

ES-UK NEWSLETTER

LIGHTING EXTRA

Electro-sensitivity - UK
charity number 1103018

- for everyone sensitised by electro-magnetic radiation -

December 2007

ES and lighting – fluorescent, energy-efficient (CFLs), halogen and LEDs

Ruth Calder is concerned about the coming changes from traditional incandescent electric light bulbs to the new low-energy ones. She recommends stock-piling old tungsten and argon bulbs before they cease to be sold in the highstreet. We are grateful to her for supplying the following information.

*a traditional incandescent bulb
(tungsten filament in argon gas)*



Lightbulbs

The EU is bringing in regulations by 2009 on energy efficiency of lightbulbs which will have the effect of banning the sale of standard incandescent bulbs. The implementation of the regulations will be phased in over several years. See www.eup4light.net for more information.

However, the UK wants to be the first country in Europe to phase out incandescent bulbs, so there is a voluntary agreement with all major retailers to stop selling them by 2011. Some low wattage, specialised and decorative incandescent bulbs will continue to be available until low-energy alternatives are devised. See <http://www.defra.gov.uk/news/2007/070927a.htm> for details.

a fluorescent tube

a CFL
(Compact Fluorescent Lightbulb)
or energy-saving bulb

Impact on people with ES

Incandescent bulbs

Incandescent bulbs give off power frequency fields **only**. It is quite possible to completely shield the power-frequency fields from standard incandescent bulbs by surrounding the bulb with metal mesh, earthing the mesh and rewiring the lamp using screened cable. Alternatively, ready-shielded lamps can be purchased from Biologa, www.biologa.de. The UK agent's phone number is 00 353 71 91 500 95.

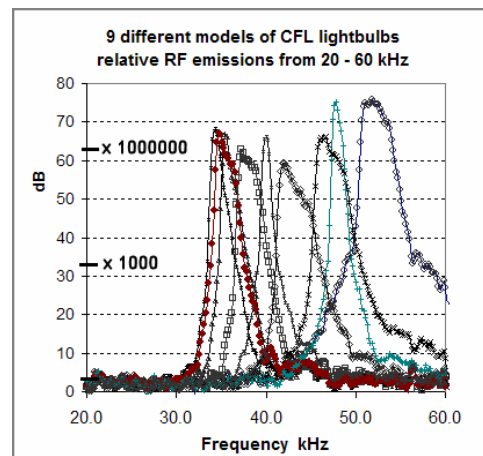
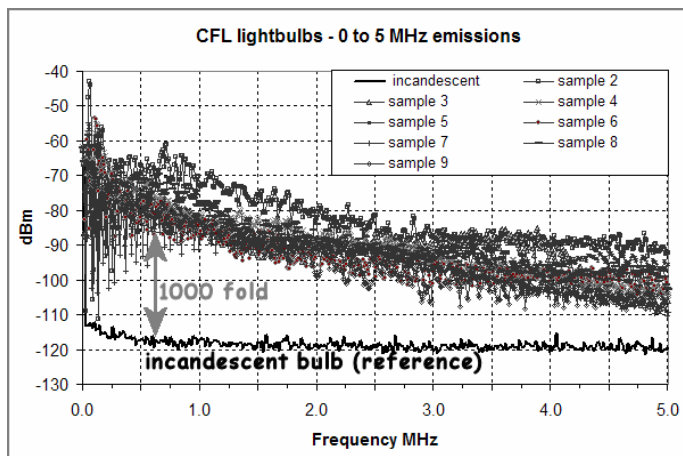
You will, however, need to change the German plug to a UK one and ensure the 'side wire' is correctly earthed.

Compact fluorescent lightbulbs

The most common type of low energy lightbulb is the Compact Fluorescent Lightbulb or CFL. As its name suggests, it works in the same way as a fluorescent tube, but is smaller. Increasingly, modern CFLs are being made to look exactly like standard incandescent bulbs. The older ones flickered at 50 Hz; the modern ones (known as CFLis) have integrated electronic switch transformers which cycle at 30-50000 Hz. Manufacturers argue that this frequency is imperceptible to the human brain; therefore no one can have a problem with modern CFLs. In addition, CFLs also give off radio-frequencies up to several MHz (measured by Powerwatch).

Many people with ES have bad reactions to CFLs. Also, some people who do not consider themselves to have ES in any other manifestation react to CFLs. In addition, some people with recognised medical conditions like ME, lupus, Aspergers' syndrome and various light sensitivity conditions react to CFLs.

