



STOP SMART METERS AUSTRALIA INC

Reg. No. A0059190N ABN 14 717 028 504

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ACMA Review
Department of Communications
GPO Box 2154
CANBERRA ACT 2601

By electronic lodgment

Dear Sir/Madam

Thank you for the opportunity to contribute to the *Review of the Communications and Media Authority*.

Stop Smart Meters Australia (SSMA) is a volunteer-based 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 people who are opposed to smart meters due to the impact of advanced metering infrastructure emissions on the health of Australians.

We have delineated, within the context of two of the questions raised in the issues paper, overarching public interest objectives relevant to the scope of the review.

1. Are there unique characteristics of the communications sector that require a particular style of regulation and regulator?

The communications sector differs from other areas subject to regulation: the licensing of spectrum is a multi-billion dollar revenue spinner for the Government. Clearly, this leads to the potential for a culture of facilitating business, at the expense of looking after the interests of the Australian public. In SSMA's opinion, this is already occurring, due to the present, inherently flawed nature of the ACMA.

SSMA believes that many poor policy decisions¹ are currently being made as a direct outcome of the ACMA's conflicted structure, which has placed it as both a seller and regulator of spectrum. Over-reliance on industry self-regulation has also contributed to a failure to serve the public's interests. These factors have resulted in an inadequate level of protection against the effects of non-ionising radiation for the Australian public.

It is imperative that the Government rectifies this situation.

Specifically, SSMA recommends that:

The Government sets up a separate regulatory body whose sole responsibility is to regulate.

SSMA considers this to be the only viable means of ensuring an internal culture which is strong enough to maintain the integrity needed to achieve long-term protection of Australians' interests. The current vesting of responsibility in the ACMA for both maximising spectrum revenue and protecting the health of the public from the effects of radiofrequencies is akin to giving the police department the responsibility for selling alcohol as well as policing alcohol consumption. Were such an incongruous situation to exist, we might well expect policing of alcohol to be compromised.

As a recent Harvard University e-book, titled 'Captured Agency: How the Federal Communications Commission Is Dominated by the Industries It Presumably Regulates', succinctly puts it, "*Captured agencies are essentially controlled by the industries they are supposed to regulate*" (Alster, p. 3). It is critical that the Australian communications regulator does not stand accused of falling into the same trap as the FCC.

4. What should be the unifying objective and purpose of the communications regulator—is there a succinct way to describe what the regulator should achieve?

The communications regulator's prime objective should be to facilitate the maximum benefit to Australians from access to spectrum services, whilst ensuring that Australians' fundamental long-term interests, including the right to health, are protected.

The *Radiocommunications Act 1992* s 162 (1) (b) stipulates that the ACMA may make standards for the maximum permitted level of radio emissions from devices. These standards, in regards to SSMA's advocacy concerns, are to consist "*only of such requirements as are necessary or convenient*" for "*protecting the health or safety of persons*

¹ For instance, in the review of the 2014 EME instruments the ACMA declined to instigate a requirement for industry to place hazard labels on transmitters which are operating in close proximity to people, stating "*The ACMA does not see any benefit in requiring warning labelling on devices. Such labelling concerning unverified claims may engender unjustified public concern and would impose an inappropriate burden on industry*" (ACMA 2014, p. 5). This flies in the face of best-practice measures recommended by overseas authorities.

who are reasonably likely to be affected by the operation of radiocommunications transmitters or radiocommunications receivers."

Although this does not have the effect of preventing other agencies from giving consideration to protecting the health of Australians this, in fact, is precisely what has occurred.

For instance, Energy Safe Victoria's report of 31 July 2012 on the *Safety of Advanced Metering Infrastructure in Victoria* stated "*The potential health effects of smart meters – this is the subject of separate regulatory arrangements administered by Australian Communications & Media Authority (ACMA), which incorporates exposure limits developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)*" (Energy Safe Victoria 2012).

In a similar vein, the then Victorian Minister for Energy and Resources stated in a reply of 18 June 2014 to SSMA that "*The Australian Communication and Media Authority (ACMA) are responsible for regulating the exposure standards that are designed to protect against all known adverse health effects. Should you have concerns with regard to the use of the ARPANSA standard, you should direct your queries to ACMA.*"

This advice was echoed by the then Victorian Minister for Health, who advised SSMA in a letter dated 24 August 2014 that "*The regulation of health and safety from radiofrequency emissions in the communications sector rests with the Commonwealth's Australian Communications and Media Authority (ACMA).*"

The reliance by other areas of government on the ACMA for the regulation of emission standards is troubling, given the ACMA's reluctance to embrace this role in other than the most rudimentary fashion.

