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**Submitted by:**

Eileen O'Connor  
Director, EM Radiation Research Trust  
Chairman: Mr. Brian Stein CBE  
Chetwode House, Leicester Road  
Melton Mowbray, Leicestershire LE13 1GA

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**Call for Evidence:** Reforming Planning Rules for Digital Infrastructure

**EM Radiation Research Trust Submission on Health-Protective Planning Policies**

The EM Radiation Research Trust (RRT) is submitting this response to the Call for Evidence on *Reforming Planning Rules for Digital Infrastructure*. We are deeply concerned about the rapid, large-scale expansion of wireless infrastructure and the associated risks to public health and the economy. We urge the Government to adopt immediate, health-protective, and precautionary planning policies for telecommunications and wireless infrastructure.

Wireless deployment continues to accelerate across the United Kingdom without adequate consideration of documented biological harm, cumulative exposure, electrical fire hazards, system interactions, or the protection of vulnerable populations. The Government continues to rely on exposure guidelines issued by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). However, these guidelines address only short-term acute effects and do not consider long-term, low-level chronic exposure, which is increasing year-on-year.

In 2011, the International Agency for Research on Cancer (IARC) classified radiofrequency electromagnetic fields as “**possibly carcinogenic to humans (Group 2B)**”[1]. Since then, the volume of scientific research has grown substantially, strengthening, with some independent scientists calling for the classification to be upgraded to Group 1 (“**carcinogenic to humans**”). In 2016, the European Academy for Environmental Medicine published their Review of the literature and precautionary guidelines [2], aligns more closely with reported adverse effects in people and underscore the need for precautionary, health-protective policies.

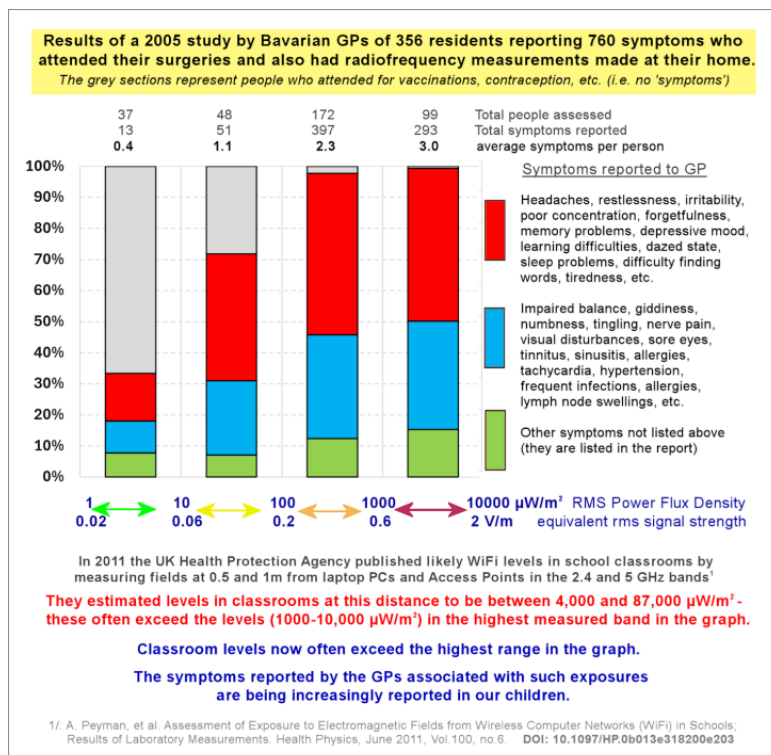
We are concerned that the public is being exposed to escalating levels of **radiofrequency wireless radiation** without informed consent and without meaningful public health safeguards.

## Executive Overview

The recent World Health Organisation (WHO) Systematic Reviews have been highly criticised as being seriously flawed by senior bio-electromagnetic scientists and medics [3,4]. The UK Government should not rely on these WHO reviews to allow further increases in background levels of radio-frequency exposure above 700 MHz, which have increased approximately one-million-fold since the 1980s. During this period, chronic illness and poor health in the population in Western countries has risen many-fold and has resulted in many more working-age people not being able to work. This greatly increases benefit payments and has a large and significant negative impact on the UK's economy due to many people's chronic health problems.

