

Margaret Coaster
Smart Metering Team, Ofgem E-Serve
9 Millbank, London SW1P 3GE
smartmetering@ofgem.gov.uk

Ofgem: Smart Metering Implementation Programme: Consultation, 2010.

Submission on behalf of ElectroSensitivity UK.

The Overview below and the attached document entitled *Health dangers of wireless control networks, wireless smart meters and WiFi radiation* provide answers and comments in response to the Prospectus question 3, page 18 (customers' positive experience of smart meter rollout), and question 7, page 24 (technical specifications). These are concerned primarily with the health dangers of the WAN systems proposed for smart meters by companies like British Gas and BT. Similar systems have already been implemented in parts of north America and led to a growing hostility by doctors and the general public to the imposition of radiation transmitters endangering the health of the general population. Some US counties and cities are now said to be considering a moratorium on the implementation of radiation wireless smart meters.

Overview:

Wired smart meters should be used and not wireless smart meters because of the established health dangers

1. **Wired smart meters** are excellent and not a significant health risk.
2. **Wireless smart meters are a health danger to everyone**, and especially to people already sensitized to wireless radiation.
3. The UK should not make **the mistake of increasing electro-pollution in every home** by installing wireless transmitter smart meters, but should instead develop an effective **fibre-optic data network** for all housing and offices, as is being developed elsewhere.
4. The health dangers already **established from the weight of scientific evidence** for typical low-level wireless systems come from long-term exposure, linked to **cancers, neurological diseases, DNA breaks and fertility reduction after ten or more years' exposure** to this type of low-level radiation.
5. A networked wireless smart meter system can generate radiation levels similar to those for **a "heavy user" of a mobile phone**. Studies show that after ten years this level of exposure is linked with **increased cancer**.
6. Any **HAN (Home Area Network) should also be wired**. Constructive interference and reflections from several wireless systems can create **synergistic hot-spots** with elevated health risks. These are especially likely to cause **bio-active effects in sleeping areas**, a danger highlighted by doctors. In addition any wireless system can impose **transient voltage frequencies** on the household wiring system and at high levels these have been shown to be carcinogenic.
7. Radiation transmitters at **relatively low frequencies** proposed to ensure the **penetration of concrete walls and floors in houses and flats** are often

regarded by scientists as **more bio-active** than those at higher frequencies which do not penetrate so far into a human body.

8. Current INCIRP safety limits are to prevent **heating averaged over six minutes**. These are based on the **US 1957 "industrial-military" limits**. In contrast Russia adopted much lower **biological safety limits** in 1958, since adverse biological effects have long been shown to occur at sub-heating levels. **The EU Parliament voted in 2009 that the ICNIRP limits are now "obsolete"** and demanded new low-level biological limits.

9. In awarding injunctions and damages **courts around the world are beginning to switch from the outdated ICNIRP heating limits to the biological limits set by other groups of international scientists** such as the BioInitiative Report in 2007.

More detailed evidence supporting this Overview can be found in the attached document entitled *Health dangers of wireless control networks, wireless smart meters and WiFi radiation*. This outlines some of the adverse health effects which make wireless radiation inappropriate for smart meters and shows at what distances even low levels of, for instance, WiFi typically exceed international safety limits. It also summarises typical adverse health effects which some members of the general public may feel when wireless smart meters are installed.

Sadly, the charity ElectroSensitivity UK has to deal with an increasing number of people sensitized to this type of low-level radiation. In the last few years this has included people suffering ill health from other people's smart meters and WiFi systems. This can result in ruined lives, with those sensitised losing their jobs, home and even family and friends. At present it seems that doctors are unable to identify which people are most likely to become sensitized by the installation of a wireless smart meter or who will suffer long-term effects such as cancers, neurological diseases or decreased fertility. This is why the healthier solution of fibre-optic cables is being adopted in some countries, or even sending data at radio frequencies over power lines, where the health dangers are still significant but less than most other wireless systems.



ElectroSensitivity UK

25th September 2010