SSMA also recommends that the communications regulator is delegated the responsibility for maintaining a national, publicly accessible database of all the locations of smart meter access points. Currently, there exists the anomalous situation that the location of telecommunication towers is in the public domain via the Radiofrequency National Site Archive, but, as relays and access points do not fall within this ambit, power distributors refuse to divulge their location to the public. In the case where distributors have opted to use Silver Spring Networks smart grid technology for the deployment of mesh networks, each access point can provide communications for up to 5,000 smart meters. As a consequence there can be considerable radiofrequency (RF) activity in the vicinity of access points, as access points also act as the focal point for the backhaul communications. It would clearly be in the public's interests to be able to determine the location of this infrastructure. SSMA considers that it should be the responsibility of the power distributors to fund this database.

It is also of concern, given the ACMA's de facto position as the prime regulator responsible for protecting the health or safety of persons who are reasonably likely to be affected by emissions from radiocommunications transmitters, that the ACMA is not subject to legislation giving cause for it to consider the effects of radiofrequency radiation on the environment. A large body of studies has shown that escalating levels of background radiation have the capacity to adversely affect, not only humans, but also plants, trees, amphibians, birds and insects (Warnke 2007). Accordingly, SSMA also recommends that:

The government body responsible for regulating radiocommunications transmitters and radiocommunications receivers should also have within its remit responsibility for protecting the health or safety of the environment from emissions from telecommunication transmitters.

Adoption of a diluted standard

A combination of factors is responsible for the ACMA's ineffectiveness in protecting the health or safety of Australians from the effects of emissions from telecommunication transmitters.

In the first instance, the ACMA has chosen to adopt a diluted version of the ARPANSA radiofrequency standard, as the ACMA has not incorporated the precautionary clauses contained in ARPANSA's standard (*Maximum Exposure Levels to Radiofrequency Fields — 3 kHz to 300 GHz*) within its own standard. Nor does it take into account the general principles contained in ARPANSA's standard regarding simultaneous exposure to fields of different frequencies.

The ACMA stated, in its response to comments received on the remaking of the *Radiocommunications (Electromagnetic Radiation — Human Exposure) Standard*, that "*Referring to, or including, the entire ARPANSA Standard in the Human Exposure Standard is not appropriate. Many clauses, including those which apply to behavioural matters associated with EME exposure in a given situation, are not appropriate for inclusion in equipment supply arrangements*" (ACMA 2014, p. 5).

This approach makes a mockery of the requirement to protect the health or safety of Australians. It provides no incentive for industry to give consideration to means by which less-polluting technology can be rolled out. Arguably, if Victorian power distributors had been obligated to consider the precautionary aspects of ARPANSA's standard, such as the requirements of Clause 5.7 (e), they would have chosen safer technology for the deployment of smart meters. This would also undoubtedly apply to the rollout of other telecommunications infrastructure.

In addition, it is puerile to imagine that Australians are being irradiated from devices used in isolation. Obviously, many people are now being concurrently exposed to multiple RF sources. As stated in ARPANSA's standard, "... *the combined effects of exposure to multiple frequency exposure sources may be additive. It is therefore important that such exposures are evaluated appropriately for compliance with this Standard*" (ARPANSA 2002, p. 18).

ARPANSA radiofrequency standard does not recognise biological effects

Secondly, a very large body of scientific studies has demonstrated that the limits set within ARPANSA's standard fail to provide adequate protection for the public. In consequence, the foundations of the ACMA's standard are shaky.

SSMA views this as a very concerning situation, in view of world-wide rapidly increasing levels of electro-smog. According to Professor Olle Johansson, of the prestigious Karolinska Institute, we, along with all life, are being bathed in background levels of microwave radiation which have increased *one million billion times* or more in recent times (Johansson 2013, p. 7). The human body is, as is all life on this planet, the outcome of exposure to a unique EMF environment. It would be presumptuous to imagine, given the very large body of scientific evidence to the contrary, that long-term consequences won't result from this drastic alteration to our environment.

