Electric and Magnetic Fields (EMFs)

The Facts

Issue 2 (2025)

The voice of the networks

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This guide, produced by the UK electricity industry, summarises the background to the EMF issue, explains the research undertaken with regard to health and discusses the conclusion reached.

Electric and Magnetic Fields 02

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Wherever electricity is used or distributed there will also be electric and magnetic fields. This is inherent in the laws of physics - we can modify the fields to some extent, but if we are going to use electricity, then EMFs are inevitable. Like many other things that we encounter in nature, EMFs can be harmful at high-enough levels. But the fields required, for example, to start interfering with the body's nervous system are much greater than those produced by the UK electricity system.

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About ENA

Energy Networks Association represents the companies which operate the electricity wires, gas pipes and energy system in the UK and Ireland.

We help our members meet the challenge of delivering electricity and gas to communities across the UK and Ireland safely, sustainably and reliably.

- Create smart grids, ensuring our networks are prepared for more renewable generation than ever before, decentralised sources of energy, more electric vehicles and heat pumps. Learn more about our Open Networks programme.
- Create the world's first zero-carbon gas grid, by speeding up the switch from natural gas to hydrogen. Learn more about our Gas Goes Green programme.
- Innovate. We're supporting over £450m of innovation investment to support customers, connections and more.
- Be safe. We bring our industry together to improve safety and reduce workforce and public injury.
- Manage our networks. We support our members manage, create and maintain a vast array of electricity codes, standards and regulations which supports the day-to-day operation of our energy networks.

Together, the energy networks are keeping your energy flowing, supporting our economy through jobs and investment and preparing for a net zero future.

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Introduction

Foreword

Electricity plays a central role in the quality of life we now enjoy. In particular, many of the improvements in health and wellbeing in our homes and at work that we benefit from today are only possible with a reliable and affordable electricity supply. Electric and magnetic fields (EMFs) are present wherever electricity is used, in the home or from the equipment that makes up the UK electricity system.

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Electric and Magnetic Fields

Electric and magnetic fields (EMFs) are produced both naturally and as a result of human activity. The earth has both a magnetic field (produced by currents deep inside the molten core of the planet) and an electric field (produced by electrical activity in the atmosphere, such as thunderstorms).

Wherever electricity is used or distributed there will also be electric and magnetic fields. This is inherent in the laws of physics - we can modify the fields to some extent, but if we are going to use electricity, then EMFs are inevitable. Like many other things that we encounter in nature, EMFs can be harmful at high-enough levels. But the fields required, for example, to start interfering with the body's nervous system are much greater than those produced by the UK electricity system.

Fields of Different Frequency

A key characteristic of a field is the frequency. The frequency indicates how rapidly the field changes direction backwards and forwards and is measured in cycles per second or hertz (Hz).

The electricity systems in the UK and the rest of Europe produce fields of 50 hertz; it is these fields produced by the electricity system (known as 'extremely low frequency' (ELF) or 'power frequency' fields) that are discussed in the rest of this guide.

The earth's natural magnetic and electric fields do not oscillate at all. They are known as 'static fields' and have a frequency of 0 hertz. "High Voltage Direct Current," HVDC, is also now used instead of alternating current in some places for transmission. This produces static fields similar to the earth's field, but these are not covered in this guide.

Other technologies use higher frequencies. For instance, TV and radio broadcasts operate at thousands or millions of hertz, while mobile phones transmissions and Wi-Fi are at around a billion hertz. These frequencies are very different and the science of the fields and their effects at those frequencies is also different; they are a separate issue and this guide does not cover those technologies.

The Difference Between Electric and Magnetic Fields

The Two Components

The term ‘EMFs’ encompasses two different though related concepts: electric fields and magnetic fields.

Electric Fields

Electric fields are produced by voltage. Voltage is the pressure behind the flow of electricity. It can be likened to the pressure of water in a hose. Electricity in UK homes is at a voltage of 230 volts (V), but outside homes it is distributed at higher voltages, from 11,000 volts (usually written 11 kV) up to 400,000 volts (400 kV). Generally, the higher the voltage, the higher the electric field. Electric fields are measured in volts per metre (V/m).

Magnetic Fields

Magnetic fields are produced by current, which is the flow of electricity. Current, which is measured in amperes or amps, can be likened to the flow of water in a hose when the nozzle is open. Generally, the higher the power and the current, the higher the magnetic field. Magnetic fields are measured in microteslas (μT).

