia

Mobile 'black spots' represent 'white spots', for the growing numbers of people who have developed EHS.

The Council of Europe's 2011 resolution on the potential dangers of electromagnetic fields recommended that all reasonable measures are taken to reduce exposure to electromagnetic fields (Council of Europe 2011). The Council also recommended that particular attention be given "to 'electrosensitive' people who suffer from a syndrome of intolerance to electromagnetic fields and introduce special measures to protect them, including the creation of wave-free areas not covered by the wireless network".

There is an urgent need in Australia to establish radio quiet zones (also referred to as 'white zones') to accommodate the needs of people with EHS. Again, the provision of landlines in such areas is of paramount importance.

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Wireless infrastructure increases the vulnerability of supply

SSMA considers that the Productivity Commission needs to take into account the increased vulnerability to communications that reliance on wireless technology entails. This may be as a result of events such as storms as well as either environmental or deliberate electromagnetic pulse interference, including solar electromagnetic pulse (EMP) events, man-made high altitude nuclear (HEMP) and non-nuclear EMP events. Although long distance telephone systems are also at risk, reliance on wireless mobile phone infrastructure, NBN fixed wireless and satellite communications infrastructure places rural residents at particular risk of loss of communications.

The UK House of Commons' Defence Committee's 2010-12 report on *Developing Threats: Electro-Magnetic Pulses (EMP)* views space weather as a global threat as a direct consequence of our vastly increased reliance on technology, with the UK National Security Council classifying space weather as a Tier 1 risk (House of Commons 2012, p. 7). As Lloyd's risk analysis on space weather had already pointed out in 2010, space weather is not science fiction; it is an established fact (LLoyd's 2010, p. 2). A more recent article published on Global Risk Insights' website concurs, stating that "Dangerous space weather is not a question of *if*, but rather when" (Luedi 2016). The article points out that the regions closest to the poles face the greatest risk.

This is another reason why the continuing provision of landlines remains an important public good.

Recommendations

SSMA is most concerned that the Productivity Commission appears to have arrived at its draft findings and recommendations without having considered the full implications of the role of landlines and payphones. The Commission is recommending a course of social engineering which condones exposure to EMF emissions which have not been proven to be safe. The Commission's approach is, in many ways, seriously at odds with long-term public good.

In particular, the Commission has not made any allowance in respect of consequences for health costs if Australians are not given a choice in their means of accessing voice-based technology. Factoring in the cost of treating an increased number of brain tumours and other adverse outcomes that may be triggered by the use of wireless technology could possibly dwarf TUSO savings.

All Australians should also have the right to control the levels of EMF which they are exposed to in their own homes; this will not be the case if, in order to access voice communications in NBN fixed wireless footprints, families are forced to either rely on

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mobile phones or on the nbn. Similarly, people in the NBN satellite footprint appear to be faced with the prospect of either substandard voice communications due to time lag or having to rely on a mobile phone service (if available); it should be noted, as alluded to by the *Environmental Health in Israel 2014* report, that heavy use of a mobile phone in rural areas places users in a higher risk category for developing a tumour due to the requirement for mobile phones to operate at maximum output power when in a marginal communication area (Environment and Health Fund and Ministry of Health 2014, p. 71).

In addition, no consideration has been given to the growing numbers of Australians who have become EHS, and may not be able to any longer use EMF-emitting technology such as mobile phones, WiFi or, in some cases, computers. In light of these considerations SSMA makes the following recommendations:

- The Australian Government should *not* phase out the telecommunications universal service obligation of providing landlines.
- Payphones should be acknowledged as an important means of communication; however, if this infrastructure is utilised to provide WiFi, it ceases to be accessible to many people with EHS.

SSMA hopes that our recommendations will be carefully considered.

Yours sincerely

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