CFC Underwriting Ltd, UK agent for LLOYD's of London, which is one of the world's largest insurance companies, has already made its call on the matter. It has excluded any liability coverage for injuries "*directly or indirectly arising out of, resulting from or contributed to by electromagnetic fields, electromagnetic radiation, electromagnetism, radio waves or noise*" (Hoffman 2015). Similarly, a 2013 report by the Swiss Reinsurance Company on emerging risks, had assigned a high risk in regards to unforeseen consequences of electromagnetic fields (Burmeier et al. 2013, p. 11).

Australia's radiofrequency standard for non ionising radiation is aimed at guarding against gross thermal effects resulting from an increase in the temperature of body tissue. It does not provide protection against the many, and varied biological effects – as shown in thousands of studies – which occur at levels that can be significantly below the limits set by the standard.

The U.S.A. Naval Medical Research Institute listed over 2000 studies, in a report dated as early as 1972, giving evidence of adverse biological effects as a result of radiofrequency radiation (Glaser 1972).

Current research concurs, showing that adverse outcomes include DNA single strand and double strand breaks, breaching of the blood-brain barrier, changes in calcium efflux and increased production of heat-shock proteins (Maret 2012, p. 19). Not surprisingly, and

similar to the prolonged cover-up of other pollutants such as tobacco, it has been found that industry-funded studies only have a 30% likelihood of finding an adverse effect as compared to independent studies, where the likelihood is 70% (Ishisaka 2011).

Although Victorian emissions from wireless smart meters have been shown to be well within the radiofrequency limits outlined in ARPANSA's standard, this needs to be viewed in the context of limits set elsewhere in the world. Forty percent of the world's population has the benefit of higher levels of protection. Radiofrequency exposure guidelines in place in these jurisdictions are *ten to thousands of times* more rigorous than the ARPANSA standard, which is based on 1998 ICNIRP guidelines (Jamieson 2014).

Physicist Dr. Ronald Powell analysed wireless smart meter emissions in light of the conclusions reached by the *BioInitiative 2012 Report*, a report compiled by 29 experts from ten countries which reviewed 1800 new scientific studies on non ionising radiation since the *BioInitiative 2007 Report* (which had, in turn, reviewed over 2,000 studies). He concluded that the power density at 100 metres from a smart meter is "*higher than the power density that triggered biological effects*" in 6 of the 67 studies which he considered. His analysis also showed that the RF power density from a smart meter does not drop down to the level of the RF exposure limits proposed by the *BioInitiative 2012 Report* until distances of *180 to 200 metres* from a smart meter are reached (Powell 2013, p. 12).

It is not surprising, in view of the large body of studies attesting to adverse biological outcomes in response to pulsed radiofrequency radiation, that many people have been affected as a result of the rollout of AMI. Written evidence submitted to the UK Parliament in 2013 attested to the fact that this has resulted in thousands of health complaints world-wide.

More than 10,000 health-related complaints were submitted to the California Public Utilities Commission alone, and included personal testimonies from medical doctors, psychotherapists and nurses, regarding their own symptoms (Stop Smart Meters! 2013).

SSMA is in receipt of in excess of 375 (unsolicited) reports alleging a variety of adverse symptoms, some of which have been life-threatening, as a result of exposure to smart meters' pulsed microwave emissions. This cohort is viewed as being the 'tip of the iceberg'.

The majority of the population and medical fraternity in Australia have no previous experience, nor training, in identifying biological changes as a result of increased radiation exposure and are unlikely to link the rollout of AMI technology with the symptoms which have been triggered. The emissions from Victoria's smart meters appear to have caused the exacerbation of existing symptoms, as well as triggering new symptoms in parts of the population who had not previously exhibited sensitivities to wireless technology.

In some cases the impact on people's lives has been profound, resulting in high personal costs for them and their families. Outcomes which SSMA has been advised of include a number of cases where people have ceased employment as a direct result of smart meters, undergone medical procedures, been hospitalised, outlaid many thousands of dollars to partially shield their homes from smart meter emissions, no longer been able to access parts of their homes and gardens, and relocated their families interstate to escape widespread and pervasive emissions across Victoria.

A PubMed-listed, peer-reviewed study titled *Self-reporting of Symptom Development from Exposure to Radiofrequency Fields of Wireless Smart Meters in Victoria, Australia: A Case Series* offers the hypothesis that "some people can develop symptoms from exposure to the radiofrequency fields of wireless smart meters" (Lamech 2014, p. 38). The study's conclusions point to the "possibility that smart meters may have unique characteristics that lower people's threshold for symptom development." The most common symptoms were insomnia, headaches, tinnitus, fatigue and cognitive disturbances.