Other Differences

One difference between electric and magnetic fields is that electric fields are very easily screened - by buildings, hedges, fences, and trees. So inside a house there will be very little electric field from a power line outside. By contrast, magnetic fields pass readily through most buildings.

Another difference is that a mains appliance such as a radio or lamp does not have to be operating to produce an electric field - as long as it is plugged into a mains supply it will produce an electric field. However, it produces a magnetic field only when it is turned on and drawing a current.

EMF Units

Electric Fields

Usually measured in volts per metre (V/m)

Multiple used for large fields:	1 kilovolt per metre (kV/m) = 1,000 volts per metre

Magnetic Fields

Usually measured in microteslas (μT)

Multiple used for large fields	1 millitesla = 1,000 microteslas
or small fields	1 nanotesla = 0.001 microteslas
Other units sometimes used	1 milligauss = 0.1 microteslas

Instruments that measure field levels normally give an average value called the “root mean square.”

Exposure

National Guidelines for exposure to the public

The Government sets guidelines for exposure to EMFs in the UK on advice from UK Health Security Agency (formerly Public Health England). In March 2004 the UK decided to adopt the 1998 guidelines published by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) in the terms of a 1999 European Union Recommendation, and this policy was reaffirmed by a Written Ministerial Statement in October 2009. Other guidelines have been reviewed but Government has decided to remain with ICNIRP 1998 as these have more restrictive limits compared to the most recent publication.

The ICNIRP 'exposure limits' for the public are:

360 microteslas for magnetic fields

9000 volts per metre for electric fields

They apply where the time of exposure is significant. These guidelines are designed to prevent established health effects, but were set after examining all the evidence, including the evidence on cancer. These limits and how they apply to electricity infrastructure is set out in National Policy Statement EN-5.

Reference levels are thresholds for performing detailed investigations of compliance. The permitted levels are somewhat higher.

It is the policy of the electricity industry to follow these independent exposure guidelines. A Code of Practice, published jointly by industry and the then Department for Energy and Climate Change, sets out all the practical details needed to apply the exposure limits. All exposures in homes already comply with the ICNIRP guidelines. The electricity industry designs all new equipment to comply with the Government guidelines as set out in the Code of Practice.

Occupational exposure

Occupational exposures are governed by the Control of Electromagnetic Fields Regulations introduced in 2016. These are higher than the public limits – essentially 6,000 microteslas and 20,000 volts per metre.

Guidelines from other organisations

The guidelines that apply in the UK are the ICNIRP 1998 limits. Often guidelines from other organisations are quoted as having some authority, such as SAGE or the Salzburg Standard for Building Biology. These have no status in the UK and are often out of line with mainstream scientific thinking. Additionally, SAGE did not produce guidelines. SAGE was a stakeholder advisory group to Government on EMF investigating what would be appropriate precautionary measures to introduce to electricity infrastructure. The recommendations from SAGE have been adopted into Government policy and are followed by the electricity industry.

Typical Field Levels in the UK

Natural Sources

The earth's magnetic field, which everybody is constantly exposed to, is around 50 microteslas in the UK. The earth's electric field is usually around a hundred volts per metre, but thunderstorms can make it rise to many thousands. Both these natural fields are 0 hertz or static fields. All the other values given in this section are for 50 hertz fields.

Within the Home

Within our homes, all mains appliances produce AC fields. Appliances differ, but it is often the smaller, more compact appliances that produce the largest magnetic fields.

The field is greatest close to the surface of the appliance and drops rapidly with distance, falling away substantially over the first metre from the appliance. The table below shows the range of magnetic field strengths close to the appliance. Electric fields can be a few hundred volts per metre close to appliances.

Mobile phone applications cannot measure 50Hz fields accurately and should not be relied upon.

Typical Magnetic Field Levels from Some Common Mains Appliances in the Home.

All electrical appliances produce magnetic fields which drop rapidly with distance.