As a result of campaigning and Parliamentary Questions asked by MPs, the UK Government has recognised that 'some people have problems with fluorescent lighting' and has made vague noises about carrying out an impact assessment, to avoid unforeseen impacts. But its main strategy seems to be to point to new energy-efficient forms of lighting which are being developed and to hope these will be ok.



Compact halogen lightbulbs (CHLs) are not fluorescent and give a similar visible spectrum to incandescent bulbs but they still contain an electronic transformer. We hope that Powerwatch can test these soon.

LEDs (Light Emitting Diodes) are the most energy-efficient form of lighting and are likely to supersede CFLs in the future. However some people with severe ES (also ME and lupus) have tried the simple battery-operated LEDs that are already available and had bad reactions to them. It's not clear what aspect of the electromagnetic spectrum is causing the problem. If any one has any ideas or thoughts on how LEDs could be shielded please share them. Research in this area is urgently needed.

Shielding CFLs

I have spoken to a Swedish company AMAK (www.amak.se) who say they have done shielded installations on CFLs for people with ES, but I have no further details. If anyone understands Swedish can they follow this up?

Campaign

I had been campaigning to raise awareness of the health impact of CFLs on a number of conditions, but have had to give up because of a relapse in my health. However as a result of the campaign (to which many ES-UK members have participated – thank you very much) the Government has moved from saying there was no problem with CFLs to admitting that some people do have a problem. So it is worth writing to your MP, MEP and the Secretary of State for Health, asking:

What research has been done to establish if new forms of lighting, e.g CHLs and LEDs, are safe for people who the Government itself admits have bad reactions to CFLs arising from a range of health conditions.

Unfortunately at present we face a dark future.

Ruth Calder

PS See the website: www.spectrumalliance.org. This states that the electrical company GE hopes to market a high energy-efficient incandescent light bulb in 2010.



*mains voltage halogen bulbs
(tungsten filament in halogen gas)*

Editor's additional note:

Health dangers from fluorescent, CFLs and halogen lights

There seem to be three worries about the safety of these new lights: ultra-violet radiation, magnetic fields and mercury.

1. Ultra-violet radiation

Standard fluorescent lighting tubes and the smaller low-energy or Compact Fluorescent Lamps (CFLs) give off ultra-violet radiation, as do halogen bulbs to a lesser extent. The amount is small but enough to affect people who are light-sensitive and many people with electro-sensitivity. The UVR also causes damage to fabric and paper in museums and archives. The tubes tend to leak most UVR at the ends, where the phosphor coating is often thinner and there is more high-energy activity from the cathodes. Some people are unaware of the dangers. (I once had to correct a Health & Safety Inspector who thought it was 'most unlikely' that I could feel pain from a fluorescent light in my study at school!)

In fact several research studies associate this small amount of UVR with headaches and fatigue, as seen on the introduction of such lights to some offices and workplaces. Some scientists also link childhood exposure to such UVR with early macular degeneration in later life. Dr Robert Adams wrote in 2003: 'Unshielded fluorescent lights are a menace to mankind and should be replaced by standard tungsten filament lighting.' Some hospitals in Germany have apparently banned fluorescent lights, as have some UK NHS trusts in some parts of their hospitals. Glass and acrylic covers may reduce UVR levels.

2. Magnetic fields

There is also the danger of magnetic fields. The Swiss government book, *Electrosmog in the Environment* (2005), recommends that everyone, whether with ES or not, keeps 50 cm from energy-efficient lamps (CFLs), at least 1 metre from fluorescent tubes and at least 2 metres from low-voltage (12 volts) halogen transformers. Halogen table lamps have strong magnetic fields at 30 cm. Don't forget that magnetic fields from a ceiling light can affect the room above.



*a low-voltage
Halogen table
lamp*

3. Mercury

Some sources say that it is impossible to stop a very small amount of the mercury vapour inside the fluorescent tubes or CFL bulbs from escaping during use, although industry literature says this does not happen. Controlled disposal is essential. (Fluorescent lights should have the 'Hg' symbol on them to indicate the mercury danger.)

The government says that 'more efficient alternatives also last up to ten times longer than normal bulbs, saving up to £60 over the lifetime of the bulb in reduced energy bills and replacement costs, which will give vulnerable groups of people, such as the fuel poor, better access to good quality light in their homes'. But some people on low incomes cannot afford much light in their homes and incandescent bulbs not only light, of course, but give out a very small amount of heat.

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