The American Academy of Environmental Medicine (AAEM) has endorsed the report, stating "It is a well-documented 92-case series that is scientifically valid. It clearly demonstrates adverse health effects in the human population from smart meter emissions" (AAEM 2014).

Dr David O. Carpenter, founder and director of the Institute for Health and the Environment at University of Albany's School of Public Health in New York, previous director of the Wadsworth Laboratory at the New York State Department of Health and author of more than 350 peer-reviewed studies, has also referred to Lamech's report, in a paper titled *Excessive Exposure to Radiofrequency Electromagnetic Fields May Cause the Development of Electrohypersensitivity*. Dr Carpenter contends that the Lamech report provides support for the possibility that a sudden increase in RF exposure results in electrohypersensitivity (EHS), and "raises the important question of what characteristics of smart meters, compared with other sources of RF, may be responsible for provoking EHS" (Carpenter 2014).

Technically poor outcomes

The disregard for ARPANSA's precautionary clauses is also encouraging other anomalous situations. As it stands, the ACMA's standard does not provide incentive for industry and Government to consider means of mitigating wireless smart meter irradiation of the public.

If industry and the Government were required to give consideration to clause 5.7 (e) of ARPANSA's standard for radiofrequencies, which stipulates that unnecessary RF exposure should be minimized, providing this can be readily achieved at reasonable expense, then we might see smarter outcomes, in relation to the rollout of new technology. This would provide positive spin-offs both in terms of health, and mode of delivery.

Current legislation provides little incentive for different industries and levels of government to liaise with each other. This has resulted in a situation where Australians are being delivered a hodgepodge of, often highly inferior, technical solutions. Instead of taking a holistic approach, which might very well see multiple services sharing one, high-quality means of delivery (which has greater longevity), such as fibre-optic cabling, piece-meal wireless systems have proliferated across Australia. This has resulted in slower transmission speeds for rural Australians dependent on the internet (and future contention is likely to significantly slow this down even more), shorter-lived assets, assets which are more vulnerable to weather events, malicious electromagnetic pulse attacks and hacking, as well as escalating levels of electro-pollution.

In the case of AMI rollouts deploying mesh technology, the delivery of consumer electricity data via a wireless mesh system has resulted in data being handled numerous times before it reaches its destination. Advanced metering infrastructure in Victoria collects data four to six times a day. Yet, according to information extrapolated from a recent Victorian technical study commissioned by the Victorian Government, this results in a staggering average of 44,314 transmissions per day across meters in the mesh networks deployed by Victoria's power distributors (Total Radiation Solutions 2015, pp. 80-81). The worst case outcome was 4,228,824 transmissions per day, for a meter in AusNet Services's 3G network. This appears, technically, to be a ludicrous situation.

Conclusion

The current culture of the communications regulator, which is focused on short-term objectives which favour industry², to the detriment of long-term concern for the well-being of Australians, appears to be a direct outcome of its structure. Wireless RF was classified as a (Group 2B) possible human carcinogen by the World Health Organization in 2011. As a result of evaluation of more recent research (Hardell & Carlberg 2013), it appears increasingly likely that this trajectory will see RF eventually carrying the highest possible rating, that of a (Group 2A) human carcinogen. Cancer, of course, is but one of many adverse outcomes associated with exposure to pulsed RF.

In the face of the burgeoning body of scientific evidence giving cause for grave health concerns, it is astounding that the ACMA continues to treat the regulatory arrangements for relevant devices emitting EME as 'business as usual'. This sort of government groupthink does not serve the long-term interests of Australians. Failure to adopt a precautionary

² The ACMA's current bias towards the interests of industry, rather than considering the public good, is exemplified in the following response from the ACMA regarding the remaking of the 2014 EME instruments: "*The submissions from industry supported the remaking of the instruments with minor amendments. The ACMA considers that industry is generally satisfied with the operation of the current instruments. Industry submissions proposed additional minor amendments that the ACMA has accepted and incorporated in the finalised instruments*" (ACMA 2014, p. 8).

approach could very well result in escalating national healthcare costs which dwarf the billions received by the Government for the licensing of spectrum.

SSMA urges the Government to take this opportunity to remedy the current defects in the structure of the ACMA. It is time to place the interests of Australian citizens front and centre.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Janobai Smith'.

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