Magnetic Field (microteslas)		
Appliance	**Appliance surface**	**1 metre away** (The field is greatest closest to the appliance and dissipates)
Hair Dryer	50	0.3
Microwave	70	0.2
Electric Oven	10	0.02
Fridge	2	0.01
Iron	30	0.01
EV Charger (when connected and charging)	20	0.05

Outside the home

Overhead power lines

Outside our homes, all overhead power lines produce fields. The fields are usually greatest directly under the lines and fall rapidly with distance to the sides of the line. For small lines on wooden poles, the fields generally fall away over a few tens of metres. For larger lines on steel pylons, the distance is slightly greater. Fields vary greatly from line to line and over time, and a line typically produces fields much less than the maximum it is capable of.

Typical Ground-level UK Field Levels from Overhead Power Lines

Appliance		Magnetic Field (microteslas)	Electric Field (volts per metre)
The largest steel pylons Transmission: (275kV and 400kV)	**Typical field** (under line)	5 - 10	3,000 - 5,000
	Typical field (50 m to side)	0.4 - 0.6	50 - 100
Smaller steel pylons and largest wooden poles Distribution voltage: (132 kV)	**Typical field** (under line)	0.5 - 2	500 - 3,000
	Typical field (50 m to side)	0.03 - 0.2	20 - 100
Medium wooden poles Distribution: (11 kV and 33 kV)	**Typical field** (under line)	0.4 - 1	50 - 200
	Typical field (50 m to side)	0.01 - 0.03	1 - 5
Smallest wooden poles Low voltage: (400 V or 230 V)	**Typical field** (under line)	0.05 – 0.2	<1
	Typical field (50 m to side)	<0.01 - 0.02	<1

*Theoretical maximum for legacy overhead line routes using worst-case assumptions.

An overhead powerline typically produces fields much less than the maximum it is capable of.

There is no restriction in the UK on EMF grounds on how close a house can be to an overhead line. Overhead lines are designed to ensure they comply with the exposure limits even directly underneath the wires. Further detailed information on all issues associated with emfs is available from: www.emfs.info

Underground Cables

High voltage underground cables can produce higher magnetic fields directly above them compared to that which an overhead line would produce at ground level, because the physical distance from the underground cable to the point of measurement is smaller. The cable installations are designed to ensure the magnetic fields cannot exceed the exposure limits. The field falls more rapidly with distance to the sides, and they produce no external electric field. Such cables are not normally located beneath buildings.

Substations

Small electricity distribution substations, typically one for every few hundred homes, generally produce up to 2 microteslas close to their perimeter fence (occasionally more if built into another building, usually less for pole-mounted transformers), and often no electric field at all. The fields fall rapidly with distance and, within 1 to 2 metres from a typical substation, the fields associated with it are usually indistinguishable from other fields present in homes. Larger electricity transmission substations do not produce very large fields themselves (generally less than a microtesla); the fields close by are mainly produced by power lines and cables entering them. There is no legal restriction on EMF grounds on how close houses can be to substations.

Average Magnetic Field Levels

In the Home

In the vast majority of homes in the UK, the magnetic field, averaged over 24 hours, is between 0.01 and 0.2 microteslas, typically half the level in some other countries. Less than half a percent of homes in the UK has what is considered to be a high background field. Some of these homes are near power lines, but about half are not.

It is actually easy to experience fields far greater than average background levels for short periods, close to an appliance or passing underneath a power line, but short exposures like these do not usually contribute much to the average field over a day.

Outside the Home

The occupations where exposure to fields has been investigated in greater detail tend to be those involving power workers. For instance, a typical worker in a UK power station experiences an average field of a few microteslas during working hours, and an electrician perhaps one microtesla. By contrast a typical office worker experience about 0.2 microteslas. Buried cables in pathways, roads and fields can cause exposures of around a microtesla above the cable.

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Potential Health Effects

Could electricity be bad for our health, and do EMFs cause cancer or any other disease?

These are important and serious questions which have been investigated in depth in recent decades. Hundreds of millions of pounds have been spent investigating this issue around the world and research still continues to seek greater clarity. However, the balance of scientific evidence to date suggests that EMFs do not cause disease.

Any suggestion of a risk to health is always taken seriously. When considering issues of diseases and what causes them, it is important to look at what the scientific research reveals.

What conditions have been researched?

Most attention has focused on childhood cancer and leukaemia in particular. However, other diseases including adult cancers, heart disease, Alzheimer's disease and other degenerative conditions, and depression have been examined, as has the incidence of suicide and miscarriage. "Electrosensitivity" is a term used to describe symptoms some people attribute to EMFs.

There are three main types of research scientists undertake to try and find out whether EMFs cause disease.