Beyond chronic illness in adults, children and young people are also increasingly affected. We have observed a significant rise in autism spectrum and attention deficit disorders. Multiple factors are likely contributing to this increase, including diet, screen time, overstimulation from social media, and reduced outdoor play and sunlight exposure. **However, independent scientific studies have repeatedly reported associations between these conditions and chronic exposure to mobile phone base stations and other modulated microwave radiation.** The BioInitiative Report provides detailed background scientific evidence on these effects [5].

As just a single example (of many), copied below are the results reported by a group of GP doctors in Bamberg, Bavaria in 2007 [6]. This shows a remarkable dose-response relationship between ill health and chronic low-level radiation from mobile phone base stations at levels some 20,000 times lower than ICNIRP's current thermally-based guidelines ( $100 \mu\text{W}/\text{m}^2$  c.f.  $2 \text{ W}/\text{m}^2$ ). Results such as these show that the current ICNIRP guidance for chronic exposure (as opposed to acute exposure while using a mobile phone) is not fit for public Health & Safety concerns and should be replaced. The EUROPAEM Guidelines [2] set the general public level at  $100 \mu\text{W}/\text{m}^2$ .



## **Planning Guidance and Exposure Limits**

Current Planning Guidance requires operator-submitted ICNIRP compliance certificates. To date, operators have been allowed to self-certify, and no comprehensive, independent, regulator-required measurement checks are carried out. This has been abused in the past, and many certificates exist in the name of companies that no longer have a legal entity. There should be a legal requirement for wireless telecommunication companies to engage an independent UKAS- and Ofcom-approved test-and-measurement specialist company to carry out a formal, independent survey of every new base-station emissions mast after activation and integration into their networks.

However, ICNIRP guidance is set tens of thousands of times too high to protect the public from long-term, chronic exposures. Even ICNIRP acknowledges that exposures can have other biological effects, such as impacts on peripheral nerves, yet these non-thermal effects are frequently overlooked by councils in planning decisions. Given the evidence from independent science showing biological effects at levels far below ICNIRP limits, we recommend that the EUROPAEM Guidelines [2] be adopted as a benchmark for general environmental exposure, replacing the thermally-based ICNIRP limits, to provide a precautionary and health-protective standards aligned with documented effects and international best practice.

Although there are already thousands of publications on the health effects of radiofrequency exposure, we call on the government to instruct and listen to independent doctors and scientists with expertise in this field to carry out a full, comprehensive review of historic and current evidence. This should be supported by investment in high-quality research to address remaining uncertainties, identify vulnerable populations, and inform precautionary public health and planning policies.

## **Vulnerable Populations**

Accelerated deployment may disproportionately affect children, pregnant women, older adults, individuals with Active Implantable Medical Devices (AIMDs), and those reporting electrosensitivity. Higher levels of exposure can affect well-being, learning, and working abilities of sensitive people. A recent study by a very highly-regarded research group showed that at least some effects are dependent on an individual's genetic variants [7]. This is an alarming finding that will open up debate on safety.

**At Millstead Primary School, Liverpool**, the EM Radiation Research Trust recorded a peak level of wireless radiofrequency radiation of 1,554,932  $\mu\text{W}/\text{m}^2$  (very high, but below the ICNIRP public guideline of 2  $\text{W}/\text{m}^2$ ) near a phone mast directly outside the school. The measurement was conducted by an independent electromagnetic field specialist instructed by the RRT [8]. Multiple children and staff reported illness, and the school temporarily closed. Tragically, two children subsequently died. The EM Radiation Research Trust called for a full, independent public investigation.

## **Stewart Report – Precautionary Advice**

In 2000, the UK Government commissioned the landmark Stewart Report [9], chaired by Sir William Stewart, former Chief Scientific Adviser to both Prime Ministers Margaret Thatcher and Tony Blair. The Independent Expert Group on Mobile Phones adopted a precautionary approach, recognising scientific uncertainty and the potential vulnerability of children. Importantly, the Report recommended:

**“The beam of greatest RF intensity should not be permitted to fall on any part of the school grounds or buildings without agreement from the school and parents.” (Paragraph 1.42)**

The Report also highlighted that it was not possible to state that exposures below ICNIRP limits were entirely without risk. Children may be more vulnerable due to developing nervous systems and longer lifetime exposure. The Stewart Report already advised a precautionary approach, and we believe that its recommendations would be even stronger today given the substantial research published since 2000 that has heightened concerns for public health.