Epidemiology

Epidemiology is the study of patterns of disease in populations. It searches for any statistical link or association between exposure to EMFs and disease in actual human populations. It was through such studies that concerns about EMFs were first raised in 1979.

The strength of epidemiology is that it looks directly at human populations. However, all it can ever do is observe statistical associations. It can never completely eliminate all the many other factors that determine whether people develop diseases or not, and so it can never prove whether a particular disease is caused by EMFs or not.

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Over 40 epidemiological studies have now been performed looking just at a possible link between childhood leukaemia and magnetic fields. Numerous other studies have looked at other diseases. Some of those studies found no association with magnetic fields, but some have found associations, and consequently research continues until a clearer picture can be achieved.

With electric fields, the position is clearer: there is very little evidence suggesting they are a cause of childhood cancer.

All these studies were reviewed by the UK Health Security Agency and its predecessors, and the conclusions are considered later in this guide (see page 13).

Theoretical

Theoretical research looks for a plausible mechanism from physics that can demonstrate how the fields could interact with living systems. Many theories have been put forward over the years, but no such mechanism has been established that would operate at the levels of field found in homes or near power lines, and this casts doubt on the existence of health effects attributable to EMFs.

Biological

An important test of any proposed health risk is biological research; laboratory research to observe the effects of EMFs on cells and tissue.

There have been many hundreds of these studies reported, and scientists examine them for robust results, which can be successfully repeated in different laboratories.

40 years of research looking for proposed health risk, there have been no such reproducible results.

In over 40 years of research there have been no such reproducible results. The evidence from the laboratory is that low level EMFs of the type experienced by the public do not cause the diseases that have been claimed.

In particular, virtually every agent that is known to cause cancer in humans also causes cancer in mice or rats. However, for EMFs, tests on mice and rats have not identified any reproducible effects.

Some Important UK Research Results

There have been two big epidemiological studies of childhood cancer and EMFs in the UK.

The United Kingdom Childhood Cancer Study (UKCCS)

The UKCCS was conducted during the 1990s. It looked at a number of suggested causes of childhood cancer including EMFs. Its particularly large study population, with over 2,000 cases of cancer in total and every case occurring in the UK over roughly a four-year period, made it very powerful.

In December 1999, the UKCCS published its first report, on exposure to magnetic fields, and concluded:

"This study provides no evidence that exposure to magnetic fields associated with the electricity supply in the UK increases the risk for childhood leukaemia, cancers of the nervous system, or any other childhood cancer."

Subsequent UKCCS papers in 2000 and 2002 looked at children living close to power lines and at electric fields, in both cases reporting finding "no evidence" or "no support".

The Childhood Cancer Research Group (CCRG)

This 2005 study, also known as the "Draper" study, looked at 33,000 cases of childhood cancer from 1962 to 1995 and the distance of their address at birth from the nearest 275 kV and 400 kV power line. It found an association between childhood leukaemia and these power lines (1.7-fold increase close to the lines, less further away).

However, this association extended too far (600m) from the lines to be caused by magnetic fields, which fall below background levels at much smaller distances. Then a later study from the same group in 2014 looked at more recent cases and found that the association seemed to have diminished over the years and is no longer present today.

There is no simple explanation for these findings, and the original paper concluded:

"We have no satisfactory explanation for our results in terms of causation by magnetic fields or association with other factors."

'Pooled' Analysis

In 2000, an international group, led by Professor Anders Ahlbom from Sweden, took all the separate better-quality epidemiological studies of childhood leukaemia and magnetic fields and pooled the results, so that they could perform one single re-analysis of all the available data. They found that, statistically, there was no significant evidence of any increased risk at the levels of magnetic field to which the overwhelming majority of children are exposed.

The study did, however, find that in the category of homes with a field averaged over 24 hours of greater than 0.4 microteslas (which applies to fewer than half a percent of children in the UK), there is a statistical suggestion of a two-fold increased risk. Some of these homes are near power lines, but many are not.

There have been further pooled analyses carried out since Ahlbom, which including more recent studies. These have broadly concluded that there has been a decline in the statistical risk observed over time, with some finding no statistically significant increase in risk of childhood leukaemia and proximity to overhead lines.

It is still unclear if the statistical risk observed is evidence of a weak causal link with magnetic fields, some other factor associated with overhead lines or just by chance.

The authors of the most recent 2022 study concluded: ***"Our results are not in line with previous pooled analysis and show a decrease in effect to no association between MF and childhood leukemia. This could be due to methodological issues, random chance, or a true finding of disappearing effect."***

Conclusion

The UKCCS's research did not support EMFs causing cancer, but the first substantive pooled analysis did suggest an increased risk for the highest fields. More recent pooled analysis studies indicate that the evidence on childhood leukemia is becoming weaker. Evidence from other research such as laboratory studies argues against any link.

Looking at the totality of the evidence, scientists recognise the possibility of a risk for the relatively few children who receive the highest exposure to magnetic fields, but it is no more than a possibility.

The Words 'Risk' and 'Possible'

Nothing can ever be said to be '100% safe' or 'risk free'. Everything we do from the moment we get up to when we go to sleep has a 'risk' attached to it. Most of the risks we encounter in our day-to-day lives or we hear talked about are established or proven risks, where scientific evidence has reached firm conclusions. This enables us to decide, either as individuals or together as a society, on what actions to take in response to the risks.

With EMFs and risk the situation is different; no risk has been proven. Instead, EMFs are sometimes described as 'possibly' a cause of cancer or a 'possible carcinogen.' The word 'possible' is used about all sorts of things in our lives. It does not mean that exposure to EMFs actually does pose a risk. It simply means that there is some evidence and scientists have not been able to rule out the possibility of a risk, which on the basis of present evidence would be small.

Any suggestion of a possible health risk is always taken seriously by the electricity industry. For this reason the industry continues to support high quality research to help to gain a clearer picture of EMFs and to move closer to a final answer.

Corona Ions and Electric Fields

Scientists at Bristol University in the UK have suggested an alternative mechanism for health effects, involving tiny airborne "corona ions" produced by high-voltage power lines, and their interaction with existing airborne pollutants. These corona ions are indeed produced, but in 2004 Public Health England's forerunner concluded:

"...it seems unlikely that corona ions would have more than a small effect on the long-term health risks associated with particulate air pollutants, even in the individuals who are most affected."

A recent epidemiology study by Bristol University investigating corona ions from high voltage power lines and adult cancers concluded:

"Our results do not provide evidence to support hypotheses that air ion density or electric fields in the vicinity of power lines are associated with cancer risk in adults."

Microshocks

The electric field beneath a power line charges up objects, and sometimes, if you touch a metal object, you can receive a small one-off "microshock," similar to the shock you sometimes get after walking on a nylon carpet. This can be disconcerting but has no known long-term effect and is not regarded as harmful.

Pacemakers

The relevant UK regulatory body is the Medicines and Healthcare Products Regulatory Agency (MHRA). The MHRA does not regard power lines as a significant risk for people with implanted heart devices and there is no recorded incidence of a patient coming to any harm this way in the UK. This is reflected in Government policy, which states:

"[MHRA] does not consider that transmission line EMFs constitute a significant hazard to the operation of pacemakers." National Policy Statement EN-5 (2024).

Note: Cardiologists may require those with pacemakers to adjust their settings, which can result in them being more susceptible to interference from EMFs, but this is extremely rare. In these circumstances the patient will receive a specific warning from their cardiologist. If you have received a specific warning, you should consult your doctor.

The National and International View

In the UK it is to the UK Health Security Agency, and its forerunners Public Health England (PHE), the National Radiological Protection Board (NRPB), and the Health Protection Agency, that both Government and industry look for advice. In March 2004 the NRPB published a comprehensive review of the science on EMFs. For the key issue of childhood leukaemia, they talk about the difficulties with some of the studies and say: ***"The epidemiological evidence is currently not strong enough to justify a firm conclusion...,"*** but also: ***"Nevertheless, the possibility remains that intense and prolonged exposures to magnetic fields can increase the risk of leukaemia in children..."***

Another key conclusion is: "There is little evidence to suggest...that raised cancer risks of other types, in children and adults, might arise as a result of exposure to ELF [extremely low frequency] magnetic fields... The findings from studies of health outcomes other than cancer have generally been inconsistent or difficult to interpret."