### **International Comparisons**

While the Millstead level was technically compliant under UK ICNIRP-based guidelines, it would not be permitted under stricter frameworks in other countries. Countries such as Switzerland, Italy, the Brussels Capital Region, Russia, and China all have lower public exposure limits than the UK [10].

### **A Call to Today’s Ministers**

The UK once led the world in precautionary thinking through the Stewart Report. That expert advice has never been implemented. Given the research since 2000, it is now even more imperative.

#### **We call on today’s Ministers to:**

- Reaffirm and implement the Stewart Report recommendation that the main beam of greatest RF intensity must not fall on school buildings or grounds without explicit agreement from parents and school.
- Introduce enforceable planning protections and meaningful exclusion zones around homes, and schools.
- Commission a fully independent investigation into high-intensity exposures recorded at schools.
- Review UK exposure limits in light of international precautionary standards.

Compliance with thermal acute guidelines alone should no longer be the benchmark for children’s safety. The Stewart Report recognised the need for precaution 25 years ago. It is time for Government to follow that advice and strengthen it in line with today’s science. We also recommend the use of Ethernet hard wiring wherever possible, providing reliable internet access while minimising unnecessary radiofrequency exposure for children and staff.

### **Cumulative Exposure and Emerging Sources**

Current planning policy does not require aggregate or cumulative exposure assessments, particularly in dense urban areas or near schools, hospitals, and care facilities. Peer-reviewed literature also highlights potential impacts of RF exposure on wildlife orientation and ecological systems.

Emerging electrical and fire hazards associated with telecommunications masts, battery storage units, and ancillary equipment present serious and increasing public safety risks. Documented mast fires demonstrate electrical faults, overheating, lithium-ion battery failures, and cable fires requiring specialist fire service intervention and electrical grid isolation before extinguishment. These risks are not adequately addressed within current planning policy.

In addition to fixed infrastructure, the public is now immersed in expanding sources of radiofrequency radiation that are not evaluated in cumulative risk assessments. Electric vehicles produce significant electromagnetic emissions within the car, creating continuous exposure for drivers and passengers. The industry has been severely criticised by the Seibersdorf Report sponsored by the German Government and BfS [11]. Modern vehicles are increasingly equipped with radar sensors operating at frequencies between 70 and 100 GHz for collision avoidance, automated braking, and adaptive cruise systems. Vehicle-to-vehicle and vehicle-to-infrastructure connectivity using 5G and emerging 6G systems will further increase background radiation exposure in roads, residential streets, and public spaces.

### **Wi-Fi in Schools**

A government investment of £45 million is facilitating the installation of ultra-high-speed, industrial-standard Wi-Fi in schools. We agree that access to computer technology and some internet access is highly desirable for children, but they do not need high-powered Wi-Fi Access Points in classrooms. Work in Canada has shown that Wi-Fi power signals in schools can be reduced to less than 20% of their default maximum setting with no effective reduction in connectivity.

Children have thinner skulls, smaller heads, higher water content, and developing nervous systems, meaning they absorb more RF energy from wireless signals than adults. Research shows that the bone marrow in a child's skull can absorb up to ten times more RF radiation than that of an adult [12], and deeper brain structures in a child can also receive substantially higher local doses. **For these reasons, we recommend the use of Ethernet hard wiring, providing reliable internet access while minimising unnecessary radiofrequency exposure for children and staff.**

### **Public Health Risks**

We fear that these combined exposures are already having a profound and destabilising effect on public health. The burden of chronic illness, neurological impairment, reproductive harm, cancer risk, and immune dysfunction may overwhelm the National Health Service. Children, pregnant women, older people, those with medical implants, and individuals reporting Electromagnetic Hypersensitivity (approximately 3–5% of the population) are at particular risk.

We believe we are moving blindly toward a public health disaster of unprecedented scale that will affect not only human populations but ecological systems and all forms of life. We ask the Government to act before it is too late. The long-term cost of inaction may be incalculable.

We urge the Government to start meaningful, inclusive dialogue on these issues.

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Kind regards,

Eileen O'Connor

Director

On behalf of the EM Radiation Research Trust

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