They then note: ***"The results of epidemiological studies...cannot be used as a basis for the derivation of quantitative restrictions on exposure to EMFs."***

These views echo the international consensus. In June 2001 the International Agency for Research on Cancer, IARC, which is an agency of the World Health Organization, published an authoritative opinion on the carcinogenicity of EMFs. IARC classified extremely low frequency magnetic fields as 'possibly' a cause of cancer, on the basis of 'inadequate' epidemiological evidence for most types of cancer and 'inadequate' evidence in animals, but 'limited' epidemiological evidence for childhood leukaemia. For electric fields IARC said all the evidence was 'inadequate.' In 2005 WHO confirmed this classification, but also looked at other effects on health, and said the evidence for any of these being produced by EMFs was ***"much weaker"***. More recent reports by the relevant EU scientific committee in 2007, 2009 and 2015 confirm that these are still a correct summary of the science.

Some scientists hold other views, and sometimes reports are published saying the evidence is stronger (for example, a 2002 report from California and the 2007 Bio initiative report). However, such assessments are not aligned with the international consensus and with authoritative bodies.

The UK Electricity Industry Policy

Health

The UK electricity industry takes any suggestion of a risk to health extremely seriously. The industry believes that the final decision about what constitutes a safe level of exposure should be made by an independent body. It is committed to follow the guidance given by the Government, advised by the UK Health Security Agency, on safe levels of exposure and carries out all its operations within the relevant exposure levels.

As the electricity industry takes public concerns seriously, it continues to provide dedicated EMF resources to assist the public and to provide further information, including, if appropriate, home visits and measurement of fields.

Research

The electricity industry is committed to supporting high-quality research to help get closer to a final answer on the EMF issue. For example, the UK Childhood Cancer Study received over £4 million from the industry to enable it to look at EMFs in their study, though the conduct of the study was rigorously independent of the industry. Similarly, one of the electricity companies, National Grid, has given over £5 million to an independent Research Trust to support the very best quality biological research.

In addition, the industry has supported and continues to support numerous other studies, and its own staff carry out research into aspects of exposure to EMFs. National Grid provided the data on power lines that made the CCRG study possible. It is a condition of all the research supported by the industry that the results are published openly in reputable peer-reviewed, scientific journals.

Power lines and property

The UK Government policy is that there are no restrictions on EMF grounds on building homes close to power lines. Clearly the statutory high-voltage safety clearance distances must be followed, but the only EMF requirement is compliance with the exposure guidelines, which all power lines in the UK meet.

This policy was scrutinised and reviewed in the 2000s through a process called SAGE, the Stakeholder Advisory Group on ELF EMFs. SAGE was created in 2004 to provide a forum in which all stakeholders, citizen groups alongside industry, Government, and professional bodies could discuss possible precautionary measures and make recommendations. SAGE published its First Interim Assessment in 2007 containing recommendations on power lines, house wiring, and appliances, and Government formally responded in October 2009.

The Government response adopted a measure recommended by SAGE called “optimum phasing” which applies to the design of some power lines of 132 kV and above and can result in lower fields, and the electricity industry volunteered to implement this. The electricity industry has since demonstrated to Government its compliance with that policy and continues to do so. It also agreed with a proposal for more information to be provided to the public. However, Government said clearly that it will not be introducing “corridors” along power lines where building would be restricted, because this would be disproportionate to the scientific evidence. It also says that this is a matter for central Government policy, not local decision making.

The Electricity Industry View

The electricity industry considers that the question of possible measures to reduce fields should be resolved in the best interests of society as a whole, and that a forum like SAGE, where all the different views and opinions were represented and discussed sensibly, is greatly preferable to the alternative of confrontation and argument. We therefore welcome the clarity that the SAGE process and the Government response to it has brought.

We are committed to building and operating our systems in compliance with Government policy, and they already comply with the exposure guidelines. Where there are relatively easy and low-cost ways of reducing fields, it makes sense to adopt these. However, it is in the interests of society as a whole that any measures are proportionate and that they balance risk and cost to society, and that is the reason why Government has decided not to introduce “corridors” in the UK.

Further Information

For further information you can be obtained by:

- National Grid information site on emfs: www.emfs.info
- The EMF public information line can be contacted on 0845 702 3270 or 01926 653382 or: emfhelpline@nationalgrid.com
- Your local electricity distribution company – who is my network operator
- The Institute of Engineering and Technology (IET) electromagnetic fields and heath
- The UK Health and Security Agency website: www.gov.uk/government/collections/electromagnetic-fields or contact them on 01235 852200
- Energy Networks Association website: www.energynetworks.org

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